ETHNOBOTANICAL STUDIES ON TRIBAL GROUPS OF PALAKKAD DISTRICT, KERALA

Thesis submitted to the

UNIVERSITY OF CALICUT

in partial fulfilment of the requirements

for the degree of the Doctor of Philosophy

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Dedicated to
My late beloved Father

DECLARATION

I, **M. Remesh**, do hereby declare that the work presented in this thesis entitled **"Ethnobotanical studies on Tribal groups of Palakkad District, Kerala"** submitted by me in partial fulfilment for the Ph. D. degree in Botany of the University of Calicut under the supervision of Dr. M.S. Muktesh Kumar, Scientist-EII, Forest Ecology and Biodiversity Conservation Programme Division, Kerala Forest Research Institute, Peechi, Thrissur and Dr. K.S. Manilal, Senior Professor (Rtd.), Department of Botany, University of Calicut, incorporates the results of the work carried out by me. This thesis has not been submitted to any other University for the award of any other degree, diploma or any other titles and it represents the original work done by me.

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CERTIFICATE

This is to certify that the thesis entitled "**Ethnobotanical studies on Tribal groups of Palakkad District, Kerala**" submitted to the University of Calicut by Mr. M. Remesh for the ***Degree of Doctor of Philosophy in Botany*** embodies the results of bona fide research work carried out by him under our supervision and guidance, and the thesis has not previously formed the basis for the award of any degree, diploma, associate ship, fellowship or other similar title or recognition.

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M. REMESH

LIST OF ABBREVIATIONS

AICRPE : All India Coordinated Research Project on Ethnobiology
CD : Conservation dependent
CL : Climbers
CR : Credibility Rating
CSIR : Council of Scientific and Industrial Research
CV : Cultivated
DDF : Dry deciduous forest
EG : Evergreen forest
EN : Endangered
END : Endemic
EPI : Epiphytes
ER : Eravallans
ERA : Ethnobotanical Rapid Appraisal
GOI : Government Of India
HB : Herbs
ICBN : International Code of Botanical Nomenclature
IR : Irulas
KD : Kadars
KFRI : Kerala Forest Research Institute
KLUB : Kerala Land Use Board
KR : Kurumbars
KSRSEC : Kerala State Remote Sensing and Environment Centre
LN : Lianas
LR : Lower risk
MD : Mudugars
MDF : Moist deciduous forest
MM : Malamalasars
MS : Malasars
MSL : Mean Sea level
MT : Muthuvans
NTFP : Non Timber Forest Produces
OTH : Others
PL : Plain
PRA : Participatory Rural Appraisal
REA : Rapid Ethnobotanical Appraisal
RRA : Rapid Rural Appraisal
SEG : Semi Evergreen forest
SH : Shrubs
SHOLA : Montane wet temperate forests
TR : Trees
V : Vulnerable

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Introduction

1. INTRODUCTION

Plants are factual expressions of eternal kindness of the nature on which all other living beings including man are dependent to fulfill their multifarious requirements. Man is a powerful and thoughtful creature on Earth who takes advantage of the nature in all possible ways. Man's interest in plants began for his requirement of food and shelter. Next he sought among them remedies for injuries he received during his nomadic life. *Rig Veda* says that man learned to distinguish edible plants from the poisonous ones by observing the way animals used them (Manilal, 1989). The information on thousands of plants from their surrounding environment has evolved in course of continuous observation, trial and error methods and passed on to generations through thousands of years. The role of plants in life and culture of human beings have been recorded by the fellow men in contemporary period since ancient times by way of art forms like paintings, poems and various types of manuscripts as codified forms. It has been observed that the written manuscripts like *Vedas*, *Epics* and other ancient literatures were focused on certain human cultures, which were superior in the hierarchical society. Besides these, there is large amount of information with no recorded history but preserved through oral traditions such as folktales, folksongs, proverbs, that are protected in several myths, cultures and traditions. The aboriginals formed the best examples for the neglected and little known groups with vast body of knowledge about their traditional environment where they lived in.

1. 1. Origin of Ethnobotany

After the recognition of anthropology as a distinct academic branch the studies on the aboriginals and their indigenous culture invited the attention of Europeans followed by the anthropologists of new world. During the second half of the 19th century, the study of plants used by native Americans had become more rigorous. Two botanists Palmer and Powers brought scientific exactness to this field. Power in 1873 introduced the term *Aboriginal Botany* to describe the botanical investigation of native plant use, a term which was readily accepted by the academic community. However, as the nineteenth century drew, both anthropologists and archeologists expressed a wider

attention towards the aboriginals in an exhibition of traditionally useful plant products collected in year 1893 (Ford, 1978). Significantly, this exhibition included collection of preserved plant products used by the ancestors of the *Pueblo Indians* in Mancos Canon in Colorado, which was later sent to the University of Pennsylvania for further analysis. At the university, botanist John Harshberger examined the collections and finally in December 1895 delivered a lecture in which he described items of food, dress, household utensils and agricultural tools of plant origin preserved in the hazard collection; it was during this lecture that the term *Ethnobotany* was first used (Harshberger, 1896). It was Walter Fewkes who introduced Harshberger's term to the anthropological literature, where he emphasized *Hopi Indian* plant names and their etymology. In 1900 first doctoral degree in Ethnobotany entitled *The Ethnobotany of the Coahuilla Indians of Southern California* was awarded to David Barrows by the University of Chicago (Cotton, 1996). It was an eventful beginning of a new discipline with a comprehensive and systematic approach, which originally evolved through thousand of years. The twenty first century witnessed the emergence of *ethnobotany* as a distinct academic branch of the natural science. The successive workers in anthropology, botany, phytochemistry, pharmacology and linguistics nourished the subject as one of the most relevant and distinct academic branch through immense magnitude of endeavors.

1.2. Science of Ethnobotany

Ethnobotany is a multidisciplinary branch of science involving the traditional use of plants by human beings. In broader terms, it is the study of the relationship between plants and people. The two major parts of *Ethnobotany* are encapsulated in the word itself: "*Ethno*" the particular group of people and "*botany*" the study of plants. Arrayed between these two points labeled '*Ethno*' and '*botany*' lies a spectrum of interests ranging from archaeological investigations of ancient civilizations to the bioengineering of new crops (Ballick and Cox, 1996). The various Ethnobotanical workers like Powers (1875), Harshberger (1896), Schultes (1960), Faulks (1958), Jain (1986), Manilal (1989) *etc.*, defined the term in differently which made the subject more powerful and comprehensive. The term *Ethnobiology* is used to

denote the comprehensive approach towards the knowledge of the ethnic people on various life forms.

1.3. Anthropology and Ethnobotany

Ethnobotany has undoubtedly been enriched by Botany on the one hand and Anthropology on the other (Jain and Mudgal, 1999). Anthropology is the science of learning people using all measures. Much of Ethnobotany deals with intellectual goals similar to those of cultural anthropology to understand how the other people view the world and their relation to it (Ballick and Cox, 1996). While working for the traditional botanical knowledge of the tribals, the basic knowledge of their ethnohistory, sociology, language, economics, culture and traditions are relevant and inevitable for interacting with them, which also makes the study more comprehensive and effective.

The initial way to gather anthropological information is to talk with people, to watch what they do and to take part in their everyday activities. Although, these ethnographic skills may look simple as to be taken for granted they require proficiency and forethought if they are to yield reliable data (Martin, 1995). The anthropologist has given special names for different field techniques like participant observation, interviews etc. (Kottack, 1991). Participant observation refers to living with people and sharing many facets of their life, from subsistence activities such as, cooking, farming or gathering firewood to ritual occasions such as, marriage, religious celebrations or initiation rites. Interviewing refers to the questions asked to the people about their beliefs and lifestyles.

Two types of interviews are used namely, open-ended or semi structured interviews and systematic or structured interviews in anthropology (Brim and Sapin, 1974; Weller and Romney, 1988). The former allows extensive responses to a series of general questions some of which are prepared in advance and some arise during the course of the conversation. These approaches, which are often referred to as informal or qualitative methods, yield only information on the general ethnographic accounts of the community and its culture and for statistical analysis they must be coded and categorized before being interpreted.

Most anthropologists consider the local people who share their cultural experience, as knowledge informants. The alternatives, of the term interviewee's subjects, participant respondents, collaborators or counter parts are also to be used for the same purpose (Martin, 1995). The second one involves asking a group of selected informants to respond to the same set of questions. These approaches which are often referred to as formal or quantitative methods, yield verbatim answers that can be analyzed using available statistical methods without coding or categorizing the responses. In depth interviews may be held with a local expert or key informant, someone who has a profound knowledge of a particular aspect of local culture. Some anthropologists record the life history of these specialists recounting the person's experiences as he or she grew up and attained expertise.

The knowledge on ethnohistory of the particular tribal group is very essential for a good ethnobotanical fieldwork. The ethnohistory can be collected through different types of interviews, participatory observations, archeological remnants, languages, measuring physical anthropological features and literature survey. It has been observed that majority of the tribal groups are ancient Hindu refugees, who had migrated from ancient dynasties in search of proper livelihood and during the course of traveling, some communities settled in plains and some migrated to the interior forests, which formed their present localities (Gopalakrishnan, 1974). Many of the tribals are *Dravidians* or *Predravidians* (Iyer, 1995). The ethno historical data can also be collected from their culture, religious rituals, worships, languages, attire, ornaments *etc.* The archeological collections of some traditional articles inherited from old generations are also an important tool. The ethno historical evidences from various sources obviously help to trace the origin of the ethnobotanical knowledge. The language, especially the folk or vernacular names denoting plants used among them, are very relevant. The knowledge with regard to the traditional classification and nomenclature of the various plants in a microhabitat of the tribals can be utilized, for solving some taxonomic problems in modern systematics. The subsistence economy of the ethnic group and their traditional skills for making artifacts are very useful in designing modern household industries.

The cultural ceremonies and religious rituals are often linked with numerous plants growing around them. Therefore, a detailed account of the socio cultural aspects will bring out many plants and their uses unknown to science. The discovery of *Lophophora williamsii* (Cactaceae) as hallucinogenic plant was known from the participatory field observation conducted by Richard Evan Shultes in *Kiawoa Indians* with special reference to their ceremonial occasions (Ballick and Cox, 1996).

1. 4. Taxonomy and Ethnobotany

Taxonomy is the branch of science that deals with identification, nomenclature and classification of life forms. Ethnobotany adds an eventful step for the application of taxonomic knowledge by documenting the use of the plant with correct identity and nomenclature, pertaining to an ethnic group. The role of taxonomists is to recognize the plant material for the scientific community and the testing of the veracity of its use, should be left to the ethnobotanists (Bole, 1980). Taxonomy, in a wider sense, includes relationships between plants, their classification and phylogeny, nomenclature and floristics (Jain, 1980). Other aspects include origin and movement of plants particularly cultivated plants. An efficient ethnobotanist needs to be a good taxonomist as well. The taxonomists should collect valuable information regarding the utilization aspects of the plants during his studies in systematic botany (Jain, 1980). The identification and citation of correct botanical names of plants of ethnobotanical importance become noteworthy to science especially in the field of bio- prospecting and advanced research. The documentation of vernacular names with correct botanical name and locality is also essential in order to introduce any plant under economic botany.

1. 5. Sub disciplines and inter disciplines of ethnobotany

Ethnobotany is a comprehensive and systematized branch of natural science with many sub disciplines. The sub disciplines are mainly the branches of botany, which are related to the tribal way of life. The important ones are *ethnoalgology* (Algae in ethnic culture); *ethnolichenology* (Lichens in ethnic groups); *ethnobryology* (Bryophytes in ethnic groups); *ethnopteridology* (Pteridophytes in ethnic group); *ethnomycology* (Fungi in relation with ethnic

groups); *ethnoecology* (traditional ecological knowledge of tribals); *ethnomedicobotany* (medicinal plants used by the tribals); *ethnotaxonomy* (traditional classification of plants by ethnic groups) *etc.*

The word ethnobotany itself is an interdisciplinary term with ethnology (study of ethnic groups) and botany (study of plants). There are always two or more subjects involved in the interdisciplinary subjects. *Archeoethnobotany* involves three subjects *viz.*, *ethnology*, *archaeology* and *botany* (Study of plants depicted in the archeological remains of ancient objects and people). Some of the other inter disciplines like *ethnoagriculture* (traditional agricultural practices of ethnic groups); *ethnopharmacology* (pharmacological studies on ethnomedicinal plants), *ethnotoxicology* (toxic plants in connection with ethnic groups); *ethnomedicine* (the traditional medical practices among ethnic groups are subdivided as *ethnopediatrics*, *ethnoorthopedics*, *ethnogynocology*, *ethnodermatology, etc.*); *ethnophytochemistry* (phytochemical studies on plants used by ethnic groups); *ethnolinguistics* (the local names and terms of plants); *ethnoveterinary science* (knowledge of plants in veterinary medicine); *ethnonarcotics* (use of narcotics, snuffs and hallucinogens from plants); *ethnobiotechnology* (biotechnological aspects of plants used by ethnic groups); *ethnotechnology* (plants involved in indigenous technology of tribals); *ethnoclimatology* (the traditional climatological predictions associated with plants) and *paleo-ethnobotany* (study of fossil evidences in relation to prehistoric human culture) *etc.* are directly or indirectly related to plants and people interaction.

1.6. 'Ethnic group' or Tribals

Tribals are the torch bearers of ethnobotanical knowledge. All over the world, there has been an increasing interest in the scientific study of man-plant interaction, which is clearly visible from the terminology used to address various indigenous people *viz. aboriginals*, *indigenous*, *natives*, *nutochthonous*, *fourth world*, *first nations*, *first peoples*, *adivasi* (original settlers), *vanyajati* (forest caste man), *adimjati* (primitive castes), *janjati* (folk communities) and *tribals*. More than 300 million indigenous peoples, shifting cultivators, forest dwellers and artisans live in more than seventy countries with their range of distribution from the artic to the rain forests of Asia and South America. At least 5000 indigenous groups can be distinguished by linguistic, cultural differences

and geographical separation (Maheswari, 1996). The British rulers first used the term *tribe* in 1872 for the primitive community of man, supposed to be outside the castes of the natives. The descendents of the aboriginals isolated in widely separated areas as refugees are presently called *tribes* (Mani, 1974).

The Indian sub-continent is inhabited by over 53 million tribals belonging to over 550 tribal communities that come under 227 ethnic groups as per the classification proposed by the anthropologists on the basis of linguistics (Mani, 1974). They inhabit in over 5000-forested villages and lead a nomadic life in the forests. Each tribal community has a distinct social and cultural identity of it own and speaks a common dialect. There are nearly 106 different languages and 227 subsidiary dialects spoken by tribals in India. The tribal people of India generally exhibit the characteristic features of three great races *viz.*, *Negroid, Europeoid* and *Mongoloid.*

The tribes living in India are chiefly grouped in to three namely, (i) The Australo- Asiatic linguistic branch, under which comes the Mundau speech of central and eastern India, Nicobarese and Santhali; (ii) The Dravidian linguistic group includes the tribes of central and southern India and (iii) Tibeto-Burman family of languages spoken by the tribes living in the Himalayas and Assam (Mani, 1974). Though all tribals have been given uniform status, each tribal community belongs to a distinct ethnic group and differs in their socio-cultural, demographic, ecological and economic status with one another. They have only oral tradition and their language have no script. The population of individual tribe is as large as about five million (Gonds) in Madhya Pradesh and as small as only 23 persons living in the Andamans (the Great Andamanese). Tribals in India occupy about 18.7 percentage of the total area of the country spread mainly over 29 states and union territories (AICRPE, 1994).

1. 6.1.Tribal groups in Kerala

Kerala, the land of cultural and biological diversity lies along the southwest corner of peninsular India. The state has an area of 38,863 km^2, which about 1.18 percent of the total area of the country and administratively divided into fourteen districts. The tribal communities are found in all the

district of state and their population is estimated as 3,20,967 individuals, which include 16,08,12 males and 160155 females (GOI Census, 2001). As regard to the population and diversity of the different tribal groups among the districts, Wayanad represents the highest, followed by Idukki and Palakkad.

According to Mathur (1977) the tribal communities living in different regions of Kerala could be divided into seven territorial groups, such as, Kasargod, Wayanad, Attappady, Nilambur, Parambikkulam, Idukki and Thiruvananthapuram taking into account, their historical, ethnic and socio-cultural relationships. Anthropologists have identified 43 tribal groups *viz.*, Adiyan, Aranadans, Cholanaikkans, Eravallans, Hill Pulayan, Irular, Kadar, Kalanadis, Kammara, Kanikkar, Karimpalans, Kattunaikkan, Konda Kapus, Kondareddies, Koraga, Kudiya, Kunduvadiyan , Kuruchian, Kurumbars, Mala Arayan, Malasars, Malamalasars, Malayan, Malakkuravan, Malampanikkar, Malampandaram, Malamuthans, Mannan, Maratti, Mavilan, Mudugar, Mullakurumans, Muthuvan, Palliyan, Paniyans, Pathiyans, Pulayans, Thachanad Moopans, Ulladan, Uralikuruman, Waynad Kaders and few unclassified group of tribals found scattered in distribution. It has been observed that majority of tribal groups in Kerala are food gatherers and practice shifting cultivation, dwell deep in the forest or in the fringes, including protected areas. Among the different tribal groups of Kerala, the *Kadars* of Cochin and *Cholanaikkans* of Nilambur and *Malamalasars* of Palakkad district are considered as more primitive owing to their backwardness in life, culture, socioeconomic conditions and ignorance of cultivation practices.

1.6.2. Scope of the present study

Ethnobotanical investigations have led to the documentation of a large number of wild plants used by the tribals for meeting their multifarious requirements. Modernization, especially industrialization and urbanization has endangered this rich heritage of knowledge among the elder people of traditional communities, which calls for an urgent need for documentation of such fast disappearing knowledge. Applications of most of the plants recorded during the present study were either less known or previously unknown to science.

Among the 43 tribal groups in Kerala the ethnobotanical information of 15 groups alone are known so far. However, many of the published records are based on preliminary surveys. Only one detailed study (Binu, 1999) from Pathanamthitta district is available. Palakkad district, which is the largest district in Kerala, is ranked as the third in the diversity and population of tribals. The documentation of ethnobotanical knowledge from this region is only a few and scattered and hence a comprehensive ethnobotanical study was undertaken.

There are eight tribal groups inhabiting different parts of the district with the following ones *viz.*, Irulars, Mudugars, Kurumbar, Malasars, Malamalasars and Eravallans seen only in the Palakkad district of Kerala. Among these, the Mudugars are restricted to Palakkad while others are seen in the adjoining areas of Tamil Nadu as well. The ethnobotanical information concerning Kadars, Eravallans and Malamalsars of the district are obviously unknown to the science. These paved the way for a detailed study in different aspects and sub-disciplines of ethnobotany. The inventory of the new products and possessing technologies from the ethnobotanical knowledge of the tribals will open up the scope for claiming the Intellectual Property Rights (IPR), which will definitely prove to be beneficial to the tribals and society at large.

Most of the ethnobotanical studies include several details on more than one tribal group in a single publication. It becomes difficult to trace out the details of any one particular group or tribal people from such reports. Therefore, this is probably the first attempt to document the ethnobotanical knowledge of individual tribal groups without any overlap.

Present study envisages the inventory of the plants of ethnobotanical importance with special reference to their traditional knowledge, and also,

- to explore the plant wealth of the study area in relation to tribal way of life
- to bring out first hand information on their dependence on the plant wealth, which is categorized under food, fodder, medicine, miscellaneous uses including religious rituals and ceremonies
- to record conservation status, endemic, rare or endangered species, due to over exploitation or over dependence.

Study area

2. STUDY AREA

2.1. Palakkad District

Palakkad, the largest administrative district in Kerala state, has an area of about 4480 sq. km with a population of 26, 17,482 individuals and is famous for paddy fields and Palmyras. Along with Kuttanadu, Palakkad is also known as the "rice bowl" of Kerala. The literacy rate is 84.31 percent. The district accounts for about 11.5 percent of the total land area of Kerala; with the share of population is 8.22 percent of the total population (DIPR, 2003). The district consists of five taluks, viz. Palakkad, Mannarkkad, Ottappalam, Alathur and Chittur with 163 villages, four Municipal towns and 90 Panchayaths. The district is divided into 13 community blocks for the effective implementation of various developmental activities. Bharathappuzha, the longest river in Kerala, and its tributaries, originate from the highlands and flows through the entire district.

The district is one of the main granaries of Kerala and its economy is primarily dependent on agriculture (Plate 1d). More than 65 percent of the workers are engaged in agriculture and 88.9 percent of the population is rural. The proximity to Tamil Nadu has resulted in the combination of Malayalam and Tamil culture. Forest of various types, numerous streams, several dams, home gardens, extensive paddy fields, people with diverse tradition, culture and festivals have made this district a tourist paradise and also a distinct from other district of Kerala.

2. 2. The origin of the name 'Palakkad'

The place name *Palakkadu* is presumed to have derived from two words: 'Palai' and 'kadu' (Tamil), which denotes dry landscapes dominated by scrubs and bushes of Palai trees *viz.*, Ezhilam pala (*Alstonia scholaris*), Kudaka pala (*Holarhena pubescence*) and Neelam pala (*Wrightia tinctoria*) (Logan, 1906). In the East India Company correspondence the place is referred as *Palghatcherry*. This name is also found inscribed in certain old herbarium sheets of plants collected from this district (Vajravelu, 1990). With the State Government's move to retain the traditional place names of per-British era, the district is presently known as 'Palakkad'.

2.3. Historical background

Palakkad has a long history dating back to the Palaeolithic period, which was substantiated by a number of megalithic relics discovered from this region (Satish, 2005). It also was the Capitals of two kingdoms such as Palakkad and Kollenkode, which were in prominence until the last century.

The ancient history of Palakkad is not well known. According to William Logan (1906) the *Pallava* Dynasty of Kochi, might have invaded Malabar in the second or third century and one of their headquarters was Palakkad, which could be the present Palakkad. For many centuries the Malabar *Perumals* ruled the region. Malabar had been invaded by many of the ancient South Indian Rulers. Subsequently, the Malabar was divided among their *Utayavars*. The famous among them were the *Valluvakonathiri* (Ruler of Vengunad) and Sekhari Varma Raja of Palakkatussery. The Palakkad region was under the control of the Raja of Kollenkode and Sekhari Varma Raja of Palakkad.

When the *Samoothiri* of Kozhikode invaded Palakkad in 1757, the Palakkad Raja sought the help of Hyder Ali of Mysore for the retreat of the *Samoothiri*. Later, Hyder Ali subjugated all territories in Palakkad, which were under the possession of *Samoothiri* of Kozhikode. Thus, whole dominion of Palakkad passed into the control of Mysore, Sulthan Hyder Ali Khan and his son Tippu Sulthan. The war between East India Company and Tippu Sulthan ended with the treaty of 1792 and all the area under the possession of Tippu, in Malabar, was ceded to the East India Company and became the Malabar District under the Presidency of Madras (DIPR, 2003).

2.4. Location and topography

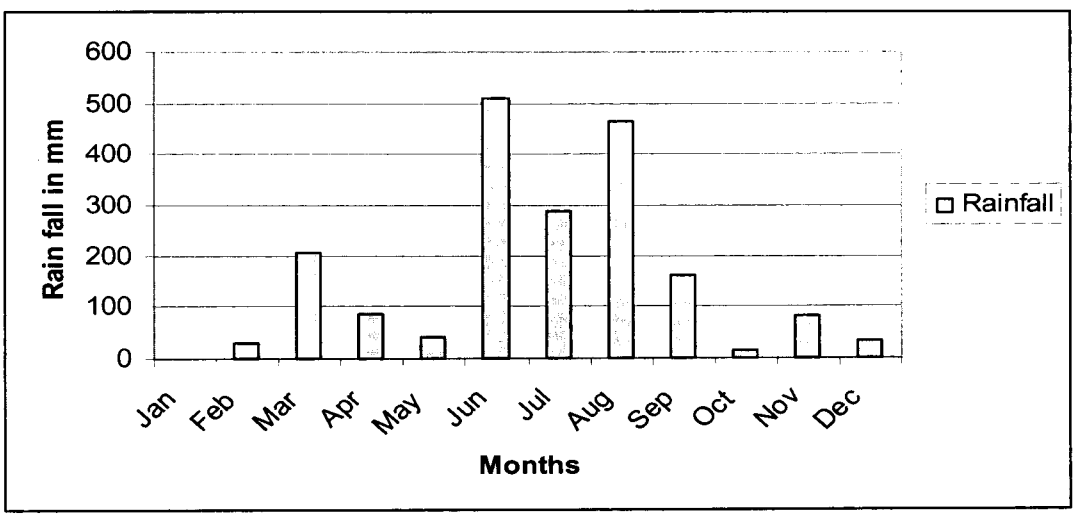
The district lies between 10°15' to 11°15' latitude in the north and 76° and 77° longitude in the east. It is surrounded by Coimbatore district of Tamil Nadu on the east; Malappuram and Thrissur districts on the west; on the north by Malappuram and Nilgiri (state of Tamil Nadu) districts and on the south by Thrissur district. Palakkad forms a natural gap in the Western Ghats and thus connects the west coast with the Deccan Plateau. This is the only largest gap with a length of 30km for the whole of Western Ghats of 1600km

length. Perhaps the most important factor for the unique conditions for commerce as well as cultural pattern observed in the district separate it from the rest of the country (Fig. 1).

2.5. Rainfall

Coming under the monsoon climatic regime, the district receives 2397mm of rainfall on an average. Though the South West monsoon sets in the last week of May or early June 70 percent of the annual rainfall is obtained from last week of June to mid September. The leeward side of Attappadi Valley (eastern side) and the eastern border of Kozhinjampara (Erithiampathy) towards Deccan Plateau have reduced rainfall of 915 mm and 1164 mm respectively (fig. 2). Unlike the other parts of the district, the Attappadi valley receives more than 50 percent of its rain from the receding monsoon with thunder showers (KLUB and KSRSEC, 2003).

Fig. 2. Mean monthly Rainfall



2.6. Climate

The district has a tropical climate with an oppressive hot season and plentiful and fairly assured seasonal rainfall. March to May are the hot months of the year with March the hottest month when the Sun is just above the head (vernal equinox). The district has mean maximum temperature of

32.2°C. At Kozhinjampara (ISD Farm Eruthampatty) the maximum temperature experienced is 39.3°C and the minimum 20°C. The climate of the district is highly influenced by the gap in the Western Ghats, allowing entry of the dry wind of North East monsoon from the east coast from November to February (fig. 3 & 4).

Fig. 3. Mean monthly Temperature

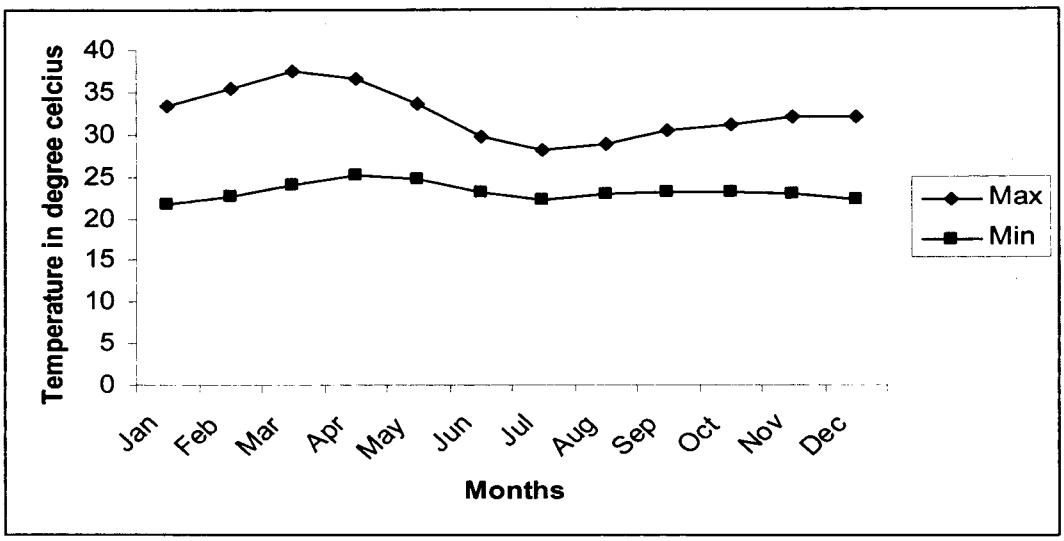


Fig. 4. Mean monthly relative humidity

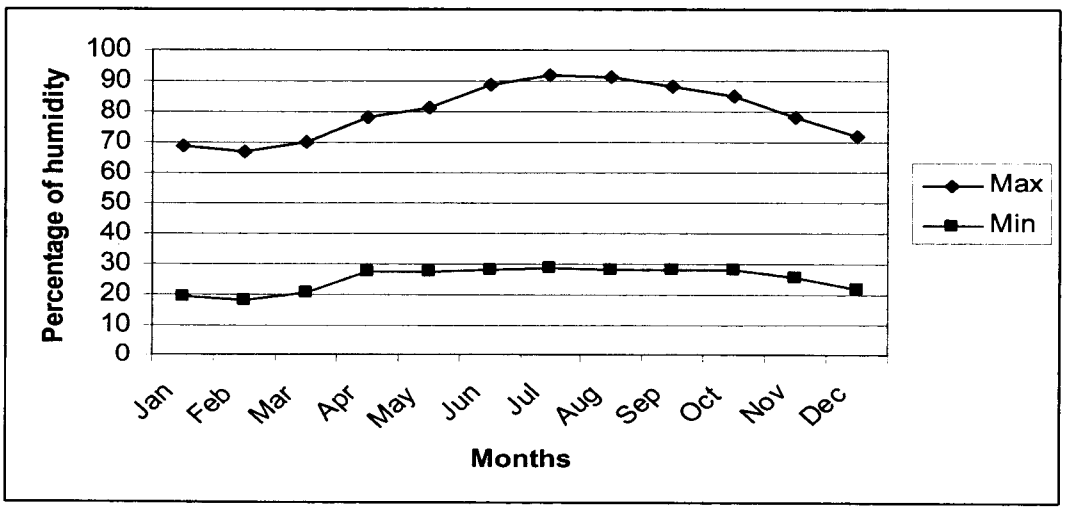


Fig. 1 Map of Palakkad District

2.7. Physiographic Features

Based on the physical features, the district is divided into two, *viz.*, the mountainous highlands and the undulating midlands. The highland has high mountains, deep valleys clothed with tropical forest of various types. These are mostly seen concentrated on the northern and southern parts of the district on either side of the Palghat Gap. The southern floor of the Gap rises at Thenmalai and gradually swell to form the giant Anamalais, having its peak at Padagiri (1527 m above MSL), Minampara (1633 m above MSL), Pullalamala (1444 m above MSL). Beginning from Vadamali on the north of Palakkad gap, the highlands extends northwards through Attappady (1678m), Silent Valley (2383m) (Plate 1f) and further chain of hills forming the Nilgiris. Kumbanmala (1962 m) Elival Mala (2066 m), Attumala (1525 m) are the high peaks along this region. Excepting the hilly uplands on the north and south, major part of the area is midland region of gently undulating land of paddy fields and low hills of mixed cropped gardens (KLUB and KSRSEC, 2003).

Isolated hillocks of medium elevation forming spur hills are located randomly in the district. Out of the five taluks, Ottappalam taluk located in the western side falls entirely in midlands. Major portion of Mannarkkad taluk that lies on the north is in the highlands. Three taluks viz. Chittur, Alathur, Palakkad have 40, 20 and 20 percent of their area under highlands respectively.

2.8. Soil

Three different soil profiles are observed in different parts of the district (1) deep gravely clay soil of laterite origin is seen to occur in major parts of the midland region falling in Ottappalam, Palakkad, Alathur and Chittur taluks (2) deep forest loam soil occurs in the forest high lands in the north and south in Mannarkkad. Palakkad and Chittur taluks (3) deep black soil occurs in certain parts on the eastern side of Chittur taluk which is an extension of the black cotton soils of the Deccan Plateau.

2.9. Tradition and Culture

Palakkad is a land of tradition and culture intermingled with several Indigenous communities including tribals and many of them are refugees from

ancient dynasties from the neighbouring states like Tamil Nadu, Karnataka, Andhra Pradesh and other northern regions. The co existence of the different communities resulted in the shaping of a good tradition, supporting healthy and peaceful environmental, social and cultural background for the livelihood from time immemorial. Agriculture is the major source of subsistence and many of the socio-cultural issues are so linked with it from the ancient times.

Hinduism is the major religion in the district. There are evidences from the archaeological and other cultural remnants of the presence of Buddhism and Jainism (Satish, 2005). Nearly 76 percent of the population belongs to Hindu community, with its of different sub-castes. Popular worship include the Gods Vishnu and Siva and *Kshethrams* and *Ambalams* are dedicated to these deities. Kavus and Kovils are dedicated to deities like Ayyappan, Subrahmaonian, Bhadrakali, Hanuman and even malignant demons. Snake worship is widely prevalent.

The other communities are the Muslims and Christians. The Christian migrants had settled in the district almost a half-century ago especially in the hilly areas of Mannarkkad, Ottappalam and Alathur Thaluks. The ceremonies connected with birth, marriage and death differ from one community to another. This social and cultural diversity gives the district hundreds of major and minor festivals, that are generally associated with worships and religious rituals.

2.10. Socio economic conditions

As in any other part of the state, the social and economic status of the people in the district is undergoing changes. The overall educational and economic advancement, the break up of joint family system and old *Tharavad*s has diminished the importance of high caste Hindus in the society.

The major source of economy is agriculture. The net cultivated area of the district is 284 lakh hectares that constitutes 64 per cent of the geographical area. Major portion of the cultivable land is used for raising food crops. All the food crops together account for about 80 percent of the gross cropped area, of which, paddy alone accounts for 60 percent. Generally, crop density and crop

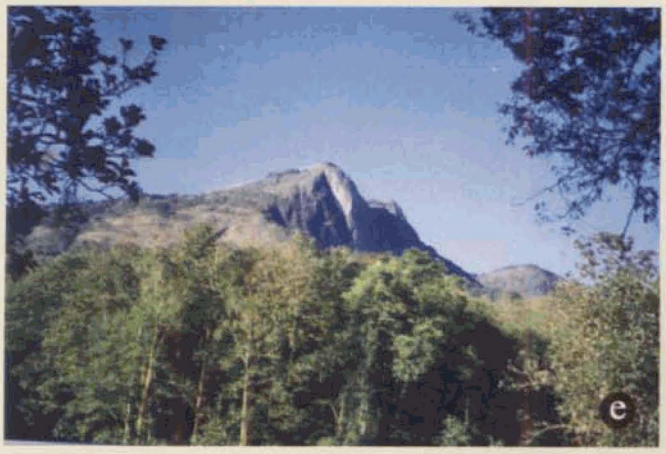


Plate 1. STUDY AREA I. **a.** Evergreen forests of Silent valley; **b & c.** Moist deciduous forest; **d.** Paddy field and Palmyra palms - a seen from central Palakkad; **e.** Karimala gopuram - highest peak in Parambikulam; **f.** Sisapara; **g.** Kunthi river - a tributary of Bharathapuzha; **h.** Bhavani river.

Plate 2. STUDY AREA II. **a.** Kuriyarkutty river; **b.** Parambikulam river; **c.** Parambikulam reservoir; **d.** Marshy grassland; **e.** Montane wet temperate forest; **f.** Bamboo break; **g.** Attappady valleys; **h.** Malleeswaran peak.

growth is found poor in the case of perennial crops, probably due to the adverse climate in some part of the year. Apart from this, there are plantation crops like tea, coffee, rubber *etc.* accounting about 4 percent of the total area of the district.

The main rivers in the district are *Bhavanipuzha, Bharathapuzha* and its tributaries. The east flowing Bhavani River irrigates Attappady valleys, whereas west flowing Bharathapuzha and its tributaries irrigate the rest of the areas (Plate 1g & h). Dams have been constructed across almost all the important tributaries of Bharathapuzha to provide irrigation facilities to the district. There are number of animal husbandry institutions to take care of livestock and poultry. There are hundreds of major and minor industries, which offer employment and income to the natives other than traditional agricultural sources. The Department of Industries and Commerce has identified the Kanjikode belt, connecting Palakkad and Coimbatore, as an area for industrial development. Palakkad district is blessed with irrigation facilities.

2. 11. Forest Resources

As per the estimate of the Department of Economics & Statistics, about 31 percent of the total geographical area of the district was under forest cover during 1985-86, but now the area has shrunk due to altered land uses (Plate 2 (No) f, g & h). The present forest area of the district is estimated to be 1,36,257 ha (DIPR, 2003) under various types, *viz.*, West Coast Tropical Evergreen forests, West Coast Semi Evergreen forests, South Indian Moist Deciduous forests, Southern Tropical Dry Deciduous forests, Southern Mountain Wet Temperate forest and Grass lands (Champion and Seth, 1968). Forests in the district are located in the north and south in the highland regions. Evergreen forests are limited and deciduous forests dominate. Vast areas of teak plantations exist in the Nelliampathy and Walayar region.

2. 11. 1. West Coast Tropical Evergreen forests

The forest of this type is well known for its floristic richness and diversity and is seen in the Silent Valley, Upper Attappady region (catchments of River

Bhavani), forests of Siruvani, Muthikulam and Nelliampathy plateau, Parambikulam(Plate 1e). The vegetation characterized by its luxuriance growth consisting of three tiers of trees and emergent here and there reaching a height of about 40m. Buttressed trunk, straight bole, umbrella canopy are some of the major characteristic features of the trees. The dominant upper storey which is about 35m consist of *Artocarpus heterophyllus, Bischofia javanica, Cullinia exarillata, Drypetes elata, Dysoxylum malabaricum, Elaeocarpus tuberculatus, Holigarna* sp., *Mesua ferria, Palaquium ellipticum, Poeciloneuron indicum, etc.* Trees like *Actinodaphne* sp., *Cinnamomum malabatrum, Dimocarpus longan, Elaeocarpus serratus, Garcinia* spp., *Litsea* spp. and *Myristica dactyloides* come under the second storey with 15 to 30 m high. The third storey, which is less than 15 m high comprise of *Euonymus angulatus, Syzygium munronii, Turpinia malabarica,* etc.

2. 11. 2. West Coast Semi-evergreen forests

The forest of this type is a transition between the Evergreen and Moist Deciduous ones. It is often encountered in places where evergreen forests have undergone degradation due to over exploitation by way of timber extraction(Plate 1a). The top storey is an admixture of both evergreen and deciduous species. Prominent species are *Artocarpus hetrophyllus, Bischofia javanica, Callophyllum elatum, Hopea wightiana, Mesua ferrea, Knema attennuata, Myristica dactyloides* ect. The deciduos elements are *Bombax malabarica, Chukrasia tabulria, Dalbergia latifolia, Grewia tiliifolia, Lagerstroemia microcarpa, Terminalia bellerica , Toona ciliata etc.*

2. 11. 3. Southern Moist Deciduous forests

This type of forests rises from the plains to an elevation up to 250 m on the western or southern slopes and this varies with the soil moisture conditions and the subjection of shifting cultivation in the past(Plate 1b&c). From the commercial point of view this is the most productive forest type as several hardwood timber trees and several climbers and medicinal plants are found here. This type of forests occur in Mukkali, Siruvani western slopes, Dhoni hills, Elival hills, Parmbikkulam, Kollengodu forests and forests of

Nemmara Division. The components of this forest type are *Albizia procera, Acacia torta, Bambusa bambos, Bombax malabarica, Butea monosperma, Canthium rheedii, Callicarpa tomentosa, Cycas circinalis, Dalbergia latifolia, Entada rheedii, Grewia tiliifolia, Kydia calycina, Phyllanthus emblica, Miliusa tomentosa, Mallotus philippensis, Macaranga peltata, Oroxylum indicum, Pterospermum diversifolium, Spatholobus parviflorus, Tectona grandis, Terminalia bellerica, Terminalia paniculata, Terminalia crenulata, Trewia nudiflora, Xylia xylocarpa* etc.

2. 11. 4. Southern Tropical Dry Deciduous Forests

This type occupies only in rain shadow regions of the district, neighbouring to Tamil Nadu, such as border areas of Walayar, Attappady and Parambikkulam. The trees at best attain not more than 10 m in height and woody lianas are very scarce. It is very much susceptible to annual fire and small thorny climbers are predominant. Characteristic species are *Acacias, Albizias, Capparis* etc. Because of grazing and annual fires they are very much in an impoverished state.

2. 11. 5. Southern Subtropical Broad-leaved hill forests

As the elevation increases, West coast tropical evergreen forests slowly merge into the subtropical broad-leaved hill forests. These types of forests are floristically rich; usually occur at an altitude between 1300 m and 1800 m. The characteristic arboreal elements are *Calophyllum elatum, Cinnamomum sulphuratum, Elaeocarpus munronii, Garcinia* sp., *Mesua ferrea, Syzygium* spp., and members of *Lauraceae.* The height of the trees do not exceed 20 meter and end with a spreading crown.

2. 11. 6. Southern Montane Wet Temperate forests

This type of forests is found above 1800 m elevation. These montane forests are found in cliffs and sheltered folds of the mountains with adequate water. High winds at this altitude make the vegetation highly stunted and are interspersed with rolling grasslands (Plate 2 e). All the trees have only less

than 10 m height. Species like *Elaeocarpus munronii, Gordonia obtusa,* and genera such as, *Syzygium, Litsea, Neolitsea, Pittosporum* are commonly seen in these forests. Majority of them belong to the families Lauraceae and Myrtaceae.

2. 11. 7. Southern Subtropical Savannahs

These types of grasslands are distributed within the evergreen forests. They are seen at an altitude below 1500m. This type of forest is found in Muthikkulam, Silent valley, Nelliampathy and Parambikkulam. The principal arborescent species in these forests are *Careya arborea, Dalbergia latifolia, Phyllanthus emblica, Wendlandia thyrsoidea* and *Zizyphus rugosa.* Grasses like, *Cymbopogon, Heteropogon* and *Themeda* are also common.

2. 11. 8. Southern Montane Wet Grasslands

These are found in the higher reaches of Silent Valley above 1500 m altitude. Grasses are stunted and carpet like. These grassy slopes are highly exposed to wind and get heavy rainfall. Important arboreal elements like, *Gaultheria fragrantissima, Rhododendron arborium* ssp. *nilagiricum,* etc. and grasses like, *Arundinella furcata, Botriochloa pertusa, Heteropogon contortus,* etc. are commonly seen.

2. 12. Sacred grooves

The sacred groves in the district are scattered in distribution and represented by small areas attached to the home gardens of Tharavadu (traditional old families), which are either primitive or recent. The district has more than hundred sacred grooves and most of them are very small in area. There are eleven sacred groves having an area of more than 1000 sq. m among which, Pathallu Kavu, Kadambazhippuram, represent the maximum area of 22,258 sq. m. The sacred groves are the real place of co-existence of man with plants animals, myths, beliefs, worship, rites and rituals. The sacred grooves of Palakkad are predominantly dedicated to serpent deities and are popularly known as *Sarpa kavu.*

2. 13. Biodiversity

The district is endowed with rich flora and fauna in diverse habitat. The floristic elements include about 200 Algae; 350 Fungi; 264 Lichens; 350 Bryophytes; 162 Pteridophytes; two Gymnosperms and 2000 Angiosperms species (KFRI, 1999). Floristic richness of Silent Valley national park (Manilal, 1988a) and Parambikkulam wildlife sanctuary (Sujanapal, 2005) has been enumerated(Plate 2 a,b,c&d). The flora often offers novel resources for food, fodder, fibre, medicine, perfumery, cosmetics, gums, resins, dye tannin and timber. The district is believed to be a treasure house of animal diversity as well and harbours about 1012 animal species in its various pockets (KFRI, 1999). These include mammals, birds, reptiles, amphibians, fishes, insects, earthworm and leeches. Among these, insects thrive well in these forests with 720 species followed by birds 192 and 34 mammals.

2. 14. Tribal groups

The district is one of the diverse centres for the tribal groups in Kerala state and has two major tribal zones *viz.*, Attappady and Parambikkulam from among the seven tribal zones identified for Kerala (Mathur, 1977) (Fig. 5). The population of the tribals in Palakkad district is estimated as 39,665, which include 19,990 males and 19,675 females (GOI census, 2001) (Appendix 1). The Attappady valley occupies three tribal groups viz Irular, Kurumbar, Mudugar in her lap. The Parambikkulam and adjoining area have Muthuvans, Eravallars, Malamalasar, Malasar and Kadars (Appendix 2). Among these, the Eravallans and a few groups of Malasars, residing in the plains of the district are found mainly in Chittur thaluk and most of them are agricultural labours. The other groups of tribals are found scattered and settled in plains as agricultural labours. They are known under different names such as Alars, Malayars or Eacha Mudugars *etc.* The beliefs, customs and ways of life of each tribal group are distinct. The Anthropologists are yet to fix the proper identity of this tribal group.

Fig. 5 Map of the Palakkad district showing the distribution of tribal groups

Review of Literature

3. REVIEW OF LITERATURE

The review of literature is arranged here starting from its history, followed by notable ethnobotanical studies in the different continents and geographical zones of the world. The ethnobotanical studies carried out from the Indian subcontinent so far, is further categorized under different groups such as, information from ancient texts; food and fodder; ethnomedicinal plants; plants in material culture and tribal art; ethnobotanical studies on lower groups of plants; on specific plants; specific aspects; magico-religious beliefs; other miscellaneous aspects and multidisciplinary approaches. The ethnobotanical studies from Kerala and in the study area in particular, are dealt separately.

A large proportion of the current research in ethnobotany still remains with USA, where the modern approach to the science of ethnobotany had evolved with about 41% of the total studies carried out from all over the world (Shah, 1987; Cotton, 1996). There are three major sources of ethnobotanical knowledge namely, archeological source, traditional source and tribal source. Archeological sources enshrined in archeological findings ranges from 10,000 BC to 1000 AD in cave paintings and excavations in many parts of the world. Traditional sources include reports on healing practices, religious rituals, arts, crafts, and social customs and trade mentioned in older publications. Tribal sources involve examination, investigation and substantiation of the different claims of tribal people through direct observation (Bole, 1980).

3. 1. Historical perspectives

Archeological studies have indicated that the ethnobotanical knowledge evolved even before the rudimentary writing came into existence. This knowledge was preserved first verbally in songs and poems and later came the Indian *Vedas*, earliest Chinese herbal *Pen ts' ao kng mu* and Egyptian scrolls (Schultes and Von Reis, 1995). Written records of the use of plants for both human and animal diseases can be traced back to the *Rig-Veda*, the earliest scripture of the Hindus. Vedic Aryans were familiar with several medicinal plants. The Indian indigenous system of medicine named *Ayurveda*, dating back to the Vedic ages, has been an integral part of culture (Weiss, 1987).

Atharva Veda also describes several plants. *Charaka Samhita* (1000-800 BC), *Sushrutha Samhita* (800-700 BC) and Vagbada's *Ashtangahridya* are other ancient monumental works describing the traditional healing practices in India.

Dioscordes, a physician of Roman Emperor Nero, in his *Materia Medica* described about 600 plant species and their uses (Sivarajan, 1984). The *Yunani,* system of medicine, which originated in Greece during 400 BC, came to India through the Arab physicians who had accompanied Mughal invaders. The *Siddha* system, which is known to have originated from the Hindu God *Siva,* passed through his wife *Parvathi* and finally to his disciplines was in use mainly in Dravidian civilization (Jain, 1994).

Similarly, Greek authors like Theophrastus and Aristotle established the idea that each plant has a psyche or soul, a belief that survived in the European thinking as well in the 16th century. Western ethnobotany originated from the teachings mainly of Aristotle through Arab translations. European herbals in the medicinal use can be directly traced from Greek ethnobotanical writings. Five hundred years ago, the Chinese recorded extensive works on medicinal plants, which had influenced subsequent publications (Schultes and Von Reis, 1995).

The arrival of Spaniards in the New World, led to the publication of numerous written records on various aspects of general ethnobotany from Mexico. An early ethnobotanical record from Brazil written by Guilherme Piso (*Historia Natural do Brazil Ilustrada*) was published in Holland in 1648. An early flora of French Guinea, by Fusee Aublet and published in 1775 (*Histoire des Plantes de la Guiane Francaise*) contains many ethnobotanical notes. The first ethnobotanical report from Peru and Chili that is a diary of the Spanish Botanist, Hipolito Ruiz Lopez has included the native uses and value of plants and animals of these Andean realms (Schulte's and Von Reis, 1995).

The explorations conducted by Captain Cook in his famous voyage facilitated the first detailed observations of the Australian aborigines and the plants used by them. The ethnobotanical discovery from Australia on the antibacterial properties of tea tree (*Melaleuca sp.*), now represents an

important ingredient in a wide range of toiletry and cleaning products through out the world. (Cotton, 1996).

The discovery of American continents marked a significant point in the evolution of the ethnobotanical study. There have been numerous isolated research efforts in ethnobotany from South America, especially from Brazil, Columbia, Ecuador, Venezuela and Surinam during the 20th century. At least 18 specialists had carried out fieldwork in various regions of Columbia. Several European universities and other organizations were engaged on ethnobotanical research in Asia and Africa.

In North America, the ethnobotanical study was developed as a separate field after John Harshberger(1896). Other institutions involved in undertaking such studies include the University of New Mexico, University of Victoria and Harbor Botanical Museum (Schultes and Von Reis, 1995). Ethnobotanical studies were subsequently done by various workers throughout the world and considered it as a distinct branch of science and realizing that, it contained a vast amount of knowledge. During the first half of the twentieth century, hundreds of ethnobotanical papers were published from different parts of the world, which was contributed by Anthropologists, Sociologists, Economic botanists, Linguists and Naturalists. Johnson (1999) has compiled 30,000 characteristics, claimed attributes and historical uses of plants from throughout the world. Therefore, some of the notable works alone are included here with special reference to ethnobotanical studies from American continent, European, Asian and African countries.

3. 2. Ethnobotanical studies in American Continent

The origin and evolution of ethnobotany through successive steps have mostly taken place in North and South American countries. Over 904 studies have been published on the ethnobotany of native North Americans (Ford, 1978). Harsbergher's (1896) coining of the word *ethnobotany* and doctoral studies on *Coahuilla Indians* by Barrows (1900) has resulted in giving a re-definition of this subject with emphasis on the approaches and concepts like, the plants of daily use for different ceremonies (Gilmore, 1919; Densmore,

1928) and investigations on traditional agriculture and wild plant foods (Barrows, 1931; Conklin, 1954). The analysis of plant's names and systems of folk classification also became increasingly popular for the exploration of human cognition (Berlin *et al*, 1973).

The ethnobotanical studies on various Indian tribes by Anthropologists and Botanists of the New World resulted in the development of a multidisciplinary approach to the subject. Stevenson (1915) studied the ethnobotany of *Zuni Indians*. Smith (1923, 1928, 1932, 1933) documented ethnobotanical aspects of *Menomini Indians*, *Maskwaki Indians*, *Ojibo Indians* and *Polawatomi Indians*. Anderson (1925) studied the trees and shrubs that are used for food, medicine and poisons in British Columbia.

Cheney (1926a, 1926b, 1931) conducted detailed studies on the plant arrow poisons among the tribals of America. Steedman (1930) worked on the ethnobotany of the *Thompson Indians* of British Columbia. Castetter (1935) documented the wild food plants and aboriginal utilization of the tall *Cacti* from Southwest America. Schultes (1937, 1940a, 1940b, 1940c, 1941a, 1941b, 1953, 1954, 1955, 1956, 1957a, 1957b, 1957c, 1958, 1960, 1962, 1963a, 1963b, 1963c, 1969a, 1969b, 1970) made substantial contribution towards the enrichment of the subjects in America and his works were mainly on narcotic plants among the tribals of South America. He also contributed to the knowledge of ethnomedicinal plants, religious rituals and plants used in material culture by various tribal groups. Gunther (1945) conducted ethnobotanical studies of Western Washington. Aschmann (1952) studied the primitive food preparation techniques in Baja, California. Claude (1952) studied the use of wild plants in the tropical America. Adams (1952) studied the medicinal beliefs and practices in Guatemalan Indian town. Llano (1956) documented the uses of *Lichens* in the artic and sub artic regions. Thieret (1958) studied the economic botany of *Cycads*. Faulk's (1958) monumental work *An introduction to Ethnobotany* includes all the relevant information associated with the science of ethnobotany.

The ethnobotanical studies with interdisciplinary approach were undertaken during the later half of the 20th century. Conklin (1961, 1962)

conducted studies on shifting cultivation and folk taxonomy. Studies conducted by Morton (1961, 1962, 1965, 1966, 1967a, 1967b, 1967c, 1968, 1970, 1971, 1974, 1980) on the people-plant relation ships of Curacavo of Latin America, stands as a valuable contribution towards the multidisciplinary and interdisciplinary approach. Von Reis (1962) studied the role of herbaria as a source of medicinal folklore. Bohrer (1962, 1970, 1973, 1975) studied different aspects like archeoethnobotany, historic and prehistoric aspects of grasses, of pines *etc.*

The studies of Wasson (1961, 1962, 1963a, 1963b) contributed to the knowledge of hallucinogenic *Fungi* of Mexico. Heim and Wasson (1965) documented the hallucinogenic *mushrooms* of the Kuma. Farnsworth (1966) worked on the morning glories used as hallucinogenic plants. Alland (1966, 1970) worked on the cultural, biological and anthropological aspects of several plants. Altschul (1967a, 1967b, 1968, 1970a, 1970b) studied the ethnopharmacology, psychoactive drugs, psychopharmacology, ethnogynecology, ethnopediatrics and ethnobotany of food and drugs from the herbarium records. Dukes (1968, 1970, 1973, 1975) worked on the ethnobotany of *Choco Indians, Cuna Indians* with special reference to the utilization of *Pappaver* and also published an *Ethnobotanical Dictionary of Dariene,* USA. Chagnon *et al.* (1971) studied the anthropological, botanical and chemical aspects of Yanomamo hallucinogens. Rivier and Lindgren (1972) studied on the South American hallucinogenic drink *Ayahussca.* Bruhn (1973) studied the ethnobotanical and hallucinogenic aspect of the *Cacti.*

Berlin (1971) and his colleagues (Berlin *et al,* 1973) Berlin and Breedlove (1974) contributed to the knowledge of ethnotaxonomy, ethnobotanical nomenclature in folk biology and plant classification by the traditional communities of a Mayan-speaking people of Highlands, Chiapas. Pearsal (1978) studied the Palaeoethnobotany in western South America. Fitting (1978) described the archeological interpretations based on the ethnobotanical inferences. Ford's (1978) publication on The *nature and status of ethnobotany,* which is a compilation of several papers on the anthropological and ethnobotanical information, is of great significance.

The importance of ethnomedicinal plants was realized during the end of the 20th century. The medicinal herbs used by the natives of New Guinea (Skingle, 1970); Samoa (George, 1974); folk medicinal plants from Trinidad (Wong, 1976); folk medicines used for regulating fertility, abortion, contraception, sterilization and fecundation by the Paraguayan indigenous people (Areuas and Azorero, 1977a, 1977b); the medical ethnobotany of the Zuni Indians of New Mexico (Camazin and Bye, 1980); the *Maya* medicinal plants of Sanjos (Arnanson *et al*, 1980); the use of plants on traditional pharmacopoeia of Peru (Hoet, 1980); plants used in traditional medicines including ethnoveterinary medicine of Brazil (Mello, 1980); the traditional medicine to identify tumor (Farnsworth and Kass, 1981); the traditional phytotherapy on the Agrivalley of Lucanea, Southern and North-eastern Italy (Capasso *et al.*, 1982 and Cappelletti *et al.*, 1982) are some of the important papers in this aspect. The German veterinarian, Evelyn Mathias and the American anthropologist, Mc. Corkle (1996) have published bibliographies on ethnoveterinary medicine. Daniel (1998) compiled various ethnobotanical works in America.

3.3. Ethnobotanical studies in Europe, Australia and adjoining regions

Despite the American dominance in ethnobotany, ethnobotanists of Europe and Australia have made invaluable contributions in this field. Long before naturalists such as John Josslen began to compile herbals in the New World, Europe had a long tradition in the production of herbal pharmacopoeia, a tradition that dates back to the herbals of ancient Greece and reached its zenith in the medieval publication of some English Physicians John Jerard and Nicolas Culperar (Cotton, 1996). The ethnobotanical explorations of Withering among the people *Shropehri* resulted in the discovery of the purple foxglove (*Digitalis purpurea*), which gave a crude drug in the named as *Digitalis*. Withering's contribution represented a milestone in the development of modern Pharmacognosy and also in the science of ethnopharmacology (Mann, 1994).

The Europe's second major contribution to the development of ethnobotanical study is in *Palaeo ethnobotany*. The ethnobotanical studies

such as the ethnopharmacological and chemical properties of *'Pituri'* (*Dubuisia sp.*) in Queensland aborigine's (Bancroft, 1878); the toxic plants of the Western Australia (Gardner and Bennetts, 1956); indigenous, supplementary and emergency food plants of Australian and Tasmanian aborigines from Australia and adjoining areas (Irvine, 1957) are also noteworthy. Barrau (1954, 1957a, 1957b, 1959) contributed to the traditional subsistence, folk taxonomy of food plants, the sago palms and other food plants of Pacific Islands. Weiner (1970, 1971) contributed to the knowledge of medicinal plants in Fiji and Tonga. The studies by Morris (1976), Ellen and Fukui (1994) contributed to the ethnotaxonomy of the region.

3. 4. Ethnobotanical studies in African and Asian Countries

Outside Europe and America, academic researches in the indigenous knowledge of plants were also wide spread. Holland (1922) studied the useful plants of Nigeria. Bailey (1937) documented the native medicinal and poisonous plants of East Africa. Halim (1939) studied the native medicine in Northern Sudan. Harley (1941) documented the native African medicine among *Mano* tribe of Liberia. Barkhuus (1947) documented the active medicines of Ethiopia. Irvine (1948, 1952) studied the indigenous, supplementary and emergency food plants of West African people. Robb (1957) studied the ordeal poisons of Madagascar and Africa. King (1957) gave a comparative account and uses of the fruits of *Semicarpus anacardium* in the Arabian and Indian medicines. Baumann (1960) documented the botanical aspects of ancient Egyptians embalming and burial. Asuni (1964) studied the socio-psychiatric problems associated with people of Nigeria and the use of narcotic plant *Cannabis*. Gelfand (1964) studied the medicinal plants and the customs in Africa.

The origin, domestication and cultivation of yam and cultural practices associated with the staple food of the Africans were studied by Coursey (1966, 1970, 1971, 1972, 1975). Osboru (1968) documented the medicinal and other useful plants in Egypt. Sykes (1972) reported the tree food resources in Turkey. Kloos (1973, 1974) contributed to the knowledge of traditional medicine in Ethiopia. Oso (1975, 1977a, 1977b) contributed to the field of

ethnomycology of Yoruba people in Nigeria. Johnson and Johnson (1976) studied the economic plants in a rural Nigerian market. Fleuret (1979a, 1979b, 1980) studied the wild foliage plants, fruits and other uses of plants from Lushoto and Usambara of Tanzania. Sofowora (1980) chemically evaluated the traditional medicines in West Africa. Baasher (1980) emphasized the need to promote and develop the traditional medicine with special reference to the role of World Health Organisation in countries of the eastern Mediterranean region. . Elmi (1980) surveyed the plants used in traditional medicine in Somalia.

Morgan (1981) studied the ethnobotany of Turcannna with special reference to the use of plants by the pastoral people and their livestock in Kenya. De Smet (1998) worked on the traditional ethnopharmacology of Africa with special reference to sub-Saharan art objects and utensils. This work stands as a colossal piece of work in the field of ethnopharmacology. Idu and Omoruyi (2003) documented some ethnomedicinal plants of Higgi tribe from Adamawa State, Nigeria

The work conducted by Stuart (1911) on Chinese *Materia Medica* with special reference to the vegetable kingdom is notable and a pioneer contribution to the knowledge of traditional medicine. Guerrero (1921) studied the medicinal plants of Philippines. Zaneveld (1959) reported the utilization potential of marine algae in tropical South and East Asia. Baranov (1967) studied the wild vegetables of the Chinese in Manchuria. Hu (1967) described the economic botany of dragon tongue. Hsu (1972) published an illustrative account of Chinese's herbal medicine of Taiwan. Hodge (1974) documented the Vasabi native condiment plant of Japan. Keng (1974) studied the economic plants in ancient north China.

Martin (1975) studied the ethnobotanical aspects of *Cannabis* in South-East Asia. Dassanayake (1978) studied the dye yielding plants and Weragoda (1980) worked on the traditional system of medicine in Sri Lanka. Holdsworth *et al* (1980) documented the traditional medicinal plants of new Irelands of Papua New Guinea. Danuta (1980) studied the traditional medicines of Afghanistan. Hedbergh *et al* (1982) conducted inventories of plants used in

traditional medicine in Tanzania. Holdsworth and Lacanieanta (1981a, 1981b) documented the traditional medicinal plant of the central province of Papua New Guinea. Xu (1982) documented the traditional Chinese medicine for mental illness. Manandhar (1980, 1986) documented some lesser known medicinal plants and food plants of Nepal. Rahman and Yusuf (1996) worked on diversity, ecology and ethnobotany of the *Zingiberaceae* of Bangladesh. Several such studies are still being carried out in Asian and African countries to document the valuable Indigenous Knowledge practices.

3. 5. Ethnobotanical studies in India

Ethnobotany in India is rather young and only five decades old. Dr. E. K. Janaki Ammal initiated the studies on ethnobotany as a separate science in India in 1954 and she worked on the economic aspects of the native plants of India. The paper on subsistence economy of India by her was the first pioneering and exclusive work in this field and therefore, she is considered as the founder of ethnobotanical studies in the Indian subcontinent.

3.5.1. From ancient texts

The Vedas like *Atharvaveda* and *Rig Veda*; ancient Indian scripture like *Skanda Purana* , *Devi Purana, Aswayurveda, Hastyayurveda, Matsya Purana, Brahma Purana, Linga Purana, Agni Purana, Garuda Purana* and scripts of *Charaka* and *Susrutha* described treatment of many diseases using plants. The plants and their traditional uses mentioned in the ancient texts like *Ramayana, Quaran, Vriskshayurveda* recorded and interpreted by several workers is of great significance. Moldenki's (1954) work on the economic plants of Bible is also very relevant in this context.

Sensarma (1984, 1988, 1989, 1991, 1992, 1994a, 1994b, 1995, 1996, 1998) has contributed maximum to the knowledge of plants mentioned in various ancient texts like *Puranas, Neelatantram, Yoginitantram, Tantrasarh* and *Arthasasthra* of Koudilya. Sharma (1986) studied the medicinal plants in Yogasamghraha. Balapure *et al* (1987) studied the plants mentioned in *Ramayana.* Manohar (1994) studied the taxonomy and nomenclature of the

plants mentioned in *Vriskshayurveda.* The work of Dash and Pandhy (1997) has contributed to the knowledge of ethnomycological aspects mentioned in *Manusmrithi.* They also commented on the identity of Vedic soma plants *Amanita muscaoraina.* Farooqi (2000) has published on a book on plants mentioned in Quaran.

3.5.2. Pre independence period

The Indian system of herbal medicine and its plant drugs invited the attention of the west since the beginning of colonial days. *Garcia da Orta* (1563) the personal physician of the then Portuguese Governor in India published a book on Indian herbal medicine, *Coloquios dos simple e drogas he cousas medicinais da India compostos pello Douter Garcia da Orta.* Rheede's *Hortus Malabaricus* (1678-1703), in 12 volumes treatise explained the folk medicinal and floristic aspects of more than 700 plants of Malabar Coast. Fleming (1810) prepared a catalogue of Indian medicinal plants and drugs. Ainslie (1813) published the *Materia Medica* of Hindustan. Ball (1867) documented the principle jungle fruit for food by the natives of Maunbhoom and Hazariabagh. Watt (1890-1896) described several economically important plants in the *Dictionary of Economic Products of India.* Warning (1897) studied the Bazar medicines and common medicinal plants of India. Studies conducted by Bodding (1898, 1925a, 1925b, 1926, 1927, 1940) contributed the taboos and customs, diseases, medicinal plants, language and several other aspects of Santhals of West Bengal and Bihar. Chopra (1933) published indigenous drugs of India. Archer (1946a, 1946b, 1947a, 1947b) also documented transplantation songs, friendship rituals and witchcraft treatment among Santhals of Bihar.

3. 5. 3. Post independence period

It was Dr.S.K. Jain who had started intensive studies among tribals of Central India. Ethnobotanical studies on tribals of Madhya Pradesh, the magico religious beliefs among the Adivasees of Bastar were some of his notable contributions. He has been nourishing and strengthening the subject for almost five decades through several publications (Jain, 1980, 1987a, 1994,

1995 1996, 2000, 2002, 2003). Jain *et al* (1984) published a bibliography on ethnobotany. Some of the other important publications are *Glimpses of Indian Ethnobotany, Methods and Approaches in Ethnobotany, Dictionary of Indian folk medicine Ethnobotany, Contribution to Indian Ethnobotany, A Manual of Ethnobotany, Ethnobiology in Human Welfare* and *A Hand book of Ethnobotany* (Jain, 1981, 1987b, 1989a, 1989b, 1991a, 1991b; Jain and Mudugal,1999).

Binu *et al* (1992) compiled and reviewed and published a detailed account on the ethnobotanical work done in different states and union territories. Lalramnghinglova and Jha (1999) also published a review on ethnobotanical contributions. Most of the publications of the fifties, sixties and seventies, were small inventories. During 1980s, emphasis was on specific indigenous uses like plants in food, fodder, medicine, other material culture and several miscellaneous aspects like magico-religious beliefs, fish stupefying plants, etc., associated with various tribal groups of India. Jain and Srivasthva (2001) estimated over 275 papers on different aspects of specific ethnic group, 150 papers dealing with over 60 kinds of elements of various aspects, 150 papers dealing with only one or two plant species in details. Jain (2002) has compiled 1763 publications on ethnobotany. Chakrabarty and Balakrishnan (2003) conducted a detailed review on the ethnobotany of 150 plants from Andaman and Nicobar Islands and compiled all the ethnobotanical information from the Islands.

The recent review from different parts of the country by Jain (2002) revealed that there are 400 research papers published, out of which 230 papers are on ethnomedicinal plants, 72 papers on general ethnobotanical information, 60 papers on food and fodder plants and 28 papers on miscellaneous aspects.

3. 5.4. Food and Fodder Plants

The various workers in ethnobotany have attempted to document the wild food habits of the tribal communities. Sengupta (1952) conducted investigations on the dietary habits of the aboriginal tribes of the Abor hills of Northeastern India. Tosh *et al* (1959) studied the wild edible plants from the

hilly regions of Maharastra and Goa. Bhargava (1959) documented the unusual and supplementary food plants of Kumaon. Bandari (1974) studied the famine food in Rajasthan Desert. Devbarma (1976) reported the 'Chauk', a drink for tribals in Tripura. Kaul *et al* (1982) studied the wild edible plants of Kashmir with an emphasis on lesser known vegetable substitutes and beverages. Maji and Sikdar (1982) conducted a taxonomic survey on wild edible plants of Midnapur district of West Bengal. Islam (1984a) studied wild plants used as vegetables in Northeastern regions. Bhujel *et al* (1984) documented the edible plants of Darjeeling district. Kaul and Singh (1985) worked on the wild edibles of Himalayas. Nagar (1985) documented the wild food plants used by aboriginal communities in Central India.

Singh and Maheswari (1985) documented wild food plants used by the Tribals of Varanasi district. Ghosh and Shau (1986) documented the plants used by Mundas tribal group of Chotta Nagpur. Varthak and Kulkarni (1987) documented wild leafy vegetables from the hilly regions of Pune and neighboring districts of Maharastra. Jain and Sinha (1988) published an account of the life supporting species with special reference to some emergency and supplementary foods among the aboriginals of India.

Srivastava (1988) conducted studies on wild edible plants of Jammu and Kashmir. Negi (1988) contributed to the knowledge of wild edible plants of Uttar Pradesh. Girach *et al* (1988) conducted studies on wild edible plants from tribal pockets of Orissa. Oommachan (1988) studied the wild edible plants of the forest tribals of Madhya Pradesh. Kumbhojkar and Varthak (1988) conducted studies on wild edible grapes from the sacred groves in Western Maharashtra. Mahanta and Jogoy (1988) conducted surveys on the unusual vegetables in Assam. Kapur (1989) documented the economic fodder plants of Ramnagar, Diduvalley of Jammu Province. Reddy (1989) noted several wild edible plants in India. Navchoo and Buth (1990) conducted studies on the beverages narcotics and food plants of Ladakh. Sebastian and Bhandari (1990) studied the wild edible plants of the forests areas of Rajasthan.

Dabas *et al* (1990) worked on cultivation and food habits of tribals of Dangs district in Gujarat. Haridasan *et al* (1990) documented the wild edible plants of Arunachal Pradesh. Jain *et al* (1990) documented some lesser-known food plants among aboriginals in India. Srivastava and Rao (1990) studied the breadfruit trees of Andaman and Nicobar Islands. Maikhuri (1991) conducted detailed studies on the nutritional values of some lesser-known wild food plants and their role in nutrition of tribals of Northeastern India.

Joshi and Awasthi (1991) documented the life support plant species used in famine by the tribals of Aravallies. Bennet *et al* (1991) published a book on food from forests. Hemadri (1992) studied the tribals of Andhra Pradesh with special reference to their knowledge in nutrition and medicinal herbs. Kulkarni and Kumbhojkar (1992) documented the non-conventional wild edible fruits used by Mahadeokoli tribe in Western Maharastra. Basu and Mukherjee (1993) studied the smokes and beverages of the tribals of Purulia of West Bengal. Srivastava (1994) studied the wild edible plants of Sikkim Himalaya. Arora (1986, 1989, 1990, 1995) contributed to the ethnobotany of crop plants and native food plants of Northeastern India. The status report of All India Coordinated Research Project on Ethnobiology (AICRPE) have recorded over 9500 wild plant species used by tribals for meeting their varied requirements (AICRPE, 1994).

Reddy *et al* (1996) studied the ethnobotany of lesser-known tuber yielding plant from Andhra Pradesh. Jha *et al* (1996) studied the ethnobotanical significance of leaves and flowers utilized as supplementary vegetables in Darbhanga of North Bihar. Sahu (1996) contributed to the knowledge of life support and promising food plants among aboriginals of Bastar. Bora and Pandey (1996) documented some lesser-known wild food plants from Assam. Bajpayee and Dixit (1996) contributed to the ethnobotany of foodstuffs of tribals of Tarai regions of Uttar Pradesh. Sensarma (1996) studied the emergency food plants mentioned in Kautilyas *Arthsasthra.* Singh (1996) contributed to the knowledge of wild edible plants of Mandi district in Northwest Himalaya. Ansari (1997, 1998) contributed the knowledge of wild edible plants of Shevroy, Coli hills of South India and Mdhaulia Forest, Gorakhpur respectively.

Das (2000) documented the wild food plants of Midnapur of West Bengal. Joshi and Tewari (2000) contributed to the knowledge of wild edible plant diversity in Uttar Pradesh. Sharma *et al* (2000) studied the edible fruits of Manipur. Singh *et al* (2000) documented some energy plants among tribals of Madhya Pradesh. Sudhakar and Vedavathy (2000) studied the wild edible plants used by tribals of Chittoor district of Andhra Pradesh. Viswanathan (2000) documented the edible plants of Ladakh. Bhatt *et al* (2002) documented the fodder plants of Bannizone in Kachchh of Gujarat. The studies of Pundir and Singh (2002); Masish *et al* (2003); Basumatary (2003); Mitaliya and Bhatt (2003) and Jha *et al* (2004) are some of the important contribution to the knowledge of wild edible plants.

3.5.5. Ethnomedicinal plants

The review of literature revealed that from a total of 1650 different publications nearly 800 publications deal with ethnomedicinal plants. Various workers in different parts of the country have carried out several ethnomedicobotanical surveys and a large number of valuable data have been recorded (Jain 1991a, 1991b). Mithra & Jain (1991) mentioned about 1500 plants that are used in medicines in India, and at least 500 of them are commonly used for the treatment of various diseases.

3. 5.5.1. Human Medicine

The review of literature pertaining to ethnomedicine revealed that more than 600 publications are purely on the curative effects. There are hundreds of publications available by several authors that are noteworthy contributions to the knowledge of ethnomedicinal plants pertaining to diseases in man. Some of the notable publications are that of Jain (1991, 1996a, 1996b, 2000); Jain *et al* (1991); Pal and Jain (1998); Joshi (1995); Maheswari (2000); Parotta (2001) and Singh *et al* (2002).

3. 5.5.2. Ethnoveterinary medicine

Indigenous knowledge on veterinary practices existed in India since time immemorial According to Dwivedi (1998) the same traditional healers

prescribed medicines for both human beings and animals, but some specialized tribal men treat only animals. Jain and Srivastava (1999) have contributed a knowledge base on the use of plants in veterinary and human medicine. They have compiled information on 836 plants in a single volume, entitled 'Dictionary of *Ethnoveterinary Plants of India'*.

3. 5.6. Plants used in material culture and tribal art

Apart from food and medicine, tribals depend up on plants for shelter, making household articles, adornments, religious rituals *etc.* Roy (1955, 1957) has studied the plants used in basketries, domestic utensils and arbor weapons of the Adi tribe of central India. Mukerjee (1956) published a book on folk toys of India. Kaufmann (1961) documented some interesting information on the musical instruments of the hill Maria, Jhoria, Basthar Muria and Gonds tribes of Central India. Jain (1965) recorded the wooden musical instruments of the Gonds of Central India.

Kothari (1968) contributed to the knowledge of various folk musical instruments. Mangala (1969) noted some aspects of tattooing among tribes. Kurup (1970) published a paper on tribal festivals of Central India. Mehra *et al* (1975) conducted a detailed account on plants used for adornments by various folk communities in India. Borthakur (1976) published a paper on traditional weaving implements among Mikirs of Assam. Joshi (1985, 1986a, 1986b, 1990) published the multidisciplinary ethnobotanical aspects of the tribals of Rajasthan such as, fish stupefying plants, weather indicating plants, plants of adornments and decoration. Laskminarasimhan and Sharma (1988) published an account of the musical instruments of Adivasi's. Maheswari and Pinuali (1990) studied the trees used in crafts by Saharya tribals.

Kulhari (1992) studied the ethnobotany of field fencing in western Rajasthan. Jha and Basak (1994) studied the ethnobotanical aspects of Mithila paintings. Borthakur and Geogoi (1994) contributed to the indigenous technology for making writing materials among the Tai Khamathis. In the status report of AICRPE (1994) about 700 wild plant species used by tribals for other material and cultural requirements has been recorded. Jain (1995)

documented the prospects of plant lore of Saharya tribes. Changkija and Kumar (1996) contributed to the knowledge of folk practices and beliefs of the Ao-Nagas in Nagaland. Dixit (1997) studied the fire sacrificial plants. A couple of studies conducted by Chandra (1996, 1997) in Jarwa tribals of Andaman Islands resulted in the documentation of ornamental sea weeds and the role of *Licuala peltata* among the life and culture of Jharwas. Payak (1998) worked on the ethnobotanical aspects of screw pine paintings in fifth century Buddhist Caves at Bag Madhya Pradesh. Punjani (1998a, 1998b) documented the plants used as toothbrush and in fencing by the tribes of North Gujarat. Jain (2003) has reviewed 200 publications on traditional herbal recipes.

3. 5.7. Ethnobotany of lower plant groups

The ethnobotanical aspects of higher plant groups (Angiosperms and Gymnosperms) have fairly been documented when compared to the lower groups like Algae, Fungi, Lichens, Bryophytes and Pteridophytes. However, ethnobotanists recently have also recognized the role of many lower groups of plants. Kapur and Sarin (1977) studied the useful lower group of plants of Jammu and Kashmir. Kapur (1978) noted the medicinal ferns of Mauphlong. Islam (1983) documented the utilization of certain ferns and fern allies in the northeastern region of India. Badham (1984) studied the Psylocybine mushrooms. Lal *et al* (1985), contributed to the ethno lichenological knowledge of tribals. Sharma and Vyas (1985) studied the ethnobotanical aspects of ferns and fern allies of Rajasthan. Pande and Pangtey (1987) documented some economic and edible ferns of Kumaon region.

Girach and Aminuddin (1989) worked on ethno botanical aspects of *Lygodium flexosum.* Pant and Tiwari (1990) published various useful aspects of bryophytes. Rai and Rai (1992) studied the use of fungus in folk medicine for family planning among the Baiga tribals. Saklani and Upreti (1992) contributed to the folk uses of lichens in Sikkim. Gaur and Bhatt (1994) studied the folk utilization of some Pteridophytes of Deoprayag area of Garhwal Himalayas. Lal and Upreti (1995) contributed to the ethno lichenological knowledge of tribals of Madhya Pradesh. Upreti (1996) reviewed ethno lichenology in India. Joshi *et al* (1997) conducted ethnomycological

studies on Kumaun Himalaya. Upreti *et al* (2005) have recently reported 38 species of lichens belonging to 23 families having several ethnic uses in India.

3. 5. 8. Ethnobotany of specific plants and plant groups

The ethnobotanical aspects on particular plant, plant groups and specific uses such as fibre yielding plants, cordages, pesticides, fish stupefying plants etc have also been studied by several workers. Ethnobotanical aspects of Tagetes, by Neher (1968); *Dendrophthoe falcata* in eastern Tarai region of Uttar Pradesh by Singh *et al* (1979); Betelvine by Mudugal *et al* (1982); *Caryota urens* of Western India by Gunjatkar and Varthak (1983); *Apama silicosa* in Tamil Nadu, by Chelladurai and Apparanantham (1983); Garcinia *xanthochymus* by Pramanic and Majumdar (1983) and on fiber yielding plants from Northeastern region by Islam (1984b) are some of the noteworthy contributions in these aspects.

Janaki Ammal and Prasad (1984) conducted ethnobotanical studies on *Costus speciosus* among the Kanikars of Tamil Nadu. Mishra and Sahu (1984) studied the Euphorbaceous plants used in ethnomedicinal practices by the tribals of Madhya Pradesh. Similar studies by Singh *et al* (1985) *on Helecteres isora* from Khari district of Uttar Pradesh; on plants belong to *Solanaceae* in tradition, folklore and medicine of India by Jain and Borthakur (1986); ethnobotanical uses of *Cocos nucifera* among the tribals of Nicobar and use of some Gymnosperms found in Andaman and Nicobar Islands by Dagar and Dagar (1986, 1987) is of great significance.

Negi *et al* (1988) pointed out the importance of Indian butter tree *Aisandra butyracea* in relation to ethnobotany. Neogi et al (1989) and also on some weeds of Kashi and Garo hills of Meghalaya. Dagar (1988) reported the Euphorbiaceous plants associated with the life and culture of Nicobarese tribals. Dagar and Chaghtai (1989) gave details on the ethnomedicinal properties of *Trichosanthus bracteata* from Andaman and Nicobar Islands. Ethnobotanical studies on *Ficus* by Basak and Thothathri (1989); on *Urtica dioica* among the Bhotias of Chamoli and Garhwal by Singh (1989) have contributed useful information in this aspect. Other important ethno botanical contributions from Garhwal Himalayas are those of Singh *et al* (1990); Alam (1990) and Bist and Badoni (1990).

Hosagoudar and Henry (1991) studied the ethnobotany of *Prosopis cineraria*. Borthakur (1992) studied the native phytotherapy for child and women diseases of Assam. Aminudheen and Girach (1991,1993) studied the folk use of *Hemidesmus indicus* and also documented the role of herbal drugs for curing Malaria from Orissa. Ethnobotanical aspects of *Cissus quandrangularis* was published by Kumbhojkar *et al* (1991). Amalraj (1992) published a relevant note on Banana in India. Singh and Dathan (1993) reported the traditional medicinal uses of Cucurbits. Mondal and Mondal (1993) studied the ethnomedicinal aspects of *Amaranthus spinosus* from lower Gangetic Plains. Medicinal aspects of *Jatropha curcus* by Basak and Girach *et al* (1995); of *Tinospora* among the tribals of Bihar by Sinha *et al* (1995); ethnobotany of *Solanum nigrum* by Rai *et al* (1995); ethnobotanical diversity in Zingibers of India by Jain (1995) and the ethnobotany of genus *Euphorbia* by Binojkumar and Balakrishanan (1996) are some of the other significant publications on this aspects.

Duhoon *et al* (1996) studied the ethnomedicobotanical aspects of Seabuck thorn (*Hippophae sp.)* growing in the cold deserts of India. Reddy (1996) worked on ethnobotany of *Semecarpus anacardium* in Andhra Pradesh. Other works like studies on *Liquida peltata* among the Jarwa tribals of Andaman Islands (Chandra, 1997); ethnobotany of *Phoenix* in central India (Bajpayee 1997); role of 'Brahmkamal' in the life and culture of Garhwalis (Sakalani and Rao, 1996); ethnobotany of *Andrographis* by Alagesabhoopathi Balu (1999) and indigenous knowledge of *Baphiacanthus cusia* among Hani People (Huyin *et al*, 1998) helped to learn more detailed aspects on plant uses.

Some of the notable studies on the ethnobotany of particular plant are *Pinanga mannii* (Subramaniam *et al*, 1998); rattans among the Athi and Nishing tribes in Arunachal Pradesh (Thomas *et al*, 1998); *Madhuca, Sterculia* and *Schilechera oleosa* from Western Maharastra (Upadhye and Kumbhojhar1992, 1996, 1998); the Gymnosperms of Poonch district of Jammu and Kashmir (Kiran *et al*, 2000); *Careya arborea* in Orissa (Mohanty and Rout 2000) and *Aloe veera* (Kulkarni *et al*, 2001) are some of the important contributions in these aspects.

Similar studies were done by Singh and Hashami (2002) on *Streblus asper*; Sur (2002) on genus *Mucuna*; Gogoi and Das (2002) on ferns; Dhal *et al* (2002) on *Gymnema sylvestre*; Khan and Ali (2003) on *Acanthaceae*; Samanta and Das (2003) on *Typha elephantine*; Manandhar (2003) on *Leguminosae*; Islam and Hussain (2003) on *Asteraceae*; Sharma *et al* (2003) on Monocotyledons; Paul (2003) on *Azadirachta indica*; George *et al* (2003) on *Aegele marmelos*; Upadhye and Kumbhojkar (2003) on *Butea monosperma*; Punjani (2004) on *Vitaceae*; Sha (2004) on *Canabis sativa* and Jadeja *et al* (2004) on *Asclepiadaceae* are of great significance.

3. 5. 9. Ethnobotanical studies on specific aspects

The ethnobotanical studies on the specific aspects of plants were conducted by varios workers and contribute more detailed information on a single aspect. Billore and Audichya (1978) studied the use of plants as oral contraceptives and in family planning in tribals. Plants used for regulating fertility by Dhat community (Lal and Lata, 1980); plants used for birth control in Santal Pargana, Bihar (Goel *et al*, 1987); the anti-fertility herbals used by the tribals in Anaikatti Hills of Coimbatore district of Tamil Nadu (Lakshmanan and Sankaranarayanan, 1990); plants used for venereal and gynecological diseases of the tribals of Rajasthan (Singh and Pandey, 1996) are some of the publications on this aspect.

Plants used for curing skin afflictions were studies by (Khan and Chaghtai 1982) and Oommachan (1986). The treatment of diabetes through herbal drugs were studied by Alam *et al* (1990); Masih(1997); Bondya and Sharma (2004). The herbal drugs used by the tribals of Rajasthan for Guinea worm disease, the traditional method of treatment for psychosomatic dermal diseases (Atique and Iqbal 1993); psychoactive plants in India (Jain *et al* 1994); plants used as ophthalmic drugs in Phulbani, Orissa (Sahoo 1995) are some notable work in specific aspects.

Jain and Murthy *et al* (1986) studied the tribal remedies for snakebite by the tribals of Orissa. the anti-venom medicinal lore's of the tribals of Banswara (Mishra *et al* 1990); snakebite and scorpions stings (Joshi 1991, 1993); plants

used in the traditional phytotherapy practices among the tribals of Western Maharashtra for insect bites (Upadhya and Kulkarni, 2004) are some of the publications pertaining snake bite and insect sting.

Fishing is a hobby and subsidiary occupation of the tribals and several papers were published on this aspect. Pal and Soren (1986) contributed to the knowledge of plants used by the tribals of India for fish stupefaction; on ethnoinsecticides (Pal *et al* 1989); some itchthyotoxic plants in Meghalaya (Chhetri *et al* 1992); plants used by Kattunaikans for fish stupefaction (Cyrilnayagam *et al* 1996) and fish stupefying plants of North Maharashtra (Pawar *et al*, 2004).

Some of the studies on the herbal insecticides and techniques for repelling pests were also published like, plant involved in traditional control of insect pests (Abubacker and Abdurahman, 1998); on the tribal devices and techniques against pests and farm enemies of Rajasthan (Joshi and Awasthi 1992) and ethnobotanical aspects of pests from the tribal areas of Western Maharashtra (Kulkarni and Kumbhojkar 1996).

The cosmetic plants of Indo-Nepal Border (Vihari, 1995); palaeoethnobotanical aspects of Kashmir (Farooq *et al* 1995), on the preparation of Choarak, a local wine in Tripura (Singh, 1996);plants used in soap and detergents by Meitei community of Manipur (Singh *et al* 2001) and on Plant gums (Upadhyay and Chauhan, 2003) are also worth full.

3. 5. 10. Magico-religious beliefs and other miscellaneous aspects

As early as 1889 Dymock had recorded the use of turmeric in Hindu ceremonials. Mehra (1967) studied the historical aspects of Sesame in India with special reference to cultural significance. Nagar (1983) collected ethno archeological evidences on Bhimbetka region. Pal (1970) documented the plants associated with Durga Puja ceremony in West Bengal. His work on folklore and myths associated with some grasses growing in India is a notable contribution. Chaudhuri and Pal (1975) recorded magico-religious beliefs of plants among Lodhas of Midnapur in West Bengal. Mukerjee and Aulakh (1983, 1988) published couple of papers on superstitions associated with

plants in India and role of narcotics in Hindu mythology. Aulakh and Mukherjee (1984) studied the plants associated with witchcraft and evil eye. Badoni (1985) documented the plants used in rituals and psycho medicinal practices of the hill tribes of Uttarkashi. Maheshwari and Singh (1985) studied the plants used in magico-religious beliefs by Kol tribe of Uttar Pradesh. Murthy *et al* (1989) worked on narcotics among folk culture of Orissa.

Sharma (1990a, 1990b, 1991) contributed to the knowledge of weather indicating plants, etnobotany of *Adansonia digitata* and *Solanum surentense* from Rajasthan. The studies of Gupta (1986, 1989, and 1996) contributed to the floral motifs, art and literature and archeoethnobotany. Geogoi and Borthakur (1991) documented the plants in religio-cultural beliefs of the Tai Knamtis of Assam. Basu and Mukerjee (1993) studied the smokes and beverages of the tribals of Purulia. Bhowmick and Chowdhery (1966) documented the magico-religious beliefs and practices of Mundas. Jain (1996) conducted studies on climatic forecasting for agricultural use in ancient Indian folk proverbs.

3. 5. 11. Multidisciplinary approach

Gupta *et al* (1980) conducted ethnobotanical and phytochemical screening of high altitude plants of Ladkh. Janardhanan (1995) worked on ethnopharmacology of Ergot. Kaul and Gaur (1995) worked on characteristics of ethnopharmacological resources in Kashmir Himalaya. Nyman *et al* (1998) conducted *in vitro* screening for andgiotension converting enzyme inhibition of some plants used in the traditional medicines of Gujarat, Rajasthan and Kerala. Natarajan *et al* (1999) conducted a detailed study and compared the traditional knowledge with modern biological science, on ethnopharmacology from Coimbatore district of Tamil Nadu

3. 6. Ethnobotanical Studies in Kerala State

The review on the ethnobotanical information from Kerala State has been categorized here under three groups, such as Anthropological studies, Folklore studies and pure ethnobotanical studies.

3. 6. 1. Anthropological studies

The studies on various ethnic groups started during the second half of the nineteenth century. Edgard Thurston (1909) in his monumental work *caste and tribes of south India* mentioned a few plants associated with beliefs and religious rituals, food habits among some tribal groups and other communities in Kerala. Pishoroti (1935) studied the cultural and religious aspect of plants among the people of Kerala and this work stands as one of the pioneering step to Anthropology and Botany. The studies conducted by Gnanambal (1952, 1954a, 1954b) on the funeral rites and the magical practices among the *Kanikkars* of Travancore and the magical rites of the *Urali* especially in Agriculture, puberty, pregnancy and curing of diseases had contributed to the importance of several plant species in anthropological as well as the ethnobotanical aspects. Subsequently, Mukherjee (1953, 1954) attempted to record the socio economic status of the *Kanikkars* and *Malapandaram* of Travancore in which he mentioned important plants used for their subsistence. Aiyappan (1957) recorded the medicines and healing practices associated with the temples of Kerala. Nair (1965, 1970) studied the tree symbol worship and '*Para*' festival among the community.

Nair (1985) conducted a detailed study on tribal health and medicine, focusing the interrelationship between habitat, health, medicine, society and culture of Kanikkars, Kurumbars, Cholanaikkans, Kurichyars and Paniyars of Kerala. The publication on Kanikkars by Karunakaran (1989) also includes some ethnobotanical aspects. Mathur (1994) documented the ethno medicines among Kurumbars of Attappady.

3. 6. 2. Folklore studies

Choondal (1988) initiated the documentation of the traditional medicines of the Livestock of Kerala and has contributed information on plants associated with ethno veterinary medicinal practices among Panan, Mannan, Ezhava and Vaduka community of Kerala. Some of the folklorists to mention a few like, Dr. Raghvan Payynad, Dr. C. R. Rajagopal, Dr. Vishnu Nampoothiri and their students as well as, their colleagues have contributed several

valuable information of plants and contributed to the knowledge on several plants used in traditional agriculture. The different ethnobotanical aspects of the tribals of Kerala was compared and interpreted by Unnikrishnan (1995). The traditional knowledge of Kattunaikans in Wayanad was documented by Dirar (1995) is also worth mentioning. The studies by Kumaran (1996) on the life and culture of the Kurichya tribal group of Wayanad, highlights several traditional aspects associated with plants and artifacts. Sujithkumar (1999) conducted detailed studies on traditional agricultural knowledge of the different tribal communities in Kerala.

3. 6. 3. Ethnobotanical studies

The earliest record on the documentation of the traditional botanical knowledge of the plants from Kerala is from Van Rheed's *Hortus Malabaricus*, a twelve volumes treatise on the floristic and medicinal aspects of Malabar is unique and form a spectacular work in the social and cultural history of several ethnic groups from peninsular India (Manilal, 1978). In these volumes, Rheede included the pictures of plants as well as the details on the indigenous and traditional use of plants. Besides these, indigenous medicinal use of 682 plant species used by the traditional communities of central to north Kerala is included. Sebastian (1954) studied the indigenous fiber from *Helectris isora* from the Kerala part of Western Ghats. Subsequently, it was Janaki Ammal (1955) who combined the botanical knowledge associated with traditional community and treated ethnobotany as a distinct branch. Nair (1965) studied the tree worship among the Nair community of Kerala.

The first publication on ethno botanical aspects relevant to Kerala was the *Ethnobotany of the Kanikkars* of South India by Janaki Ammal & Jebadhas (1978). Manilal (1977) presented a comparative account of economic botany and ethnobotany. Work on the botanical, historical and linguistic aspects of *Hortus Malabaricus* by Manilal (1978, 1980, 1984) emphasized the need of multidisciplinary approach in botanical as well as ethnobotanical studies. Later works by Manilal (1981a) on the ethnobotany of *Rices* of Malabar is an outcome of a participatory ethno botanical observation from the Wayanad

missing ref

district of Kerala that described 26 species of traditional rice varieties. The paper on an ethnobotanical connection between mushrooms and dolmens (Manilal, 1981b) probably is the first research paper published from Kerala in Archeoethnobotany.

Ethnobotanical uses of 90 plant species among the tribals of Kannur district has been documented by Ramachandran & Nair (1981). Bhat and Nesamani (1981) studied the folklore medicinal practice among tribals of Idukki district and documented the plants that are used to cure 21 diseases among the tribal groups. The etymology of *Bentinkia condapana* in relation to the traditional hairstyle of women in South India was interpreted by (Manilal and Renuka 1983). Prasad and Abraham (1984) studied the ethnobotany of the *Nayadis* one of the primitive and uncivilized group of scheduled caste of northern Kerala. John (1984) documented one hundred useful raw drugs of Kani tribes of Trivandrum forest division. Ethno botanical investigations in some primitive tribes of Western Ghats as well as some scheduled caste communities of Travancore by Pushpangadan and Atal (1984, 1986) are notable and pioneering contributions to the ethnobotany of Kerala. Manilal (1988) studied the medicinal *Compositae* mentioned in the ancient palm leaf manuscripts of Malabar. Manilal, (1989) in his publication on the "Linkage of ethnobotany with other Sciences and Disciplines" described different aspects of ethnobotany with several examples from Kerala. Sharma *et al* (1989) reported the adaptogenic activities of the seeds of *Trichopus zeylanicus* sub sp. *travancoricus*.

The ethnomedicobotanical studies on two species of *Aristolochia* (Rajasekharan *et al* 1989) and the inventory of two hitherto unrecorded and ethnomedicinal plants such as *Arogyapacha* (*Trichopus zeylanicus* subsp. *travancoricus*), some unrecorded folk uses of edible banana and *Amrithapala* (*Janakia arayalpathra*) (Pushpangadan *et al* 1988, 1989b, 1990) are some of the important contributions from Kerala. Nazaurudheen *et al* (1990) documented some food plants used by Paniyar community of North Kerala. Mathew *et al* (1992) conducted a detailed study on 21 plant species with anticancer properties, which is being practiced among the tribals of

Malappuram, Palakkad and Wayanad district. Lakshmi *et al* (1992) conducted the pharmacognostical studies of *Janakia arayalpathra* (Periplococaceae). Raveendran and Jawahar (1996) studied some lesser-known edible plants of the tribals of Kerala. Rajasekharan *et al* (1996) studied the native traditional folk healing art and highlighted the contributions of hereditary physicians among Eazhava community. Nazarudeen *et al* (1996) studied the plants used for food, medicine, adornment and as repellants by the *Paniyar* Community in North Kerala. Radhakrishnan *et al* (1996a, 1996b) documented 30 important wild edible plants, used by the different tribals of Kerala, and also the lesser-known ethnomedicinal plants from the State. Jawahar and Raveendran (1996) reported 19 plants to the ethnic food habits by the tribal groups of Kerala. Sajeev and Sasidharan (1997) documented the ethnobotanical aspects of 55 plant species among the *Muthuva* and *Hill Pulaya* tribes.The publication on the ethnopharmacology by Pushpangadan *et al* (1997) is a valuable contribution. Subsequently, Radhakrishnan *et al* (1998) reported the ethnobotanical importance of *Ulteria salicifolia.*

Nayar *et al* (1999) contributed to the use of plants, plant products in the Mural Paintings. Nayar *et al* (1999) reported for the first time the psychoactive property of *Rotula aquatica.* Binu (1999) studied the ethnobotanical information of the Pathanamthitta district in a comprehensive manner. Mathew *et al* (1999) documented ethnobotanical information pertaining to the Pteridophytes of Kerala. Jery and Britto (1999) documented 32 plants based on ethnobotanical surveys of Naduvilal Panchayat, Kannur district. Kumar *et al,* (1999) documented 104 plants during the ethnobotanical studies on the hill tribes in the shola forests of the high ranges. Nair and Jayakumar (1999) documented 113 plant species used by *Hill Pulaya* tribe. During the subsequent survey, 140 plant species used by the *Hill Pulaya* and *Muthuva* tribe was also documented (Nair and Jayakumar 2000). Augustine (2000) carried out the ethnobotanical studies in Periyar Tiger Reserve and documented 180 species of plants of ethnobotanical importance. Radhakrishnan *et al* (2000) conducted detailed ethnobotanical studies on various tribal artifacts of Kerala state. The medicinal properties of the termite fungi known as 'Nilamanga' (*Sclerotia stipitatum*) used in ethnomedicine and

folkmedicine was studied in detail by Balakrishnan and Anilkumar (2001). Balakrishnan *et al* (2003) also contributed to the ethnotaxonomical aspects of 21 species of *Dioscorea* based on the knowledge of Kattunaikan tribe of Waynad district. Chacko *et al* (2002) analyzed the phytochemical constituents of *Trichopus zeylanicus*. Thomas and Britto (2003) documented several interesting information from the different tribal groups of Wayanad. Pramod *et al* (2003) studied the religious and supernatural beliefs of Kurichya tribe of Wayanad district. Nazarudeen (2003) documented the plants used as leech repellents. Kumar *et al* (2003) documented the medicinal and ethnic uses of 60 species of Pteridophytes. Augustin and Sivadasan (2004) documented 66 plant species used for curing various diseases among the tribal groups namely, Mannan, Paliyan, Urali, Malayaram and Malampandarm of Periyar Tiger Reserve. Remesh (2004) gave a detailed and comparative account of the doctrine of signatures associated with the ethnomedicinal plants of the tribals of Kerala. Remesh *et al.* (2005) documented the uses of lower plants such as algae, Fungi, Lichens, Bryophytes and Pteridophytes in ethnomedicine and folk medicine. Udayan *et al* (2005) documented 40 plants used by the Kadar tribes of Sholayar Forests, Thrissur district.

3. 6. 4. Ethnobotanical studies in Palakkad district

Anthropologists like Nair (1985) and Mathur (1994) initially contributed to the ethnobotanical knowledge of the tribals of Palakkad district. Gopalakrishnan and Krishna Prasad (1992) documented several ethnomedicines among the Irula tribes of Attappady. Sankararayanan and Narmatha (1988) conducted socio-cultural and ethnobotanical studies on Irulas of Sholayur Panchayat in Attapady. Subsequently, Sankaranarayanan (1988) studied the folklore medicines for the treatment of jaundice from Coimbatore and Palakkad districts of Tamil Nadu and Kerala respectively. Rajendran and Mehrotara (1996) documented hitherto unreported ethno medicinal plants among the tribals from the Parambikulam Wildlife Sanctuary. Manilal *et al* (2002) conducted ethnobotanical studies on the wild leafy vegetables used by the Irulars and Mudugars of Attappady and documented 23 plant species including Pteridophytes. Subsequently, Binu *et al* (2002)

documented 40 ethnomedicinal plants used by the Irula tribal group of Palakkad district. Nadanakunjidam (2003a, 2003b, 2003c) documented 47 ethnomedicinal and 59 food plants and also the traditional knowledge of 51 economically useful plant species used for the various purposes by the tribals of Attappady.

Among the eight tribal groups selected for the present study, very little ethnobotanical information of four tribal groups viz., Irular, Kurumbar, Mudugar and Malasars is so far known. The ethnobotanical information on the tribal groups like Eravallans, Kadars, Malamalasars and Muthuvans of the district are recorded for the first time during the present study.

Therefore, it was very essential to gather ethnobotanical information in detail so as to understand the plant-people interaction and to document such valuable information with a comprehensive and multidisciplinary approach for the posterity. Hence, the present study was undertaken.

Materials and Methods

4. MATERIALS AND METHODS

The ethnobotanical information are usually collected either through direct or indirect methods. The direct method includes field studies, market surveys, personal interviews, Ethnobotanical Rapid Appraisal (ERA), etc. The indirect tools include herbaria, archeological remnants deposited in museums, previous literature, songs, proverbs and several other cultural implications.

During the present study, the collection of ethnobotanical information has been gathered from direct evidences mainly through *Participatory observation* among the different tribal groups in the study area. The information pertaining to the study area, the neighboring areas, similar tribal groups residing in other part of the states are also utilized for collating the data from the earlier work to assess the present status. The ethnobotanical information on all the plants associated with the life, tradition and culture of different tribal groups have been documented with an emphasis on plants used for food, fodder, medicinal plants, plants with miscellaneous uses such as fiber yielding plants, fish stupefaction, repellents, soaps and cosmetics, beliefs, worships, religious rituals and plants in material culture.

4. 1. Selection of the Hamlets

Reconnaissance survey was conducted through out the district for locating the tribal groups, their distribution, status and traditional way of life, the degree of traditional knowledge practices, etc. Their anthropological and ethnological aspects were studied with the help of the published literature (Iyer, 1908; Thurston, 1909; Luiz, 1962; Mathur, 1977; Menon & Sasikumar, 1996). The tribal groups were identified based on a detailed discussion with eminent anthropologists like Dr. P.R.G. Mathur, Dr. N. Viswanathan Nair and others to locate eight tribal groups in the Palakkad district. The tribal groups *viz.*, Eravallans, Irulars, Kadars, Kurumbars, Malasars, Malamalasars, Mudugars and Muthuvans were identified. All most all the settlement of the each tribal group throughout the study area was surveyed and detailed study was conducted in the selected settlements. The sampling procedure for the selection of the hamlets of the tribal groups under study was mainly based on following parameters.

4. 1. 1. Distribution of hamlets

The hamlets are distributed in different locations and to a great extent influence ethnobotanical knowledge of the tribal groups where they reside. It was observed mainly in three locations viz., outside the forests, border area of the forests and the interior of the forests. In the case where one tribal group resides in all the three localities, the selection of settlement was mainly done from the interior forests followed by the other locations. The hamlets located in the interior forest represented an ideal location for ethnobotanical studies with a positive surrounding environment to practice and preserve the valuable ethnobotanical knowledge of the tribal group. The plants used by them were collected from the forests in and around the hamlet with the help of elders. The hamlets selected for each tribal group for the ethnobotanical study during the course of work are given in (Table 1).

Table 1. The hamlets of the tribal groups selected for the study

Tribal groups	Hamlets selected
Eravallans	Attempathy, Ayappanpara, Chemmanampathy Babucolony, Karadikunnu, Kattupathy, Kozhipara, Moochankundu, Mundipathi, Plachimada, Sappakad and Sarcarpathy
Irulars	Anaikatty, Bhommiyampady, Bhoothuvazhi, Chavadiyoor, Chemmannur, Daniya, Dasanoor, Dhonigundu, Kadampara, Kathirampathy, Kolapaadi, Kulukkoor, Nellipathy, Palur, Padavayal, Pothupadi, Sambarkode, Sholayoor, Thekkupana, Vayaloor and Walayar
Kadars	Kalchadi, Kuriarkutty, Parambikkulam-Earthdam, Thalikakallu, Thekkady,
Kurumbars	Anavai, Ghalazi, Gottiarkandy, Kadukumannu, Mele thoduki, Murukala, Pazhayoor, Thadikundu and Thazhe thoduki
Malamalasars	Thekkady, Ancham colony and Vazhakkulam*
Malasars	Kachithode, Kadappara, Oravanpadi, Sungham, Thekkady, Kottengadi, Pakidippalam and Pothumala
Mudugars	Abanoor, Anakkallu, Chindeki, Kallamala, Karara, Karuvara, Kattekadu, Mukkali, Pottikallu, Singappara(Muthikkulam) and Veetiyoor
Muthuvans	Poopara**

* Malamalasars are represented by only three hamlets; ** Muthuvans are represented by only one hamlet

4. 1. 2. Presence of the elder people in hamlets

Due to the modernization and change among the tribal groups, it has been observed that many of the younger generation among the tribals are hideous to their traditional way of life and are highly fascinated towards the modern culture. This has resulted in the fast disappearance of valuable traditional knowledge among the younger generation when compared to elders. Therefore, the study site was selected depending upon the presence of elderly people, such as headman, medicine man (tribal physician), medicine woman, tribal midwives, tribal priests and other scholarly persons living in the hamlets, who are truly the custodians of valuable information.

4. 1. 3. Tribalism and traditional way of life

The tribals generally show a tendency towards the modern culture and many of them are found to inhabit with non-tribal people, which sometimes result in the formation of an intermediate culture. It is very difficult to recognize and differentiate the traditional knowledge of tribals and non-tribal people due to the close interactions. Therefore, during the sampling only pure tribal hamlets with minimum interference from outsiders were selected.

4. 2. Collection of Ethnobotanical data

The selected hamlets were visited regularly and data pertaining to plants in their life and culture was gathered. The detailed ethnobotanical survey was conducted for a period of six and half years from March 1999 to August 2005. The field studies were carried out in different seasons of the year throughout the study area for seven to fifteen days in a month and with close interaction with the tribal groups. Conducting interviews like personal interviews, Rapid Ethnobotanical Appraisal (REA) and Participatory Ethnobotanical Appraisal (PEA) ethnobotanical information were gathered. After a reconnaissance survey the selected hamlets were visited periodically and Rapid Ethnobotanical Appraisal was conducted for locating the knowledgeable elders and other informants among the tribals. The elder people were personally interviewed and their assistance was sought in the field for locating the plants of

ethnobotanical importance. Special field trips were also arranged for the fellow tribes of varied age groups for locating, explaining and demonstrating the plants associated with their life and culture. A Participatory Ethnobotanical Appraisal was also conducted for documenting the plants associated with their songs, beliefs and proverbs.

4. 3. Authenticity of the Information

Information was gathered from the informants or from direct observation on the use of plants from the field itself. Each of the information on the particular plant used among the particular tribal group was tested directly or indirectly. The reliability of the information of the plants used was ascertained by repeated verification. The local names of plants among the tribal groups and ethno taxonomic evidences for identifying the particular plants were checked for authenticity. In rare cases, the knowledge of certain plants, especially the medicinal aspect was confined to certain elder people and was protected by several socio cultural barriers among the tribal groups. The authenticity of the information of such plants was tested directly or indirectly during the field trip in different seasons throughout the period. Each response was recorded in a data sheet specially designed for the purpose (Appendix 3)

The plants associated with life, culture and tradition of different tribal groups were collected and the details were recorded in the field book. The herbarium was also prepared using standard method (Hosebergh & Sachet, 1965; Jain & Rao, 1977). The plants were identified using relevant floras and taxonomic manuals. The nomenclatural corrections were incorporated as per ICBN (2004). The data collected during the field trip pertaining to each plant used among the tribal groups were computerized. The analysis of data was carried out using statistical packages (STATISTICA version 0.6) and quantitative ethnobotanical methodology developed by Hoft *et al.* (1999).

4. 4. Presentation of data

There are eight chapters in the thesis. The ethnobotanical information is arranged under eight tribal groups separately with emphasis on their

ethnohistory, sociocultural, anthropological and ethnobotanical aspects pertaining to each tribal group. The enumeration of the plants used by the different tribal groups is classified under the following headings;

I. Food plants: roots; rhizomes; tender shoots; stem pith; leave; flowers; fruits; seeds and food from cultivated plants

II. Fodder plants

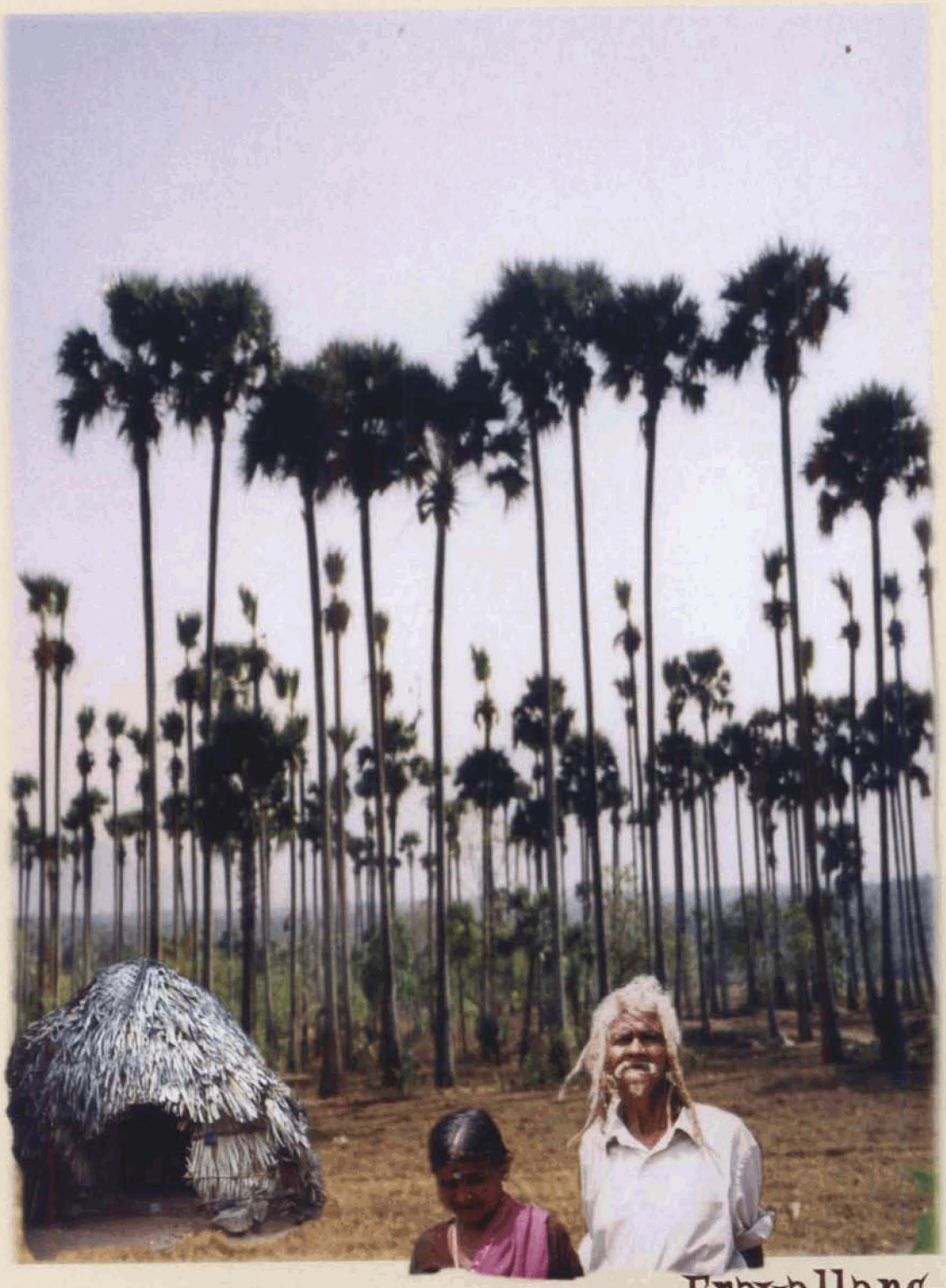
III. Ethnomedicinal plants: Human medicine and veterinary medicine.

IV. Plants with miscellaneous uses: Fiber yielding plants; plant for fish stupefaction; plants as repellents; plants as soap and shampoo; plants in beliefs, worships and religious rituals; plants in traditional songs including proverbs and plants in material culture which include musical instruments, basketries, ornaments, house hold articles and weapons.

Under each title the plants are arranged in an alphabetic order with their botanical names, family names (in bracket), vernacular names (used by the tribals), habit, parts used, mode of use/ application, credibility rating (in bracket), occurrence, distribution status and herbarium collection number.

The citations of the botanical names and brief description of all the plants mentioned in the thesis are given as Appendix 4.

Results



Eravallans

"Eravallans are a wild tribe of inoffensive hill men found in the forets of Cochin State, especially in the Chittur thaluk, They are also called Villu Vedans."

(Edgar Thurston)

5. RESULTS

5. 1. ERAVALLANS

5. 1. 1. Introduction

Eravallans are a small group of forest tribes inhabiting Palakkad district in Kerala and Coimbatore district of Tamil Nadu. According to Thurston (1909) they are a wild tribe of inoffensive hill men found in the forest of the Cochin state, especially in the Chittur taluk (Fig.6.). In earlier days, they were called *Villu vedans*, as they used how and arrow for hunting. However, now they live in plains near the paddy field and most of them are agricultural labourers. In Palakkad district, they are seen in the rain shadow region at the southern end of the Palghat gap in Western Ghats. This tribal group is seen in Kollengodu, Kozhinhampara, Muthlamada, Perumatti, Vadakarapathy and Pattamcheri Panchayaths of Chittur taluk of Palakkad district. They speak both Tamil and Malayalam. Presently, Eravallans have no knowledge about their origin (Thurston, 1909). They are very dark in complexion with curly hair, sturdy; some with slightly dilated nostrils and turned down lips (Luiz, 1962). They are less migratory than other tribes like Malasars and Kadars.

The language and other cultural aspects resemble the people of Tamil Nadu who had migrated and settled in the neighbouring places of Kerala hundreds of years ago. Males wear *veshtis* (Dhoti) in their traditional way, one end hanging loose, and the other end is tucked in between the legs. They wear another cloth, either hanging loosely over their shoulders or sometimes tied as a turban. They wear a necklace around their neck made of small white beads to distinguish them from Malasars tribes. Some wear brass rings on their fingers. Women wear a *Podava* (coloured cloth), half of which is worn round the loins and the other half serves to cover the body. The population of Eravallans in Palakkad district is estimated to be 4752 individuals, which include 2370 males and 2382 females (GOI Census, 2001).

5. 1. 2. Socio-Cultural and Anthropological aspects

5. 1. 2. 1. Hut and Hamlets

Eravallans live in villages called *Pathis* situated either in the forests or in plains near paddy fields. The hut known as *Chalai* consists of a hall and a

kitchen or sometimes with a single room. Adjoining to the house there are shelter houses for fowls, goats and cattle. There is another small hut called *Muttuchala* (segregation hut) about 10 to 20 metres away from the main hut. They are mainly agricultural labourers and most of them work in groups under a single landlord. Their hamlets consist of five to sixty huts. Nowadays, they reside in the houses constructed by the Government and as a colony (Plate 3. a & b.)

5. 1. 2. 2. Social system

The social set up is not very strict as with many other tribal groups residing in the neighbouring areas. The recognition of hamlet officials like a headman and his subordinates are not prevalent among Eravallans. However, the majority of members in a *Pathy* follow the advice of an elderly person known as *Muthan* or *Paattan*. All the members respect this person and in some hamlets he is revered and called as *Mooppan*. In every settlement, there is a *Poojari* who is specialized in performing religious functions. He also performs the duties of a headman. The families are patriarchal, where father holds the supreme authority. It is the responsibility of the father to take care of the family. An Eravallan is allowed to marry, only if he is capable of supporting his family. After the marriage, the wife's property is passed over to her husband. Sons inherit the property on the demise of their father (Plate 3. f.)

5. 1. 2. 3. Life and subsistence economy

The Eravallans are mostly agricultural labourers who live amidst local people. Their main occupation is cultivation of Chama (*Panicum sumatrense*), Cholam (*Sorghum bicolor*) and dhal (*Cajanus cajan*). They sow the seeds in the middle of May and harvest during November and during the remaining months of the year they go for minor work like, fencing, thatching and other works in return for money. Presently, the situations have undergone minor changes due to the modern education but majority of the Eravallans still work as agricultural labourers. Very few people get employment in the government service as lower grade staff and a few in some private industries. Livestock management, hunting and fishing also play an important role in their subsistence (Plate 3. c., d. e. & i).

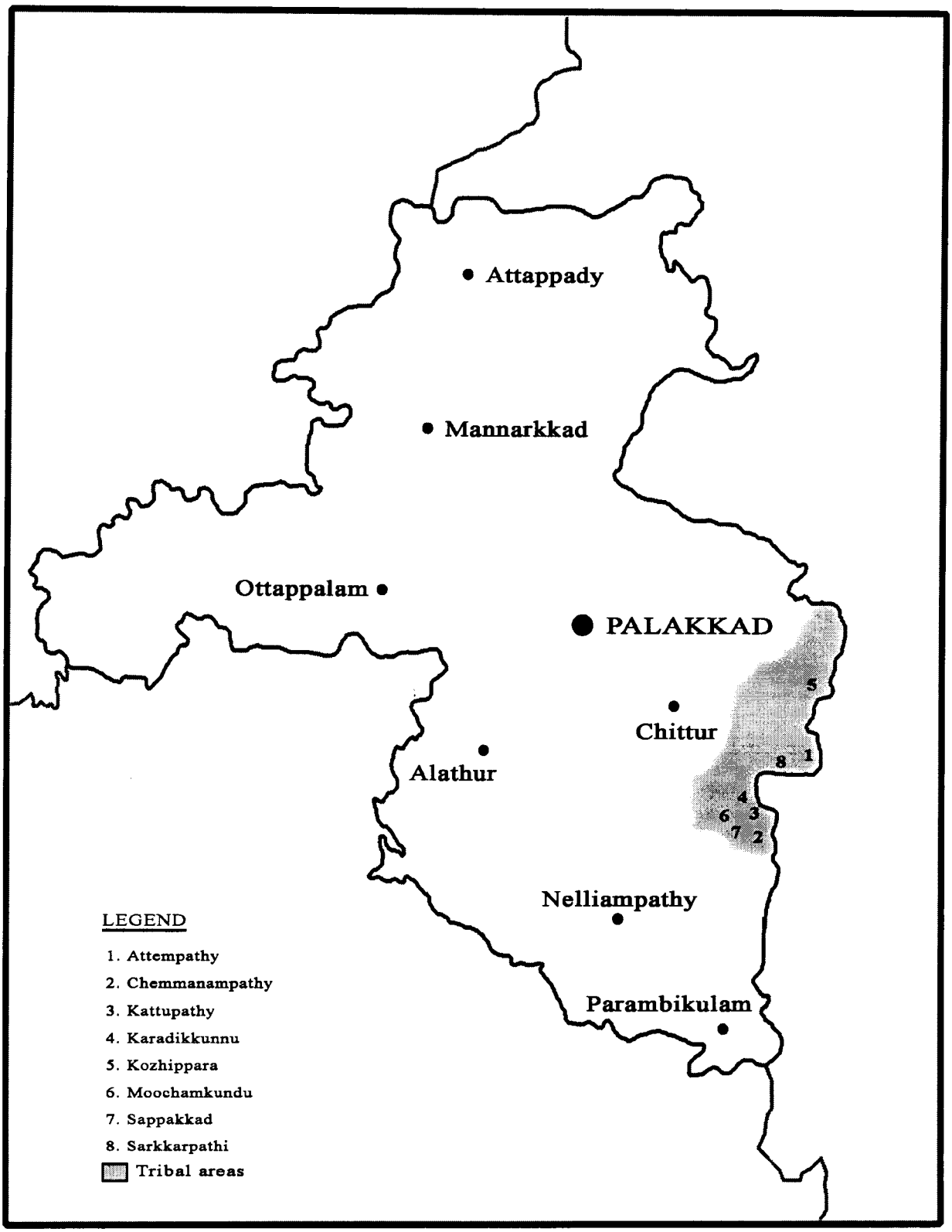


Fig. 6 Map showing the distribution of Eravallans

5. 1. 2. 4. Tradition and Culture

5. 1. 2. 4. 1. Ceremonies associated with birth

A woman in advance stages of pregnancy is housed in a separate hut (*Muttachala)* erected at a distance from the main hut. She is nursed by her mother or an old woman. The birth pollution is for seven days, during which she stays in the hut and after its completion she is given a bath and removed to another hut close to the main hut. She is housed in this hut for another five months. During this period, she is given a smiple diet and is strictly forbidden to eat meat. The only medicine administered to her during the period is a mixture of pepper, dried ginger, and palm sugar mixed with toddy. She returns to the main hut at the end of the fifth month after purifying herself by a bath.

5. 1. 2. 4. 2. Puberty

A girl at puberty is housed in the seclusion hut, *Muttachala.* Seclusion is for seven days, and during this period she is allowed with the company of only a few of her girls; food is served to her from a distance. On the seventh day, she is allowed to enter the main hut after a bath. This day is a celebration for the family and community as a whole. If a woman becomes pregnant before marriage, she is treated as an out caste in former times (Thurston, 1909). Such instances are extremely rare during the present days.

5. 1. 2. 4. 3. Marriage

It is interesting to note that cross cousin marriages are not favoured. They prefer to marry from non-related families. Polygamy and polyandry are absolutely unknown. An Eravallan who wishes to get his son married visits the parents of the girl with his brother-in-law and a few relatives to make a formal proposal. If the parents agree, a day is fixed for wedding, and all the preliminary arrangements are made at the hut of the bride. The bride's price was only a rupee in former times. Presently, the bride price is thousands of rupees depending upon the financial status of the bride's parents. On the day of wedding few people from bridegroom's hut visit the bride's house and dress the girl with new garment brought by them. The groom's party is offered a dinner, they then return with the bride to the hut of the bridegroom. During

the subsequent Monday, the bridegrooms with his bride are brought back to the bride's hut, where they stay for a week.

A widow can only marry a widower and it is known as *Mundakettu* (marrying a widow). But the widower must have a solemn promise to his caste men that he would treat and support children by both marriages impartially. A man can divorce his wife, if he is not satisfied with her. The divorced wife can marry only another widower.

5. 1. 2. 4. 4. Ceremonies associated with death

After a person dies, the body is washed, oil is applied and it is covered with new cloth. It is then taken on a bamboo bier to the common burial ground, in a solemn procession and is buried with the head placed at the south. The death pollution is observed for five days. On the sixth day, the chief mourner, who may be the son or younger brother, offers boiled rice, parched rice, plantains and fowl to the spirit of the departed soul. A feast is hosted to the caste men once a year, depending on the financial background of the family. They feel that their ancestors are propitiated with such offerings.

5. 1. 2. 4. 5. Worships

They are animists, worshipping animals, trees, stones, hills, *etc.* They believed that the world is full of *Bhoothams* (demons) that live in trees, rocks and mountain peaks, bent on doing harm to humans. These demons have to be kept propitiated with offerings. Their Gods of worship include *Kali, Muni, Kannimar,* and *Karuppurayan. Kali* is adored to get protection for themselves and their families in their forest life. *Kannimar* (the seven virgins) and *Karuppurayan* are their family deities, who take care of them. Offerings of boiled rice, plantains, coconuts and *dosas* are given to propitiate them. Kali and Muni are worshipped in the forest and others in their huts. *Muni* is worshipped for getting protection for their cattle. Boiled rice, plantains and coconuts are the usual offerings to the deities.

5. 1. 2. 4. 6. Festivals

They celebrate the Hindu festivals like Onam, Vishu and Deepavali.

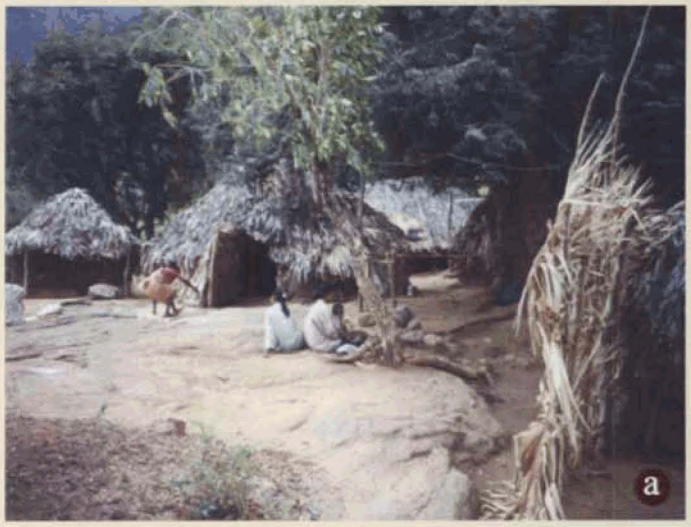


Plate 3. ERAVALLANS. **a.** Hamlet; **b.** Hut; **c.** Man with goats; **d.** Lady infront of goat cage; **e.** Fowl house; **f.** Eravallan man; **g.** Musical instrument; **h.** Basket; **i.** Fish trap; **j.** Man performing music using Kuval - a musical instrument.

5. 1. 3. Ethnobotanical aspects

5. 1. 3. 1. Plants in Food

A. Roots

Cereus pterogonus Lam. (CACTACEAE)

Vernacular name : Kathala kilangu

Habit : Shrub

Mode of use : The root tubers are cooked the excess water is drained off and cooked along with tamarind, salt, chillies and finally roasted in oil (CR 1).

Occurrence : Common around the hamlets (MR 24587) (Plate 6. a.).

Dioscorea bulbifera L. (DIOSCOREACEAE)

Vernacular name : Nukavana kilangu

Habit : Climber

Mode of use : The root tubers are kept in running water for one night to remove the cyanogenic compounds and cooked in water with salts or roasted in fire (CR 1).

Occurrence : Common (MR 24815) (Plate 6. c., d., e.).

Dioscorea oppositifolia L (DIOSCOREACEAE)

Vernacular name : Chelu kilangu

Habit : Climber

Mode of use : The root tubers are cooked in water with salts in pots or roasted in fire (CR 1).

Occurrence : Common in Semi evergreen forest (MR 24819) (Plate 6. f).

Dioscorea pentaphylla L. (DIOSCOREACEAE)

Vernacular name : Nutakilangu

Habit : Climber

Mode of use : The root tubers are cooked in water with salts in pots or roasted in fire (CR 1).

Occurrence : Common in near by forest area of the hamlets (MR 24821) (Plate 6. g).

Dioscorea wallichii Hook. f. (DIOSCOREACEAE)

Vernacular name : Nara kilangu

Habit : Climber

Mode of use : The root tubers are cooked in water with salts in pots or roasted in fire (CR 1).

Occurrence : Occasional in moist deciduous forest near the hamlet. (MR 24824).

B. Rhizomes

Colocasia esculenta (L.) Schott. (ARACEAE)

Vernacular name : Chembu kilangu

Habit : Rhizomatous herb

Mode of use : The rhizome tuber is cut into small pieces, cooked along with, tamarind, salt, chillies and finally roasted in oil (CR 1).

Occurrence : Common around the hamlets (MR 24854).

Nelumbo nucifera Gaertn. (NELUMBONACEAE)

Vernacular name : Koonthan kilangu

Habit : Aquatic herb

Part used : Rhizomes

Mode of use : The rhizomes are cut into small pieces, cooked along with, salt, chillies and finally roasted in oil (CR 1).

Occurrence : Common around the hamlets (MR 24514).

C. Tender Shoots

Bambusa bambos (L.) Voss. (POACEAE)

Vernacular name : Paruva, Munga

Habit : Tree grass

Mode of use : The tender shoots of 15 centimetres long is removed from the rhizome, cleaned by removing sheaths and are cut into small pieces, cooked in water with salt, drained off water and cooked again , the same process is repeated and roasted in oil along with chillies and onion (CR 1).

Occurrence : Common in moist deciduous forests around the hamlets (MR 24867).

Borassus flabellifer L (ARECACEAE)

Vernacular name : Panamkoompu

Habit : Tree

Mode of use : The tender haustoria from the germinating seeds are cooked in water and eaten (CR 1).

Occurrence : Common around the hamlets (MR 24839).

D. Stem pith

Caryota urens L. (ARECACEAE)

Vernacular name : Koontha panai

Habit : Tree

Mode of use : The starchy stem pith is crushed well and dissolved in water taken in large pots and the starch is allowed to sediment, excess water is drained off and the starchy matter is cooked and used for preparing puddings and various indigenous preparations (CR 1).

Occurrence : Common around the hamlets (MR 24844).

E. Leaves

Alternanthera sessilis (L.) R.Br. ex. DC. (AMARANTHACEAE)

Vernacular name : Meenankanni keerai, Kurisilam Kanni

Habit : Herb

Mode of use : The tender leaves are cooked along with dhal (*Cajanus cajan*), chillies, onion, and salt and finally roasted in oil (CR 2).

Occurrence : Common in paddy fields and plains around the hamlets (MR 24710).

Amranthus spinosus L. (AMARANTHACEAE)

Vernacular name : Mullukerai-

Habit : Herb

Mode of use : The tender leaves are roasted in coconut oil along with Onion, chillies and salt or cooked in water along with dhal (*Cajanus cajan*), chillies, salt and finally roasted in oil (CR2).

Occurrence : Common (MR 24711).

Amaranthus viridis L. (AMARANTHACEAE)

Vernacular name : Kuppakerai

Habit : Herb

Mode of use : The tender leaves are roasted in coconut oil along with Onion, chillies and salt or cooked in water along with dhal (*Cajanus cajan*), chillies, salt and finally roasted in coconut oil (CR 1).

Occurrence : Common around the hamlets (MR 24712).

Amorphophallus paeoniifolius (Dennst.) Nicols. (ARACEAE)

Vernacular name : Kattuchena sappu

Habit : Tuberous herb

Mode of use : The tender leaves are roasted in oil along with leaves of *Colocasia esculenta* and *Vigna ungiculata.*

Occurrence : Occasional around the hamlets (MR 24851).

Cycas circinalis L. (CYCADACEAE)

Vernacular name : Eathankeerai

Habit : Tree

Mode of use : The tender leaves cooked in excess of water along with salt, excess of water is drained off and roasted along with chillies in coconut oil (CR 1).

Occurrence : Common in moist deciduous forests around the hamlets (MR 24887).

Canavalia africana Dunn (FABACEAE)

Vernacular name : Thummattam thalai

Habit : Climber

Mode of use : The tender leaves are cooked in excess of water along with salt, excess of water is drained off and roasted along with chillies, dhal in coconut oil (CR 1).

Occurrence : Occasional around the hamlets (MR 24450).

Celosia argentea L. (AMARANTHACEAE)

Vernacular name : Pannaikeerai

Habit : Herb

Mode of use : The tender leaves are roasted in coconut oil along with onion, chillies and salt or cooked in water along with dhal

(*Cajanus cajan*), chillies, salt and finally roasted in coconut oil (CR 1).

Occurrence : Common in and around the hamlets (MR 24713)

Colocasia esculenta (L.) Schott (ARACEAE)

Vernacular name : Shembu keerai

Habit : Rhizomatous herb

Mode of use : The tender leaves are roasted in oil along with leaves of *Amorphophallus paeonifolius* and *Vigna ungiculata*. The leaves are also cooked along with tamarind, chilli, onion and salt (CR 1).

Occurrence : Common around the hamlets (MR 24854).

Cucumis prophetarum L. (CUCRBITACEAE)

Vernacular name : Chithran kay

Habit : Climber

Mode of use : The tender leaves are roasted in coconut oil along with chilli, Onion and salt (CR 1).

Occurrence : Common around the hamlets (MR 24572).

Diplocyclos palmatus (L.) Jeffrey (CUCRBITACEAE)

Vernacular name : Iviralkeerai

Habit : Climber

Mode of use : The tender leaves are roasted in coconut oil along with chilli, Onion and salt (CR 1).

Occurrence : Common around the hamlets (MR 24576)

Diplazium esculentum (Retz.) Sw. (ATHYRIACEAE)

Vernacular name : Suruli

Habit : Shrub

Mode of use : Tender leaves are roasted in coconut oil along with onion, chillies and salt (CR 1).

Occurrence : Common in banks of river and streams (MR 24896).

Digera muricata (L.) Mart. (AMARANTHACEAE)

Vernacular name : Thoyya keerai

Habit : Herb

Mode of use : The tender leaves are roasted in coconut oil along with onion, chillies and salt or cooked in water along with dhal (*Cajanus cajan*), chillies, salt and finally roasted in coconut oil (CR 1).

Occurrence : Occasional in dry forests near streams (MR 24714).

Holostemma ada-kodien Schult. (ASCLEPIADACEAE)

Vernacular name : Palakerai

Habit : Climber

Mode of use : The tender leaves are roasted in coconut oil along with onion, chillies and salt (CR 1).

Occurrence : Occasional in Moist deciduous forests around the hamlet (MR 24652).

Ipomoea aquatica Forssk. (CONVOLVULACEAE)

Vernacular name : Vellakeerai

Habit : Aquatic herb

Mode of use : The tender leaves are roasted in coconut oil along with onion, chillies and salt (CR 1).

Occurrence : Common in paddy fields and in ponds (MR 24662).[Plate 18f]

Marsilea minuta L. (MARSELIACEAE)

Vernacular name : Arakeerai

Habit : Herb

Mode of use : Tender leaves are roasted in coconut oil along with onion, chillies and salt (CR 1).

Occurrence : Common in paddy fields and ponds (MR 24907).

Momordica dioica Roxb. *ex* Willd. (CUCRBITACEAE)

Vernacular name : Pavalaikeerai

Habit : Herb

Mode of use : Tender leaves are roasted in coconut oil along with onion, chillies and salt (CR 1).

Occurrence : Occasional around the hamlets (MR 24581).

Oxalis corniculata L. (OXALIDACEAE)

Vernacular name : Pulikerai

Habit : Herb

Mode of use : Tender leaves are cooked along with Chillies, Onion and salt (CR 2).

Occurrence : Common around the hamlets (MR 24419).

Portulaca oleracea L. (PORTULACACEAE)

Vernacular name : Mayil kalu keerai

Habit : Herb

Mode of use : Tender stem and leaves are cooked in water along with dhal (*Cajanus cajan*), chillies, salt and finally roasted in oil (CR 1).

Occurrence : Common in and around the hamlets (MR 24529).

Senna occidentalis (L.) Link (FABACEAE)

Vernacular name : Koltagari

Habit : Herb

Mode of use : The tender leaves are cooked in water along with salt, Chillies etc. excess of water is drained off and roasted in coconut oil (CR 1).

Occurrence : Common around the hamlets (MR 24484).

Senna tora (L.) Roxb. (FABACEAE)

Vernacular name : Sattitagarai

Habit : Herb

Mode of use : The tender leaves are roasted in coconut oil along with salt, chillies etc. (CR 1).

Occurrence : Common around the hamlets (MR 24483).

Solanum americanum Mill. (SOLANACEAE)

Vernacular name : Sukkuti kerai

Habit : Herb

Mode of use : The tender leaves are roasted in coconut oil along with salt, chillies etc. (CR 1).

Occurrence : Common around the hamlets (MR 24672).

Trianthema portulacastrum L (AIZOACEAE)

Vernacular name : Serani kerai

Habit : Herb

Mode of use : Tender stem and leaves are cooked in water along with dhal (*Cajanus cajan*), chillies, salt and finally roasted in oil (CR 1).

Occurrence : Common in and around the hamlets (MR 24589).

F. Fruits

Artocarpus heterophyllus Lam. (MORACEAE)

Vernacular name : Sakkai palm

Habit : Tree

Mode of use : The tender fruits are cooked as vegetable and ripened fruits are eaten raw (CR 1).

Occurrence : Common around the hamlets and occasional in forests (MR 24777).

Artocarpus hirsutus Lam. (MORACEAE)

Vernacular name : Ayani sakkai palm

Habit : Tree

Mode of use : The ripened fruits are eaten raw (CR 1).

Occurrence : Occasional in Moist deciduous forests adjoining to the hamlet (MR 24778).

Borassus flabellifer L (ARECACEAE)

Vernacular name : Panam palam, Nonkapalam

Habit : Tree

Mode of use : The fleshy mesocarp of the ripened fruits are eaten raw (CR 1).

Occurrence : Common around the hamlets, plains and paddy fields (MR 24839).

Briedelia retusa (L.) Spreng (EUPHORBIACEAE)

Vernacular name : Mulluvengai

Habit : Tree

Mode of use : The ripened fruits are eaten raw (CR 1).

Occurrence : Common around the hamlets and neighbouring forest areas (MR 24751).

Pithecellobium dulce (Roxb.) Benth. (FABACEAE)

Vernacular name : Kodukkam puli
Habit : Tree
Mode of use : The ripened fruits are eaten raw (CR 1).
Occurrence : Common around the hamlets and neighbouring forest areas (MR 24496).

Cereus pterogonus Lam. (CACTACEAE)

Vernacular name : Kathalapalam
Habit : Succulent shrubs
Mode of use : The ripened fruits are eaten raw (CR 1).
Occurrence : Common around the hamlets (MR 24587).

Colocasia esculenta (L.) Schott (ARACEAE)

Vernacular name : Shembu palam
Habit : Rhizomatus herb
Mode of use : The ripened fruits are eaten raw (CR 1).
Occurrence : Common around the hamlets (MR 24854).

Ensete superbum (Roxb.) Cheesman. (MUSACEAE)

Vernacular name : Kalluvazhai palm
Habit : Tall rhizomatous herb with pseudostem.
Mode of use : The ripened fruits are eaten raw (CR 1).
Occurrence : Rarely found in neighbouring forests around the hamlets due to over exploitation (MR 24812).

Ficus racemosa L. (MORACEAE)

Vernacular name : Athipalam
Habit : Tree
Mode of use : The ripened fruits are eaten raw (CR 1).
Occurrence : Occasional around the hamlets and in moist deciduous forest around the hamlets (MR 24783).

Flacourtia montana Graham (FLACOURTIACEAE)

Vernacular name : Chaliru
Habit : Tree
Mode of use : The ripened fruits are eaten raw (CR 1).

Occurrence : Occasional in evergreen and semi evergreen forests neighbouring to the hamlets (MR 24522).

Grewia tiliifolia Vahl. (TILIACEAE)

Vernacular name : Unnam palam

Habit : Tree

Mode of use : The ripened fruits are eaten raw (CR 1).

Occurrence : Common around the hamlets and moist deciduous forest areas of the adjoining forests (MR 24937).

Glycosmis pentaphylla (Retz.) DC. (RUTACEAE)

Vernacular name : Pana palam

Habit : Shrub

Mode of use : The ripened fruits are eaten raw (CR 1).

Occurrence : Common around the hamlets and plains (MR 24421).

Lantana camara L. var. ***aculeata*** (L.) Moldenke (ASTERACEAE)

Vernacular name : Unnipalam

Habit : Shrub

Mode of use : The ripened fruits are eaten raw (CR 1).

Occurrence : Common around the hamlets and waste places (MR 24694).

Mangifera indica L. (ANACARDIACEAE)

Vernacular name : Kattumangai palam

Habit : Tree

Mode of use : The tender fruits are cooked as vegetable, used in pickles and ripened fruits are eaten raw (CR 1).

Occurrence : Occasionally found as wild in semi evergreen forests neighbouring to the hamlets and widely cultivated in and around the hamlets (MR 24931).

Momordica dioica Roxb. *ex* Willd. (CUCRBITACEAE)

Vernacular name : Kattupavarai

Habit : Herb

Mode of use : The fruits are cooked as vegetables (CR 1).

Occurrence : Occasional around the hamlets (MR 24581).

Mimusops elengi L. (SAPOTACAEAE)

Vernacular name : Elengi palam
Habit : Tree
Mode of use : The ripened fruits are eaten raw (CR 1).
Occurrence : Occasional in neighbouring areas of the forest, cultivated in hamlets as shade tree (MR 24629).

Opuntia stricta Haw. var. ***dillenii*** (Ker-Gawl.) L. (CACTACEAE)

Vernacular name : Kallipalam
Habit : Succulent shrubs
Mode of use : The ripened fruits are eaten raw (CR 1).
Occurrence : Occasional in dry areas around the hamlets (MR 24588).

Phyllanthus emblica L. (EUPHORBIACEAE)

Vernacular name : Nellikay
Habit : Tree
Mode of use : Mature fruits are eaten raw and also used for the preparation of pickles (CR 1).
Occurrence : Common around hamlets and moist deciduous forests of the neighbouring forest areas (MR 24763).

Phyllanthus reticulatus Poir. (EUPHORBIACEAE)

Vernacular name : Neelooran palam
Habit : Shrub
Mode of use : The ripened fruits are eaten raw (CR 1).
Occurrence : Common around hamlets (MR 24764).

Physalis angulata L (SOLANACEAE)

Vernacular name : Sunda palm
Habit : Herb
Mode of use : Ripened fruit are eaten raw (CR 1).
Occurrence : Common around the hamlets especially in rainy season (MR 24670).

Solanum americanum Mill. (SOLANACEAE)

Vernacular name : Sukkuttipalam
Habit : Herb

Mode of use : The ripened fruits are eaten raw (CR 1).
Occurrence : Common around the hamlets (MR 24672).

Solanum torvum Sw. (SOLANACEAE)
Vernacular name : Sundaikay, Vattakay.
Habit : Herb
Mode of use : The tender fruits are cooked as vegetables. The fruits are preserved in salt for some time and dried in sunlight and used for preparing curries when required (CR 1).
Occurrence : Common around the hamlets (MR 24673).

Syzygium cumini (L.) Skeels (MYRTACEAE)
Vernacular name : Njavalu palm
Habit : Tree
Mode of use : The ripened fruits are eaten raw (CR 1).
Occurrence : Common around the hamlets and neighbouring forest areas (MR 24557).

Tamarindus indica L. (FABACEAE)
Vernacular name : Puli palam
Habit : Tree
Mode of use : Tender as well as ripened fruits are eaten raw (CR 1).
Occurrence : Common in and around the hamlets and occasionally found runnig wild in neighbouring forest areas (MR 24486).

Zizyphus oenoplia (L.) Mill. (RHAMNACEAE)
Vernacular name : Sooripalm, mullupalam
Habit : Climber
Mode of use : The ripened fruits are eaten raw (CR 1).
Occurrence : Common around the hamlets and neighbouring areas of the forests (MR 24430).

Zizyphus mauritiana Lam. (RHAMNACEAE)
Vernacular name : Peumsoori palam
Habit : Tree
Mode of use : The ripened fruits are eaten raw (CR 1).

Occurrence : Common around the hamlets and neighbouring areas of the forests (MR 24431).

G. Seeds

Amaranthus caudatus L. (AMARANTHACEAE)

Vernacular name : Porikkerai
Habit : Herb
Mode of use : The dried seeds are roasted and eaten raw (CR 1).
Occurrence : Cultivated around the (MR 24715).

Artocarpus heterophyllus Lam. (MORACEAE)

Vernacular name : Sakkai kuru
Habit : Tree
Mode of use : The mature seeds are cooked as vegetables and dried seeds are roasted and eaten.
Occurrence : Common around the hamlets and occasional in forests (MR 24777).

Artocarpus hirsutus Lam. (MORACEAE)

Vernacular name : Ayani sakkai Kuru
Habit : Tree
Mode of use : The roasted seeds are eaten (CR 1).
Occurrence : Occasional in Moist deciduous forests adjoining the hamlet (MR 24778).

Bambusa bambos (L.) Voss. (POACAEAE)

Vernacular name : Munga nellu
Habit : Tree grass
Mode of use : The seeds are roasted and eaten. The powdered seeds are used for the preparation of different items and seeds are also used for the preparation of gruel (CR 1).
Occurrence : Common around the hamlets and neighbouring forest areas but flowering is very rare (MR 24867).

Borassus flabellifer L (ARECACEAE)

Vernacular name : Panaikoranti
Habit : Tree

Mode of use : The endosperm of the seeds are eaten raw (CR 1).

Occurrence : Common around the hamlets, plains and paddy fields (MR 24839).

Cycas circinalis L. (CYCADACEAE)

Vernacular name : Eathankay

Habit : Tree

Mode of use : The seeds are boiled in water the water is drained off and dried and powdered. The flour is used to prepare various items (CR 1).

Occurrence : Common in Moist deciduous forests around the hamlets (MR 24887).

Tamarindus indica L. (FABACEAE)

Vernacular name : Pulinchi kuuru

Habit : Tree

Mode of use : Seeds roasted and eaten (CR 1).

Occurrence : Common around the hamlets (MR 24486).

Terminalia bellarica (Graeuter.) Roxb. (COMBRETACEAE)

Vernacular name : Thannimaram

Habit : Trees

Mode of use : The seeds are eaten raw (CR 1).

Occurrence : Common around the hamlets (MR 24473).

H. Mushrooms

***Auricularia* sp.** (AURICULARICEAE)

Vernacular name : Kathu kelan, Elikatukelan

Habit : Saprophytic fungus on rotten wood

Mode of use : The pileus and stipes are washed in water and boiled with condiments or fried in oil or hearth roasting (CR 2).

Occurrence : Very rare in neighbouring forest (MR 24910).

***Lycoperdon* sp.** (LYCOPERDACEAE)

Vernacular name : Panthra kelan

Habit : Fruiting body of a saprophytic fungus growing in soil.

Mode of use : The round and fleshy pileus is washed in water and boiled with condiments or fried in oil or hearth roasting (CR 1).

Occurrence : Occasional in soil around the hamlets soon after rail fall (24913).

***Plurotus* sp.** (LENTINACEAE)

Vernacular name : Mungai kelan

Habit : Fruiting body of saprophytic fungus

Mode of use : The pileus and stipes are washed in water and boiled with condiments or fried in oil or hearth roasting (CR 1).

Occurrence : Occasional in dried bamboo culms of neighbouring forest during rainy season (MR 24916).

Pluerotus tuber regium (Fr.) Singer (LENTINACEAE)

Vernacular name : Marakelan

Habit : Fruiting body of saprophytic fungus

Mode of use : The pileus and stipes are washed in water and boiled with condiments or fried in oil or hearth roasting (CR 2).

Occurrence : Occasional in dried woods of neighbouring forest during rainy season (MR 24917).

Termitomyces eurhizus (Berk)Heim (PLUTEACEAE)

Vernacular name : Pitlula kelan

Habit : Fruiting body of a saprophytic fungus

Mode of use : The pileus and stipes are washed in water and boiled with condiments or fried in oil or hearth roasting (CR 1).

Occurrence : Occasional in and around the hamlets which appeared in groups during rainy season.

Termitomyces microcarpus (Berk and Br.) Heim. (PLUTEACEAE)

Vernacular name : Arikelan

Habit : Saprophytic fungi on soil

Mode of use : The pileus and stipes washed in water and boiled with condiments or fried in oil or hearth roasting (CR 1).

Occurrence : Occasional in and around the hamlets which appeared in groups during rainy season (24921).

Volvariella volvacea (Bull. Fr.) Singer (PLUTEACEAE)

Vernacular name : Vaikol kelan

Habit : Saprophytic fungi on paddy straw.

Mode of use : The pileus and stipes are washed in water and boiled with condiments or fried in oil or hearth roasting.

Occurrence : Occasionally in found growing in paddy straw during rainy season (24922).

I. Food from cultivated plants

The plants used by the tribal groups which are purely known under cultivation are mainly included. The sources of food from the cultivated crops are considered as the common knowledge practices of tribals and non-tribals. The diverse agricultural crops in tribal life are recorded here with vernacular names followed by the botanical names and their representative families in bracket.

Tubers

Kavathu (*Dioscorea alata*), Nanakizhangu or Cheru kizhangu (*Dioscorea esculenta*) and Poola kilangu (*Manihot esculenta*), etc.

Leaves

Agathikkerai (*Sesbania grandiflora*), Peekin kerai (*Luffa cylindrica*), Poosanithalai (*Benincasa hispida*), Arasankanni (*Cucurbita maxima*).

Flowers

Agathi poo (*Sesbania grandiflora*).

Cereals and millets

Nellu(*Oryza sativa*), chamai (*Panicum sumatrense*), Corai (*Eleusine coracana*), Makka cholam (Zea mayz), Poricholam (*Sorghum bicolor*), Thena (*Setaria italica*).

Fruits

Thakkali (*Lycopersicum esculentum*), Mulakai (*Capsicum annuum*), Cheenimulakay (*Capsicum frutescence*), Vellari (*Cucumis sativus*), Vendai (*Abelmoschus esculentus*), Koyapalam (*Psidium guajava*), Mathalanga (*Punica granatum*) and Papali palam (*Carica papaya*) and Seethapalam (*Annona squamosa*).

Pulses

Payaru (Vigna ungiculata), Avarai (*Lab lab purpureus*) and Thuvarai (*Cajanus cajan*)

Spices and Condiments

Inchi (*Zingiber officinale*), Manjal (*Cucuma longa*), Kurumulakay (Piper nigrum) and Kothamalli (Coriandrum sativum) and Venkayam (*Allium cepa*).

Oil

Thenkayennai (*Cocos nucifera*).

5. 1. 3. 2. Plants as fodders

Artocarpus heterophyllus Lam. (MORACEAE)

Vernacular name : Pila
Habit : Tree
Part Used : Leaves and fruits
Mode of use : The twig with leaves are given to livestock raw and the ripened fruits are also given (CR 1)
Occurrence : Common around the hamlets and occasional in forests (MR 24777).

Bambusa bambos (L.) Voss (POACEAE)

Vernacular name : Paruva, Moonga thalai
Habit : Tree grass
Part used : Leaves
Mode of use : The leafy twigs are given raw to the cattle (CR 1)
Occurrence : Common around the hamlets (MR 24867).

Bauhinia racemosa Lam. (FABACEAE)

Vernacular name : Aram puli
Habit : Tree
Part Used : Leaves and fruits
Mode of use : The twig with leaves are given to the cattles (CR 1)
Occurrence : Common around the hamlets and neighbouring areas (MR 24477).

Erythrina stricta Roxb (FABACEAE)

Vernacular name : Mullu Murukku
Habit : Tree
Part used : Leaves
Mode of use : The leaves are given (CR 1).
Occurrence : Common around the hamlets and neighbouring forest areas (MR 24461).

Ficus hispida L. f. (MORACEAE)
Vernacular name : Parakam
Habit : Tree
Part used : Leaves
Mode of use : The leaves are given raw to the cattle (CR 1).
Occurrence : Common around the hamlets and neighbouring forest areas (MR 24782).

Ficus racemosa L. (MORACEAE)
Vernacular name : Athi pattai
Habit : Tree
Part used : Leaves
Mode of use : The leaves are given raw to the cattle (CR 1).
Occurrence : Common around the hamlets and neighbouring forest areas (MR 24783).

Gliricidia sepium (Jacq.) Kunth *ex* Walp. (FABACEAE)
Vernacular name : Seema konna
Habit : Tree
Part Used : Leaves
Mode of use : The leaves are given raw (CR 1).
Occurrence : Common around the hamlets and also ruining in wild in neighbouring forest (MR 24464).

Merremia umbellata (L.) Hall. f. (CONVOLVULACEAE)
Vernacular name : Vakara valli
Habit : Climber
Part Used : Leaves and twining stem
Mode of use : The whole plant with leaves as fodder (CR 1).
Occurrence : Common around the hamlets and neighbouring forests (MR 24663).

5. 1. 3. 3. Plants in medicine

5. 1. 3. 3. 1. Human Medicine

Abrus precatorius L. (FABACEAE)

Vernacular name : Kunni
Habit : Climber
Part used : Leaves
Used for : Mumps
Mode of application: The leaves are slightly roasted in coconut oil or castor oil and as a paste applied in the affected area (CR 1).
Occurrence : Common in and around the hamlets and surrounding forest areas (MR 24447).

Acalypha fruticosa **L.**(EUPHORBIACEAE)

Vernacular name : Murithalai
Habit : Shrub
Part used : Leaves
Used for : Wound healing and furuncle
Mode of application: 1). The leaves are ground into a paste and smeared over wounds.
2). The leaves along with salt is ground into a paste and smeared over the furuncle (CR 1).
Occurrence : Common in the deciduous forests and also cultivated as a fencing plant (MR 24744).

Acacia nilotica (L.) Willd. ex Del. (FABACEAE)

Vernacular name : Karuvelam
Habit : Tree
Part used : Bark
Used for : Toothache
Mode of application: The bark is crushed and boiled in water with salt and used as a hot decoction and gargled for relieving toothache (CR 2).
Occurrence : Occasional in adjoining forest areas and plains (MR 24487).

Alangium salvifolium (L. f.) Wang. ssp. ***salvifolium*** (ALANGIACEAE)

Vernacular name : Ankolam

Plate 4. ERAVALLAN'S MEDICINAL PLANTS. **a.** ***Andrographis paniculata***; **b.** ***Calotropis gigantea***; **c.** ***Centella asiatica***; **d.** ***Cleistanthus collinus***; **e.** ***Helicteres isora***; **f.** ***Rauvolfia serpentina***; **g.** ***Tridax procumbens***; **h.** ***Wrightia tinctoria***.

Habit : Small tree

Part used : Bark

Used for : Rabies infection

Mode of application: The bark along with roots of Nellu (*Oryza sativa*), Kilimooku kilanku (*Cissampelos perriera*) are ground into a paste and half of it is dissolved in hot water and administered orally. The rest is smeared over the wound after washing thoroughly with a solution of hot water, plant ash and salt. The same treatment is repeated for about one week (CR 2).

Occurrence : Common around the hamlets and adjoining forest areas (MR 24596).

Allium cepa L. (LILLIACEAE)

Vernacular name : Venkiyam

Habit : Herb

Part used: Bulb

Used for : Scabies and itches

Mode of application: The bulb is cut into small pieces, roasted in coconut oil and smeared over the body for scabies and itches. The remnant is eaten (CR 2).

Occurrence : Cultivated (MR 24932).

Andrographis paniculata (Burm. f.) Wall. ex Nees (ACANTHACEAE)

Vernacular name : Chirunanka

Habit : Herb

Part used : Whole plant

Used for : Snake bite

Mode of application: The plant is crushed and the juice is given to the person bitten by a snake. Leaf paste is smeared over the wounds (CR 2).

Occurrence : Occasional in the plains and adjoining forest areas of the hamlet (MR 24685). (Plate 4. a.)

Aristolochia indica L. (ARISTOLOCHIACEAE)

Vernacular name : Uriketti

Habit : Herb

Part used : Roots and leaves

Used for : Snake bite and wound healing

Mode of application: 1). The roots are ground into a paste and smeared over the wound for cobra bite after washing thoroughly with the solution of plant ash in hot water and half of the paste dissolved in hot water is administered orally (CR 2).
2). The leaves are ground into a paste and smeared over the wound (CR 1).

Occurrence : Rarely found adjoining areas of the hamlets (MR 24722).

Argemone mexicana L. (PAPAVERACEAE)

Vernacular name : Shirangnathan thalai

Habit : Herb

Part used : Leaves

Used for : Scabies and itches

Mode of application: The leaves are ground into a paste with salt and smeared over the affected area (CR 2).

Occurrence : This exotic plant is commonly found around the hamlets (MR 24515).

Azadirachta indica A.Juss. (MELIACEAE)

Vernacular name : Veepumaram

Habit : Tree

Part used : Bark, leaves

Used for : Stomach ache, small pox

Mode of application: 1). The decoction prepared from bark is administered orally in empty stomach for stomach ache (CR 2).
2). The leaves along with rhizome of turmeric (*Curcuma longa*) ground in to a paste smeared over the body of the patient suffering from small pox followed by blowing of wind using the fan made of Neem leaves (CR 1).

Occurrence : Common in plains and adjoining areas of the hamlets (MR 24427).

Bambusa bambos (L.) Voss (POACEAE)

Vernacular name : Munkamaram, Paruva

Habit : Tree grasses

Part used : Bark

Used for : Wounds

Mode of application: The peelings of bark along with salt is ground into a paste, mixed with coconut oil and smeared over the affected area (CR 1).

Occurrence : Common around the hamlets and adjoining forest areas (MR 24867).

Borassus flabellifer L (ARECACEAE)

Vernacular name : Karimpana

Habit : Tree

Part used : Tender petiole

Used for : Eye pain

Mode of application: The tender petiole base is roasted in fire and the smashed juice is used as an eye drop (CR 2).

Occurrence : Common in plains and paddy fields (MR 24839).

Brassica juncea (L.) Czern. & Coss. (BRASSICACEAE)

Vernacular name : Kaduku

Habit : Herb

Part used : Seeds

Used for : Headache

Mode of application: The seeds are ground into a paste and smeared over the forehead (CR 2).

Occurrence : Cultivated (MR 24516).

Calotropis gigantea (L.) R. Br. (ASCLEPIADCEAE)

Vernacular name : Erukinthalai

Habit : Shrub

Part used : Matured leaves

Used for : Earache

Mode of application: The fully matured leaves are wrapped with the leaves of Chembu (*Colocasia esculenta*), is slightly roasted in fire and the extract is used as an ear drop (CR 2).

Occurrence : Common in and around the hamlets (MR 24643). (Plate 4. b.)

Calycopteris floribunda Lam. (COMBRETACEAE)

Vernacular name : Pullani
Habit : Straggling shrub
Part used : Tender leaves
Used for : Wound healing
Mode of application : The tender leaves are ground into a paste and applied over the wound (CR 1).
Occurrence : Common around the hamlets (MR 24549).

Cassia fistula L. (FABACEAE)

Vernacular name : Konnaimaram
Habit : Bark
Part used : Bark
Used for : Diarrhoea
Mode of application : The bark along with bark of Soorimarm (*Zizyphus oenoplia*) is ground into paste, dissolved in hot water and administered orally twice a day for diarrhoea (CR 2).
Occurrence : Common around the hamlets and adjoining forests (MR 24480).

Centella asiatica (L.) Urban (APIACEAE)

Vernacular name : Appakova
Habit : Herb
Part used : Leaves
Used for : Wound healing
Mode of application : The leaves along with bark of Velleruku (*Calotropis gigantea*), roots of Nellu (*Oryza sativa*) are ground into a paste and smeared over the wound after washing thoroughly with hot water (CR 2).
Occurrence : Common in and around the hamlets and adjoining paddy fields (MR 24590). (Plate 4. c.)

Cereus pterogonus Lam. (CACTACEAE))

Vernacular name : Kathala
Habit : Shrub
Part used : Stem
Used for : Itches and psoriasis

Mode of application: The juice mixed with coconut oil and applied over the affected area (CR 2).

Occurrence : Common around the hamlets (MR 24587).

Chamaecrista absus (L.) Irwin & Barneby (FABACEAE)

Vernacular name : Karikollu

Habit : Herb

Part used : Seeds

Used for : Eye diseases

Mode of application: The seeds are roasted and finely powdered; the powder is put in a clean cloth and slowly sprayed in the eyes (CR 2).

Occurrence : Rarely found in plains (MR 24485).

Cissampelos pareira L. var. ***hirsuta*** (Ham. *ex* DC.) Forman (MENISPERMACEAE)

Vernacular name : Kilimukkukizhangu

Habit : Climber

Part used : Tuberous roots

Used for : Snake bite

Mode of application: The tuberous roots are ground into a paste, half of it is smeared over the wound after thorough washing with solution of plant ash in hot water. The half of the same is dissolved in hot water and administered orally for cobra bite (CR 2).

Occurrence : Occasional in adjoining areas of the forest (MR 24508).

Cleome monophylla L. (CAPPARACEAE)

Vernacular name : Vela

Habit : Herb

Part used : Leaves

Used for : Earache

Mode of application: The leaves are crushed and juice is used as an eardrop (CR 1).

Occurrence : Common around the hamlet during rainy season (MR 24518).

Coccinia grandis (L.) Voigt (CUCURBITACEAE)

Vernacular name : Kovacheera

Habit : Climber
Part used : Leaves
Used for : Mumps and urinary trouble
Mode of application: 1). Leaves are ground into a paste and smeared over the affected part (CR 2).
2). Leaves are boiled in water and the extract is administered orally for urinary problems (CR 2).
Occurrence : Cultivated and often running in wild.

Cocos nucifera L. (ARECACEAE)
Vernacular name : Thengu
Habit : Tree
Part used : Peelings of powdery tomentum from base of the petiole
Used for : Wound healing
Mode of application: The peelings of powdery tomentum collected from the base of the petiole of the leaves and applied over the wounds (CR 1).
Occurrence : Commonly cultivated around the hamlets (MR 24848).

Cryptolepis buchananii Roem. & Schult. (ASCLEPIADACEAE)
Vernacular name : Karipalakodi
Habit : Climber
Part used : Leaves
Used for : Scabies and itches
Mode of application: The leaves are ground into a paste along with salt and are smeared over the body (CR 2).
Occurrence : Common in plains and near by forest areas of the hamlets (MR 24649).

Curcuma longa L. (ZINGIBERACEAE)
Vernacular name : Manjal
Habit : Rhizomatous herb
Part used : Rhizome and leaves
Used for : Scabies, itches, wound healing
Mode of application: 1). The leaf is ground in to a paste and smeared over the affected area (CR 1).
2). The fresh rhizome is ground into paste and smeared over the wounds (CR 1).

Occurrence : Cultivated (MR 24803).

Cucumis prophetarum L. (CUCURBITACEAE)

Vernacular name : Varakkumathan thalai, Attangai

Habit : Climbing herb

Part used : Fruits

Used for : Toothache

Mode of application: The fruit is roasted in fire, ground into a paste and smeared over the affected area (CR 2).

Occurrence : Common around the hamlets and adjoining forest areas (MR 24572).

Cynodon dactylon (L.) Pers.(POACEAE)

Vernacular name : Karuka

Habit : Herb

Part used : Whole plants

Used for : Wound healing

Mode of application: The whole plant ground in to a paste and smeared over the wounds (CR 2).

Occurrence : Common around the hamlets (MR 24863).

Datura metel L (SOLANACEAE)

Vernacular name : Karummathan thalai

Habit : Herb

Part used : Tender leaves

Used for : Diarrhoea, headache, cough and throat pain

Mode of application: 1). The tender leaves are ground into a paste, dissolved in half glass of curd and given for diarrhoea (CR 2).

2). The leaf is ground in to a paste and smeared over the forehead (CR 2).

3). The extract from the leaf is applied over the chest and throat for the relief of cough and throat pain (CR 2).

Occurrence : Occasional around the hamlets and plains (MR 24666).

Drynaria quercifolia (L.) Js.Sm. (POLYPODIACEAE)

Vernacular name : Shekuttola

Habit : Rhizomatous epiphytic herb

Part used : Rhizome

Used for : Earache

Mode of application: The rhizomes are slightly roasted in fire, the juice extracted from it is used as an eardrop for ear ache (CR 1).

Occurrence : Commonly found as an epiphytic herb on trees of adjoining forest areas (MR 24897).

Eleusine coracana (L.) Gaertn (POACEAE)

Vernacular name : Rai

Habit : Herb

Part used : Flour

Used for : Chest pain

Mode of application: The Flour is made into a paste and smeared over the chest for chest pain (CR 2).

Occurrence : Cultivated (MR 24877).

Emilia sonchifolia (L.) DC. (ASTERACEAE)

Vernacular name : Muyal cheviyan

Habit : Herb

Part used : Whole plant

Used for : Throat infection and wound healing

Mode of application: 1). The whole plant ground in to a paste and smeared over throat (CR 2).

2). The whole plant ground in to a paste and applied over the wounds (CR 2).

Occurrence : Common around the hamlets (MR 24615).

Eclipta prostrata (L.) L. (ASTERACEAE)

Vernacular name : Kanjunni

Habit : Herb

Part used : Whole plant

Used for : Cooling agent, pediculosis and nourishment of hair

Mode of application: The whole plant is crushed and the juice is applied over the head for cooling, improved hair growth and killing lice (CR 2).

Occurrence : Common in paddy fields around the hamlets (MR 24613).

Euphorbia antiquorum L. (EUPHORBIACEAE)

Vernacular name : Thriukkalli

Habit : Small tree

Part used : Latex

Used for : Joint pain

Mode of application : The milky latex obtained from the stem is mixed with salt and the paste is smeared over the joint (CR 2).

Occurrence : Occasional in dry areas adjoining to the forest (MR 24754).

Euphorbia thymifolia L. (EUPHORBIACEAE)

Vernacular name : Cirupalakozhunthu

Habit : Herb

Part used : Whole plant

Used for : Diarrhoea

Mode of application : The whole plant is ground into a paste, dissolved in hot water and administered orally thrice a day (CR 2).

Occurrence : Common in and around the hamlets (MR 24756).

Grewia glabra Blume (TILIACEAE)

Vernacular name : Kadamudaki

Habit : (Small tree)

Part used : Roots

Used for : Furuncle

Mode of application : The roots are ground into a paste and smeared over the furuncle (CR 2).

Occurrence : Commonly found in adjoining forest areas (MR 24412).

Gymnema sylvestre (Retz.) R. Br. *ex* Schult. (ASCLEPIADACEAE)

Vernacular name : Chinna parvavalli

Habit : Climber

Part used : Leaves

Used for : Wound healing, furuncle, urinary trouble

Mode of application : 1). The leaves are ground into a paste and smeared over the wounds. The leaf paste is smeared over furuncle (CR 2).

2). The leaves are ground into a paste and dissolved in hot water and administered orally for abnormal urination and painful urination (CR 2).

Occurrence : Occasional, found in adjoining forest areas of the hamlet (MR 24645).

Hedyotis corymbosa (L.) Lam.(RUBIACEAE)

Vernacular name : Velan pillu

Habit : Herb

Part used : Whole plant

Used for : Wound healing

Mode of application: The whole plant crushed and juice applied over the wound (CR 2).

Occurrence : Common in and around the hamlets along with paddy field (MR 24609).

Hibiscus rosa-sinensis L. (MALVACEAE)

Vernacular name : Addukuchembarathi

Habit : Shrub

Part used : Leaves

Used for : Eye disease

Mode of application: The leaves along with leaves of Perumparvaikodi (*Watakaka volubilis*), Manjal (*Curcuma longa*) is crushed and used as eye drop (CR 2).

Occurrence : Commonly found as cultivated ornamental (MR 24541).

Holarrhena pubescens (Buch.-Ham.) Wall. *ex* G. Don. (APOCYANACEAE)

Vernacular name : Perumpala

Habit : Small tree

Part used : Latex from bark

Used for : Redness of the eye, diarrhoea and snakebite

Mode of application: 1). The latex is applied over the eyes for redness (CR 2).

2). The bark ground into a paste, dissolved in half glass of water is administered orally thrice a day for diarrhoea (CR 2).

3). The roots along with three Kurumulakay (*Piper nigrum*) seeds are chewed for curing the poison due to

Churutta (a kind of pit viper). The victim is allowed to sleep after hearing the music from the bugle made up of Pullani (*Calycopteris floribunda*) (CR 2).

Occurrence : Common around the plains and adjoining areas of the forests (MR 24637).

Hygrophila schulli (Buch.-Ham.) M. R. & S. M. Almeida (ACANTHACEAE)

Vernacular name : Chulli

Habit : Herb

Part used : Stem

Used for : Urinary infection

Mode of application : The stem along with leaves is boiled in one litre water, reduced in to it's half and administered orally for all type of urinary infections (CR 2).

Occurrence : Common in and around the hamlets along with paddy field (MR 24686).

Jatropha curcas L. (EUPHORBIACEAE)

Vernacular name : Kotta

Habit : Small tree

Part used : Milky latex

Used for : Head ache

Mode of application : The milky latex obtained from stem is collected with a cotton cloth and put on the forehead for headache (CR 2).

Occurrence : Common in and around the hamlets (MR 24759).

Justicia gendarussa Burm. f. (ACANTHACEAE)

Vernacular name : Vatharashithalai

Habit : Shrub

Part used : Leaves

Used for : Rheumatism

Mode of application : The leaves boiled in water and the decoction administered orally followed by bath in hot water boiled with the leaves (CR 2)

Occurrence : Commonly found as sub shrub along with live fences around the hamlets (MR 24688).

Lawsonia inermis L. (LYTHRACEAE)

Habit : Shrub

Part used : Leaves

Used for : Foot diseases

Mode of application : The leaves are ground in to a paste, boiled in water along with salt and dip the legs in the same (CR 2).

Occurrence : Commonly found as sub shrub along with live fences around the hamlets (MR 24565).

Martynia annua L. (PEDALIACEAE)

Vernacular name : Kokkimulluchedi

Habit : Herb

Part used : Roots and tender leaves

Used for : Toothache

Mode of application : The roots are chewed and kept in the hole of the affected tooth. The tender leaves are also chewed for the same (CR 2).

Occurrence : Occasionally found in the plains around the hamlet (MR 24933).

Marsilea minuta L. (MARSELIACEAE)

Vernacular name : Aracherai

Habit : Herb

Part used : Leaves

Used for : Stomach pain with ulcers

Mode of application : The roots of this plant along with the roots of Velleruku (*Calotropis gigantea*), roots of Karanellu (*Oryza sativa*), and of Kattupadavalam (*Trichosanthus cucumarina*) are crushed and dried in goat's urine. The dried mixture is powdered well and a spoon of the powder is dissolved in hot water and orally administered every morning in empty stomach (CR 2).

Occurrence : Common in paddy field adjoining to hamlet (MR 24907).

Mimosa pudica L. (FABACECEAE)

Vernacular name : Thottavadi

Habit : Prickly under shrubs

Part used : Tender leaves

Used for : Head ache

Mode of application: The tender leaves are ground into a paste and smeared over the forehead for curing headache (CR 2).

Occurrence : Common around the hamlets (MR 24495).

Moringa pterygosperma Gaertn. (MORINGACEAE)

Vernacular name : Muringathalai

Habit : Tree

Part used : Tender leaves

Used for : Headache

Mode of application: The tender leaves are ground into a paste and smeared over the affected part (CR 2)

Occurrence : Cultivated in hamlets for edible leaves (MR 24446).

Murdannia semiteres (Dalz.) Sant. (COMMELINACEAE)

Vernacular name : Vellathandan pullu

Habit : Herb

Part used : Whole plant

Used for : Inflammation due to injuries and burns

Mode of application: The whole plant is ground in to a paste and smeared over the affected area (CR 1).

Occurrence : Common in laterite rocks around the hamlets (MR 24836).

Naravelia zeylanica (Linn.) DC. (RANUNCULACEAE)

Vernacular name : Chalikodi

Habit : Climbing herb

Part used : Tender leaves, stem and roots

Used for : Reduce snoring, cough, fever and cold

Mode of application: 1). The tender leaves are ground into a paste and smeared over the forehead during night hours followed by deep inhaling of the crushed roots for controlling snorting while sleeping (CR 2).

2). The crushed roots, leaves boiled in water and inhale the steam by wrapping around the head for curing cough, fever and cold(CR 2).

Occurrence: Common around the hamlets (MR 24502).

Naringi crenulata (Roxb.) Nicols.(RUTACEAE)

Vernacular name : Nayelumbichi

Habit : Tree

Part used : Fruits

Used for : Stomachache

Mode of application: The fruits ground into a paste, dissolved in hot water and administered orally (CR 2).

Occurrence : Common around the hamlets (MR 24424).

Ocimum tenuiiflorum L. (LAMIACEAE)

Vernacular name : Thulsi

Habit : Herb

Part used : Leaves

Used for : Itches and scabies

Mode of application: The leaf juice mixed with the fresh curcuma paste is smeared over the affected area (CR 2).

Occurrence : Commonly found cultivated around the hamlets (MR 24703).

Ocimum basilicum L (LAMIACEAE)

Vernacular name : Ramapachakozhunth

Habit : Herb

Part used : Leaves

Used for : Earache

Mode of application: The leaves are crushed and the juice is used as an ear drop (CR 1).

Occurrence : Commonly found cultivated around the hamlets (MR 24702).

Opuntia stricta Haw. var. ***dillenii*** (Ker-Gawl.) L. (CACTEACEAE)

Vernacular name : Nagathali cathalai

Habit : Succulent srubs

Part used : Stem

Used for : Respiratory trouble

Mode of application: The stem along with roots of Ramacham (*Vetiveria zizanoides*) is ground into a paste and administered orally (CR 2).

Occurrence : Occasional in dry plains and forest borders (MR 24588).

Oroxylum indicum (L.) Benth. *ex* Kurz (BIGNONIACEAE)

Vernacular name : Payyani

Habit : Small tree

Part used : Roots

Used for : Snake bite

Mode of application : Root paste is dissolved in hot water and administered orally for snake bite (CR 2).

Occurrence : Occasional in neighbouring moist deciduous forest areas near the hamlet (MR 24682).

Oryza sativa L. (POACEAE)

Vernacular name : Nellu

Habit : Herb

Part used : Roots

Used for : Wound healing

Mode of application : The roots along with bark of Velleruku (*Calotropis gigantea*), leaves of Appakova (*Centella asiatica*) are ground into a paste and smeared over the wound after washing thoroughly with hot water (CR 2).

Occurrence : Cultivated (MR 24862).

Parahemionitis cordata (Roxb. *ex* Hook. & Grev.) Fraser-Jenk. (HEMIONITIDACEAE)

Vernacular name : Kathuvezhachedi

Habit : Herb

Part used : Leaves

Used for : Earache

Mode of application : The leaves are ground into paste and smeared over the affected ear (CR 2).

Occurrence : Occasional in shady places around the hamlets (MR 24901).

Pergularia daemia (Forssk.) Chiov. (ASCLEPIADACEAE)

Vernacular name : Velithalai

Habit : Climber

Part used : Leaves

Used for : Head ache, fever and lies

Mode of application: 1). The leaf paste is smeared over forehead (CR 2).
2). One spoonful leaf juice is administered orally for fever (CR 2).
3). The leaves along with Venkiyam (*Allium cepa*) made into paste and applied over the head for lice (CR 2).
Occurrence : Common in and around the hamlets (MR 24646).

Phyllanthus amarus Schum. & Thonn. (EUPHORBIACEAE)
Vernacular name : Nila Nelli
Habit : Herb
Part used : Whole plant
Used for : Jaundice
Mode of application: The whole plant is ground into a paste and dissolved in Goat's milk and administered orally in empty stomach (CR 1).
Occurrence : Common around the hamlets (MR 24762).

Piper betleL. (PIPERACEAE)
Vernacular name : Vetla thalai
Habit : Climber
Part used : Tender leaves
Used for : Urinary trouble and Stomach ache
Mode of application: 1). The tender leaves along with Venkiyam (*Allium cepa*) crushed and eaten for pain in the urinary tract (CR 2).
2). Leaves are chewed along with salt for stomach ache (CR 2).
Occurrence : Cultivated (MR 24934).

Punica granatum L., (PUNICACEAE)
Vernacular name : Mathalanga
Habit : Shrub
Part used : Fruit
Used for : Stomach ache
Mode of application: Died epicarp of the fruit is ground in to a paste and dissolved in hot water and administered orally (CR 2)
Occurrence : Cultivated (MR 24566).

Polycarpaea corymbosa (L.) Lam. (CARYOPHYLLACEAE)
Vernacular name : Parapullu

Habit : Herb
Part used : Whole plant
Used for : Inflammation due to rheumatism
Mode of application : The whole plant is ground in to a paste and smeared over the affected area (CR 2)
Occurrence : Common in laterite rocks around the hamlets (MR 24528).

Rauvolfia serpentina (L.) Benth. *ex* Kurz (APOCYNACEAE)
Vernacular name : Amalpori
Habit : Shrub
Part used : Root bark
Used for : Stomach ache
Mode of application : The bark is ground into a paste, dissolved in water and administered orally (CR 2).
Occurrence : Rarely found in moist deciduous forests around the hamlets (MR 24638). (Plate 4. f.)

Ricinus communis L. (EUPHORBIACEAE)
Vernacular name : Avanakotta
Habit : Shrub
Part used : Tender shoots
Used for : Tooth ache
Mode of application : Tender shoots are roasted in fire and the juice is applied over the affected teeth (CR 2).
Occurrence : Occasional around the hamlets (MR 24765).

Santalam album L. (SANTALACEAE)
Vernacular name : Sandanam
Habit : Tree
Part used : Wood
Used for : Head ache
Mode of application : The paste of the wood is smeared over the forehead (CR 2).
Occurrence : Occasional around the hamlets (MR 24742).

Solanum viarum Dunal (SOLANACEAE)
Vernacular name : Chunda

Habit : Herb
Part used : Ripened fruits
Used for : Cough and cold in children
Mode of application : The ripened fruits are crushed and applied over the top of the head (CR 2)
Occurrence : Occasional around the hamlets (MR 24675).

Spilanthes clava DC. (ASTERACEAE)
Vernacular name : Palluvedana Chedi
Habit : Herb
Part used : Flower
Used for : Tooth ache
Mode of application : The mature flowers are crushed and applied over the affected area (CR 2)
Occurrence : Occasional around the hamlets (MR 24617).

Streblus asper Lour. (MORACEAE)
Vernacular name : Parkamaram
Habit : Tree
Part used : Milky latex
Used for : Scabies and itches
Mode of application : 1). The milky latex collected from the bark is applied for scabies and itches (CR 2).
2). The leaves are ground into a paste and smeared over furuncle (CR 2).
Occurrence : Common in adjoining forest areas and plains around the hamlets (MR 24786).

Syzygium cumini (L.) Skeels (MYRTACEAE)
Vernacular name : Nankapattai, Njavalu
Habit : Tree
Part used : Bark
Used for : Diarrhoea
Mode of application : The bark is ground into a paste and dissolved in curd milk and administered orally (CR 2).
Occurrence : Common in neighbouring forest areas of the hamlets (MR 24557).

Tabernaemontana divaricata (L.) R. Br. (APOCYNACEAE)

Vernacular name : Nanthyarvattam
Habit : Shrub
Part used : Flowers
Used for : Eye diseases
Mode of application: The extract from crushed flowers is used as an eye drop for various eye diseases (CR 1).
Occurrence : Cultivated as an ornamental and medicinal plant (MR 24639).

Tamarindus indica L. (FABACEAE)

Vernacular name : Pulingi
Habit : Tree
Part used : Leaves
Used for : Inflammation
Mode of application: The mature leaves are ground into a paste and smeared over the affected area (CR 1).
Occurrence : Common in and around the hamlets (MR 24486).

Tephrosia purpurea (L.) Pers.(FABACEAE)

Vernacular name : Kolengi
Habit : Herb
Part used : Roots
Used for : Stomach ache
Mode of application: The roots are ground into a paste, dissolved in hot water and administered orally in empty stomach, twice a day (CR 2).
Occurrence : Common in plains and forest border areas around the hamlets (MR 24473).

Tridax procumbens L (ASTERACEAE)

Vernacular name : Shanippodu
Habit : Herb
Part used : Whole plant
Used for : Scabies and itches
Mode of application: The plant crushed with lime (Calcium hydroxide) and the juice is smeared over the affected area (CR 2).

Occurrence : Common in and around the hamlets (MR 24618). (Plate 4.g.)

Trichodesma zeylanicum (Burm. f.)R.Br. (BORAGINACEAE)

Vernacular name : Erumanakku

Habit : Herb

Part used : Root

Used for : Furuncle

Mode of application: The root is ground into a paste and put in the centre of furuncle (CR 2).

Occurrence : Common in plains around the hamlets (MR 24659).

Vanda tessellata (Roxb.) Hook. *ex* D. Don (ORCHIDACEAE)

Vernacular name : Katholai, Ottolai

Habit : Epiphytic herb

Part used : Fruits

Used for : Earache

Mode of application: The fruits are roasted in coconut oil and used as an eardrop.

Occurrence : Occasionally found on neighbouring trees of the hamlets as an epiphyte (MR 24796).

Wattakaka volubilis (L. f.) Stapf (ASCLEPIADACEAE)

Vernacular name : Perumparvakodi

Habit : Climber

Part used : Leaves

Used for : Wound healing, Scabies and itches

Mode of application: 1). The leaves are ground into a paste and smeared over the wounds for easy healing (CR 2).

2). The leaf paste is roasted in coconut oil along with Venkiyam (*Allium cepa*) and the oil smeared over the body for scabies and itches (CR 2).

Occurrence : Common in and around the hamlets (MR 24648).

Wrightia tinctoria (Roxb.) R.Br. (APOCYANACEAE)

Vernacular name : Palai

Habit : Small tree

Part used : Bark

Used for : Wound healing, Scabies and itches

Mode of application: 1). The bark is ground into a paste along with salt and smeared over the wound (CR 2).

2). The bark is ground into a paste along with salt and roasted in oil and smeared over the affected area for scabies and itches (CR 2).

Occurrence : Common in plains and adjoining forest areas of the hamlets (MR 24642) (Plate 4. h.).

Zizyphus oenoplia (L.) Mill (RHAMNACEAE)

Vernacular name : Sooripazham

Habit : Straggler

Part used : Bark

Used for : Diarrhoea

Mode of application: The bark along with bark of Konnaimaram (*Cassia fistula*) is ground into a paste, dissolved in hot water and administered orally twice a day for diarrhoea (CR 2).

Occurrence : Common around the hamlets (MR 24430).

5. 1. 3. 3. 2. Veterinary Medicine

Diplocyclos palmatus (L.) Jeffrey (CUCRBITACEAE)

Vernacular name : Iviralkeerai

Habit : Climber

Part used : Leaves

Used for : Increasing milk

Mode of application: The leaves are ground into a paste and smeared over the udder of the cow and also smeared over the body (CR 2).

Occurrence : Common around the hamlets (MR 24576).

Capsicum frutescens L (SOLANACEAE)

Vernacular name : Kanthari

Habit : Herb

Part used : Dried fruits

Used for : Indigestion

Mode of application: The stem is crushed and the juice is mixed with salt and given for cattle for indigestion and various stomach problems (CR 2).

Occurrence : Common around the hamlets (MR 24665).

Cissus quadrangularis L. (VITACEAE)

Vernacular name : Changalam valli

Habit : Succulent climber

Part used : Stem

Used for : Stomach problem in cattle

Mode of application: The stem is crushed and the juice is mixed with salt and given for cattle for indigestion and various stomach problems (CR 2).

Occurrence : Occasional in dry forest around the hamlet (MR 24436).

Cleistanthus collinus (Roxb.) Benth. *ex* Hook. f. (EUPHORBIACEAE)

Vernacular name : Odukinpattai

Habit : Tree

Part used : Leaves

Used for : Foot and mouth disease in cattle

Mode of application: The leaves ground in to a paste along with salt and smeared over the affected area followed by spreading the leaves like a floor mat in cattle house (CR 1).

Occurrence : Common around the hamlets (MR 24753). (Plate 4. d.)

Leucas indica (L.) R. Br. ex Vatke (LAMIACEAE)

Vernacular name : Thumba

Habit : Herb

Part used : Leaves

Used for : Stomach problem in livestock

Mode of application: The leaves are crushed and the juice is mixed with Neem (*Azadirachta indica*) oil, asafoetida (*Ferula asafoetida*) and given to cattle for indigestion and various stomach problems (CR 2).

Occurrence : Common around the hamlets (MR 24701).

Sphaeranthus indicus L.(ASTERACEAE)

Vernacular name : Adakamani

Habit : Herb
Part used : Whole plant
Used for : Scabies and itches in livestock
Mode of application : The whole plant ground in to a paste, nixed with Neem oil and smeared over the affected area (CR 2).
Occurrence : Common around the hamlets (MR 24616).

Tectona grandis L. f. (VERBENACEAE)
Vernacular name : Thekkamaram
Habit : Tree
Part used : Oil
Used for : Foot and mouth disease in cattle, wound healing
Mode of application : The oil extracted by distillation of the mature wood is smeared over the affected area (CR 1).
Occurrence : Common around the hamlets and adjoining forest areas (MR 24695).

Zingiber officinale Rosc. (ZIGIBERACEAE)
Vernacular name : Inchi
Habit : Rhizomatous herb
Part used : Fresh Rhizomes
Used for : Stomach problem in cattle, eye disease
Mode of application : 1). The fresh rhizomes are crushed and the juice extracted is mixed with salt and given for stomach problem and indigestion (CR 2).
2). The rhizomes are chewed and spit out twice day in affected eyes (CR 2).
Occurrence : Cultivated (MR 24808).

5. 1. 3. 4. Miscellaneous Plant uses

5. 1. 3. 4. 1. Fibre yielding plants

Bauhinia racemosa Lam. (FABACEAE)
Vernacular name : Aram puli
Habit : Tree
Part used : The fibres obtained from bark (bark fibre)

Mode of use : The fresh bark fibre is peeled from wood and kept for one or two days for long duration (CR 1).

Occurrence : Common around the hamlets and neighbouring areas (MR 24477).

Borassus flabellifer L (ARECACEAE)

Vernacular name : Vazhukanaru

Habit : Tree

Part used : Fibres from the peduncle of leaves

Mode of use : The fibres peeled from peduncle are dried in sunlight and whenever needed they are kept in water for storage (CR 1).

Occurrence : Common around the hamlets in plains and paddy fields (MR 24839).

Caryota urens L. (ARECACEAE)

Vernacular name : Koontha panai naru, Eranpananaru

Habit : Tree

Part used : Fibres obtained from peduncle of leaves and infrutescence

Mode of use : The fibres peeled from the peduncle is dried in sunlight and whenever needed are immersed in water for storage. The fresh infrutescence branches are directly used as fibres. (CR 1)

Occurrence : Common around the hamlets (MR 24844).

Ficus racemosa L. (MORACEAE)

Vernacular name : Athimram

Habit : Tree

Part used : The fibres obtained from bark

Mode of use : The fresh bark fibres peeled from wood and kept for one or two days under shade for long duration (CR 1).

Occurrence : Occasional around the hamlets and in moist deciduous forest around the hamlets (MR 24783).

Grewia tiliifolia Vahl. (TILIACEAE)

Vernacular name : Unnam

Habit : Tree

Part used : The fibres obtained from bark

Mode of use : The fresh bark fibres peeled from wood and kept for one or two days under shade for long duration (CR 1).

Occurrence : Common around the hamlets and moist deciduous forest areas of the adjoining forests (MR 24937).

Helicteres isora L. (STERCULIACEAE)

Vernacular name : Kaivan

Habit : Small tree

Part used : The fibres obtained from bark

Mode of use : The fresh bark fibres peeled from wood and kept in sunlight for one or two days for long duration (CR 1)

Occurrence : Occasional in neighbouring forest areas (MR 24406). (Plate 4. e.)

Sterculia villosa Roxb. *ex* DC. (STERCULIACEAE)

Vernacular name : Vakka naru

Habit : Tree

Part used : The fibres obtained from bark

Mode of use : The fresh bark fibre is peeled from wood and kept in sunlight for one or two days for long duration (CR 1).

Occurrence : Occasional in neighbouring forest areas (MR 24409).

5. 1. 3. 4. 2. Plants for Fish stupefaction

Acacia sinuata (Lour.) Merr. (FABACEAE)

Vernacular name : Cheenikai

Habit : Climbing shrub

Part used : Fruits

Mode of use : The fruits are crushed and dissolved in water of streams or in selected areas of river with fishes (CR 2)

Occurrence : Occasional in moist deciduous forest of the adjoining areas (MR 24488).

Borassus flabellifer L (ARECACEAE)

Vernacular name : Karipana

Habit : Tree

Part used : Tender stem

Mode of use : The tender stem is crushed and dissolved in the streams (CR 1).

Occurrence : Common around the hamlets in plains and paddy fields (MR 24839).

Canthium rheedei DC. (RUBIACEAE)

Vernacular name : Karakkay

Habit : Small tree

Part used : Fruits

Mode of use : The fruits are crushed and dissolved in water of small streams or selected areas of river with fishes (CR 2).

Occurrence : Occasional in neighbouring forest areas (MR 24597).

Caryota urens L. (ARECACEAE)

Vernacular name : Eranpana, Koontha panai

Habit : Tree

Part used : Fruits

Mode of use : The fruits are crushed and dissolved in water of small streams or selected areas of river (CR 1).

Occurrence : Common around the hamlets (MR 24844).

Strychnos nux-vomica L. (LOGANIACEAE)

Vernacular name : Kanchiram

Habit : Tree

Part used : Fruits and leaves

Mode of use : The fruits or leaves are crushed and dissolved in water of small streams or selected areas of river where fishes are commonly abundant (CR 2).

Occurrence : Occasional in neighbouring forest areas (MR 24654).

Sapindus trifoliata L. (SAPINDACEAE)

Vernacular name : Pooch kottai

Habit : Tree

Part used : Fruits

Mode of use : The fruits are crushed and dissolved in water of small streams or selected areas of river with fishes (CR 1).

Occurrence : Common in neighbouring forest areas of the hamlets (MR 24441).

5. 1. 3. 4. 3. Plants as Repellents

Azadirachta indica A.Juss. (MELIACEAE)

Vernacular name : Veepumaram

Habit : Tree

Part used : Oil

Used for : Leach repellents

Mode of application : The oil is mixed along with salt, pukalai (powder of *Nicotiana tabacum*) and smeared over the external parts of the body exposed to leaches (CR 1).

Occurrence : Common in plains and adjoining areas of the hamlets (MR 24427).

Harpullia arborea (Blanco) Radlk. (SAPINDACEAE)

Vernacular name : Iru koli maram

Habit : Tree

Part used : Bark

Used for : Leach repellents

Mode of use : The bark is crushed and the juice is smeared over the external parts of the body exposed to leaches (CR 1).

Occurrence : Occasional in adjoining forest areas (MR 24440).

Solanum virginianum L. (SOLANACEAE)

Vernacular name : Mullukathrica

Habit : Herb

Part used : Fruits

Used for : Leach repellents

Mode of use : The fruits are crushed and the juice is smeared over the external parts of the body exposed to leaches (CR 1).

Occurrence : Occasional in plains and neighbouring forests (MR 24676).

5. 1. 3. 4. 4. Plants as soaps and shampoo

Acacia sinuata (Lour.) Merr. (FABACEAE)

Vernacular name : Cheenikai

Habit : Climbing shrub
Part used : Fruits and bark
Mode of use : The fruits or bark is crushed and the foam is applied over the dresses while washing (CR 1).
Occurrence : Occasional in moist deciduous forest of the adjoining areas (MR 24488).

Hibiscus rosa-sinensis L. (MALVACEAE)
Vernacular name : Addukuchembarathi
Habit : Shrub
Part used : Leaves
Mode of use : The leaves are crushed along with water and the mucilaginous extract is used as a shampoo (CR 1).
Occurrence : Common around the hamlets as cultivated ornamental (MR 24541)
Occurrence : Common.

Merremia umbellata (L.) Hall. f. (CONVOLVULACEAE)
Vernacular name : Vakara valli
Habit : Climber
Part Used : Leaves
Mode of use : The leaves are crushed along with water and the mucilaginous extract is used as a shampoo (CR 1).
Occurrence : Common around the hamlets and neighbouring forests (MR 24663).

Sapindus trifoliata L. (SAPINDACEAE)
Vernacular name : Pooch kottai
Habit : Tree
Part used : Fruits
Mode of use : The fruits or bark is crushed and the foam is applied over the dresses while washing (CR 1).
Occurrence : Common in neighbouring forest areas of the hamlets (MR 24441).

Sida rhombifolia L. (MALVACEAE)
Vernacular name : Kurunthotti

Habit : Herb
Part used : Leaves
Mode of use : The leaves are crushed along with water and mucilaginous extract used as a shampoo (CR 1).
Occurrence : Common around the hamlets (MR 24597).

5.1. 3. 4. 5. Plants in Beliefs

These tribals believe in supernatural powers and are supposed to harm them. Many of them are supposed to live in trees, and to rule the wild beasts. According to Eravallans the trees like Palai (*Alstonea scholaris*), Athimaram(*Ficus microcarpa, Ficus racemosa*), Alamaram (*Ficus benghalensis)* are the domiciles of Peyi (evil spirits) and are also called as Peyimarams. The fresh green culm of bamboos is considered as the symbol of purity and it is used to carry the corpse to the burial ground. They believed that the Kilimookkukizhangu (*Cissampelos pereira*) and Amalporai (*Rauvolfia serpentina)* are the plants with ultimate power and both plants wards off evil spirits, snakes and other harmful organisms.

5. 1. 3. 4. 6. Plants in worships and religious rituals

They worship the veppamaram (*Azadirachta indica*) as the domicile of Goddess Mariyatha and believe that their Goddesses live under the Alamaram (*Ficus benghalensis*) and cutting of these trees are taboo. The fresh green culms of bamboos are considered useful to ward off evils spirits. The dead bodies are carried in fresh bamboo culms. The leaves of Mangaimaram (*Mangifera indica*) and Cheruthala (*Aerva lanata*) are placed in front of the huts during festivals and also are considered as the agents for purification, protection from evil spirits and evil eyes.

5. 1. 3. 4. 7. Plants mentioned in traditional songs

There are some plants mentioned in their traditional songs. The different palms 'Panais' (*Borassus flabellifer* and *Caryota urens*),Veppamaram (*Azadirachta indica*), Alamaram (*Ficus spp.)* are mentioned in several of their traditional songs.

5. 1. 3. 4. 8. Plants in material culture

A. Musical instruments

Dhavil

Used for : Making the sound of a drum during traditional occasions.

Material used : The wood of Kummulumaram (*Gmelina arborea*) and skin of animals.

Mode of making : The cortex and pith of the wood is removed by carving, the open end is covered by the treated skin of animals such as ox, buffalos etc. and used as a drum.

Urummal

Used for : Making the sound of a drum during traditional occasions.

Material used : The wood of Vengaimaram (*Pterocarpus marsupium*) and skin of animals.

Mode of making : The cortex and pith of the wood is removed by carving, the open end is covered by the treated skin of animals such as ox, buffalos etc. and used as a drum.

Kuzhal

Used for : Making the sound like a bugle during traditional occasions.

Material used : The carved wood of Palai maram(*Wrightia tinctorea*) along with metal parts.

Mode of making : The cortex and pith of the wood is removed by carving, the cup like mouth piece is made up of brass (Plate 3. g. & j.).

B. Basketries

Koodai

Used for : Collecting and storing seeds

Material used : The stem of Neeloorakam (*Phyllanthus reticulatus*).

Mode of making : The long stem is woven in the form of basket (Plate 3. h.).

Muram

Used for : Collecting and storing seeds

Material used : The culms of Mungai maram (*Bambusa bambos*).

Mode of making : The culm fibre is woven in the form of a basket.

Vatti

Used for : Collecting and storing seeds

Material used : The culms of Mungai maram (*Bambusa bambos*).

Mode of making : The long stem is woven in the form of a basket.

Vallam

Used for : Storing seeds

Material used : The culms of Mungai mram (*Bambusa bambos*).

Mode of making : The long stem is woven in the form of a basket.

Thadukku

Used for : Seat

Material used : The leaves of Karimpana (*Borassus flabellifer*)

Mode of making : The leaves are woven in the form of thick and quadrangular seats.

Vallikudai

Used for : Umbrella

Material used : The leaves of Karimpana (*Borassus flabellifer*) or Kudappana (*Corypha umbraculifera*)

Mode of making : The leaves are woven in the form an umbrella supported by bamboo skeletons.

C. Ornaments

Katholai

Used for : As an ear ornament

Material used : The leaves of Karimpana (*Borassus flabellifer*)

Mode of making : The leaves are rolled in a special manner like a disc, inserted in the sufficiently dilated holes made in the posterior portion of the ear lobes to contain them.

D. Marks

The exudates of Venga (*Pterocarpus marsupium*) and Matti pasakodi (*Ipomoea carnea*) are used for preparing beauty spots. The milky latex is allowed to exude by making a small wound in the stem and the sticky gum is placed at the centre of the forehead.

E. House hold article

Uralu

Used for : As a mortar

Material used : The wood of Vengai maram (*Pterocarpus marsupium*)

Mode of making : The cortex and pith of the wood is removed by carving.

Ulakkai

Used for : As pestle

Material used : The mature wood of Karimpana (*Borassus flabellifer*)

Mode of making : The mature wood of Karimpana (*Borassus flabellifer*) is carved in the form a pestle and the outer portion is smoothened through continuous rubbing.

Brooms

The dried twigs of Mucha pullu (*Pennesetum hoheneckerii*) is tied with the fibre obtained from the peduncle of Karimpanai(*Borassus flabellifer*).

Cooking Utensils

The large culm of Mungamaram (*Bambusa bambos*) is used for rice cooking. The rice, adequate amount of water is added through the small opening made in the internodes and then the hole is closed and put in fire for some time until the rice is cooked well.

Plates

Leaves of Plasu (*Butea monosperma*), Kalluvazhai (*Ensete superbum*) and Thekku (*Tectona grandis*) are used for serving food.

F. Decoration

Leaves of Kunnan Vazha (*Musa paradasiaca*), Eanthu (*Cycas circinalis*) and koontha panai (*Caryota urens*) are used for decorating pandal during marriage and other auspicious occasions

G. House construction

The pillars and framework of their houses are made up of thorny bamboo (*Bambusa bambos*) and thatched by the straw of paddy and leaves of Karimpana (*Borassus flabellifer*). The walls are made up of bamboo plastered with mud or Palmyra palm leaves (*Borassus flabellifer*).

H. Weapons

In olden days, the culms of Munga maram (*Bambusa bambos*) were used as bow and the finely pointed culms of as arrows.

5.1.4. Conclusion

The information on the ethnobotanical knowledge of the Eravallans are hitherto unrecorded and this is the first attempt. The present study revealed that they are directly depend on 210 plants species under 140 genera belonging to 68 families for their day to day needs which include 189 Angiosperms, one Gymnosperm, four Pteridophytes and seven species of Fungi. Regarding the utilization pattern of plants, 112 species are used in food; eight as fodder; 84 in medicines; 47 come under the miscellaneous uses like fibre, fish stupefaction, repellents, soaps and shampoos, beliefs, worship, religious rituals, songs and material culture. The family *Fabaceae* is represented with 14 species followed by *Euphorbiaceae* (13 species) and *Poaceae* (10 species). The present study is the first ever documentation of the Ethnobotanical uses of *Murdannia semiteres*, *Martynia annua*, *Polycarpaea corymbosa*. Also, 31 medicinal uses of various plants are recorded for the first time. The potential plants involved in the life and culture of Eravallans are *Bambusa bambos* (17 uses); *Borassus flabellifer* (11 uses); *Curcuma longa* (7 uses); *Cocos nucifera* (6 uses); *Azadirachta indica* (5 uses) *etc.* The traditional knowledge on basket making from stems of *Phyllanthus reticulatus* is reported for the first time. The occurrence and distribution of *Aristolochia indica*, *Chamaecrista absus*, *Rauvolfia serpentina* are very rare and is represented only by a few plants probably due to the over exploitation and habitat destruction. Therefore, there is a need for conservational measures to be taken for such plants.

Irulars

"The name indicate their dark complexion, they live in the mountain forests and the adjoining areas of the lower Western Ghats." (Mr. Zvelebil)

5. 2. IRULARS

5. 2.1. Introduction

Irulars are one among the three tribal groups of Attappady valley with 95 hamlets in the eastern half of the valley comprising Agali, Pudur and Sholayoor Panchayaths of the Mannarkkad thaluk (Fig.7.). The Irulars are small-scale settled cultivators found in Attapady valley. According to Thurston (1909), the name is derived from their dark complexion. They are bilingual with Tamil and Malayalam and use Malayalam script. In appearance they are of medium height, with dark complexion, narrow nose, prominent cheekbones and having curly hairs. The wide spread communities called Irulars indicate that in very early times, their ancestors might have been autochthons in the entire Peninsula. They display Australoid features and may be affiliated to the immigrant "Mediterranean" type of Dravidians (Menon and Sasikumar, 1996). Irulars practice strict tribal endogamy and live mostly in the eastern half of the Attappady valley which is a rain shadow region at the ridges of the Western Ghats. Their population in Palakkad district is of 17560 individuals, which include 8776 males and 8784 females (GOI Census, 2001).

5. 2. 2. Socio-Cultural and Anthropological aspects

5. 2. 2. 1. Hut and Hamlet

Like other communities in the valley, individual hamlet is known as *Ooru*. The Irula hamlets are situated in such a way that they can have a view of their divine hill peak, the Malleeswaran mudi. The individual hut is known as *Kurai* or *Purai*. The numbers of huts in the hamlets vary from 40 to 120. The houses are linearly arranged. The roofs are very low, thatched by grasses and has a raised veranda in the front and at the back. One room in the hut has a raised platform for sleeping and at the end of this is a fireplace. The drainage is inadequate and the hamlets are dirty. Each hut in the hamlet has grinding stones. A place of worship known as *Kovil* is maintained in a corner of the hamlet (Plate 5a. & b.)

5. 2. 2. 2. Social system

Each *Ooru* has a headman called *Oorumooppan* who has great powers and influence among the fellowmen of the *Ooru*, also act as the connecting link

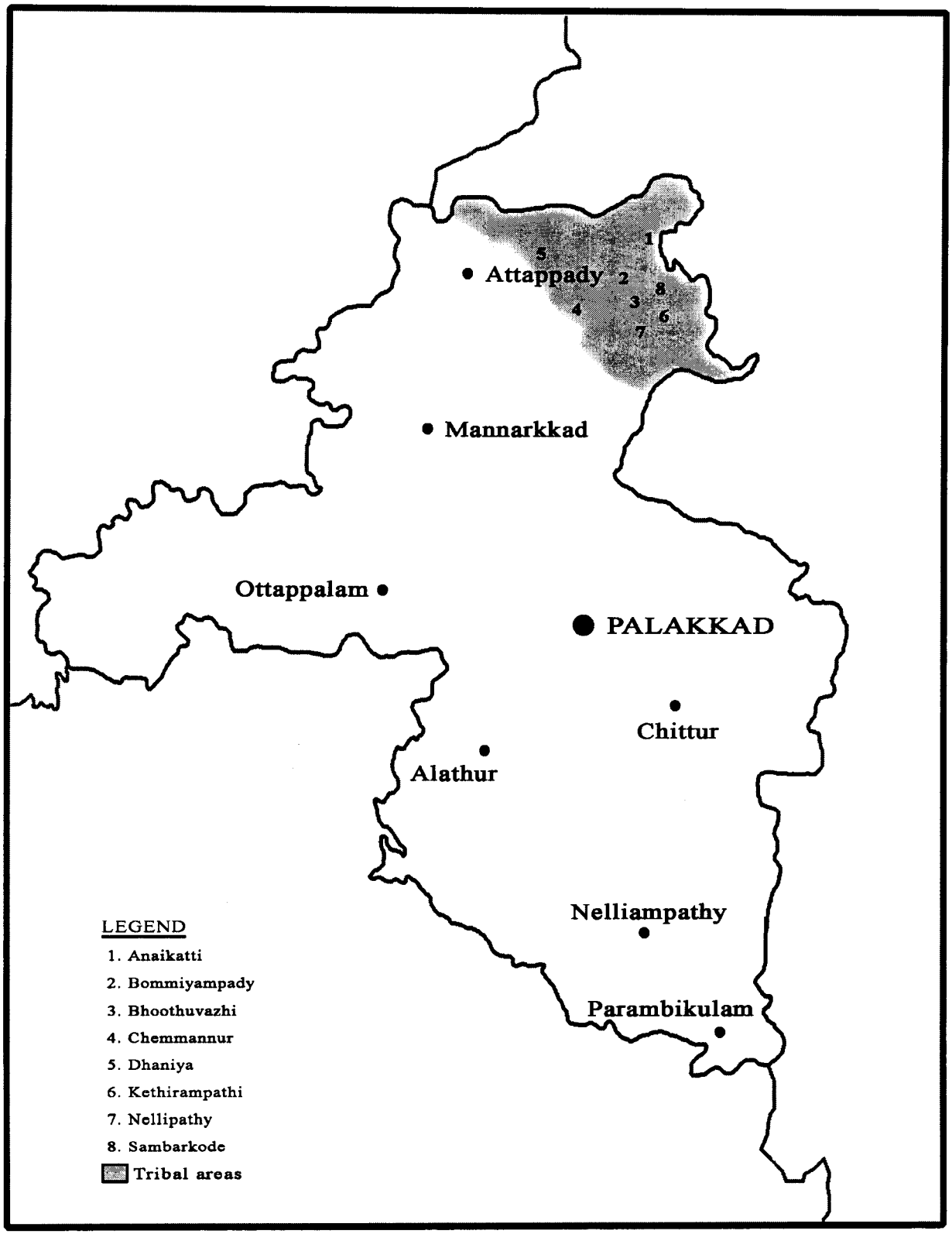


Fig. 7 Map showing the distribution of Irulars

between the people and the erstwhile landlords. The *Oorumooppan* of each hamlet acts as a mediator, arbitrator and has the power to inflict punishment for social and economic offences. He is assisted by two fellow tribesmen namely *Kuruthalai* (poen) and *Bhandai* (treasurer), who are selected by the people of the hamlets. They also officiate as headman during the absence of the *Oorumooppan.* In recent years, the institution of *Oorumooppan* has lost much of its importance. Another important social functionary is the *Mannookaran* (soil expert) who is the official in charge of the agricultural activities of the hamelet. He decides date for sowing, harvesting, also conducts rites and rituals associated with cultivation. He needs to have a good knowledge of the traditional agricultural practices, climatic conditions, fertility of soil *etc.* They possess patrilineal and patriarchal monogamy. As a norm, polygamy is also permitted. Polyandry is strictly prohibited.

5. 2. 2. 3. Life and Subsistence economy

The Irulars practice shifting cultivation and are food gatherers as well. Source of subsistence are the following:

5. 2. 2. 3. 1. Traditional agricultural practices

The economy of Irulars revolves chiefly around shifting cultivation and every household has a piece of land known as *Kothukadu* on which they grow cerials and pulses for self-consumption as well as for barter. They make use of very few agricultural implements and have little knowledge of manuring, irrigation and crop rotation. The *kothukadu* is usually seen near their hamlets. Ragi (*Eleusine coracana*), Chama (*Panicum sumatrense*), Thuvarai (*Cajanus cajan*), Keerai (*Amaranthus caudatus*), Paddy (*Oryza sativa*), Red gram (*Vigna ungiculata*), Mustard (*Brassica juncea*), Black gram (*Vigna mungo*) and Chillies (*Capsicum annuum*) are all sown together and harvested as and when each one of them matures (Plate 5. d.).

5. 2. 2. 3. 2. NTFP collection

They collect several Non Wood Forest Produces (NTFP) like Chinikkay (*Acasia sinuata*), Kunkiliyan (*Canarium strictum*), Nellikay (*Phyllanthus*

emblica), Urinchikkay (*Sapindus trifoliata*), Kattelam (*Elettaria cardamomum*), Padaveru (*Cyclea peltata*), Kurumthotti (*Sida rhombifolia*), Thippali (*Piper longum*), Orila (*Desmodium gangeticum*), Honey, wax from the adjacent forests. These provide an income to the tribals during the different seasons of the year. The collected items are sold through the tribal cooperative society situated in Chindekki, a place six kilometres away from Mukkali.

5. 2. 2. 3. 3. Food gathering from forest

Their traditional food gathering helps them feed them in adverse situations. When there is scaricity for cerials and pulses, they strart collecting roots and tubers. During the gathering period the whole family would move out in to the forest for collection. They are not averse in eating rats at times of distress; even white ants (termites) are collected, roasted and eaten. They are expert collectors of honey from the hives of the ferocious rock bees (Plate 5. e.).

5. 2. 2. 3. 4. Other income sources

Almost all the *Irulars* generate income by rearing cows, goat and fowls. Some of the younger tribesmen work as labourers in plantations as well. Some take up tertiary occupation under the Government departments and few of them work as drivers, tailors and casual labourers.

5. 2. 2. 4. Tradition and culture

They are not shy people and generally come forward; associate a myth for every occasion and a song and a dance is associated with each myth. Men and women dance together in a circle. The women lead the song. Their musical instruments consist of *Davil* (drum), *Poray* (earthen drum), *Jalray* (cymbals) and *Kuval* (bugle).

5. 2. 2. 4. 1. Ceremonies associated with birth

Pregnant woman is kept in an isolation hut away from the hamlet in the seventh month of pregnancy. During this period, her husband has to take care of her. Only six month after the child birth the couple return to the hamlet

Plate 5. IRULARS. **a.** Hamlet; **b.** Hut; **c.** Man holding *Cordia obliqua*- an anti allergic plant; **d.** Shifting cultivation; **e.** Ladies with edible leaves; **f.** Musical instruments; **g.** Lady making flour; **h.** Man with mortar and pestle.

with the child. On their return, they are welcomed with a feast by the entire hamlet and the naming ceremony of the baby is done by the *Oorumooppan.* Equal importance is given to the baby irrespective of its sex.

5. 2. 2. 4. 2. Puberty

At the menarche of a girl, she is moved to a temporary hut known as *Kalavasa* where she remains in isolation for seven days, the period observed as pollution. On the seventh day she is given a decoction of turmeric to drink. Her brother's wife takes her to the stream, gives her a bath. She is dressed in new clothes; move to the hamlet escorted by the fellow women of the hamlet and is made to sit on a new mat. She is made to hold a branch of a Jack tree (*Artocarpus heterophyllus*) and the inflorescence of a plantain tree (*Musa paradasiaca*). A pestle is kept by her side and food is served on a leaf plate placed in front of her. The sister's-in-law feed her three times. Oil is anointed on her hands and she is expected to dress her hair with it. After some merriment a feast is served to the rest of the gathering.

5. 2. 2. 4. 3. Marriage

When a boy and girl like each other, the boy's mother takes the initiatives in settling the marriage. She visits the girl's family, initites talks with them and if agreeable, a day is fixed for formal engagement. The wedding takes place at the groom's house. On the previous night of the marriage, the bride's party arrive and they are accommodated in a suitable place. The next morning the groom's mother entrusts a new mud pot to the girl in which she has to fetch water accompanied by the groom. On return, the couple are seated on a mat. In the presence of elders, the groom's father pays the stipulated bride money to the girl's father. The *Oorumooppan* of the groom's settlement, hands over the *Tali* (traditional marriage locket) to the groom who ties it round the bride's neck. The groom takes her into the hut. Six days after the marriage, the couple go to the bride's house. The groom's mother entrusts a basket full of cooked rice and curries with them as a gift to the bride's parents. After a couple of days, they return to the groom's house with similar gifts from her parents. They then start living in a new hut.

5. 2. 2. 4. 4 Ceremonies associated with death

When a person dies, the relatives start wailing and thus an indication for the others in the hamlet. They congregate with drums and pipes and start a dance. By this time, news would have been conveyed to the distant relatives and friends also. The *Chavu* (dead body) is kept until all arrive. Sometimes, a special hut like structure called *Gudikettu* is erected in front of the house of the deceased, where the dead body is placed. Friends and relatives mourn loudly, the women mourn loudest of all. The eldest daughter of the deceased brings a pot full of water from the nearby stream. The eldest son or the nearest male relative washes the dead body and is then laid north-south. The big toes are bound together with a string. The mother or wife or a close female relative of the deceased, pounds some grains and places it at the foot of the corpse, after which all bow down to it, as a mark of respect. In the meantime, a bier is made with two poles lengthwise and seven poles across. The body is placed in it and taken to the burial ground with the accompaniment of loud drumbeats. At the burial site, a big circular pit is excavated with a chamber on one side and the body is deposited in this chamber, the pit is covered in such a way that none of the earth falls directly on the body. The life partner of the deceased fills a mud pot with water and goes around the grave thrice. The pollution is observed for 15 days. On return, after a bath a feast is served to all. This funeral right is called *Cir*. A death anniversary is also celebrated. Sometimes, a grand *Cir* (post death ceremony) is observed after twelve years, where people belonging to the clan or the settlement participate.

5. 2. 2. 4. 5. Worships

They worshipped God *Malleeswara*, *Mariammal* (the mother goddess) and *Karadaivam* (forest God). Besides these, worship of the Hindu Gods like Subramanian, Ayyappan and Ganapathy are also seen among them.

5. 2. 2. 4. 6. Festivals

Sivarathri is the only festival celebrated by this tribe, which falls in the month of February. On this day, they offer a part of the harvested crops to the God *Malleswara* situated in a temple at Chemmannur, situated at the foot of Malleswara mudi. However, of recent times, they have started celebrating

other Hindu festivals like Onam, Vishu and Deppavali. Apart from these, they celebrate a set of harvest festivals known as *Sapputhodu*, *Chamathodu*, *Rayithodu*, and *Kambalam*.

5. 2. 2. 4. 6. 1. Sapputhodu

Sapputhodu marks the first harvest of leafy vegetable where the leaves of Sakkarai suppu (*Cucurbita maxima*) is harvested first, followed by the others. The leaves are collected by *Mannukkaran* and three other fellow tribe men, cooked separately and offered for '*Karadaivam*'. After this, the harvest is open to all.

5. 2. 2. 4. 6. 2. Chamathodu

This first collection of Chama (*Panicum sumatrense*) is celebrated as Chamathodu. The *Mannukkaran* assisted by three or four fellow tribesmen moves to the field for harvest, before which he takes a bath in the neighbouring stream or river. He harvests the first bunch of the millet and others follow him. The harvested corn is given to *Mannukkaran*, who then separates the grains from the sheaf and makes a pudding known as *thodu*. This is prepared offered to *Karaidaivam* and other associated deities.

5. 2. 2. 4. 6. 3. Rayithodu

Raythodu marks the first collection of Rayi (*Eleusine coracana*). The *Mannukkaran* assisted by three or four fellow tribesmen moves to the field for harvest, before which he takes a bath in the neighbouring stream or river. He harvests the first bunch of the millet and others follow him. The harvested corn is given to *Mannukkaran*, who then separates the grains from the sheaf and makes a pudding known as *thodu*. This is prepared offered to *Karaidaivam* and other associated deities.

5. 2. 2. 4. 6. 4. Kambalam

It is the special kind of fun and enjoyment for the tribals during agricultural fieldwork. It is a highly appreciated festival, which makes the work more efficient and easy. The *'Oorumooppan'* organizes the *'Kambalam'*

and all other members cooperate and participate in the function. He announces the venue for *Kambalam* and invites all the fellow tribals of the same hamlet. Team of *Kambalam* generally consist of five people, one for beating the *Dhavil* (drum) and others perform *Kuzhal* (bugle), *Jalra* (cymbals) and *Porai* (mud drum). The fifth one acts as a joker, wears a mask and spread charcoal black all over the body and keep telling jokes. Enjoying the jokes and songs, the workers speeds up their work. The *Kambalam* is generally oragnised and celebrated for an urgent work that needs immediate completion. There is no special wages paid for *Kambalam.*

5. 2. 3. Ethnobotanical aspects

5. 2. 3. 1. Plants in Food

A. Roots

Dioscorea hispida Dennst. (DIOSCOREACEAE)

Vernacular name : Mazhavukilangu
Habit : Herbaceous climber
Mode of use : The root tubers are cooked in water with salt or roasted in fire (CR 1).
Occurrence : Occasional in semi evergreen forests around the hamlets (MR 24936).

Dioscorea intermedia Thw. (DIOSCOREACEAE)

Vernacular name : Riya
Habit : Herbaceous climber
Mode of use : The root tubers are cooked in water with salt or roasted in fire (CR 1).
Occurrence : Occasional in Semi evergreen and evergreen forests near the hamlet (MR 24818).

Dioscorea pentaphylla L. (DIOSCOREACEAE)

Vernacular name : Nooran
Habit : Herbaceous climber

Mode of use : The root tubers are cooked in water with salt or roasted in fire (CR 1)

Occurrence : Common in near by forests area of the hamlets (MR 24821).

Dioscorea oppositifolia L. (DIOSCOREACEAE)

Vernacular name : Karimkodi, Kattukilangu

Habit : Herbaceous climber

Mode of use : The root tubers are cooked in water with salt or roasted in fire (CR 1).

Occurrence : Common in Semi evergreen forests (MR 24819) (Plate 6. g).

Dioscorea sp. (DIOSCOREACEAE)

Vernacular name : Joddykizhangu

Habit : Herbaceous climber

Mode of use : The root tubers are cooked in water with salt or roasted as raw in fire (CR 1)

Occurrence : Occasional in Moist deciduous forests around the hamlets (24935).

Dioscorea spicata Roth. (DIOSCOREACEAE)

Vernacular name : Kavala

Habit : Herbaceous climber

Mode of use : The root tubers are cooked in water with salt or roasted as raw in fire (CR 1).

Occurrence : Occasional in Semi evergreen forests near the hamlet (MR 24822).

Dioscorea tomentosa Koenig *ex* Spreng. (DIOSCOREACEAE)

Vernacular name : Jhali

Habit : Herbaceous climber

Mode of use : The root tubers are cooked in water with salt or roasted as raw in fire (CR 1)

Occurrence : Occasional in Semi evergreen forests near the hamlet (MR 24823).

Dioscorea wallichii Hook. f. (DIOSCOREACEAE)

Vernacular name : Nara kilangu

Plate 6. EDIBLE RHIZOMES AND TUBERS. **a.** *Cereus pterogonus*; **b.** *Curcuma zedoaria*; **c, d & e.** *Dioscorea bulbifera*; **f.** *Dioscorea oppositifolia*; **g.** *Dioscorea pentaphylla*; **h.** *Protasparagus racemosus.*

Habit : Herbaceous climber

Mode of use : The root tubers are cooked in water with salt or roasted raw in fire (CR 1)

Occurrence : Occasional in evergreen and moist deciduous forests adjoining to the hamlets (MR 24824).

B. Rhizomes

Colocasia esculenta (L.) Schott. (ARACEAE)

Vernacular name : Chembu kilangu

Habit : Rhizomatous herb

Mode of use : The rhizome tubers are cut into small pieces, cooked along with, Tamarind, salt, chillies and finally roasted in oil (CR 1).

Occurrence : Common around the hamlets (MR 24854).

C. Tender shoots

Bambusa bambos (L.) Voss. (POACEAE)

Vernacular name : Moongkuruthu

Habit : Tree grass

Mode of use : The tender shoots around 15 centimetres long are removed from the rhizome, cleaned by removing sheaths and cut into small pieces, cooked in water with salt and water is drained off and cooked again and the same process is repeated and roasted in oil along with chillies and Onion (CR 1).

Occurrence : Common in Moist deciduous forests around the hamlets (MR 24867).

Dendrocalamus strictus (Roxb.) Nees (POACEAE)

Vernacular name : Koravanmoongkuruthu

Habit : Tree grass

Mode of use : The tender shoots around 15 centimetres long are removed from the rhizome, cleaned by removing sheaths and cut into small pieces, cooked in water with salt and water is drained off and cooked again and the same process is repeated and roasted in oil along with chillies and Onion (CR 1).

Occurrence : Common in Moist deciduous forests and dry forests around the hamlets (MR 24873).

Phoenix loureirii Kunth var. ***humilis*** (Royle *ex* Becc.) Barrow (ARECACEAE)

Vernacular name : Easapaka

Habit : Shrub

Mode of use : The tender shoots are eaten raw (CR 1)

Occurrence : Occasional in grasslands (MR 24845).

D. Stem pith

Caryota urens L. (ARECACEAE)

Vernacular name : Koontha panai

Habit : Tree

Mode of use : The starchy stem pith is crushed well and dissolved in water taken in large pots and the starch is allowed to sediment, the excess water is drained off and the starchy matter is cooked and used for preparing puddings and various indigenous items (CR 1)

Occurrence : Common around the hamlets (MR 24844).

Ensete superbum (Roxb.) Cheesman (MUSACEAE)

Vernacular name : Kalluvazha thandu

Habit : Tall rhizomatous herb with pseudo stem.

Mode of use : The tender pith is cooked as vegetable (CR 1).

Occurrence : Rarely found in neighbouring forests around the hamlets due to over exploitation (MR 24812).

E. Leaves

Acacia pennata (L.) Willd.(FABACEAE)

Vernacular name : Seenkey dag

Habit : Scandent shrub

Mode of use : The tender leaves are cooked along with salt, onion and chillies and finally roasted in oil (CR 1)

Occurrence : Occasional in moist deciduous forests near streams (MR 24490). (Plate 10. a.)

Alternanthera sessilis (L.) R.Br. ex. DC. (AMARANTHACEAE)

Vernacular name : Meenankanni dag

Habit : Herb

Mode of use : The tender leaves are cooked along with dhal (*Cajanus cajan*), chillies, Onion, and salt and finally roasted in oil (CR 2).

Occurrence : Common in paddy fields and plains around the hamlets (MR 24710).

Amaranthus spinosus L. (AMARANTHACEAE)

Vernacular name : Mullukeerai dag

Habit : Herb

Mode of use : The tender leaves are roasted in coconut oil along with Onion, chillies and salt or cooked in water along with dhal (*Cajanus cajan*), chillies, salt and finally roasted in oil.

Occurrence : Common (MR 24711).

Amaranthus viridis L. (AMARANTHACEAE)

Vernacular name : Pattikerai dag

Habit : Herb

Mode of use : The tender leaves are roasted in coconut oil along with Onion, chillies and salt or cooked in water along with dhal (*Cajanus cajan*), chillies, salt and finally roasted in coconut oil (CR 1).

Occurrence : Common around the hamlets (MR 24712).

Amorphophallus paeoniifolius (Dennst.) Nicols. (ARACEAE)

Vernacular name : Kattuchena dag

Habit : Tuberous herb

Mode of use : The tender leaves are roasted in oil along with leaves of *Colocasia esculenta* and *Vigna ungiculata* (CR 2).

Occurrence : Occasional around the hamlets (MR 24851).

Boerhavia diffusa L. (NYCTAGINACEAE)

Vernacular name : Peruserandae dag

Habit : Herb

Mode of use : Tender stem and leaves are cooked in water along with dhal (*Cajanus cajan*), chillies, salt and finally roasted in oil (CR 1).

Occurrence : Common in and around the hamlets (MR 24707).

Cycas circinalis L. (CYCADACEAE)

Vernacular name : Eathandag

Habit : Tree

Mode of use : The tender leaves are cooked in excess of water along with salt, excess of water is drained off and roasted along with chillies, dhal in coconut oil (CR 1).

Occurrence : Common in Moist deciduous forests around the hamlets (MR 24887).

Celosia argentea L. (AMARANTHACEAE)

Vernacular name : Pannai dag

Habit : Herb

Mode of use : The tender leaves are roasted in coconut oil along with Onion, chillies and salt or cooked in water along with dhal (*Cajanus cajan*), chillies, salt and finally roasted in coconut oil (CR 1).

Occurrence : Common in and around the hamlets (MR 24713).

Colocasia esculenta (L.) Schott (ARACEAE)

Vernacular name : Shembu dag

Habit : Rhizomatous herb

Mode of use : The tender leaves are roasted in oil along with the leaves of *Amorphophallus paeonifolius* and *Vigna ungiculata*. The leaves are also cooked along with Tamarind, Chilli, Onion and salt (CR 1).

Occurrence : Common around the hamlets (MR 24854). (Plate 10. b.)

Commelina benghalensis L. (COMMELINACEAE)

Vernacular name : Koynay dag

Habit : Herb

Mode of use : The tender ones are cooked along with salt and chillies and roasted in oil (CR 1).

Occurrence : Common in moist shady places around the hamlets during the rainy season (MR 24835). (Plate 10. c.)

Corchorus aestuans L. (TILIACEAE)

Vernacular name : Illipukai dag

Habit : Herb

Mode of use : The tender ones are cooked along with salt, chillies, onion and roasted in oil (CR 1).

Occurrence : Common in moist shady places around the hamlets during rainy season (MR 24411). (Plate 10. d.)

Diplazium esculentum (Retz.) Sw.(ATHYRIACEAE)

Vernacular name : Surulidag

Habit : Shrub

Mode of use : Tender leaves are roasted in coconut oil along with Onion, Chillies and salt (CR 1).

Occurrence : Common in banks of river and streams (MR 24896).

Digera muricata (L.) Mart. (AMARANTHACEAE)

Vernacular name : Thoyya dag

Habit : Herb

Mode of use : The tender leaves are roasted in coconut oil along with Onion, chillies and salt or cooked in water along with dhal (*Cajanus cajan*), chillies, salt and finally roasted in coconut oil (CR 1).

Occurrence : Occasional in dry forests near streams (MR 24714). (Plate 18. d.)

Gynandropsis gynandra (L.) Briq. (CAPPARACEAE)

Vernacular Name : Velai dag

Habit : Herb

Mode of use : The tender leaves are roasted in coconut oil along with Onion, chillies and salt (CR 1).

Occurrence : Occasional around the hamlets (MR 24520).

Holostemma ada-kodien Schult. (ASCLEPIADACEAE)

Vernacular name : Palai dag

Habit : Climber

Mode of use : The tender leaves are roasted in coconut oil along with Onion, chillies and salt (CR 1).

Occurrence : Occasional in Moist deciduous forests around the hamlet (MR 24652). (Plate 10. e.)

Momordica dioica Roxb. *ex* Willd.(CUCRBITACEAE)

Vernacular name : Pavalai dag

Habit : Herb

Mode of use : Tender leaves are roasted in coconut oil along with Onion, Chillies and salt (CR 1).

Occurrence : Occasional around the hamlets (MR 24581).

Oxalis corniculata L. (OXALIDACEAE)

Vernacular name : Pulikerai dag

Habit : Herb

Mode of use : Tender leaves are cooked along with Chillies, Onion and salt (CR 2).

Occurrence : Common around the hamlets (MR 24419).

Portulaca oleracea L. (PORTULACACEAE)

Vernacular name : Gonikey dag

Habit : Herb

Mode of use : Tender stem and leaves are cooked in water along with dhal (*Cajanus cajan*), chillies, salt and finally roasted in oil (CR 1).

Occurrence : Common in and around the hamlets (MR 24529).

Persicaria chinensis (L.) Gross. (POLYGONACEAE)

Vernacular name : Gonki dag

Habit : Herb

Mode of use : Tender stem and leaves are cooked in water along with dhal (*Cajanus cajan*), chillies, salt and finally roasted in oil (CR 1).

Occurrence : Common in and around the hamlets (MR 24719).

Senna occidentalis (L.) Link (FABACEAE)

Vernacular name : Ponthakarai dag

Habit : Herb

Mode of use : The tender leaves are cooked in water along with salt, Chillies etc. drained off excess of water and roasted in coconut oil (CR 1).

Occurrence : Common around the hamlets (MR 24484).

Senna tora (L.) Roxb. (FABACEAE)

Vernacular name : Sattitagarai

Habit : Herb

Mode of use : The tender leaves are roasted in coconut oil along with salt, chillies etc. (CR 1).

Occurrence : Common around the hamlets (MR 24483).

Solanum americanum Mill. (SOLANACEAE)

Vernacular name : Sukkuti dag, Kakai dag

Habit : Herb

Mode of use : The tender leaves are roasted in coconut oil along with salt, chillies etc. (CR 1).

Occurrence : Common around the hamlets (MR 24672).

Trianthema portulacastrum L (AIZOACEAE)

Vernacular name : Serandai dag

Habit : Herb

Mode of use : Tender stem and leaves are cooked in water along with dhal (*Cajanus cajan*), chillies, salt and finally roasted in oil (CR 1).

Occurrence : Common in and around the hamlets (MR 24589).

F. Flowers

Cereus pterogonus Lam. (CACTACEAE)

Vernacular name : Kalli poo

Habit : Succulent shrubs

Mode of use : The tender flowers are cooked as vegetable (CR 1).

Occurrence : Common around the hamlets (MR 24587).

Holostemma ada-kodien Schult. (ASCLEPIADACEAE)

Vernacular name: Palai poo

Habit : Climber

Mode of use : The tender flowers are roasted in coconut oil along with Onion, chillies salt and eaten (CR 1).

Occurrence : Occasional in Moist deciduous forests around the hamlet (MR 24652).

Madhuca indica J. Gmelin (SAPOTACEAE)

Vernacular name : Ilupei paka

Habit : Tree

Mode of use : The tender flowers are roasted in coconut oil and eaten (CR 2).

Occurrence : Occasional in moist deciduous forest around the hamlets (MR 24630).

G. Fruits

Antidesma acidum Retz (EUPHORBIACEAE)

Vernacular name : Adukodantha paka

Habit : Shrub

Mode of use : The ripened fruits are eaten raw (CR 1).

Occurrence : Common around the hamlets and occasional in forests (MR 24746).

Argyreia nervosa (N. Burm.) Bojer (CONVOLVULACEAE)

Vernacular name : Onkattai paka

Habit : Climber

Mode of use : The tender fruits are cooked as vegetable and ripened fruits eaten as raw (CR 1).

Occurrence : Common around the hamlets and occasional in forests (MR 24660).

Artocarpus heterophyllus Lam. (MORACEAE)

Vernacular name : Sakkai paka

Habit : Tree

Mode of use : The tender fruits are cooked as vegetable and ripened fruits eaten as raw (CR 1).

Occurrence : Common around the hamlets and occasional in forests (MR 24777).

Artocarpus hirsutus Lam. (MORACEAE)

Vernacular name : Ayani sakkai paka
Habit : Tree
Mode of use : The ripened fruits are eaten raw (CR 1).
Occurrence : Occasional in Moist deciduous forests adjoining to the hamlet (MR 24778).

Baccaurea courtalensis (Wight) Muell. (EUPHORBIACEAE)

Vernacular name : Moottipaka, Onapaka
Habit : Tree
Mode of use : The ripened fruits are eaten raw (CR 1).
Occurrence : Common around the hamlets and neighbouring areas of the forests (MR 24939).

Briedelia retusa (L.) Spreng (EUPHORBIACEAE)

Vernacular name : Mulluvengai paka
Habit : Tree
Mode of use : The ripened fruits are eaten raw (CR 1).
Occurrence : Common around the hamlets and neighbouring forest areas (MR 24751).

Calamus gamblei Becc.(ARECACEAE)

Vernacular name : Choorapaka
Habit : Climbing palm
Mode of use : The ripened fruits are eaten raw (CR 1).
Occurrence : Occasional in forests (MR 24840).

Cereus pterogonus Lam. (CACTACEAE)

Vernacular name : Kalli paka
Habit : Succulent shrubs
Mode of use : The ripened fruits are eaten raw (CR 1).
Occurrence : Common around the hamlets (MR 24587).

Colocasia esculenta (L.) Schott (ARACEAE)

Vernacular name : Shembu paka
Habit : Rhizomatus herb
Mode of use : The ripened fruits are eaten raw (CR 1).

Occurrence : Common around the hamlets (MR 24854).

Cordia obliqua Willd. (BORAGINACEAE)

Vernacular name : Thumba paka

Habit : Tree.

Mode of use : The ripened fruits are eaten raw (CR 1).

Occurrence : Rarely found in neighbouring forest around the hamlets due to over exploitation (MR 24656).

Cordia wallichii G. Don (BORAGINACEAE)

Vernacular name : Viri paka

Habit : Tree.

Mode of use : The ripened fruits are eaten raw (CR 1).

Occurrence : Rarely found in neighbouring forests around the hamlets due to over exploitation (MR 24655).

Ensete superbum (Roxb.) Cheesman.(MUSACEAE)

Vernacular name : Kalluvazhai paka

Habit : Tall rhizomatous herb with pseudostem.

Mode of use : The ripened fruits are eaten raw (CR 1).

Occurrence : Rarely found in neighbouring forests around the hamlets due to over exploitation (MR 24812).

Ficus racemosa L. (MORACEAE)

Vernacular name : Athipaka

Habit : Tree

Mode of use : The ripened fruits are eaten raw (CR 1).

Occurrence : Occasional around the hamlets and in moist deciduous forest around the hamlets (MR 24783).

Flacourtia montana Graham (FLACOURTIACEAE)

Vernacular name : Chaliru

Habit : Tree

Mode of use : The ripened fruits are eaten raw (CR 1).

Occurrence : Occasional in evergreen and semi evergreen forests neighbouring to the hamlets (MR 24522).

Givotia moluccana (L.) Sreem. (EUPHORBIACEAE)

Vernacular name : Vedari

Habit : Tree

Mode of use : The ripened fruits are eaten raw (CR 1).

Occurrence : Occasional in evergreen and semi evergreen forests neighbouring to the hamlets (MR 24757).

Grewia tiliifolia Vahl. (TILIACEAE)

Vernacular name : Lummay paka

Habit : Tree

Mode of use : The ripened fruits are eaten raw (CR 1).

Occurrence : Common around the hamlets and moist deciduous forest areas of the adjoining forests (MR 24937).

Glycosmis pentaphylla (Retz.) DC. (RUTACEAE)

Vernacular name : Mekulukki paka

Habit : Shrub

Mode of use : The ripened fruits are eaten raw (CR 1).

Occurrence : Common around the hamlets and plains (MR 24421).

Lantana camara L. var. ***aculeata*** (L.) Moldenke (VERBENACEAE)

Vernacular name : Unnipalam

Habit : Shrub

Mode of use : The ripened fruits are eaten raw (CR 1).

Occurrence : Common around the hamlets and waste places (MR 24694).

Madhuca indica J. Gmelin (SAPOTACEAE)

Vernacular name : Ilupei paka

Habit : Tree

Mode of use : The tender fruits are cooked as vegetable, used in pickles and ripened fruits are eaten raw (CR 1).

Occurrence : Occasional in moist deciduous forests around the hamlets (MR 24630).

Mangifera indica L. (ANACARDIACEAE)

Vernacular name : Kattumangai palam, Jeeraka mangai paka

Habit : Tree

Mode of use : The tender fruits are cooked as vegetable, used in pickles and ripened fruits are eaten raw (CR 1).

Occurrence : Occasionally found as wild in semi evergreen forest neighbouring to the hamlets and widely cultivated in and around the hamlets (MR 24931).

Momordica dioica Roxb. *ex* Willd. (CUCRBITACEAE)

Vernacular name : Kattupavarai

Habit : Herb

Mode of use : The fruits are cooked as vegetables (CR 1).

Occurrence : Occasional around the hamlets (MR 24581).

Mimusops elengi L. (SAPOTACAEAE)

Vernacular name : Elengi paka

Habit : Tree

Mode of use : The ripened fruits are eaten raw (CR 1).

Occurrence : Occasional in neighbouring areas of the forest, cultivated in hamlets as shade tree (MR 24629).

Opuntia stricta Haw. var. ***dillenii*** (Ker-Gawl.) L.(CACTACEAE)

Vernacular name : Mullu kallipaka

Habit : Succulent shrubs

Mode of use : The ripened fruits are eaten raw (CR 1).

Occurrence : Occasional in dry areas around the hamlets (MR 24588).

Palaquium ellipticum (Dalz.) Baill.(SAPOTACEAE)

Vernacular name : Palipaka

Habit : Tree

Mode of use : The ripened fruits are eaten raw (CR 1).

Occurrence : Common in evergreen forest adjoining to hamlets (MR 24631).

Phoenix loureirii Kunth var. ***humilis*** (Royle *ex* Becc.) Barrow (ARECACEAE)

Vernacular name : Easapaka

Habit : Shrub

Mode of use : The ripened fruits are eaten raw (CR 1).

Occurrence : Occasional in grasslands around the hamlets (MR 24845).

Phyllanthus emblica L. (EUPHORBIACEAE)

Vernacular name : Nellipaka

Habit : Tree

Mode of use : Mature fruits are eaten raw and also used for the preparation of pickles (CR 1).

Occurrence : Common around hamlets and moist deciduous forests of the neighbouring forest areas (MR 24763).

Physalis angulata L (SOLANACEAE)

Vernacular name : Pottari paka

Habit : Herb

Mode of use : The ripened fruits are eaten raw (CR 1).

Occurrence : Common around the hamlets especially in the rainy season (MR 24670).

Physalis peruviana L. (SOLANACEAE)

Vernacular name : Perum pottari paka

Habit : Herb

Mode of use : The ripened fruits are eaten raw (CR 1).

Occurrence : Common around the hamlets especially in the rainy season (MR 24671).

Pithecellobium dulce (Roxb.) Benth. (FABACEAE)

Vernacular name : Puli paka

Habit : Tree

Mode of use : The ripened fruits eaten raw (CR 1).

Occurrence : Common around the hamlets and neighbouring forest areas (MR 24496).

Semecarpus anacardium L. f. (ANACARDIACEAE)

Vernacular name : Cherumpaka

Habit : Herb

Mode of use : The ripened fruits are eaten raw (CR 1).

Occurrence : Common around the hamlets especially in rainy season (MR 24444).

Solanum americanum Mill. (SOLANACEAE)

Vernacular name : Sukkuttipalam

Habit : Herb

Mode of use : The ripened fruits are eaten raw (CR 1).

Occurrence : Common around the hamlets (MR 24672).

Solanum torvum Sw. (SOLANACEAE)

Vernacular name : Sundai

Habit : Herb

Mode of use : The tender fruits are cooked as vegetables. The fruits are preserved in salt for some time and dried in sunlight and used for preparing curries whenever required (CR 1).

Occurrence : Common around the hamlets (MR 24673).

Syzygium cumini (L.) Skeels (MYRTACEAE)

Vernacular name : Neera paka

Habit : Tree

Mode of use : The ripened fruits are eaten raw (CR 1).

Occurrence : Common around the hamlets and neighbouring forest areas (MR 24557).

Syzygium densiflorum Wall. *ex* Wight & Arn.(MYRTACEAE)

Vernacular name : Mundineera paka

Habit : Tree

Mode of use : The ripened fruits are eaten raw (CR 1).

Occurrence : Common around the hamlets and neighbouring forest areas (MR 24559).

Syzygium mundagam (Bourd.) Chithra. (MYRTACEAE)

Vernacular name : Kuruvineera paka

Habit : Tree

Mode of use : The ripened fruits are eaten raw (CR 1).

Occurrence : Common around the hamlets and neighbouring forest areas (MR 24560).

Tamarindus indica L. (FABACEAE)

Vernacular name : Puli palam
Habit : Tree
Mode of use : Tender as well as ripened fruits are eaten raw (CR 1).
Occurrence : Common in and around the hamlets and occasionally found running wild in neighbouring forest areas (MR 24486).

Zizyphus oenoplia (L.) Mill. (RHAMNACEAE)

Vernacular name : Mullupalam
Habit : Climber
Mode of use : The ripened fruits are eaten raw (CR 1).
Occurrence : Common around the hamlets and neighbouring areas of the forests (MR 24430).

Zizyphus mauritiana Lam. (RHAMNACEAE)

Vernacular name : Peumsoori palam
Habit : Tree
Mode of use : The ripened fruits are eaten raw (CR 1).
Occurrence : Common around the hamlets and neighbouring areas of the forests (MR 24431).

Zizyphus rugosa Lam. (RHAMNACEAE)

Vernacular name : Kottalai paka
Habit : Straggler
Mode of use : The ripened fruits are eaten raw (CR 1).
Occurrence : Occasional, found in forest margins (MR 24432).

H. Seeds

Amaranthus caudatus L. (AMARANTHACEAE)

Vernacular name : Porikkerai
Habit : Herb
Mode of use : The dried seeds are roasted and eaten (CR 1).
Occurrence : Cultivated around the hamlets and also running in the wild (MR 24715).

Artocarpus heterophyllus Lam. (MORACEAE)

Vernacular name : Sakkai kuru

Habit : Tree

Mode of use : The mature seeds are cooked as vegetables and dried seeds are roasted and eaten.

Occurrence : Common around the hamlets and occasional in forests (MR 24777).

Artocarpus hirsutus Lam. (MORACEAE)

Vernacular name : Ayani sakkai Kuru

Habit : Tree

Mode of use : The roasted seeds eaten (CR 1).

Occurrence : Occasional in Moist deciduous forests adjoining to the hamlet (MR 24778).

Bambusa bambos (L.) Voss. (POACAEAE)

Vernacular name : Munga nellu

Habit : Tree grass

Mode of use : The seeds are roasted and eaten. The powdered seeds are used for the preparation of different items and seeds are also used for the preparation of gruel (CR 1).

Occurrence : Common around the hamlets and neighbouring forest areas but flowering is very rare (MR 24867).

Cycas circinalis L. (CYCADACEAE)

Vernacular name : Eathankay

Habit : Tree

Mode of use : The seeds are boiled in water and drain off the water and dried, powdered. The flour is used to prepare various items (CR 1).

Occurrence : Common in Moist deciduous forests around the hamlets (MR 24887).

Dendrocalamus strictus (Roxb.) Nees (POACEAE)

Vernacular name : Koravanmoonga nellu

Habit : Tree grass

Mode of use : The seeds are roasted and eaten. The powdered seeds are used for the preparation of different items and seeds are also used for the preparation of gruel (CR 1).

Occurrence : Common in Moist deciduous forests and dry forest around the hamlets (MR 24873).

Entada rheedei Spreng. (FABACEAE)

Vernacular name : Onthotti kay

Habit : Lianas

Mode of use : The cotyledons of the dried seeds are cooked, drain off water and eaten (CR 1).

Occurrence : Common in Moist deciduous forests around the hamlets (MR 24494).

Xylia xylocarpa (Roxb.) Taub.(FABACEAE)

Vernacular name : Irumullu

Habit : Tree

Mode of use : The dried seeds are eaten raw (CR 1).

Occurrence : Common in Moist deciduous forests around the hamlets (MR 24497).

Tamarindus indica L. (FABACEAE)

Vernacular name : Pulinchi kuuru

Habit : Tree

Mode of use : The dried seeds roasted and eaten (CR 1).

Occurrence : Common around the hamlets (MR 24486).

Terminalia bellarica (Graeuter.) Roxb. (COMBRETACEAE)

Vernacular name : Thannimaram

Habit : Trees

Mode of use : The seeds are eaten raw (CR 1).

Occurrence : Common around the hamlets (MR 24473).

I. Mushrooms

***Auricularia* sp.** (AURICULARICEAE)

Vernacular name : Kathu keekay

Habit : Saprophytic fungus on rotten wood

Mode of use : The pileus and stipes are washed in water and boiled with condiments or fried in oil or hearth roasted (CR 2).

Occurrence : Very rare in neighbouring forest (MR 24910).

***Coprinus* sp.** (COPRINACEAE)

Vernacular name : Ennakeekay

Habit : Saprophytic fungus on dung

Mode of use : The pileus and stipes are washed in water and boiled with condiments or fried in oil or hearth roasted (CR 2).

Occurrence : Occasionally found growing in dung (MR 24911).

***Lycoperdon* sp.** (LYCOPERDACEAE)

Vernacular name : Panthra keekay

Habit : Fruiting body of a saprophytic fungus growing in soil.

Mode of use : The round and fleshy pileus and washed in water and boiled with condiments or fried in oil or hearth roasted (CR 1).

Occurrence : Occasional in soil around the hamlets soon after rail fall (24913).

***Plurotus* sp.** (LENTINACEAE)

Vernacular name : Munga keekay

Habit : Fruiting body of saprophytic fungus

Mode of use : The pileus and stipes are washed in water and boiled with condiments or fried in oil or hearth roasted (CR 1).

Occurrence : Occasional in dried bamboo culms of neighbouring forest during rainy season (MR 24916).

***Plurotus* sp.** (LENTINACEAE)

Vernacular name : Jalir keekay

Habit : Fruiting body of saprophytic fungus

Mode of use : The pileus and stipes are washed in water and boiled with condiments or fried in oil or hearth roasted (CR 1).

Occurrence : Occasional in dried bamboo culms of neighbouring forest during rainy season (MR 24940).

Pluerotus tuber regium (Fr.) Singer (LENTINACEAE)

Vernacular name : Gorakeekay

Habit : Fruiting body of saprophytic fungus

Mode of use : The pileus and stipes are washed in water and boiled with condiments or fried in oil or hearth roasting (CR 2).

Occurrence : Occasional in dried woods neighbouring forest during rainy season (MR 24917).

Termitomyces clypeatus Heim. (PLUTEACEAE)

Vernacular name : Choondu keekay

Habit : Fruiting body of a saprophytic fungus

Mode of use : The pileus and stipes are washed in water and boiled with condiments or fried in oil or hearth roasting (CR 1).

Occurrence : Occasional in and around the hamlets which appeared in groups during rainy season.

Termitomyces eurhizus (Berk)Heim (PLUTEACEAE)

Vernacular name : Parippakeekay

Habit : Fruiting body of a saprophytic fungus

Mode of use : The pileus and stipes are washed in water and boiled with condiments or fried in oil or hearth roasting (CR 1).

Occurrence : Occasional in and around the hamlets which appeared in groups during rainy season.

Termitomyces microcarpus (Berk and Br.)Heim. (PLUTEACEAE)

Vernacular name : Arikeekay

Habit : Saprophytic fungi on soil

Mode of use : The pileus and stipes are washed in water and boiled with condiments or fried in oil or hearth roasting (CR 1).

Occurrence : Occasional in and around the hamlets which appeared in groups during rainy season (24921).

Volvariella volvacea (Bull. Fr.) Singer (PLUTEACEAE)

Vernacular name : Vaika keeekay

Habit : Saprophytic fungi on paddy straw.

Mode of use : The pileus and stipes are washed in water and boiled with condiments or fried in oil or hearth roasting.

Occurrence : Occasional in found growing in paddy straw in rainy season (24922).

J. Spices and Condiments

Garcinia gummi-gutta (L.) Robs. (CLUSIACEAE)

Vernacular name : Kodam puli

Habit : Tree
Mode of use : The fruits are used as a condiment (CR 1).
Occurrence : Common around the hamlets (MR 24532).

Oxalis corniculata L. (OXALIDACEAE)
Vernacular name : Pulisappu
Habit : Herb
Part used : Leaves
Mode of use : Tender leaves are used as a condiment (CR 2).
Occurrence : Common around the hamlets (MR 24419).

Piper nigrum L., Sp. Pl. (PIPERACEAE)
Vernacular name : Kurumulakay
Habit : Climber
Part used : Seeds
Mode of use : The seeds are used as a condiment and spice during the preparation of food items.
Occurance : Occassional in the adjoining forest areas of the hamlets (MR 24729).

Zingiber neesanum (Graham) Ramam. (ZINGIBERACEAE)
Vernacular name : Malyinchi, Kattingi
Habit : Rhizomatous herb
Part used : Rhizome
Mode of use : The rhizome is ground into a paste and used as a condiment and spice during the fish preparations (CR 2).
Occurrence : Occasional in adjoining forest areas of the hamlets (MR 24807).

K. Oil yielding Plants

The oil extracted from the cotyledons of Kotta vanakku (*Ricinus communis*) Kotta (*Jatropha curcus*) are used for cooking.

L. Food from cultivated plants

The plants used by the tribal groups known under cultivation are mainly included. The sources of food from the cultivated crops are considered as a common knowledge practice of tribals and non-tribals are listed here. The

diverse agricultural crops in tribal life are recorded with vernacular name followed by botanical names and their families.

Tubers

Mulluvalli kilangu (*Dioscorea alata*) and Poola kilangu (*Manihot esculenta*)

Cereals and millets

Gudda nellu (*Oryza sativa* variety cultivated in dryland), chamai (*Panicum sumatrense*), Corai (*Eleusine coracana*), Makka cholam (*Zea mays*), Poricholam (*Sorghum bicolor*) and Thena (*Setaria italica*).

Leaves

Agathi keeraidag (*Sesbania grandiflora*), Porikeeray dag (*Amaranthus caudatus*), Peekin keraidag (*Luffa cylindrica*), Poosanithalai dag (*Benincasa hispida*), Sakkarai dag (*Cucurbita maxima*), Muringai dag (*Moringa pterygosperma*), Vasalai dag (*Basella alba*) and Thanangani dag (*Vigna ungiculata*).

Flower

Agathi poo (*Sesbania grandiflora*).

Fruits

Thakkali (*Lycopersicum esculentum*), Mulakai (*Capsicum annuum*), Cheenimulakay (*Capsicum frutescence*), Sorai dag (*Lagenaria siceraria*), Vellari (*Cucumis sativus*) Vendai (*Abelmoschus esculentus*), Koyapaka (*Psidium guajava*) and Papali paka (*Carica papaya*).

Pulses

Thanngani (*Vigna ungiculata*), Avarai (*Lab lab purpureus*) , Thuvarai (*Cajanus cajan*) and Kollu (*Dolichos unilobus*).

Condiments and Spices

Inchi (*Zingiber officinale*), Manjal (*Cucuma longa*), Kurumulakay (*Piper nigrum*), Milakay (*Capsicum annuum*), Cheeny milakay (*Capsicum frutescens*) and Venkayam (*Allium cepa*).

5. 2. 3. 2. Plants as fodders

Artocarpus heterophyllus Lam. (MORACEAE)

Vernacular name : Pila

Habit : Tree

Part Used : Leaves and fruits

Mode of use : The twig with leaves are given to livestock raw and the ripened fruits are also given (CR 1)

Occurrence : Common around the hamlets and occasional in forests (MR 24777).

Bauhinia racemosa Lam. (FABACEAE)

Vernacular name : Aram puli

Habit : Tree

Part Used : Leaves and fruits

Mode of use : The twig with leaves are given to livestock (CR 1)

Occurrence : Common around the hamlets and neighbouring areas (MR 24477).

Bambusa bambos (L.) Voss (POACEAE)

Vernacular name : Moonga thalai

Habit : Tree grass

Part used : Leaves

Mode of use : The leafy twigs are given (CR 1)

Occurrence : Common around the hamlets (MR 24867).

Dendrocalamus strictus (Roxb.) Nees (POACEAE)

Vernacular name : Karuvan Mula, Kallan Mula, Mirugle

Habit : Tree

Part used : Leaves

Mode of use : The leaves are given (CR 1).

Occurrence : Common around the hamlets and neighbouring forest areas (MR 24873).

Erythrina stricta Roxb (FABACEAE)

Vernacular name : Mullu Murukku

Habit : Tree

Part used : Leaves

Mode of use : The leaves are given (CR 1).

Occurrence : Common around the hamlets and neighbouring forest areas (MR 24461).

Erythrina variegata L (FABACEAE)

Vernacular name : Kattu Murukku

Habit : Tree
Part used : Leaves
Mode of use : The leaves are given (CR 1).
Occurrence : Common around the hamlets and neighbouring forest areas (MR 24462).

Ficus hispida L. f. (MORACEAE)
Vernacular name : Thunali
Habit : Tree
Part used : Leaves
Mode of use : The leaves are given (CR 1).
Occurrence : Common around the hamlets and neighbouring forest areas (MR 24782).

Ficus racemosa L. (MORACEAE)
Vernacular name : Athi maram
Habit : Tree
Part used : Leaves
Mode of use : The leaves are given (CR 1).
Occurrence : Common around the hamlets and neighbouring forest areas (MR 24783).

Gliricidia sepium (Jacq.) Kunth *ex* Walp. (FABACEAE)
Vernacular name : Seema konna
Habit : Tree
Part Used : Leaves
Mode of use : The leaves are given raw (CR 1).
Occurrence : Common around the hamlets and also ruining in wild in neighbouring forest (MR 24464).

Merremia umbellata (L.) Hall. f. (CONVOLVULACEAE)
Vernacular name : Vakara valli
Habit : Climber
Part Used : Leaves and twining stem
Mode of use : The whole plant with leaves given (CR 1).
Occurrence : Common around the hamlets and neighbouring forests (MR 24663).

Trema orientalis (L.) Blume (ULMACEAE)

Vernacular name : Amai thalai

Habit : Tree

Part used : Leaves

Mode of use : The leaves given (CR 1).

Occurrence : Occasional in neighbouring forest areas (MR 24773).

5. 2. 3. 3. Plants in medicine

5. 2. 3. 3. 1. Human Medicine

Acacia nilotica (L.) Willd. ex Del. (FABACEAE)

Vernacular name : Karuvelam

Habit : Tree

Part used : Bark

Used for : Toothache

Mode of application : The bark is crushed and boiled in water with salt and used as a hot decoction to gargle for relieving toothache (CR 2).

Occurrence : Occasional in adjoining forest areas and plains (MR 24487).

Acalypha fruticosa Forssk.(EUPHOBIACEAE)

Vernacular name : Chemaithalai

Habit : Herb

Part used : Leaves

Used for : Skin disease in children and wound healing

Mode of application : 1). The leaf paste is smeared over the body for curing skin diseases (CR 2).

2). The leaf paste is applied over the wound (CR 1).

Occurrence : Common in dry forests around the hamlets (MR 24744).

Acalypha indica L. (EUPHORBIACEAE)

Vernacular name : Kuppa thalai

Habit: Herb

Part used : Leaves

Used for : Scabies and itches

Plate 7. IRULAR'S MEDICINAL PLANTS. **a.** *Achyranthes aspera*; **b.***Butea monosperma*; **c.** *Cayratia trifolia*; **d.** *Dalbergia horrida*; **e.** *Ficus religiosa*; **f.** *Gmelina arborea*; **g.** *Jatropha curcas*; **h.** *Ricinus communis.*

Mode of application: The leaves of this plant along with faecal mater of goat is ground in to a paste and the salve is smeared over the body for scabies and itches in children (CR 1).

Occurrence : Common around the hamlets (MR 24745).

Achyranthes aspera L. (AMARANTHACEAE)

Vernacular name : Irumooli

Habit : Herb

Part used : Tender leaves

Used for : Loose motion in children

Mode of application: The tender leaves are crushed and the juice given for children (CR 1).

Occurrence : Common around the hamlets (MR 24708) (Plate 7. a.)

Actiniopteris radiata (Sw.) Lin. (ACTINIOPTERIDACEAE)

Vernacular name : Kallukkai, Mayil sikhai

Habit : Xerophytic herb

Part used : Whole plant

Used for : Skin disease, Scabies

Mode of application: The whole plant along with the thallus of kallusinnai (*Targionia hypophylla*) are ground into a paste and dissolved in coconut oil and applied over the body of the children affecting scabies, itches and other skin diseases (CR 2).

Occurrence : Rarely found in dry rocks around the hamlets (MR 24888).

Adiantum caudatum L. (ADIANTACEAE)

Vernacular name : Kathrivetti

Habit : Herb

Part used : Whole plant

Used for : Wound healing

Mode of application: The whole plant ground into a paste and smeared over the wounds (CR 2).

Occurrence : Common around the hamlets (MR 24889). [Plate 24 a]

Adiantum philippense L. (ADIANTACEAE)

Vernacular name : Poonai vanangi

Habit : Herb
Part used : Whole plant
Used for : Wound healing
Mode of application: The whole plant ground into a paste and smeared over the wounds (CR 2).
Occurrence : Common around the hamlets (MR 24890).

Ageratum conizoides L. (ASTERACEAE)
Vernacular name : Appa sappa
Habit : Herb
Part used : Tender branches with leaf
Used for : Wound healing
Mode of application: The tender branches are crushed along with salt and the juice is applied over the wound (CR 2).
Occurrence : Common around the hamlets (MR 24610).

Albizia amara (Roxb.) Boivin (FABACEAE)
Vernacular name : Uncha maram
Habit : Tree
Part used : Leaves
Used for : Headache, piles
Mode of application: 1). The leaves of this plant along with leaves of Avirampoo (*Cassia auriculata*) Kurumthotti (*Sida rhombifolia*) are ground into a paste and applied over the forehead (CR 2).
2). The leaves are mashed and the juice is diluted with hot water and administered orally in small doses (CR 2).
Occurrence : Common in adjoining forest areas of the hamlets (MR 24491).

Amaranthus spinosa L. (AMARANTHACEAE)
Vernacular Name : Mullukkeerai
Habit : Herb
Part used : Leaves
Used for : Urinary troubles, Indigestion
Mode of application: 1). The tender leaves and stem are cooked along with Manjal (*Curcuma longum*) and salt as vegetable and this dish is given to a person suffering from urinary problems (CR 2).

2). The roots are crushed along with Pattikkera (*Amaranthus vridis*), mustard seeds, salt and ash. This medicine is taken in small quantities and suggested for indigestion.

Occurrence : Common around the hamlets (MR 24711).

Amaranthus viridis L. (AMRANTHACEAE)

Vernacular Name : Pattikkerai

Habit : Herb

Part used : Root, Leaves

Used for : Urinary troubles

Mode of application: The roots are crushed along with Mullukkeera (*Amaranthus spinosus*), Kaduku (*Brassica juncea*), salt and ash. This is taken in small quantities and given for indigestion (CR 2).

Occurrence : Common around the hamlets (MR 24712).

Ammannia baccifera L (LYTHRACEAE)

Vernacular Name : Neerpidissi

Habit : Herb

Part used : Whole plant

Used for : Oedema

Mode of application: Whole plant is ground in to a paste and smeared over the affected area (CR 1).

Occurrence : Common around the hamlets (MR 24563).

Amorphophallus paeoniifolius (Dennst.) var. ***paeoniifolius*** (ARACEAE)

Vernacular Name : Katuchena

Habit : Herb

Part used : Corm

Used for : Piles

Mode of application: The corm paste along with onion and applied around piles (CR 2).

Occurrence : Occasional around the hamlets (MR 24851).

Argemone mexicana L. (PAPAVERACEAE)

Vernacular name : Musanga

Habit : Herb

Part used : Roots

Used for : Abnormal loos motion in children with green faecal matter

Mode of application: The roots are ground in to a paste and dissolved in water and spoon full of it given to children (CR 2).

Occurrence : Occasional around the hamlets and also running in wild (MR 24515).

Artocarpous hirsutus Lam. (MORACEAE)

Vernacular name : Anjili

Habit : Tree

Part used : Seeds

Used for : Epilepsy

Mode of application: The oil collected from seeds applied over the head of the person suffering from epilepsy (CR 2).

Occurrence : Occasional in Moist deciduous forests adjoining to the hamlet (MR 24778).

Aristolochia indica L. (ARISTOLOCHIACEAE)

Vernacular name : Urivalli, Karlakam

Habit : Climber

Part used : Roots and leaves

Used for : Snake bite and wound healing

Mode of application: 1). The roots are ground into a paste and smeared over the wound due to cobra bite after a thorough washing with the solution of plant ash in hot water and half of it dissolved in hot water administered orally (CR 2)

2). The leaves are ground into a paste smeared over the wound (CR 1).

Occurrence : Rarely found adjoining areas of the hamlets in wild (MR 24722).

Azadirachta indica A.Juss. (MELIACEAE)

Vernacular name : Veepumaram

Habit : Tree

Part used : Bark, leaves

Used for : Rheumatism, small pox

Mode of application: 1). The decoction prepared from bark is administered orally in empty stomach twice a day up to one week for curing rheumatism (CR 2).

2). The leaves along with rhizome of Curcuma ground in a paste and smeared over the body of patient having small pox followed by blowing of wind using the fan made by leaves (CR 1).

Occurrence : Common in plains and adjoining areas of the hamlets (MR 24427).

Bambusa bambos (L.) voss (POACEAE)

Vernacular Name : Mula, Mungil

Habit : Tree grass

Part used : Peeling from culm surface, bamboo manna (the siliceous secretion of stem pith)

Used for : Wound healing

Mode of application: The culm peelings are ground into a paste and mixed with coconut oil or honey and applied over the fresh or old wounds (CR 1).

Occurrence : Common around the hamlets and neighbouring forest areas (MR 24867).

Bauhinia racemosa Lam. (FABACEAE)

Vernacular name : Arampuli

Habit : Tree

Part used : Tender leaves

Used for : Sores in eyes

Mode of application: The tender leaves are ground along with Venkayam (*Allium cepa*), the juice is filtered through a cloth and used as an eye drop (CR 2).

Occurrence : Common around the hamlets and neighbouring areas (MR 24477).

Boerhavia diffusa L. (NYCTAGINACEAE)

Vernacular Name : Peruserande, Thaluthema

Habit : Herb

Part used : Tender leaves and stem

Used for : Stomach ache, indigestion and diarrhoea

Mode of application : The fresh leaves are crushed and juice administered orally for indigestion and diarrhoea (CR 2).

Occurrence : Common around the hamlets and neighbouring areas (MR 24707).

Briedelia retusa (L.) Spreng. (EUPHORBIACEAE)

Vernacular name : Mulluvengai

Habit : Tree

Part used : Bark

Used for : Fever

Mode of application : The bark is crushed along with bark of Kadambu (*Neolamarkia cadamba*), the juice extracted is mixed with Koramavu (the floor of *Eleusine coracana*) and Puttumannu (soil from termite mount) in the form of a paste. The paste is smeared all over the body followed by a sunbath and finally bath in hot water consecutively, for three days (CR 2).

Occurrence : Common around the hamlets and neighbouring areas (MR 24750).

Butea monosperma (Lam.) Taub. (FABACEAE)

Vernacular Name : Muthank

Habit : Tree

Part used : Bark

Used for : Stomach ache

Mode of application : The bark is crushed and boiled in water and the decoction administered orally (CR 2).

Occurrence : Common around the hamlets (MR 24448) (Plate 7. b.)

Cajanus cajan L. (FABACEAE)

Vernacular name : Thuvari

Habit : Shrub

Part used : Tender leaves

Used for : Burns and wounds

Mode of application: Dried leaves are ground into a paste, add coconut oil and smeared over the burns and wounds (CR 2).

Occurrence : Cultivated around the hamlets (24449).

Callicarpa tomentosa (L.) Murr.(VERBINACEAE)

Vernacular name : Nay thekku

Habit : Large shrub

Part used : Tender leaves

Used for : Wounds due to dog bite

Mode of application: The tender leaves are crushed and the salve applied over the wounds made by dog bite (CR 2).

Occurrence : Occasional in margin of semi evergreen forest near the hamlets (24690).

Calotropis gigantea (L.) R. Br. (ASCLEPIADACEAE)

Vernacular Name : Erukku

Habit : Shrub

Part used : Leaves, Roots

Used for : Snake bite

Mode of application: The root paste is smeared on the wound caused by cobra as an antidote (CR).

Occurrence : Common around the hamlets and neighbouring areas (MR 24643).

Cannabis sativa L. (CANNABINACEAE)

Vernacular Name : Kanja

Habit : Herb

Part used : Leaves

Used for : Fever and Headache

Mode of application: The leaves and roots of are ground into a paste and smeared all over the body for recovering fevers and head ache (CR 2).

Occurrence : Illegally cultivated around the hamlets as a narcotic and medicinal plant (MR 24774).

Carica papaya L. (CARICACEAE)

Vernacular Name : Pappaya

Habit : Tree
Part used : Tender leaves
Used for : Abortion
Mode of application: The tender shoots are ground in to a paste dissolved in water and administered orally (CR 2).
Occurrence : Commonly cultivated around the hamlet (MR 24569).

Cassia auriculata L. (FABACEAE)
Vernacular name : Avirampoo
Habit : Herb
Part used : Leaves
Used for : Head ache, body pain
Mode of application: The leaves of this plant along with leaves of Uncha maram (*Albizia amara*) and Kurumthotti (*Sida rhombifolia*) are ground into a paste and applied over the forehead (CR 2).
Occurrence : Common around the hamlet (MR 24482).

Cassia fistula L. (FABACEAE)
Vernacular Name : Konnai
Habit : Tree
Part used : Roots
Used for : Fever
Mode of application: The roots are ground in to a paste and smeared over the body (CR 2).
Occurrence : Common around the hamlet (MR 24480).

Celastrus paniculatus Willd. (CELASTRACEAE)
Vernacular Name : Konka
Habit : Climbing shrub
Part used : Roots
Used for : Jaundice
Mode of application: The roots are ground in to a paste, dissolved in goat's milk and administerd orally in empty stomach for curing jaundice (CR 2).
Occurrence : Occasional around the hamlets (MR 24429).

Chamaecrista absus (L.) Irwin & Barneby (FABACEAE)

Vernacular name : Kannum kolluchedi
Habit : Herb
Part used : Seeds
Used for : Eye diseases
Mode of application: The seeds are roasted and finely powdered; the powder is put in a clean cloth and slowly put in the eyes (CR 2).
Occurrence : Rarely found in plains (MR 24485).

Chromolaena oderata (L.) King & Robinson (ASTERACEAE)

Vernacular name : Pachai, Ayama pachai
Habit : Herb
Part used : Leaves
Used for : Wound healing
Mode of application: The leaves are ground into a paste and applied over the wounds (CR 1).
Occurrence : Common around the hamlets and waste places (MR 24612).

Chenopodium ambrosiodes L. (CHENOPODIACEAE)

Vernacular name : Sooru chedi
Habit : Herbs
Part used : Whole plant
Used for : Skin diseases
Mode of application: The whole plant is ground into a paste and applied over the body of children for scabies and itches and as a remedy for other skin diseases. The plant is also used as an insect repellent (CR 1).
Occurrence : Common around the hamlets (MR 24717).

Clematis gouriana Roxb. *ex* DC.(RANUNCULACEAE)

Vernacular Name : Chinne Nikadikkodi, Thalai sithari
Habit : Climbing herb
Part used : Tender leaves, stem and roots
Used for : Head ache and cold
Mode of application: Fresh roots, leaves and stem are crushed and inhaled thrice a day. The juice of tender stem and leaves is pored on the nasal cavity (CR 2).

Occurrence : Common around the hamlets (MR 24501).

Colocasia esculenta (L.) schott. (ARACEAE)

Vernacular Name : Chembu

Habit : Herb

Part used : Tender leaves

Used for : Ulcers, indigestion.

Mode of application : The tender leaves are cooked along with Pulicheerai (*Oxalis corniculata*) and used as a remedy for stomach problem especially ulcers and indigestion (CR 2).

Occurrence : Common around the hamlets (MR 24854).

Commelina benghalensis L. (COMMELINACEAE)

Vernacular Name : Koyne

Habit : Herb

Part used : Tender leaves

Used for : Stomachache, indigestion.

Mode of application : The young plants are cooked along with salt and given for stomach-ache (CR 2).

Occurrence : Common around the hamlets (MR 24835).

Cordia obliqua Willd. (BORAGINACEAE)

Vernacular name : Thumbamaram

Habit : Herb

Part used : Bark

Used for : Allergy due to *Semecarpus anacardium*

Mode of application : The leaf paste is applied as an antidote over the blisters formed on the skin due to the allergic effect from the contact of Karadi cherumaram (Semecarpus *anacardium*) (CR 1).

Occurrence : Occasionally found in moist deciduous forest around the hamlets (MR 24835) (Plate 5. c.)

Costus speciosus (Koenig) J.E. Smith (COMMELINACEAE)

Vernacular Name : Chulli

Habit : Herb

Part used : Tender stem

Used for : Eye pain
Mode of application: The juice from stem is used as an eye drop (CR 2).
Occurrence : Common around the hamlets (MR 24800).

Cryptolepis buchnani Roem & Schult. (ASCLEPIADACEAE)
Vernacular name : Palviranai
Habit : Climbers
Part used : Leaves
Used for : Itches.
Mode of application: The leaves are ground in to paste and smeared over the itches (CR 2).
Occurrence : Common around the hamlets (MR 24649).

Cyclea peltata (Lam.) Hook.f. Thomas (MENISPERMACEAE)
Vernacular Name : Pada, Didukke
Habit : Climbing herb
Part used : Leaves, tubers
Used for : Fever, cold and cooling agent
Mode of application : 1). A few leaves of this plant are squeezed for juice, added with little water is orally administered (CR 2).
2). The leaves are ground into a paste and dissolved in water and the solidified mixture is applied over the head as cooling agent (CR 2).
Occurrence : Occasional in adjoining forest areas of the hamlets (MR 24510).

Dalbergia latifolia Roxb. (FABACEAE)
Vernacular Name : Veeti
Habit : Tree
Part used : Bark of wood
Used for : Stomachache and dysentery
Mode of application: Few pieces of bark are ground into paste and dissolved in water. The solution is kept for some time and is administered orally (CR 2).
Occurrence : Common around the hamlets (MR 24455).

Dalbergia volubilis Roxb. (FABACEAE)
Vernacular Name : Kodiveeti

Habit : Small tree

Part used : Leaves, bark of wood

Used for : Worm trouble stomachache,

Mode of application: 1). The leaf juice is given to children for worm trouble (CR 2).
2). The bark is boiled in water and the decoction is administered orally for stomach ache (CR 2).

Occurrence : Common around the hamlets (MR 24457).

Dalbergia horrida (Dennst.) Mabb. (FABACEAE)

Vernacular Name : Eranku seenkai

Habit : Small tree

Part used : Leaves, wood

Used for : Any kind of pain in stomach, Joints, internal organs or all body

Mode of application: 1). The leaves are boiled in water and bathing in the same followed by smearing a paste prepared from leaves over the pain full joints. For all kinds of body pain it is administered orally.
2). The spiny stems are cut in to small pieces and boiled in one litre of water to its half and the decoction administered orally for pains in the internal organs (CR 2).

Occurrence : Common around the hamlets (MR 24453). (Plate 7. d.)

Datura metel L (SOLANACEAE)

Vernacular name : Ummathan thalai

Habit : Herb

Part used : Tender leaves

Used for : Cough and throat pain

Mode of application: The extract from the leaf is applied over the chest and throat for cough and throat pain (CR 2).

Occurrence : Occasional around the hamlets and plains (MR 24666).

Dendrocalamus strictus Nees. (POACEAE)

Vernacular Name : Karuvan Mula, Kallan Mula, Mirugle

Habit : Tree grass

Part used : Peeling from culm surface

Used for : Wounds

Mode of application: The peelings from culm surface is mixed with lime and salt and applied over the wounds (CR 2).

Occurrence : Common in Moist deciduous forests and dry forest around the hamlets (MR 24873).

Drynaria quercifolia (L.) Js.Sm. (POLYPODIACEAE)

Vernacular name : Shekuttolai

Habit : Rhizomatous epiphytic herb

Part used : Rhizome

Used for : Earache

Mode of application: The rhizomes are slightly roasted in fire, the juice extracted from it is used as an eardrop for ear ache (CR 1).

Occurrence : Commonly found as an epiphytic herb on trees of adjoining forest areas (MR 24897).

Elaeagnus conferta Roxb.(ELAEAGNACEAE)

Vernacular Name : Kaykalakodi

Habit : Climber

Part used : Leaves and bark

Used for : Pain in legs due to rheumatism

Mode of application: The leaves along with bark are ground in to a paste and smeared over the affected area (CR 1).

Occurrence : Occasional in adjoining forests around the hamlets (MR 24494).

Eleusine indica (Linn.) Gaertn. (POACEAE)

Vernacular name : Nay ragi

Habit : Herb

Part used : Root, whole plant

Used for : Dog bite, skin diseases, fever

Mode of application: 1). The whole plant is ground into a paste with salt and Coconut oil and applied over the body of children for scabies and itches.

2). The whole plant is ground into a paste and applied over the wound made by dog bite and believed to having high antiseptic property including rabies infection (CR 2).

Occurrence : Common around the hamlets (MR 24878).

Eleusine coracana (Linn.) Gaertn. (POACEAE)

Vernacular name : Rayi

Habit : Herb

Part used : Bark

Used for : Fever and headache

Mode of application: The flour is mixed along with the juice obtained from the bark of Mullu vengai (*Bridelia airyshawii*), Kadambu (*Neolamarkia cadamba*), Puttumannu (soil from termite mount) and made in to paste. The paste is smeared all over the body followed by a sunbath and finally a bath in hot water for three days (CR 2).

Occurrence : Cultivated as a cereal crop around the hamlets (MR 24877).

Entada rheedei Spreng. (FABACEAE)

Vernacular Name : Onthottikay

Habit : Lianas

Part used : Seed kernel

Used for : Vomiting, diarrhoea

Mode of application: 1). The kernel of the fruit is boiled with coffee powder and administered orally for curing vomiting.

2). The same is cooked along with rice and eaten for curing diarrhoea and stomach problem (CR 1).

Occurrence : Common in Moist deciduous forests around the hamlets (MR 24494).

Ensete superbum (Roxb.) Cheesman (MUSACEAE)

Vernacular name : Kallu vazhai

Habit : Tall rhizomatous herb with pseudo stem

Part used : Seeds, tender stem pith, and tubers

Used for : Urinary troubles, stomach problems and blood purification

Mode of application: 1).The dried seeds of the plant are powdered well and dissolved in goat milk and consumed for urinary troubles and kidney stone.

2). The tender stem pith and tubers are eaten for blood purification and stomach disorders (CR 2).

Occurrence : Rarely found in neighbouring forest around the hamlets due to over exploitation (MR 24812).

Euphorbia antiquarum L. (EUPHORBIACEAE)

Vernacular name : Kalli

Habit : Small tree

Part used : Latex from stem

Used for : Pain in knees

Mode of application: The latex is mixed with soil and applied over knees for curing pain due to rheumatism (CR 2).

Occurrence : Occasionally found in dry forest neighbouring to hamlets (24754).

Ficus racemosa L. (MORACEAE)

Vernacular name : Athi

Habit : Tree

Part used : Bark

Used for : Diarrhoea

Mode of application: The bark is crushed, put in water over night and the water administered orally (CR 2).

Occurrence : Occasional around the hamlets and in moist deciduous forest around the hamlets (MR 24783). (Plate 7. e.)

Ficus religiosa (MORACEAE)

Vernacular name : Alamram

Habit : Tree

Part used : Latex from stem

Used for : Inflammation in gums

Mode of application: The latex is dissolved in hot water along with salt and used as a mouthwash (CR 2).

Occurrence : Occasionally found around the hamlets (MR 24784).

Gmelina arborea Roxb.(VERBINACEAE)

Vernacular name : Gooli maram

Habit : Tree

Part used : Bark

Used for : Abscess

Mode of application: The barks of this tree are ground into a paste and applied over the abscess (CR 2).

Occurrence : Occasionally found around the hamlets (MR 24693). (Plate 7. f.)

Gossypium barbadense L. (MALVACEAE)

Vernacular name : Mochacotta

Habit : Shrub

Part used : Roots

Used for : Piles

Mode of application: The roots along with roots of konki (*Persicarea chinensis*), Kadambu (*Neolamarkia kadamba*) are ground in to a paste, dissolved in water and administered orally twice a day (CR 2).

Occurrence : Cultivated (MR 24540).

Glycosmis pentaphylla (Retz.)DC. (RUTACEAE)

Vernacular name : Mele kulukki

Habit : Shrub

Part used : Roots

Used for : Stomachache

Mode of application: The root which growing towards the northern side is ground into a paste and dissolved in water and administered orally for recovering stomach ache (CR 2).

Occurrence : Common around the hamlets (MR 24421).

Gynandropsis gynandra (L.) Briq. (CAPPARACEAE)

Vernacular Name : Velaiveru

Habit : Herb

Part used : Tender leaves and stem

Used for : Ear Infection

Mode of application: The tender stem with leaves are roasted in coconut oil and pored into the ear as an eardrop (CR).

Occurrence : Occasional around the hamlets (MR 24520).

Helicteres isora L. (STERCULIACEAE)

Vernacular name : Kevri

Habit : Small tree
Part used : Roots, Seeds
Used for : Worm trouble and earache
Mode of application: 1). The roots are ground in to paste, dissolved in water and administered orally in empty stomach for worm trouble.
2). The seeds are powdered, roasted in coconut oil and used as an ear drop (CR 2).
Occurrence : Occasional in neighbouring forest areas (MR 24406).

Jatropha curcas L. (EUPHORBIACEAE)
Vernacular Name : Kottavanakku, Kadalavanakku
Habit : Small tree
Part used : Bark, Latex from stem, stem bark
Used for : Carries tooth, Wound healing, itches and scabies
Mode of application: 1). The latex is applied over the wounds and inflammation.
2). The bark is ground into a paste and mixed with salt and oil and smeared over the body part with scabies and itches (CR 2).
Occurrence : Common around the hamlets (MR 24759). (Plate 7. g.)

Lantana camara L. var. ***aculeata*** (L.) Moldenke (VERBENACEAE)
Vernacular Name : Unnipoochedi
Habit : Shrub
Part used : Tender leaves
Used for : Wound healings, abscess
Mode of application: The tender leaves along with salt are ground in to paste and smeared over the affected area (CR 2)
Occurrence : Common around the hamlets (MR 24694).

Leucas indica (L.) R. Br. ex Vatke (LAMIACEAE)
Vernacular name : Gannu thumba
Habit : Herb
Part used : Leaves and whole plant
Used for : Head ache and itches
Mode of application: 1). The leaves are crushed and juice dropped in to the nostrils (CR 2).

2). The whole plant is ground in to a paste along with salt and smeared over the affected area (CR 2).

Occurrence : Common around the hamlets (MR 24701).

Mangifera indica L. (ANACARDIACEAE)

Vernacular Name : Kattumangai

Habit : Tree

Part used : Bark

Used for : Toothache

Mode of application: The bark of this plant is boiled in water and the steam is applied to the affected tooth and gums. (CR 2).

Occurrence : Common around the hamlets (MR 24931)

Mimosa pudica L. (FABACEAE)

Vernacular name : Thottavadi

Habit : Prickly under shrubs

Part used : Tender leaves

Used for : Head ache and wound healing

Mode of application: 1). The tender leaves are ground into a paste and smeared over the forehead for curing headache (CR 2).

2). The leaf ground in to a paste along with salt is smeared over the wound (CR 1).

Occurrence : Common around the hamlets (MR 24495).

Naravelia zeylanica (Linn.) DC. (RANUNCULACEAE)

Vernacular name : Nikadikkodi, Periya Nikadikkodi

Habit : Climbing herb

Part used : Tender leaves, stem and roots

Used for : Head ache and cold

Mode of application: Fresh roots; leaves and stem are crushed and inhaled thrice day. The juice of tender stem and leaves pored in the nasal cavity and kept for some time (CR 2).

Occurrence : Common around the hamlets (MR 24502).

Neolamarckia cadamba (Roxb.) Bosser (RUBIACEAE)

Vernacular name : Kadambu

Habit : Tree

Part used : Bark

Used for : Fever

Mode of application: The bark is crushed along with bark of Mulluvengai (*Bridelia retusa*), the juice extract is mixed with Koramavu (the floor of *Eleusine coracana*) and Puttumannu (soil from termite mount) in the form of a paste. The paste is smeared all over the body followed by a sunbath and finally a bath in hot water for three days (CR 2).

Occurrence : Occasionally found near river banks (MR 24604).

***Ocimum basilicum* L.** (LAMIACEAE)

Vernacular Name : Ramathulasi

Habit : Herb

Part used : Leaves

Used for : Head ache during sunrise

Mode of application: The leaves of this plant are squeezed along with Malai thulasi (*Ocimum gratissimum*) and administered orally (CR 2).

Occurrence : Cultivated (MR 24702).

***Ocimum gratissimum* L.** (LAMIACEAE)

Vernacular Name : Malai thulasi, Kattuthulasi

Habit : Herb

Part used : Leaves

Used for : Head ache during sunrise

Mode of application: The leaves of this plant are squeezed along with Rama thulasi (*Ocimum basilicum*) and administered orally (CR 2).

Occurrence : Common around the hamlets (MR 24703).

***Ocimum tenuiflorum* L.** (LAMIACEAE)

Vernacular Name : Thulasi

Habit : Herb

Part used : Leaves

Used for : Head ache

Mode of application: The leaves of thulasi plant along with seeds of Kaduka (*Brassica campestris*) and Cora (*Eleusine coracana*) are ground into a paste and applied over the temple (CR 2).

Occurrence : Occasional around the hamlets (MR 24704).

Opuntia stricta Haw. var. ***dillenii*** (Ker-Gawl.) L. (CACTACEAE)

Vernacular Name : Nagakathala

Habit : Shrub

Part used : Leaves

Used for : Abscess and burns

Mode of application: The roasted fleshy leaves are ground in to a paste and applied over the abscess and burns (CR 2).

Occurrence : Occasional in dry forests (MR 24588).

Oxalis corniculata L. (OXALIDACEAE)

Vernacular Name : Pulikeerai

Habit : Herb

Part used : Tender leaves

Used for : Ulcers, indigestion.

Mode of application: The tender leaves are cooked along with Chembu (*Colocasia esculenta*) and suggested for stomach problems especially ulcers and indigestion (CR 2).

Occurrence : Common around the hamlets (MR 24419).

Parahemionitis cordata (Roxb. *ex* Hook. & Grev.) Fraser-Jenk. (HEMIONITIDACEAE)

Vernacular name : Elikathu

Habit : Herb

Part used : Leaves

Used for : Earache

Mode of application: The leaves are ground into paste and smeared over the affected ear (CR 2).

Occurrence : Occasional in shady places around the hamlets (MR 24901).

Pergularia daemia (Forssk.) Chiov. (ASCLEPIADACEAE)

Vernacular Name : Velipparuthi

Habit : Climber

Part used : Tender leaves

Used for : Cough, fever and head ache and wound healing

Mode of application: 1).The tender leaves of this plant along with Kurumulakay (*Piper nigrum*) jeera (*Cuminum cyminum*) are ground into a paste and dissolved in hot water. The infusion is administered orally twice a day for recovering cough, fever and head ache.

2). The leaves along with Venkiyam (*Allium cepa*) are ground into a paste and salve smeared over the wounds (CR 2).

Occurrence : Common around the hamlets (MR 24646).

Persea macrantha (Nees) Kosterm. (LUARACEAE)

Vernacular name : Kulamavu

Habit : Tree

Part used : Bark

Used for : Back pain

Mode of application: The bark is ground in to a paste and smeared over the affected area (CR 2).

Occurrence : Common in semi evergreen forests adjoining to the hamlets (MR 24735).

Persicaria chinensis (L.) Gross. (POLYGONACEAE)

Vernacular name : Konki

Habit : Shrub

Part used : Roots

Used for : Piels

Mode of application: The roots along with roots of Masakottai (*Gossypium barbadens*), Kadambu (*Neolamarkia kadamba*) are ground in to a paste, dissolved in water and administered orally twice a day (CR 2).

Occurrence : Common around the hamlets (MR 24719).

Phyllanthus amarus Schum.& Thonn. (EUPHOBIACEAE)

Vernacular name : Sirunelli, Kikanelli

Habit : Herb

Part used : Whole plant

Used for : Jaundice

Mode of application: The whole plant is ground into a paste and dissolved in 'Karad pal' (Milk of black goat) and administered orally for one weak (CR 2).

Occurrence : Common around the hamlets (MR 24762).

Phyllanthus emblica L. (EUPHORBIACEAE)

Vernacular name : Nellimaram

Habit : Tree

Part used : Bark

Used for : Respiratory troubles

Mode of application: The bark along with the bark of Arum puli (*Bauhinia racemosa)* is dried in sunlight and the powder is dissolved in hot water and given for respiratory troubles (CR 2).

Occurrence : Common around the hamlets (MR 24763).

Plumbago indica L. (PLUMBAGINACEAE)

Vernacular name : Koduveli

Habit : Herb

Part used : Tender leaves and branches

Used for : Head ache

Mode of application: The paste of leaves and tender branches slightly smeared over the forehead (CR 2).

Occurrence : Common around the hamlets (MR 24623).

Pongamia pinnata (L.) Pierre (FABACEAE)

Vernacular name : Pongamaram

Habit : Tree

Part used : Bark, Seeds

Used for : Wound healing due to dog bite and itches due to psoriasis.

Mode of application: 1). The bark is ground in to paste and applied over the wounds due to dog bite after thorough washing with hot plant ash solution (CR 2).

2). The oil extracted from roasting of dried seeds smeared over the affected area.

Occurrence : Common around the hamlets (MR 24467).

Portulaca oleracea L. (PORTULACACEAE)

Vernacular Name : Gonigay

Habit : Herb

Part used : Tender plants, whole plants

Used for : Burns, Diarrhoea and indigestion

Mode of application: The fleshy stem and leaves are cooked along with dhal, Thuvarai (*Cajanus cajan*) and given for curing diarrhoea and indigestion (CR 2).

Occurrence : Common around the hamlets (MR 24529).

Pterocarpus marsupium Roxb. (FABACEAE)

Vernacular name : Vengi

Habit : Tree

Part used : Bark

Used for : Stomach ache and burns

Mode of application: The bark is crushed and the juice administered orally for stomach ache (CR 2).

Occurrence : Common around the hamlets (MR 24468).

Rauvolfia serpentina (L.) Benth. *ex* Kurz (APOCYNACEAE)

Vernacular name : Amalpori

Habit : Shrub

Part used : Roots

Used for : Snake bite and stomach ache

Mode of application: 1). The few pieces of roots are ground in to a paste and smeared over the wound due to snake bite after thorough washing and a half of it is dissolved in water and administered orally(CR 2)

2). The bark ground into a paste, dissolved in water and administered orally (CR 2).

Occurrence : Rarely found in moist deciduous forest around d the hamlets (MR 24638).

Rhaphidophora pertusa (Roxb.) Schott (ARACEAE)

Vernacular name : Kodi chembu

Habit : Climber

Part used : Stem

Used for : Acute stomach ache

Mode of application: The fresh stem pieces (two or three) are cooked and eaten for stomach ache (CR 2).

Occurrence : Occasional in semi evergreen and evergreen forests adjoining to the hamlets (MR 24859).

Ricinus communis L. (EUPHORBIACEAE)

Vernacular name : Thonda Kattaimutha, Mudugar thondi

Habit : An annual or perennial bush or a small tree

Part used : Bark seed

Used for : Head ache, fever

Mode of application: Bark of this plant is crushed with a handful of the leaves of *Physalis minimum* L. and squeeze for infusion and use as a salve over the temple (CR 2).

Occurrence : Common around the hamlets (MR 24765). (Plate 7. h.)

Rubia cordifolia L. (RUBIACEAE)

Vernacular name : Sevalikkodi, Mattumanchi

Habit : Climber

Part used : Leaves

Used for : Wound healing

Mode of application: The fresh leaves are crushed well and the juice is applied over wounds (CR 2)

Occurrence : Common around the hamlets (MR 24606).

Sida rhombifolia L. (MALVACEAE)

Vernacular Name : Kurumthotti

Habit : Herbs

Part used : Roots and leaves

Used for : Head ache

Mode of application: Mashed roots and leaves of this plant is applied over the forehead before bath (CR 2).

Occurrence : Common around the hamlets (MR 24547).

Syzygium cumini (L.) Skeels (MYRTACEAE)

Vernacular name : Njaval, Nara

Habit : Tree

Part used : Bark

Used for : Toothache and swelling

Mode of application: The bark is crushed and the salve is applied over the aching tooth and swelling (CR 2).

Occurrence : Common around the hamlets (MR 24557).

Tamarindus indica L. (FABACEAE)

Vernacular name : Pulinchi, Puli

Habit : Tree

Part used : Fruits and Leaves

Used for : Headache, abscess

Mode of application: The paste of fruit pulp is smeared over the forehead for an hour for relieving headache. The tender leaf paste is smeared over the body part having abscess (CR 2).

Occurrence : Cultivated around the hamlets (MR 24486).

Targionia hypophylla L. (TARGIONACEAE)

Vernacular name : Kallu sinna

Habit : Thallus on rock

Part used : Thallus

Used for : Scabies, itches and other skin diseases

Mode of application: The whole plant along with the thallus of Mayil sikkai (*Actiniopteris radiata*) are ground into a paste and dissolved in coconut oil applied over the body of the children affected by scabies, itches and other skin diseases (CR 2).

Occurrence : Rarely found in dry rocks around the hamlets (MR 24909).

Tarenna asiatica (L.) O.Ktze. *ex* K. Schum. (RUBIACEAE)

Vernacular name : Viralimaram

Habit : Shrub

Part used : Twigs

Used for : Antiseptic, disinfectant

Mode of application: The twig of this plant along with leaves of Moongathalai (*Dendrocalamus strictus, Bambusa bambos*) are boiled in

water and given a bath for the ladies after the delivery for disinfecting the body (CR 2).

Occurrence : Common in dry forests around the hamlets (MR 24607).

Tephrosia purpurea (L.) Pers. (FABACEAE)

Vernacular name : Kolingi

Habit : Herb

Part used : Roots

Used for : Stomachache

Mode of application : The roots are ground in to a paste, dissolved in water and administered orally (CR 2).

Terminalia bellarica (Graeuter.) Roxb. (COMBRETACEAE)

Vernacular name : Thannimaram

Habit : Trees

Part used : Inner bark

Used for : Jaundice, Allergy

Mode of application : The leaf paste is applied as an antidote over the blisters formed on the skin due to the contact of Cheru maram (*Semecarpus anacardium*) (CR 2).

Occurrence : Common around the hamlets (MR 24473).

Tectona grandis L. f. (VERBENACEAE)

Vernacular name : Thekkamaram

Habit : Trees

Part used : Tender leaves

Used for : Wound healing

Mode of application : The leaves are crushed and juice applied over the wounds (CR 2).

Occurrence : Common around the hamlets (MR 24695).

Tribulus terrestris L. (ZYGOPHYLLACEAE)

Vernacular name : Narinchi

Habit : Herb

Part used : Whole plant

Used for : Stomach ache, Urinary diseases

Mode of Application : The whole plant is ground into a paste and dissolved in water. This can be used as a tonic for stomach ache owing to urinary problems (CR 2).

Occurrence : Common in dry plains around the hamlets (MR 24417).

Trichodesma zeylanicum (Burm. f.) R. Br. (BORAGINACEAE)

Vernacular name : Eruma nalanki

Habit : Herb

Part used : Leaves

Used for : Foot and mouth diseases of livestock

Mode of application: The tender leaves of this plant along with salt and bark of Ayamaram (*Holoptelia integrifolia*) are ground into a paste and salve applied over the affected parts (CR 2).

Occurrence : Common around the hamlets (MR 24659).

Tridax procumbens L. (ASTERACEAE)

Vernacular name : Vada Erukku

Habit : Herb

Part used : Whole plant

Used for : Wound healing, pain in legs

Mode of application: Leaf paste is smeared over fresh wounds. The whole plant is crushed and juice is smeared over the painful joints in legs (CR 2).

Occurrence : Common around the hamlets (MR 24618)

Triumfetta rhomboidea Jacq. (TELIACEAE)

Vernacular name : Ulakkodi

Habit : Herb

Part used : Leaves

Used for : Furuncle, Abscess

Mode of application: The leaves are ground into a paste and smeared over the furuncle and body part with abscess (CR 2).

Occurrence : Common around the hamlets (MR 24414).

Vitex negundo L. (VERBENACEAE)

Vernacular name : Nochi

Habit : Large shrub

Part used : Leaves

Used for : Body pain and rheumatism

Mode of application : The leaves crushed and boiled in water and take a bath for relieving body pain.

Occurrence : Occasional around the hamlets (MR 24696).

Wrightia tinctoria (Roxb.)R.Br. (APOCYNACEAE)

Vernacular name : Palai

Habit : Medium tree

Part used : Leaves, bark, and milky latex

Used for : Psoriasis, Skin diseases and tooth carries.

Mode of application : 1). The bark peeling is grounds into a paste and applied for skin infections, Psoriasis, itches and scabies (CR 1).
2). The leaves are chewed for toothache (CR 1).

Occurrence : Common in plains and adjoining forest areas of the hamlets (MR 24642).

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Aloe vera (L.) Burm. f. (ALOACEAE)

Vernacular name : Choru kathala

Habit : Perennial herb

Part used : Leaves

Used for : Foot and mouth diseases of livestock.

Mode of application : The fleshy leaves are mashed and smeared on the affected part (CR 2).

Occurrence : Occasional around the hamlets (MR 24830).

Bambusa bambos (L.) voss (POACEAE)

Vernacular Name : Mula, Mungamaram

Habit : Tree grass

Part used : Leaves

Used for : Expel of placenta after delivery in cattle

Mode of application : The leaves are fed to the cattle after the delivery (CR 1)

Occurrence : Common around the hamlets and neighbouring forest areas (MR 24867).

Cissus quadrangularis L. (VITACEAE)

Vernacular name : Payam kodi.
Habit : Climber.
Part used : Stem and leaves.
Used for : Indigestion and stomach problem.
Mode of application: The crushed stem with leaves is squeezed and juice given to livestock suffering from indigestion and stomach problems (CR 2).
Occurrence : Common in dry forests around the hamlets (MR 24436).

Coccinia grandis (L.) Voigt (CUCURBITACEAE)

Vernacular name : Kovai
Habit : Climber
Part used : Leaves
Used for : Mumps in cattle
Mode of application: The leaves are ground into a paste and applied over the affected part. (CR 2)
Occurrence : Cultivated (MR 24571).

Cayratia trifolia (L.) Domin(VITACEAE)

Vernacular name : Naralay
Habit : Climber
Part used : Leaves
Used for : Foot and mouth disease in cattle
Mode of application: The leaves are ground into a paste and applied over the affected part. (CR 2)
Occurrence : Occasional around the hamlets (MR 24434). (Plate 7. c.)

Ficus hispida L. f. (MORACEAE)

Vernacular name : Thunali
Habit : Tree
Part used : Leaves
Used for : Expel of placenta after delivery in cattle
Mode of application: The leaves are fed to the cattle after the delivery (CR 1).
Occurrence : Common around the hamlets and neighbouring forest areas (MR 24782).

Ficus racemosa L. (MORACEAE)

Vernacular name : Athi maram
Habit : Tree
Part used : Leaves
Used for : Expel of placenta after delivery in cattle
Mode of application : The leaves are fed to the cattle after the delivery (CR 1).
Occurrence : Common around the hamlets and neighbouring forest areas (MR 24783).

Holoptelea integrifolia (Roxb.) Planch. (ULMACEAE)

Vernacular name : Ayamaram
Habit : Tree
Part used : Leaves
Used for : Foot and mouth disease of livestock
Mode of application : The bark along with tender leaves of Eruma nalanki (*Trichodesma zeylanicum*) and salt are ground into a paste and salve applied over the affected parts (CR 2).
Occurrence : Occasional around the hamlets (MR 24772).

Pergularia daemia (Forssk.) Chiov. (ASCLEPIADACEAE)

Vernacular Name : Velipparuthi
Habit : Climber
Part used : Leaves
Used for : Mumps, Inflammation of udder
Mode of application : 1). The tender leaves are fed to the cattle; the paste is applied over the inflammation for mumps (CR 2).
2). The leaves along with salt are ground into a paste and smeared over the udder of the cattle (CR 2).
Occurrence : Common around the hamlets (MR 24646).

Polygala persicariifolia DC. (POLYGALACEAE)

Vernacular name : Palvirandi chedi
Habit : Herb
Part used : Whole plants and roots
Used for : Increasing milk production
Mode of application : The whole plant is fed to cattles followed by smearing root paste over the udder (CR 2).

Occurrence : Occassional in hill slopes aruond the hamlets (MR 24991).

Tectona grandis L. f. (VERBENACEAE)

Vernacular name : Thekkamaram

Habit : Trees

Part used : Wood and roots

Used for : Foot and mouth disease in cattle

Mode of application: The dried wood and roots after dry distillation the oil extract is smeared over the affected area (CR 1).

Occurrence : Common around the hamlets (MR 24695).

Trichodesma indicum (L.) R. Br. (BORAGINACEAE)

Vernacular name : Thumbai, Kazhuthai thumbai

Habit : Herb

Part used : Whole plant

Used for : Wounds of calves infected with worms and wound healing

Mode of application: The whole plant is made into a paste and applied over the wounds of livestock infested with worms especially the naval of calves and vagina of the cows. The same is also applied for fresh wounds (CR 2).

Occurrence : Common in dry plains around the hamlets (MR 24658).

Trichodesma zeylanicum (Burm. f.) R. Br. (BORAGINACEAE)

Vernacular name : Eruma nalanki

Habit : Herb

Part used : Leaves

Used for : Foot and mouth diseases of livestock

Mode of application: The tender leaves of this plant along with salt and bark of Ayamaram (*Holoptelia integrifolia*) are ground into a paste and salve applied over the affected parts (CR 2).

Occurrence : Common in dry plains around the hamlets (MR 24659).

5. 2. 3. 4. Miscellaneous plant uses

5. 2. 3. 4. 1. Fibre yielding plants

Bauhinia racemosa Lam. (FABACEAE)

Vernacular name : Aram puli

Habit : Tree
Part used : The fibres obtained from bark
Mode of use : The fresh bark fibres are peeled from wood and kept for one or two days for long duration (CR 1).
Occurrence : Common around the hamlets and neighbouring areas (MR 24477).

Caryota urens L. (ARECACEAE)
Vernacular name : Koontha panai naru
Habit : Tree
Part used : Fibres obtained from peduncle of leaves and infrutescence
Mode of use : The fibres are peeled from the peduncle, dried in sunlight and whenever needed is kept in water for sometime. The fresh in frutescence branches are directly used as a fibre (CR 1).
Occurrence : Common around the hamlets (MR 24844).

Ficus racemosa L. (MORACEAE)
Vernacular name : Athi naru
Habit : Tree
Part used : The fibres obtained from bark
Mode of use : The fresh bark fibres are peeled from wood and kept for one or two days for long duration (CR 1).
Occurrence : Occasional around the hamlets and in moist deciduous forests around the hamlets (MR 24783).

Grewia tiliifolia Vahl. (TILIACEAE)
Vernacular name : Lummai naru
Habit : Tree
Part used : The fibres obtained from bark
Mode of use : The fresh bark fibres are peeled from wood and kept for one or two days for long duration (CR 1).
Occurrence : Common around the hamlets and moist deciduous forest areas of the adjoining forests (MR 24937).

Helicteres isora L. (STERCULIACEAE)
Vernacular name : Idampiri

Habit : Small tree

Part used: the fibres obtained from bark

Mode of use : The fresh bark fibres are peeled from wood and kept in sunlight for one or two days for long duration (CR 1).

Occurrence : Occasional in neighbouring forest areas (MR 24406).

Sterculia villosa Roxb. *ex* DC. (STERCULIACEAE)

Vernacular name : Vakka naru

Habit : Tree

Part used : The fibres obtained from bark

Mode of use : The fresh bark fibres are peeled from wood and kept in sunlight for one or two days for long duration (CR 1).

Occurrence : Occasional in neighbouring forest areas (MR 24409).

Trema orientalis (L.) Blume (ULMACEAE)

Vernacular name : Amai naru

Habit : Tree

Part used : The fibres obtained from bark

Mode of use : The fresh bark fibres are peeled from wood and kept in sunlight for one or two days for long duration (CR 1).

Occurrence : Occasional in neighbouring forest areas (MR 24773).

5. 2. 3. 4. 2. Plants for Fish stupefaction

Acacia torta (Roxb.) Craib (FABACEAE)

Vernacular name : Kattu Cheenikai

Habit : Climbing shrub

Part used : Fruits

Mode of use : The fruits are crushed and dissolved in water of small streams or selected areas of river with fishes (CR 1).

Occurrence : Occasional in moist deciduous forest of the adjoining areas (MR 24489).

Bambusa bambos (L.) Voss. (POACEAE)

Vernacular name : Moongkuruthu

Habit : Tree grass

Part used : Tender shoots

Mode of use : The tender shoots are crushed and juice dissolved in streams (CR 1).

Occurrence : Common in Moist deciduous forests around the hamlets (MR 24867).

Dendrocalamus strictus (Roxb.) Nees (POACEAE)

Vernacular name : Koravanmoongkuruthu

Habit : Tree grass

Part used : Tender shoots

Mode of use : The tender shoots are crushed and juice dissolved in streams (CR 1).

Occurrence : Common in Moist deciduous forests and dry forest around the hamlets (MR 24873).

Cycas circinalis L. (CYCADACEAE)

Vernacular name : Eathapattai

Habit : Tree

Part used : Tender leaves

Mode of use : The tender leaves are crushed and dissolved in the streams (CR 1).

Occurrence : Common in Moist deciduous forests around the hamlets (MR 24887).

Canthium rheedei DC. (RUBIACEAE)

Vernacular name : Karakkay

Habit : Small tree

Part used : Fruits

Mode of use : The fruits are crushed and dissolved in water of small streams or selected areas of river with fishes (CR 2)

Occurrence : Occasional in neighbouring forest areas (MR 24597).

Caryota urens L. (ARECACEAE)

Vernacular name : Eranpana, Koontha panai

Habit : Tree

Part used : Fruits

Mode of use : The fruits are crushed and dissolved in water of small streams or selected areas of river with fishes (CR 1).

Occurrence : Common around the hamlets (MR 24844).

Chloroxylon swietenia DC (FLINDERSIACEAE)

Vernacular name : Porusumaram
Habit : Tree
Part used : Bark, leaves and fruits
Mode of use : The bark, leaves or fruits are crushed and dissolved in water of small streams or selected areas of river with fishes (CR 1).
Occurrence : Common in neighbouring forest areas of the hamlets (MR 24445).

Sapindus trifoliata L. (SAPINDACEAE)

Vernacular name : Urunchi pattai
Habit : Tree
Part used : Fruits
Mode of use : The fruits are crushed and dissolved in water of small streams or selected areas of river with fishes (CR 1).
Occurrence : Common in neighbouring forest areas of the hamlets (MR 24441).

Strychnos nux-vomica L. (LOGANIACEAE)

Vernacular name : Kanchiram
Habit : Tree
Part used : Fruits and leaves
Mode of use : The fruits or leaves are crushed and dissolved in water of small streams or selected areas of river with fishes (CR 1).
Occurrence : Occasional in neighbouring forest areas (MR 24654)

5. 2. 3. 4. 3. Plants as Repellents

Anisochilus scaber Benth. (LAMIACEAE)

Vernacular name : Kunianpacaha
Habit : Tree
Part used : Oil, leaves
Used for : Leach and insect repellent
Mode of application: The leaves are crushed and the juice is mixed with diluted urine of cow or goat and sprayed over the cultivated crops as an insecticide (CR 2).

Occurrence : Common in slopes and rocky areas adjoining areas of the hamlets (MR 24697).

Azadirachta indica A. Juss. (MELIACEAE)

Vernacular name : Veepumaram

Habit : Tree

Part used : Oil, leaves

Used for : Leach and insect repellent

Mode of application : 1). The oil is mixed along with salt, pukalai (powder of *Nicotiana tabacum*) and smeared over the external parts of the body exposed to leaches (CR 1).

2). The leaves are mixed along with seeds of pulses and cereals before storage to keep free from insects (CR 1).

Occurrence : Common in plains and adjoining areas of the hamlets (MR 24427).

Cyclea peltata (Lam.) Hook. f. & Thoms. (MENISPEMACEAE)

Vernacular name : Padakilangu

Habit : Herb

Part used : Tuberous roots

Used for : Leach repellents

Mode of use : The tuberous roots are roasted in coconut oil along with salt smeared over the body parts exposed to leaches (CR 1).

Occurrence : Occasional in adjoining forest areas of the hamlets (MR 24510).

Capsicum annuum L. (SOLANACEAE)

Vernacular name : Malakay

Habit : Herb

Part used : Dried fruits

Used for : Repellents

Mode of use : The dried seeds are kept along with stored garins as a repellent for insects (CR 1).

Occurrence : Cultivated (MR 24664).

Capsicum frutescens Calark (SOLANACEAE)

Vernacular name : Cheenimalakay

Habit : Herb
Part used : Dried fruits
Used for : Repellents and insecticide
Mode of use : The dried seeds are kept along with stored garins as a repellent for insect. The crushed fruits dissolved in the urine of cow or goat isd sprayed in the crops affected by diseases (CR 1).
Occurrence : Cultivated (MR 24665).

Harpullia arborea (Blanco) Radlk. (SAPINDACEAE)
Vernacular name : Pookoli maram
Habit : Tree
Part used : Bark
Used for : Leach repellents
Mode of use : The bark is crushed and the juice smeared over the external parts of the body exposed to leaches (CR 1).
Occurrence : Occasional in adjoining forest areas (MR 24440).

Solanum virginianum L. (SOLANACEAE)
Vernacular name : Mullukathrica
Habit : Herb
Part used : Fruits
Used for : Leach repellents
Mode of use : The fruits are crushed and the juice is smeared over the external parts of the body exposed to leaches (CR 1).
Occurrence : Occasional in plains and neighbouring forests (MR 24676).

Strychnos nux-vomica L. (LOGANIACEAE)
Vernacular name : Kanchiram
Habit : Tree
Part used : Fruits and leaves
Used for : Insect repellents
Mode of use : The leaves are mixed along with seeds before storing for a long time to keep it free from insects (CR 1).
Occurrence : Occasional in neighbouring forest areas (MR 24654).

Piper nigrum L (PIPERACEAE)

Vernacular name : Kurumalakay
Habit : Climber
Part used : Dried fruits
Used for : Repellents
Mode of use : The dried seeds are kept along with stored garins as a repellent for insects (CR 1).
Occurrence : Cultivated (MR 24729).

Zingiber officinale Rosc.

Vernacular name : Sukku
Habit : Climber
Part used : Dried rhizomes
Used for : Repellents
Mode of use : The dried seeds are kept along with rhizomes as a repellent for insects (CR 1).
Occurrence : Cultivated (MR 24808).

5. 2. 3. 4. 4. Plants as soaps and shampoo

Acacia sinuata (Lour.) Merr. (FABACEAE)

Vernacular name : Cheenikai
Habit : Climbing shrub
Part used : Fruits and bark
Used for : Soap
Mode of use : The fruits or bark are crushed and the foam applied over the dresses while washing (CR 1).
Occurrence : Occasional in moist deciduous forest of the adjoining areas (MR 24488).

Sapindus trifoliata L. (SAPINDACEAE)

Vernacular name : Pooch kottai
Habit : Tree
Part used : Fruits
Used for : Soap
Mode of use : The fruits or bark are crushed and the foam applied over the dresses while washing (CR 1).
Occurrence : Common in neighbouring forest areas of the hamlets (MR 24441).

Kydia calycina Roxb. (MALVACEAE)

Vernacular name : Vekki maram
Habit : Tree
Part used : Bark
Used for : Shampoo
Mode of use : The juice obtained from the crushed bark is used as a shampoo (CR 1).
Occurrence : Common around the hamlets and moist deciduous forest areas of the adjoining forests (MR 24543).

Grewia tiliifolia Vahl. (TILIACEAE)

Vernacular name : Lummai maram
Habit : Tree
Part used : Bark
Used for : Shampoo
Mode of use : The juice obtained from the crushed bark is used as a shampoo (CR 1).
Occurrence : Common around the hamlets and moist deciduous forest areas of the adjoining forests (MR 24937).

Hibiscus rosa-sinensis L. (MALVACEAE)

Vernacular name : Addukuchembarathi
Habit : Shrub
Part used : Leaves
Used for : Shampoo
Mode of use : The leaves are crushed along with water and mucilaginous extract is used as a shampoo (CR 1).
Occurrence : Common around the hamlets as cultivated ornamental (MR 24541).

Sida rhombifolia L. (MALVACEAE)

Vernacular name : Kurunthotti
Habit : Herb
Part used : Leaves
Used for : Shampoo
Mode of use : The leaves are crushed along with water and mucilaginous extract is used as a shampoo (CR 1).
Occurrence : Common around the hamlets (MR 24597).

5. 2. 3. 4. 5. Plants for coagulating milk

The peelings of the bark of *Palai maram* (*Wrightia tinctoria*) or crushed fruit of Chundai (*Solanum torvum*) are generally used for coagulating milk. The coagulated milk is cut in to small pieces and eaten.

5. 1. 3. 4. 6. Plants in Beliefs

Irulars of Attappady have the belief that trees like Palai (*Alstonea scholaris*), Athimaram (*Ficus racemosa*), Alamaram (*Ficus benghalensis, Ficus religiosa*) are the domiciles of Peyi (evil spirits) and called as Peyimarams. The fresh green culm of the bamboo is considered as the symbol of purity and it is used to carry the corpse to the burial ground. They believed that the *Erangu seenkai* (*Dalbergia horrida*) had ultimate powers and the plants also wards off evil spirits, snakes and other harmful organisms.

5. 1. 3. 4. 7. Plants in Worships and Religious rituals

They worship the veppamaram (*Azadirachta indica*) as the domicile of Goddess Mariyatha and beliving that their Goddesses are living under the Alamaram (*Ficus benghalensis*), Pongamaram (*Pongamia pinnata*) and cutting of these trees are taboo.

The fresh green culms of bamboos are considered to ward off evils spirits. The dead bodies are carried in fresh bamboo culms. The leaves of Mangaimaram (*Mangifera indica*) and Cheruthala (*Aerva lanata*), Aviram poo (*Senna auriculata*) are placed in front of the huts during festivals and also considered as the agents for purification, protection from evil spirits and evil eyes.

5. 1. 3. 4. 8. Plants in traditional songs

The plants mentioned in some traditional songs of Irulars are Veppamaram (*Azadirachta indica*), Alamaram (*Ficus spp.*), Mungamaram (*Bambusa bambos*) *etc.*

5. 1. 3. 4. 9. Plants in proverbs

The plants like Vakamaram (Albizia sp.), Vanchi (*Homanoia riparia*) and Edalamaram (*Olea dioica*) are mentioned in some of their proverbs.

a. *Vakaikkoru Kalm, Vanchikkoru Kalam*- For indicating good and bad occasions in life

b. *Edalamaram chudulukkum Akathu* - The tree named Edala (*Olea dioica*) is not a useful tree even as firewood.

5. 1. 3. 4. 10. Plants with Ecological importance

The Attappady valleys are with sloppy terrain and soil erosion is maximum due to slash and burn cultivation practices. The plants like Ramachapullu (*Vetivera zizanoides),* Vella Kathala (*Agave Americana*), Sinna kathala (*Agave sisalana*) and Kuravan moogal (*Dendrocalamus strictus*) are planted in the border of their traditional lands. It is also observed that Moongamaram (*Bambusa bambos*) and Pongu maram (*Pongamia pinnata*) are planted around their hamlets as a protection from wind.

5. 1. 3. 4. 11. Plants in material culture

A. Musical instruments

Dhavil

Used for : Making the sound of a drum during traditional occasions.

Material used : The wood of Vengaimaram (*Pterocarpus marsupium)* or Kummulumaram (*Gmelina arborea)* and skin of animals

Mode of making : The cortex and pith of the wood is removed by carving, the open end is covered by the treated skin of animals such as ox, buffalos etc. and used as a drum. (Plate 5. f.)

Kuzhal

Used for : Making the sound like a bugle during traditional occasions.

Material used : The carved wood of Palai maram (*Wrightia tinctorea*) along with metal parts.

Mode of making : The cortex and pith of the wood is removed by carving, a cup like the mouth piece is made with brass.

B. Basketries

Koodai

Used for : Collecting storing seeds
Material used : The culms of Mungai maram (*Bambusa bambos*)
Mode of making : The long culm is woven in the form of basket.

Muram

Used for : Collecting storing seeds
Material used : The culms of Mungai maram (*Bambusa bambos*)
Mode of making : The culm fibre is woven in the form of basket.

Kullukke

Used for : Collecting storing gains in large quantities
Material used : The culms of Mungai maram (*Bambusa bambos*)
Mode of making : The long culm Woven in the form of basket.

Rajikave

Used for : Removing the grass from the agricultural field
Material used : The culms of Mungai maram (*Bambusa bambos*)
Mode of making : The culm is used as a handle and the basal portion is woven to trap grasses.

Girasi

Used for : Drying garins
Material used : The culms of Mungai maram (*Bambusa bambos*)
Mode of making : The long culm is used as a handle and at base woven in to flat structure and placed above the furnace.

C. Ornaments

The leaves of Kattu thengu (Arenga wightii), Kaithathalai (*Pandanus thwaitesii*) and Karimpana (*Borassus flabellifer*) are rolled in a special manner like a disc, called *Oalai* inserted in the holes made in the posterior portion of the sufficiently dilated ear lobes to contain them. The seeds of Muthukaya (*Coix lacryma jobi*) are used for making chains.

D. Marks

The exudates of Venga (*Pterocarpus marsupium*), Unnam kodi (*Argyria nervosa*) and Matti pasakodi (*Ipomoea carnea*) are used for making beauty

spots. The milky latex are allowed exude by indusing a small wound in the stem and the sticky gum is placed at the centre of the forehead.

E. Tooth cleaner

The Stem of Veppai maram (*Azadirachta indica*), Petiole of the mature leaves of (*Mangifera indica*) and Charcoal obtained from burning of Munga maram (*Bambusa bambos*) are used as a tooth cleaner.

F. Cloths

According to the elder members of this community they used to wear flattened and cured bark of Aranjali (*Antiaris toxicaria*) as cloth in the past

G. Bathing brush

The fibrous fruit cover of Peaikin kay (*Luffa acutangula*), Perin peekin kay (*Luffa cylindrica*) are used as a brush while bathing. The bark fiber of Kattu seenkai (*Acacia torta*) is also used as a bathing brush.

H. Traditional house construction

The traditional houses are generally made up of bamboo. Pillars and poles are generally made up of Mungamaram (*Bambusa bambos*), Churuli maram (*Mesua ferea*), Veetimaram (*Dalbergia latifolia*), Vakaimaram (*Albizia odoratisima*) *etc.* The walls of houses are made up of splitted, flattened culms of Munga maram (*Bambusa Bambusa*) and plastered with mud. Thatching is made by Dharvai pullu (*Imperta cylindrica*) and Kavara pullu (*Pennisetum polystachyon*).

I. House hold article

Uralu

Used for : As a mortar
Material used : The wood of Vengai maram (*Pterocarpus marsupium*)
Mode of making : The cortex and pith of the wood is removed by carving.

Ulakkai

Used for : As a pestle
Material used : The wood
Mode of making : The mature wood Churuli (*Mesua ferrea*) is carved in the form a pestle and the outer portion is smoothened by continuous rubbing. The medium sized culms with thick walls are cut almost to one metre length. (Plate 5. g. h.)

Brooms

The dried twigs of Kurumthotti (*Sida rhombifolia*), Aliyan kurumthotti (*Sida acuta*) and the leafy twig of Esa (*Phoenix loureirii* var. *humilis*) is tied and used as brooms.

Cooking Utensils

The large culm of Mungamaram (*Bambusa bambos*) is used for preparing food. The rice, adequate amount of water is added through the small openings made in the internodes, after closing the hole it is put in fire for some time for getting the rice coooked. According to the tribals the cooked rice in bamboo culms is one of the most delicious foods available to them. The dried capsule of Appa kudukkamaram (*Cochlospermum religiosum*) is used as a mould for preparing appam (an indigenous preparation).

Plates

Leaves of Muthangu (*Butea monosperma*), Kalluvazhai (*Ensete superbum*) and Thekku (*Tectona grandis*) are used for serving food.

J. Decoration

Kalluvazha (*Ensete superbum*), Kunnan Vazha (*Musa paradasiaca*) Enthusoppu (*Cycas circinalis*) are used for decorating pandals during marriages and other auspicious occasions.

K. Torches

By buring the kerosine filled culms of Oda (*Ochlandra setigera*) and caped with cloth or cotton are used as a troche during night hours. The dried fruits of Thonda kotta (*Jatropha curcus*) are lighted during night hours as source for light.

L. Traps

Various kinds of traps like *Elikkeni* (Rat trap), *Kooran keni* (Mouse deer trap), *Meenkuruthi* (Fish trap) are commonly available with them. All these traps are made up of *Bambusa bambos.*

M. Weapons

During the past they were used the culms of Munga maram (*Bambusa bambos*) as Bow and the finely pointed culms of same plant as arrows. The other weapons include *Chavana* (catapult), *Madava* (long knife) and Koothali (spade).

5. 2 .4. Conclusion

Irulars are a settled tribe who practice traditional agricultural as well as do food gathering. The present study revealed that they directly depend on 248 plants species under 150 genera and 75 families for their day to day needs, which include 208 Angiosperms, one Gymnosperm, four Pteridophytes, one Bryophyte and seven species of Fungi. Regarding their uses, 134 species are used in food; 11 as fodder; 110 in medicines; 66 come under miscellaneous uses like fibre, fish stupefaction, repellents, soaps and shampoos, beliefs, worship, religious rituals, songs and material culture. Among the families *Fabaceae* is represented with 28 species followed by *Euphorbiaceae* (13 species) and *Poaceae* (10 species). The present study is the first ever documenatation of the medicinal use of *Targionia hypophylla* and *Eleusine indica.* Apart from this, 56 new ethnomedicinal uses of various known medicinal plants are documented here. This tribal group mostly depend on the plant species such as, *Bambusa bambos* (18 uses); *Curcuma longa, Dendrocalamus strictus, Dalbergia horrida* (7 uses); *Ensete superbum, Mangifera indica* (6 uses) *etc.* The occurrence and distribution of *Dalbergia horrida, Ensete superbum, Aristolochia indica, Chamaecrista absus, Rauvolfia serpentina* are represented only by few plants due to the over exploitation and the habitat destruction. Therefore, proper conservational measures are needed to preserve them for posterity.

Kadars

"The Kadars afford a typical example of happiness without culture. Unspoiled by education, the advancing wave of which has not yet engulfed them, they still retain many of their simple manners and customs." (Edgar Thurston)

5. 3. KADARS

5. 3. 1. Introduction

Kadars are one of the primitive tribal groups inhabiting in interior forests of the Southern Western Ghats, in Anaimalais of Coimbatore district of Tamil Nadu, Palakkad and Thrissur district of Kerala. The tribe name *Kadar* itself indicates their wilderness and forest dwelling habit. Two groups are recognised with the same name *viz.*, the *Kadars* of Cochin, distributed in Palakkad and Thrissur district and *Kaders* of Wyanad. However, they can be differentiated by their social, cultural and anthropological characteristics. The Kaders of Wayanad are settled agriculturists they practice shifting cultivation and many of them work as agricultural labours (Mathur, 1977). They inhabit semi evergreen and evergreen forests of Anamalai hills and are nomadic food gatherers and Non Timber Forest Produce (NTFP) collectors. The Kadars of Cochin in general are characterised with dark complexion with dark wavy or curly hair. Anthropologists in India and abroad have drawn a negrito affinity for this group. In the study area they are seen in Kuriarkutty, Parambikkulam Earth dam, Thekkady, Thalikakkallu, Cherunelly, and Kalchady(Fig. 8.). Their population in the study area is 792 individuals, which include 354 males and 338 females (GOI Census, 2001).

5. 3. 2. Socio cultural and Anthropological aspects

5. 3. 2. 1. Hut hamlets

Thurston (1909) described their settlements as consisting of neatly constructed huts made of bamboo culms with a bill hook and divided off into verandas and compartments by means of bamboo partitions. He has also found them to be essentially living a nomadic life, in small communities and shifting from place to place in the jungle, whence they suddenly reappear as casually as if they had only returned from a morning stroll instead of a long camping expedition. Nowadays, their settlements consists of three to fifteen huts of the simplest nature, erected on four pillars on the corner of a mud platform thatched over with the leaves of reed bamboos (*Ochlandra*

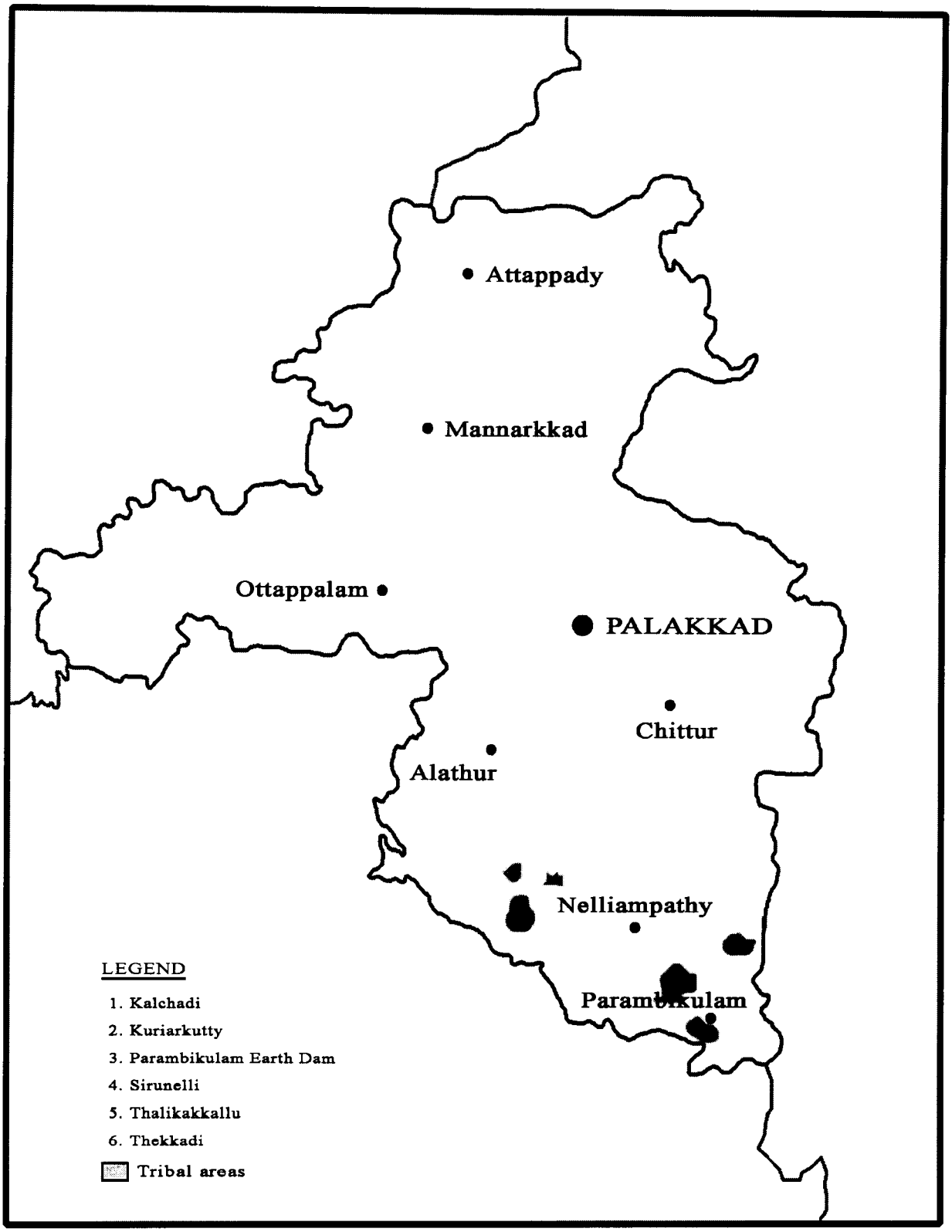


Fig. 8 Map showing the distribution of Kadars

travancorica) or teak (*Tectona grandis*) and with walls of plaited bamboo splits (plate 8. a.) The floor plan is roughly rectangular, with only one room and a fireplace in the corner near the entrance. A little away from the main hut would be one or two small huts, which are used as, pollution huts for the women during their menstruation periods. A hut is of little significant to Kadars, as they are nomadic and constantly are on the move for collecting forest produce and for hunting (Plate 8. a. b. & c.).

5. 3. 2. 2. Social system

There used to be no hereditary or indigenous Chieftainship among them. However, during the British period, the Maharaja of Cochin used to select the village headman (*Moopan*), on the advice from the then forest department of colonial rule. This selected man has to inform important affairs in their community like marriages, puberty, death. This head man, was however, never empowered to inflict punishments. But this system does not prevail anymore (Menon & Sasikumar, 1996). According to Thurston (1909), there used to be a council of elders who were the highest authority, and who had the powers to hear the arguments before pronouncing judgment on matters relating to dissolution of marriages, excommunication for disobedience, immoral conduct *etc.* This system has also now disappeared. They have a *Theva mali* (men for God, Oracles), who are supposed to have received the blessings of the deities and possess supernatural powers. They are capable of performing black magic, diagnosing diseases and prescribing medicines. There are seven clans among them designated as *jati* and each one is named after the original settlements such as, *Anamalayal, Kodakalayal, Patingkarayal, Thekadiyal, Thaliyal, Kottarayal, Kalluchadiyal* (Menon and Sasikumar, 1996). The marriage with in the settlement or *Jati* is prohibited. Polygamy is common, the first wife taking precedence over the others. The more wives a man had, he was considered richer and had high esteem. Polyandry is unknown.

5. 3. 2. 3. Life and subsistence Economy

Their life and economy depended mostly on the non timber forest produces like Honey, Thelly (*Cannarium strictum*) and various medicinal plants

such as, Kurumthotty and (*Sida* sp.), Orila (*Desmodium gangeticum*), Moovila (*Psuedarthria viscida*), Sathavari (*Protasparagus racemosus*), Kattupadavalam (*Trichosanthes cucmeriana*), Kattuvellary (*Cucumis prophetarum*), Padakizhangu (*Cyclea peltata*), Nannari (*Hemidesmus indicus*), Thippali (*Piper longum*), Kattelam (*Elettaria cardomomum*), Manchakuva (*Curcuma zedoaria*), Malayinchi (*Zingiber* sp.), Cheevakka (*Acacia sinuata*), Maramanchal (*Coscinium fenestratum*), Marottikkaya (*Hydnocarpus alpina*), and Pathripoo (*Myristica dactylyoides*). It is observed that they are unaware of the agricultural practices and only during the past few years they have settled in colonies and have started cultivating Pepper, Cassava, Yams and vegetables. A number of them are employed as forest labours and some of them in Government Services, in recent years (Plate 8. c.)

Their staple food is rice supplemented with roots and tubers. The roots and tubers collected from the forests are the major source of food and are known as '*Theetam*'. They also collect fruits of jack, cashew and mango from the wild. In former days, these were bartered against rice, tea, tobacco, cloth, etc. Thurston (1909) described a variety in their dietary which included succulent roots, bamboo seeds, sheep, fowls, pythons, deer, porcupines, rats, wild pigs and monkeys. Also, they have developed their own methods for collection of honey. They also do hunting and fishing for their subsistence.

5. 3. 2. 4. Tradition and culture

Clothing among Kadars were introduced a few generations back, Kadar women who inhabit the interior forests wear usually a loincloth and bodice, while those, living near the roads and the villages, put on loin clothes and blouses. The women wear *thoda* (Earpins) made of palm leaf, rolled and fixed with red and black beads. Men are scantly dressed and are not fond of any ornaments. Kadars comb is one of the unique products of their craft. Thurston (1909) mentions an important customs of chipping off both the upper and lower incisors teeth to a sharp pointed cone among Kadars. This is done when boys attain the age of 18 and girls 10. The chipping is done with a chisel or billhook. At present, chipping off the incisor teeth is not followed among the Kadars.

5. 3. 2. 4. 1. Ceremonies associated with birth

A pregnant woman is generally moved to a seclusion shed (*Ettathepady*) when the labour pain starts. A difficult labour is believed to be due to the influence of an evil spirit and therefore, a magician (*Thevamali*) is consulted to expel it. Professional midwives from their community also help during child birth. The mother and child are confined to the seclusion house for another ten days and during these days she is given special care like application of turmeric and coconut oil over the body, hot water bath. On the tenth day, she is removed to another seclusion house, where she remains for 80 days and during this period she is prohibited from doing any domestic work. They thus observe 91 days of birth pollution and the naming ceremony of the newborn is performed on the day the mother is free from pollution.

5. 3. 2. 4. 2. Puberty

Once the girl attains puberty she is confined to a seclusion house for 5 to 7 days. Girls of her settlements, who have not attained puberty, assist her. Every day the girl is given bath after applying turmeric and coconut oil. A girl under puberty is prohibited from taking bath in the stream since; it is believed that this would pollute the water. On the 7th day she is given a ceremonial bath for purification after that she becomes free from pollution. After bathing the girl is dressed up in new cloths and brought to the courtyard of the hut. All the members of the settlement give money to her as a gift. If the family can afford, a feast is also hosted for all the members in the settlement.

5. 3. 2. 4. 3. Marriage

Marriage is prohibited within the same settlement or the same *Jati*. Cross cousin marriage is allowed even though consanguineous marriages are not permitted. Patrilineal cross cousin marriage is preferred to matrilineal. Of late, instances of polygamous and polyandrous marriages have also been noticed. A system of man and woman living together with out marriage called *Koodithaamasikkal* is very common. A boy selects a girl and gets permission from the *Moopan* of the respective settlement for wooing her. The boy gives

Plate 8. KADARS. **a.** Hut; **b.** Kadar family; **c.** Man collecting NTFP; **d.** Man holding muram and oli; **e.** Kadar lady; **f.** Lady making basket; **g.** Kadar boy using catapult.

some cash as bride price. At the time of the actual marriage ceremony, the girl's parents give cloths as a gift.

5. 3. 2. 4. 4. Ceremonies associated with death

In Kadars the deceased is usually buried down. The grave is generally dug on the western side of the settlement in the east west direction. The corpse is wrapped in a new cloth (*Kodi*), placed over the bier made of bamboo decorated with plantain stem and is then carried to the grave by the relatives of the wife of the deceased, nephews and sons. It is buried with head placed towards the west. The grave is then covered with soil, leaves and branches are spread over it. The chief mourners are the eldest nephew or the eldest son. Generally, the eldest nephew has to bear the expenditure of the *Adiyanthiram* (last rites). In the absence of the nephew, the eldest son has to meet such expenditure. All the implements used by the deceased are also buried along with him. At times the corpse is placed in between the rocks and covered with stones (Thurston, 1909). Also, in those days hut where he or she had lived is abandoned; the family and the whole of the settlement also move to another area. But this is not practiced presently.

5. 3. 2. 4. 5. Worships

The Kadar worships many gods and goddesses and also tree spirits. Tree spirits can be female or male known as *Muni*, generally, malevolent. The oldest natural teak tree *Kannimara* at Thellikkal is worshipped as the first of all creatures on the earth. *Maladaivam* or *Makanyamar* (sylvan deities), *Kezhaikandyan, Kunnikurumakal* (female) are duly worshipped for warding off small pox, chicken pox and cholera. Coconut, toddy, arrack, cooked rice, plantain and neem leaves are used to please her. Other female deities worshipped by Kadars to ward off small pox and chicken pox are *Mariamma* and *Mariyathal.* For pleasing them they are offered honey, beans and pulse. *Marituigoudan* is propitiated for warding off cattle diseases and also for protection of cattle from wild animals. Other deities worshipped includes *Kaliamman, Murugan, Ayyappan, Parkuttuleahta, Athuvisariamma.*

5. 3. 2. 4. 6. Festivals

The Kadars do not have any notable festivals of their own. But recently, some celebrate Onam and Vishu like other people of Kerala.

5. 3. 3. Ethnobotanical aspects

5. 3. 3. 1. Plants in food

A. Roots

Dioscorea hispida Dennst. (DIOSCOREACEAE)

Vernacular name : Thalitheetam,Vennitheetam
Habit : Herbaceous climber
Mode of use : The root tubers are cooked in water with salt or roasted in fire (CR 1).
Occurrence : Occasional in the semi evergreen forests around the hamlets (MR 24936).

Dioscorea intermedia Thw. (DIOSCOREACEAE)

Vernacular name : Chekavan
Habit : Herbaceous climber
Mode of use : The root tubers are cooked in water with salt or roasted in fire (CR 1).
Occurrence : Occasional in Semi evergreen and evergreen forests near the hamlet (MR 24818).

Dioscorea bulbifera L. (DIOSCOREACEAE)

Vernacular name : Chavalu
Habit : Herbaceous climber
Part used : Root tubers
Mode of use : The root tubers are kept in running water for one night to remove the poisonous effect and cooked in water with salt or roasted in fire and used as a staple food (CR 1).
Occurrence : Common (MR 24815).

Dioscorea oppositifolia L. (DIOSCOREACEAE)

Vernacular name : Kanalu

Habit : Herbaceous climber

Mode of use : The root tubers are cooked in water with salt or roasted in fire (CR 1).

Occurrence : Common in Semi evergreen forests (MR 24819).

Dioscorea spicata Roth. (DIOSCOREACEAE)

Vernacular name : Vettila theetam

Habit : Herbaceous climber

Mode of use : The root tubers are cooked in water with salt or roasted in fire (CR 1)

Occurrence : Occasional in Semi evergreen forests near the hamlet (MR 24822).

Dioscorea pentaphylla L. (DIOSCOREACEAE)

Vernacular name : Nutta theetam

Habit : Herbaceous climber

Mode of use : The root tubers are cooked in water with salt or roasted in fire (CR 1).

Occurrence : Common in near by forest area of the hamlets (MR 24821).

Dioscorea tomentosa Koenig *ex* Spreng. (DIOSCOREACEAE)

Vernacular name : Shjelu theetam

Habit : Herbaceous climber

Mode of use : The root tubers are cooked in water with salt or roasted in fire (CR 1)

Occurrence : Occasional in Semi evergreen forest near the hamlet (MR 24823).

Dioscorea wallichii Hook. f. (DIOSCOREACEAE)

Vernacular name : Chandana theetam (Mayavalli)

Habit : Herbaceous climber

Mode of use : The root tubers are cooked in water with salt or roasted in fire (CR 1).

Occurrence : Occasional in evergreen and moist deciduous forests adjoining to the hamlets (MR 24824).

B. Rhizomes

Colocasia esculenta (L.) Schott. (ARACEAE)

Vernacular name : Chembu kilangu

Habit : Rhizomatous herb

Mode of use : The rhizome tubers are cut into small pieces, cooked along with, Tamarind, salt, chillies and finally roasted in oil (CR 1).

Occurrence : Common around the hamlets (MR 24854).

Curcuma zedoaria (Christm.) Rosc. (ZINGIBERACEAE)

Vernacular name : Manja Kuvai

Habit : Rhizomatous herb

Mode of use : The starchy rhizome is cut into small pieces and crushed and kept for sometime to allow the starchy matter to dissolve in water. The sedimented starch is separated by sieving through a cloth and dried in bamboo mats or rocks and the powder is used for preparing puddings (CR 1).

Occurrence : Common around the hamlets (MR 24804).

C. Tender Shoots

Arenga wightii Griff (ARECACEAE)

Vernacular name : Kattuthengu

Habit : Tree

Mode of use : The raw tender shoots are eaten (CR 1).

Occurrence : Occasional in grasslands (MR 24838).

Bambusa bambos (L.) Voss. (POACEAE)

Vernacular name : Mulakuruthu

Habit : Tree grass

Mode of use : About 15 centimetres long tender shoots are removed from the rhizome, cleaned by removing sheaths and is cut into small pieces, cooked in water with salt ,water is drained off and cooked again and the same process is repeated and roasted in oil along with chillies and Onion (CR 1).

Occurrence : Common in Moist deciduous forests around the hamlets (MR 24867).

Oxytenanthera bourdillonii Gamble (POACEAE)

Vernacular name : Kamman kuruthu

Habit : Tree grass

Mode of use : About 15 centimetres long tender shoots are removed from the rhizome, cleaned by removing sheaths and is cut into small pieces, cooked in water with salt, water is drained off and cooked again and the same process is repeated and roasted in oil along with chillies and Onion (CR 1).

Occurrence : Rarely found in few sites (MR 24868).

Phoenix loureirii Kunth var. ***humilis*** (Royle *ex* Becc.) Barrow (ARECACEAE)

Vernacular name : Cheevan

Habit : Shrub

Mode of use : The tender shoots are eaten raw (CR 1).

Occurrence : Occasional in evergreen forest (MR 24845).

Pinanga dicksonii (Roxb.) Blume (ARECACEAE)

Vernacular name : Kattupakku maram

Habit : Shrub

Mode of use : The tender shoots are eaten raw (CR 1).

Occurrence : Occasional in grasslands (MR 24846).

D. Stem pith

Caryota urens L. (ARECACEAE)

Vernacular name : Panai

Habit : Tree

Mode of use : The starchy stem pith is crushed well and dissolved in water in large pots and allow the starch to sediment, drain off excess water, the starchy matter is cooked, used for preparing puddings and various indigenous items (CR 1).

Occurrence : Common around the hamlets (MR 24844).

Cycas circinalis L. (CYCADACEAE)

Vernacular name : Eanth

Habit : Tree

Mode of use : The starchy stem pith is crushed well and dissolved in water in large pots and allow the starch to sediment, drain off excess water, the starchy matter is cooked, used for preparing puddings (CR 1).

Occurrence : Common in Moist deciduous forests around the hamlets (MR 24887).

Ensete superbum (Roxb.) Cheesman (MUSACEAE)

Vernacular name : Kalluvazha unnithandu

Habit : Tall rhizomatous herb with pseudo stem.

Mode of use : The tender pith cooked as vegetable (CR 1).

Occurrence : Rare, found in neighbouring forests around the hamlets (MR 24812).

E. Leaves

Alternanthera sessilis (L.) R.Br. ex. DC. (AMARANTHACEAE)

Vernacular name : Komanampeeryadagu

Habit : Herb

Mode of use : The tender leaves are cooked along with dhal (*Cajanus cajan*), chillies, Onion, and salt and finally roasted in oil (CR 2).

Occurrence : Common in paddy fields and plains around the hamlets (MR 24710).

Amaranthus spinosus L. (AMARANTHACEAE)

Vernacular name : Mullanadagu

Habit : Herb

Mode of use : The tender leaves are roasted in coconut oil along with onion, chillies and salt or cooked in water, salt and finally roasted in oil.

Occurrence : Common (MR 24711).

Amaranthus viridis L. (AMARANTHACEAE)

Vernacular name : Pattiadagu

Habit : Herb

Mode of use : The tender leaves are roasted in coconut oil along with onion, chillies and salt or cooked in water along with dhal

(*Cajanus cajan*), chillies, salt and finally roasted in coconut oil (CR 1).

Occurrence : Common around the hamlets (MR 24712).

Amorphophallus paeoniifolius (Dennst.) Nicols. (ARACEAE)

Vernacular name : Kattuchenayadagu

Habit : Tuberous herb

Mode of use : The tender leaves are roasted in oil along with leaves of *Colocasia esculenta* (CR 2).

Occurrence : Occasional around the hamlets (MR 24851).

Adenia hondala (Gaertn.) de Wilde (PASSIFLORACEAE)

Vernacular name : Kannanadagu

Habit : Tuberous climber

Mode of use : Tender leaves are roasted in coconut oil along with onion, salt and chillies (CR 1).

Occurrence : Occasional in semi evergreen and evergreen forests around the hamlets (MR 24568).

Celosia argentea L. (AMARANTHACEAE)

Vernacular name : Pannaadagu

Habit : Herb

Mode of use : The tender leaves are roasted in coconut oil along with onion, chillies and salt or cooked in water along with dhal (*Cajanus cajan*), chillies, salt and finally roasted in coconut oil (CR 1).

Occurrence : Common in and around the hamlets (MR 24713).

Colocasia esculenta (L.) Schott (ARACEAE)

Vernacular name : Shembu adagu

Habit : Rhizomatous herb

Mode of use : The tender leaves are roasted in oil along with leaves of *Amorphophallus paeonifolius* and *Vigna ungiculata*. The leaves are also cooked along with Tamarind, Chilli, Onion and salt (CR 1).

Occurrence : Common around the hamlets (MR 24854). (Plate 10. b.)

Cycas circinalis L. (CYCADACEAE)

Vernacular name : Eatha adagu

Habit : Tree

Mode of use : The tender leaves are cooked in excess of water along with salt, drained off excess of water and roasted along with chillies, dhal, in coconut oil (CR 1).

Occurrence : Common in Moist deciduous forests around the hamlets (MR 24887).

Diplazium esculentum (Retz.) Sw. (ATHYRIACEAE)

Vernacular name : Suruli adagu

Habit : Shrub

Mode of use : Tender leaves are roasted in coconut oil along with Onion, Chillies and salt (CR 1).

Occurrence : Common in banks of river and streams (MR 24896).

Holostemma ada-kodien Schult. (ASCLEPIADACEAE)

Vernacular name : Palai adagu

Habit : Climber

Mode of use : The tender leaves are roasted in coconut oil along with Onion, chillies and salt (CR 1).

Occurrence : Occasional in moist deciduous forests around the hamlet (MR 24652). (Plate 10. e.)

Laportea interrupta (L.) Chew. (URTICACEAE)

Vernacular name : Thuva adagu

Habit : Herb

Mode of use : The leaves are made into balls by knotting and cooked along with salt and oil (CR 1).

Occurrence : Common around the hamlets (MR 24769).

Lepianthes umbellata (L.) Rafin.

Vernacular name : Thiri adagu

Habit : Herb

Mode of use : The tender leaves are cooked along with salt and oil (CR 1).

Occurrence : Common around the hamlets (MR 24725). (Plate 10. f.)

Oxalis corniculata L. (OXALIDACEAE)

Vernacular name : Puliadagu

Habit : Herb

Mode of use : Tender leaves are cooked along with chillies, onion and salt (CR 2).

Occurrence : Common around the hamlets (MR 24419).

Persicaria chinensis (L.) Gross. (POLYGONACEAE)

Vernacular name : Odimadavalinayadagu

Habit : Herb

Mode of use : Tender stem and leaves are cooked in water along with dhal (*Cajanus cajan*), chillies, salt and finally roasted in oil (CR 1).

Occurrence : Common in and around the hamlets (MR 24719).

Portulaca oleracea L. (PORTULACACEAE)

Vernacular name : Pollathandanadagu

Habit : Herb

Mode of use : Tender stem and leaves are cooked in water along with, chillies, salt and finally roasted in oil (CR 1).

Occurrence : Common in and around the hamlets (MR 24529).

Senna occidentalis (L.) Link (FABACEAE)

Vernacular name : Kolthakara adagu

Habit : Herb

Mode of use : The tender leaves are cooked in water along with salt, Chillies etc. Excess water is drained off and roasted in coconut oil (CR 1).

Occurrence : Common around the hamlets (MR 24484).

Senna tora (L.) Roxb. (FABACEAE)

Vernacular name : Kummattithagara adagu

Habit : Herb

Mode of use : The tender leaves are roasted in coconut oil along with salt, chillies etc. (CR 1).

Occurrence : Common around the hamlets (MR 24483). (Plate 10. h.)

Solanum americanum Mill. (SOLANACEAE)

Vernacular name : Sukkuti adagu

Habit : Herb

Mode of use : The tender leaves are roasted in coconut oil along with salt, chillies etc. (CR 1).

Occurrence : Common around the hamlets (MR 24672).

F. Flowers

Cullenia exarillata Robyns (CULLINIACEAE)

Vernacular name : Karanipu

Habit : Tree

Mode of use : Tender flowers are eaten raw

Occurrence : Common in the evergreen forests adjoining to the hamlets (MR 24405)

G. Fruits

Antidesma acidum Retz (EUPHORBIACEAE)

Vernacular name : Kambilipulipazham

Habit : Shrub

Mode of use : The ripened fruits are eaten as raw (CR 1).

Occurrence : Common around the hamlets and occasional in forests (MR 24746).

Argyreia nervosa (N. Burm.) Bojer (CONVOLVULACEAE)

Vernacular name : Onkattapazham

Habit : Climber

Mode of use : Ripened fruits eaten (CR 1).

Occurrence : Common around the hamlets and occasional in forests (MR 24660).

Artocarpus heterophyllus Lam. (MORACEAE)

Vernacular name : Sakkai pazham

Habit : Tree

Mode of use : The tender fruits are cooked as vegetable and ripened fruits eaten (CR 1).

Occurrence : Common around the hamlets and occasional in forests (MR 24777).

Artocarpus hirsutus Lam. (MORACEAE)

Vernacular name : Ayani sakkai pazham
Habit : Tree
Mode of use : The ripened fruits are eaten (CR 1).
Occurrence : Occasional in moist deciduous forests adjoining to the hamlet (MR 24778).

Baccaurea courtalensis (Wight) Muell. (EUPHORBIACEAE)

Vernacular name : Moottipazham
Habit : Tree
Mode of use : The ripened fruits are eaten (CR 1).
Occurrence : Common around the hamlets and neighbouring areas of the forests (MR 24939).

Briedelia retusa (L.) Spreng (EUPHORBIACEAE)

Vernacular name : Mulluvengai pazham
Habit : Tree
Mode of use : The ripened fruits are eaten (CR 1).
Occurrence : Common around the hamlets and neighbouring forest areas (MR 24751).

Calamus hookerianus Becc. (ARECACEAE)

Vernacular name : Valli Chura palam
Habit : Climbing palm
Mode of use : The ripened fruits are eaten (CR 1).
Occurrence : Common in adjoining forests of the hamlets (24841).

Calamus thwaitesii Becc. (ARECACEAE)

Vernacular name : Ponthi chural
Habit : Climbing palm
Mode of use : The ripened fruits are eaten (CR 1).
Occurrence : Common in adjoining forests of the hamlets (24843).

Colocasia esculenta (L.) Schott (ARACEAE)

Vernacular name : Shembu pazham
Habit : Rhizomatus herb
Mode of use : The ripened fruits are eaten (CR 1).
Occurrence : Common around the hamlets (MR 24854).

Cordia obliqua Willd. (BORAGINACEAE)

Vernacular name : Thumba pazham

Habit : Tree.

Mode of use : The ripened fruits are eaten (CR 1).

Occurrence : Rare, found in neighbouring forests around the hamlets (MR 24656).

Cordia wallichii G. Don (BORAGINACEAE)

Vernacular name : Viri pazham

Habit : Tree.

Mode of use : The ripened fruits are eaten (CR 1).

Occurrence : Rarely found in neighbouring forests around the hamlets due to over exploitation (MR 24655).

Ensete superbum (Roxb.) Cheesman. (MUSACEAE)

Vernacular name : Kalluvazhai pazham

Habit : Tall rhizomatous herb with pseudostem.

Mode of use : The ripened fruits are eaten (CR 1).

Occurrence : Rare, found in neighbouring forests around the hamlets (MR 24812).

Ficus racemosa L. (MORACEAE)

Vernacular name : Athipazham

Habi : Tree

Mode of use : The ripened fruits are eaten (CR 1).

Occurrence : Occasional around the hamlets and in moist deciduous forest around the hamlets (MR 24783).

Flacourtia montana Graham (FLACOURTIACEAE)

Vernacular name : Chaliru

Habit : Tree

Mode of use : The ripened fruits are eaten (CR 1).

Occurrence : Occasional in evergreen and semi evergreen forests neighbouring to the hamlets (MR 24522).

Garcinia gummi-gutta (L.) Robs.(CLUSIACEAE)

Vernacular name : Kodam puli

Habit : Tree

Mode of use : The ripened fruits are eaten (CR 1).
Occurrence : Common around the hamlets (MR 24532).

Grewia tiliifolia Vahl. (TILIACEAE)
Vernacular name : Unnam pazham
Habit : Tree
Mode of use : The ripened fruits are eaten (CR 1).
Occurrence : Common around the hamlets and moist deciduous forest areas of the adjoining forests (MR 24937).

Glycosmis pentaphylla (Retz.) DC. (RUTACEAE)
Vernacular name : Pana pazham
Habit : Shrub
Mode of use : The ripened fruits are eaten (CR 1).
Occurrence : Common around the hamlets and plains (MR 24421).

Lantana camara L. var. ***aculeata*** (L.) Moldenke (VERBENACEAE)
Vernacular name : Kongini pazham, Ari pazham
Habit : Shrub
Mode of use : The ripened fruits are eaten (CR 1).
Occurrence : Common around the hamlets and wastelands /places (MR24694).

Madhuca indica J. Gmelin (SAPOTACEAE)
Vernacular name : Pala pazham
Habit : Tree
Mode of use : The ripened fruits are eaten (CR 1).
Occurrence : Occasional in moist deciduous forests around the hamlets (MR 24630).

Mangifera indica L. (ANACARDIACEAE)
Vernacular name : Kattumangai pazham
Habit : Tree
Mode of use : The tender fruits are cooked as vegetable, used in pickles and the ripened fruits are eaten (CR 1).
Occurrence : Occasionally found in semi evergreen forests neighbouring to the hamlets and widely cultivated in and around the hamlets (MR 24931).

Mesua ferrea L. (CLUSIACEAE)

Vernacular name : Nankapalam
Habit : Tree
Mode of use : The ripened fruits are eaten (CR 1).
Occurrence : Occasional around the evergreen forests around the hamlets (MR 24536).

Mimusops elengi L. (SAPOTACAEAE)

Vernacular name : Elenji pazham
Habit : Tree
Mode of use : The ripened fruits are eaten (CR 1).
Occurrence : Occasional in neighbouring areas of the forest, cultivated in hamlets as shade tree (MR 24629).

Momordica dioica Roxb. *ex* Willd. (CUCRBITACEAE)

Vernacular name : Kattupavarai
Habit : Herb
Mode of use : The fruits are cooked as vegetables (CR 1).
Occurrence : Occasional around the hamlets (MR 24581).

Opuntia stricta Haw. var. ***dillenii*** (Ker-Gawl.) L.(CACTACEAE)

Vernacular name : Mullu kalli pazham
Habit : Succulent shrubs
Mode of use : The ripened fruits are eaten (CR 1).
Occurrence : Occasional in dry areas around the hamlets (MR 24588).

Polyalthia coffeoides (Thw. *ex* Hook. f. & Thoms.) Hook. f. & Thoms.

Vernacular name : Villa Nedunar pazham
Habit : Tree
Mode of use : The ripened fruits are eaten (CR 1).
Occurrence : Common in adjoining moist deciduous forests (MR 24505).

Polyalthia fragrans (Dalz.) (ANNONACEAE)

Vernacular name : Nedunar pazham
Habit : Tree
Mode of use : The ripened fruits are eaten (CR 1).

Occurrence : Common in adjoining moist deciduous forests (MR 24506).

Palaquium ellipticum (Dalz.) Baill.(SAPOTACEAE)

Vernacular name : Pali pazham
Habit : Tree
Mode of use : The ripened fruits are eaten (CR 1).
Occurrence : Common in evergreen forests adjoining to hamlets (MR 24631).

Phoenix loureirii Kunth var. ***humilis*** (Royle *ex* Becc.) Barrow (ARECACEAE)

Vernacular name : Easapazham
Habit : Shrub
Mode of use : The ripened fruits are eaten (CR 1).
Occurrence : Occasional in grasslands around the hamlets (MR 24845).

Phyllanthus emblica L. (EUPHORBIACEAE)

Vernacular name : Nellipazham
Habit : Tree
Mode of use : Mature fruits are eaten raw and also used for the preparation of pickles (CR 1).
Occurrence : Common around hamlets and moist deciduous forests of the neighbouring forest areas (MR 24763).

Physalis angulata L (SOLANACEAE)

Vernacular name : Pottari pazham
Habit : Herb
Mode of use : The ripened fruits are eaten (CR 1).
Occurrence : Common around the hamlets especially during the rainy season (MR 24670).

Pithecellobium dulce (Roxb.) Benth. (FABACEAE)

Vernacular name : Puli pazham
Habit : Tree
Mode of use : The ripened fruits are eaten (CR 1).
Occurrence : Common around the hamlets and neighbouring forest areas (MR 24496).

Semecarpus anacardium L. f. (ANACARDIACEAE)

Vernacular name : Cherumpazham
Habit : Herb
Mode of use : The ripened fruits are eaten (CR 1).
Occurrence : Occasional around the hamlets (MR 24444).

Solanum americanum Mill. (SOLANACEAE)

Vernacular name : Sukkutti pazham
Habit : Herb
Mode of use : The ripened fruits are eaten (CR 1).
Occurrence : Common around the hamlets (MR 24672).

Solanum torvum Sw. (SOLANACEAE)

Vernacular name : Sundai pazham
Habit : Herb
Mode of use : The tender fruits are cooked as vegetables (CR 1).
Occurrence : Common around the hamlets (MR 24673).

Scolopia crenata (Wight & Arn.) Clos (FLACOURTIACEAE)

Vernacular name : Chithali pazham
Habit : Tree
Mode of use : The ripened fruits are eaten (CR 1).
Occurrence : Occasional in evergreen and semi evergreen forests neighbouring to the hamlets (MR 24525).

Syzygium cumini (L.) Skeels (MYRTACEAE)

Vernacular name : Nava pazham
Habit : Tree
Mode of use : The ripened fruits are eaten (CR 1).
Occurrence : Common around the hamlets and neighbouring forest areas (MR 24557).

Syzygium densiflorum Wall. *ex* Wight & Arn.(MYRTACEAE)

Vernacular name : Cherunava pazham
Habit : Tree
Mode of use : The ripened fruits are eaten (CR 1).
Occurrence : Common around the hamlets and neighbouring forest areas (MR 24559).

Tamilnadia uliginosa (Retz.) Tirveng. & Sastry

Vernacular name : Pindichakka

Habit : Tree

Mode of use : The tender fruits are cooked as vegetables (CR 1).

Occurrence : Common in moist deciduous and semi evergreen forests around the hamlets (MR 24608).

Zizyphus oenoplia (L.) Mill. (RHAMNACEAE)

Vernacular name : Sooripazham

Habit : Climber

Mode of use : The ripened fruits are eaten (CR 1).

Occurrence : Common around the hamlets and neighbouring areas of the forests (MR 24430).

Zizyphus mauritiana Lam. (RHAMNACEAE)

Vernacular name : Peumsoori pazham

Habit : Tree

Mode of use : The ripened fruits are eaten (CR 1).

Occurrence : Common around the hamlets and neighbouring areas of the forests (MR 24431).

Zizyphus rugosa Lam. (RHAMNACEAE)

Vernacular name : Kottalai pazham

Habit : Straggler

Mode of use : The ripened fruits are eaten (CR 1).

Occurrence : Occasional found in forest margins (MR 24432).

H. Seeds

Artocarpus heterophyllus Lam. (MORACEAE)

Vernacular name : Sakkai kuru

Habit : Tree

Mode of use : The mature seeds are cooked as vegetables and dried seeds are roasted and eaten.

Occurrence : Common around the hamlets and occasional in forests (MR 24777).

Artocarpus hirsutus Lam. (MORACEAE)

Vernacular name : Ayani sakkai Kuru

Habit : Tree

Mode of use : The roasted seeds eaten (CR 1).

Occurrence : Occasional in moist deciduous forests adjoining to the hamlet (MR 24778).

Bambusa bambos (L.) Voss. (POACAEAE)

Vernacular name : Mulanellu

Habit : Tree grass

Mode of use : The seeds are roasted and eaten and also used for the preparation of gruel. The powdered seeds are used for the preparation of different food items (CR 1).

Occurrence : Common around the hamlets and neighbouring forest areas (MR 24867).

Cullenia exarillata Robyns (CULLINIACEAE)

Vernacular name : Karanikuru

Habit : Tree

Mode of use : Matured seeds are roasted and eaten.

Occurrence : Common in the evergreen forests adjoining to the hamlets (MR 24405).

Cycas circinalis L. (CYCADACEAE)

Vernacular name : Eathankay

Habit : Tree

Mode of use : The seeds are boiled in water and the water is drained off, dried and powdered. The flour is used to prepare various food items (CR 1).

Occurrence : Common in moist deciduous forests around the hamlets (MR 24887).

Entada rheedei Spreng. (FABACEAE)

Vernacular name : Thaylakay

Habit : Lianas

Mode of use : The cotyledons of the dried seeds are cooked and eaten (CR 1).

Occurrence : Common in moist deciduous forests around the hamlets (MR 24494).

Sterculia foetida L. (STERCULIACEAE)

Vernacular name : Kavala
Habit : Tree
Mode of use : The roasted seeds and cotyledons are eaten (CR 1).
Occurrence : Common in moist deciduous forests around the hamlets (MR 24407).

Tamarindus indica L. (FABACEAE)

Vernacular name : Pulinchi kuuru
Habit : Tree
Mode of use : The seeds roasted and eaten (CR 1).
Occurrence : Common around the hamlets (MR 24486).

Terminalia bellarica (Graeuter.) Roxb. (COMBRETACEAE)

Vernacular name : Thannimaram
Habit : Tree
Mode of use : The seeds are eaten raw (CR 1).
Occurrence : Common around the hamlets (MR 24473).

Xylia xylocarpa (Roxb.) Taub.(FABACEAE)

Vernacular name : Irumullu
Habit : Tree
Mode of use : The dried seeds are eaten (CR 1).
Occurrence : Common in Moist deciduous forests around the hamlets (MR 24497).

I. Mushrooms

***Auricularia* sp.** (AURICULARICEAE)

Vernacular name : Kathu Kumman
Habit : Saprophytic fungus on rotten wood
Mode of use : The pileus and stipes is washed in water and boiled with condiments or fried in oil or roasted in a hearth (CR 2).
Occurrence : Very rare, in neighbouring forests (MR 24910).

***Plurotus* sp.** (LENTINACEAE)

Vernacular name : Marakkumman

Habit : Fruiting body of saprophytic fungus

Mode of use : The pileus and stipes is washed in water and boiled with condiments or fried in oil or roasted in a hearth (CR 1).

Occurrence : Occasional, in dried bamboo culms of neighbouring forest during rainy season (MR 24916).

Pluerotus tuber regium (Fr.) Singer (LENTINACEAE)

Vernacular name : Venjivan

Habit : Fruiting body of saprophytic fungus

Mode of use : The pileus and stipes is washed in water and boiled with condiments or fried in oil or roasted in a hearth (CR 2).

Occurrence : Occasional in dried woods neighbouring forest during rainy season (MR 24917).

Termitomyces microcarpus (Berk and Br.) Heim. (PLUTEACEAE)

Vernacular name : Arikumman

Habit : Saprophytic fungi on soil

Mode of use : The pileus and stipes is washed in water and boiled with condiments or fried in oil or roasted in a hearth (CR 1).

Occurrence : Occasional, in and around the hamlets during the rainy season (24921).

Termitomyces clypeatus Heim. (PLUTEACEAE)

Vernacular name : Choondu keekay

Habit : Fruiting body of a saprophytic fungus

Mode of use : The pileus and stipes is washed in water and boiled with condiments or fried in oil or roasted in a hearth (CR 1).

Occurrence : Occasional in and around the hamlets which appeared in groups during rainy season (MR 24919).

J. Spices and Condiments

Garcinia gummi-gutta (L.) Robs. (CLUSIACEAE)

Vernacular name : Kodam puli

Habit : Tree

Mode of use : The fruit is used as a condiment (CR 1).

Occurrence : Common around the hamlets (MR 24532).

Oxalis corniculata L. (OXALIDACEAE)

Vernacular name : Puliadagu
Habit : Herb
Part used : Leaves
Mode of use : Tender leaves are used as a condiment (CR 2).
Occurrence : Common around the hamlets (MR 24419).

Piper mullesua Buch.-Ham. *ex* D. Don (PIPERACEAE)

Vernacular name : Kattukurumulakay
Habit : Climber
Part used : Seeds
Mode of use : The seeds are used as a condiment and spice in the preparation of food items.
Occurrence : Occasional, in adjoining forest areas of the hamlets (MR 24728).

Piper nigrum L., Sp. Pl. (PIPERACEAE)

Vernacular name : Kurumulakay
Habit : Climber
Part used : Seeds
Mode of use : The seeds are used as a condiment and spice in the preparation of food items.
Occurrence : Occasional, in adjoining forest areas of the hamlets (MR 24729).

Zingiber neesanum (Graham) Ramam. (ZINGIBERACEAE)

Vernacular name : Malyinchi, Kattingi
Habit : Rhizomatous herb
Part used : Rhizome
Mode of use : The rhizome is ground into a paste and used as a condiment and spice in the fish preparations (CR 2).
Occurrence : Occasional, in adjoining forest areas of the hamlets (MR 24807).

K. Food from cultivated plants

The traditional agriculture practices are not found in this nomadic tribal groups. Recently, they have started to cultivate a few plants in and around their hamlets, which are listed below;

Tubers

Kavathu (*Dioscores alata*) and Poola kilangu (*Manihot esculenta*),

Leaves

Mathanadagu (*Cucurbita maxima*), Muringadagu (*Moringa pterygosperma*), Vasaladagu (*Basella alba*) Paitadagu (*Vigna ungiculata*)

Vegetables and Fruits

Vendai (*Abelmoschus esculentus*), Koyapazham (*Psidium guajava*) and Papali pazham (*Carica papaya*)

Pulses

Payaru (*Vigna ungiculata*)

Condiments and Spices

Manjal (*Cucuma longa*), Kurumulakay (*Piper nigrum*), Milakay (*Capsicum annuum*) and Kanthari (*Capsicum frutescens*).

5. 3. 3. 2. Plants in medicine

The Kadars do not rear livestock and therefore, they are not aware of any plant particular to animal diseases.

Acalypha fruticosa Forssk.(EUPHOBIACEAE)
(EUPHORBIACEAE)

Vernacular name : Murithalai
Habit : Herb
Part used : Leaves
Used for : Wound healing
Mode of application : The leaves are ground in to a paste and smeared over the affected area (CR 1).
Occurrence : Common around the hamlets (MR 24745).

Acorus calamus L. (ARACEAE)

Vernacular name : Vasambu
Habit : Herb
Part used : Rhizome
Used for : Diarrhoea

Plate 9. KADAR'S MEDICINAL PLANTS. **a.** ***Coscinium fenestratum***; **b.** ***C. fenestratum*** - extracted stem; **c.** Preparing medicine from ***C. fenestratum***; **d.** ***Thottea siliquosa***; **e.** ***Zizyphus oenoplia***; **f.** ***Ficus racemosa***; **g.** ***Diploclisia glaucescens***; **h.** ***Amorphophallus paeoniifolius*** var. ***paeoniifolius.***

Plate 10. EDIBLE LEAVES. **a.** *Acacia pennata*; **b.** *Colocasia esculenta*; **c.** *Commelina benghalensis*; **d.** *Corchorus aestuans*; **e.** *Holostemma ada-kodien*; **f.** *Lepianthes umbellata*; **g.** *Lobelia dichotoma*; **h.** *Senna tora*.

Mode of application: The dried rhizome is powdered, dissolved in water and administered orally, twice a day (CR 2).

Occurrence : Cultivated (MR 24850).

Actiniopteris radiata (Sw.) Lin. (ACTINIOPTERIDACEAE)

Vernacular name : Kallupana

Habit : Xerophytic herb

Part used : Whole plant

Used for : Wounds

Mode of application: The whole plant along with the rhizome of Majal (*Curcuma longa*) is ground into a paste and smeared over the wounds (CR 2).

Occurrence : Rarely found in dry rocks around the hamlets (MR 24888).

Adiantum philippense L. (ADIANTACEAE)

Vernacular name : Kathirpanna

Habit : Herb

Part used : Leaves

Used for : Wound healing

Mode of application: Leaves are ground into a paste and applied over the wound (CR 2).

Occurrence : Common in and around the hamlet (MR 24890).

Achyranthes aspera L. (AMARANTHACEAE)

Vernacular name : Kadaladi

Habit : Herb

Part used : Whole plant

Used for : Body pain and pain in the vertebral column

Mode of application: The whole plant boiled in water and bathing relieves body pain and the pain in the vertebral column (CR 2).

Occurrence : Common around the hamlets (MR 24708).

Ageratum conizoides L. (ASTERACEAE)

Vernacular name : Appa chappa

Habit : Herb

Part used : Leaves

Used for : Wound healing

Mode of application: The leaves ground into a paste and smeared over the wounds (CR 2).

Occurrence : Common around the hamlets (MR 24610).

Albizia procera (Roxb.) Benth. (FABACEAE)

Vernacular name : Vella nama, vella vaka

Habit : Tree

Part used : Bark

Used for : Inflammation of belly and the whole body.

Mode of application: The bark is rubbed on a clean rock along with water and the dissolved paste is administered orally (CR 2).

Occurrence : Common in moist deciduous forests around the hamlet (MR 24952).

Alstonia scholaris (L.) R. Br. (APOCYNACEAE)

Vernacular name : Palamaram

Habit : Tree

Part used : Bark, Latex

Used for : Headache, psoriasis and itches

Mode of application: 1). The bark is collected from northern part of tree, ground into a paste and smeared over the fore head (CR 2).

2). The latex is applied over the affected area (CR 2).

Occurrence : Occasional in adjoining forests around the hamlets (MR 24636).

Amorphophallus paeoniifolius (Dennst.) var. ***paeoniifolius*** (ARACEAE)

Vernacular Name : Katuchena

Habit : Herb

Part used : Corm

Used for : Part used: Rhizome

Used for : Piles

Mode of application: The rhizome along with the rhizome tubers of Keerichena (*Anaphyllum wightii*) is roasted and eaten.

Occurrence : Occasional around the hamlets (MR 24851). (Plate 9. h.)

Anaphyllum wightii Schott (ARACEAE)

Vernacular name : Keerichena

Habit : Rhizomatous herb

Part used : Rhizome

Used for : Piles, Snake bite

Mode of application: 1). The rhizome along with the rhizome tubers of Kattuchena (*Amorphohpallus paeoniifolius* var. *paeoniifolius*) is roasted and eaten (CR 2).

2). The rhizomes ground into a paste and smeared over the wound from snakebite (CR 2).

Occurrence : Occasionally found in the evergreen forests adjoining to the hamlets (MR 24852).

Areca catechu L. (ARECACEAE)

Vernacular name : Pakka, Adakka maram

Habit : Tree

Part used : Young fruits

Used for : Spider poison, Torentula poison

Mode of application: The tender fruits along with lime (Calcium hydroxide) is made into a paste and smeared over the affected area (CR 2).

Occurrence : Cultivated (MR 24837).

Arenga wightii Griff. (ARECACEAE)

Vernacular name : Kattuthengu

Habit : Tree

Part used : Tomentum in the peduncle of leaves

Used for : Wound healing

Mode of application: The tomentum of leaves is ground into a paste along with lime (Calcium hydroxide) salt and smeared over the wounds (CR 2)

Occurrence : Occasional in the evergreen forests around the hamlet (MR 24838).

Aristolochia tagala Cham (ARISTOLOCHIACEAE)

Vernacular name : Kandaravalli

Habit : Herbaceous climber

Part used : Leaves, whole plant

Used for : Wound healing, burns, body pain and pain in the vertebral column

Mode of application: 1). The leaves are made in to a paste and applied over the affected area (CR 2).

2). The whole plant boiled in water and bathing relieves the body pain and the pain in the vertebral column (CR 2).

Occurrence : Rare, found in the adjoining forests (MR 24723).

Asplenium phyllitidis D.Don (ASPLENIACEAE)

Vernacular name : Marapana

Habit : Herb

Part used : Whole plant

Used for : Scabies and itches

Mode of application: Whole plant is ground into a paste and applied over the affected area (CR 2).

Occurrence : Common in and around the hamlet (MR 24892). (Plate 24. b)

Bambusa bamboos L. (Voss) (POACEAE)

Vernacular name : Mullumula

Habit : Tree grass

Part used : Peelings of culm

Used for : Wound healing

Mode of application : The peelings of the culm is ground in to a paste along with lime and applied over the wounds (CR 1)

Occurrence : Common in adjoining forest areas (MR 24867).

Curcuma zedoaria (Christm.) Rosc. (ZINGIBERACEAE)

Vernacular name : Manja Kuvai

Habit : Rhizomatous herb

Part used : Rhizome

Used for : Night blindness

Mode of application: The rhizome along with the rhizome of Vellakoova (*Shuminanthus virgatus*), the starch powder prepared from Panai (*Caryota urens*) are ground into a paste,

dissolved in hot water, is administered orally, for night blindness.

Occurrence : Common around the hamlets (MR 24804).

Clerodendrum viscosum Vent (VERBENACEAE)

Vernacular name : Perukinthalai

Habit : Shrub

Part used : Tender leaves

Used for : Wound healing

Mode of application: The tender leaves are crushed and the juice is applied for wound healing (CR 2).

Occurrence : Common around the hamlets (MR 24691).

Cocos nucifera L. (ARECACEAE)

Vernacular name : Thengu

Habit : Tree

Part used : Midrib of the leaves

Used for : Wound due to cut in umbilical cord in infants

Mode of application: The midrib of leaves made into ash and mixed with coconut oil is smeared over the cut on the umbilical cord (CR 2).

Occurrence : Cultivated (MR 24848).

Caryota urens L (ARECACEAE)

Vernacular name : Pana

Habit : Tree

Part used : Roots

Used for : Headache

Mode of application: The tender root paste is smeared over the forehead (CR 2).

Occurrence : Occasional in adjoining forest of the hamlets (MR 24844).

Cyclea peltata (Lam.) Hook. f. & Thoms. (MENISPERMACEAE)

Vernacular name : Padakkizhangu

Habit : Herbaceous climber

Part used : Roots

Used for : Stomach ache (CR: 1)

Mode of application: The roots are ground into a paste and administered orally (CR 2)

Occurrence : Common around the hamlets (MR 24510).

Coscinium fenestratum (Gaertn.) Colebr. (MENISPERMACEAE)

Vernacular name : Malaimajal kol, Manjavally

Habit : Lianas

Part used : Mature stem

Used for : Back pain, headache and urinary infection,

Mode of application: 1).The stem along with the whole plant of Erpakodi (*Naravelia zeylanica*) is boiled in water and poured over the affected area (CR 2).

2). The mature stem of the Malaimanjal kol is rubbed on rock with water and the paste is smeared over the forehead for head ache (CR 2).

3). The decoction prepared by boiling the stem is administered orally, thrice a day for urinary infections (CR 2).

Occurrence : Very rare, found in semi evergreen forests adjoining to the hamlets (MR 24509). (Plate 9. a., b& c.)

Cassia fistula L. (FABACEAE)

Vernacular Name : Konnamaram

Habit : Tree

Part used : Roots, bark

Used for : Family planning/inducing sterility, Rheumatism

Mode of application: 1). The roots along with the roots of Veetimaram (*Dalbergia latifolia*), Vengamaram (*Pterocarpus marsupium*) and a piece of deer horn are ground into a powder. The capsule made from it, known as *hallake*, is administered orally to the women during 8th to 10th day of their monthly periods, in empty stomach. She is also not allowed to take tamarind and lemon, for two weeks (CR 2).

2). The bark along with rhizome of Vellkoova (*Shuminianthus virgatus*) are crushed and boiled in water, the decoction is administered orally for rheumatism (CR 2).

Occurrence : Common around the hamlet (MR 24480).

Carica papaya L. (CARICACEAE)

Vernacular name : Papayamaram
Habit : Tree
Part used : Tender leaves
Used for : Abortion and releasing of placenta
Mode of application: The tender leaves along with onion and salt are crushed; the juice is given after the delivery, for the release of placenta (CR 2).
Occurrence : Cultivated around the hamlets (24569).

Careya arborea Roxb.(LECYTHIDACEAE)

Vernacular name : Pekumaram
Habit : Tree
Part used : Bark
Used for : Toothache
Mode of application: The bark is boiled in a pot having a small mouth and the steam is inhaled over the aching tooth (CR 2).
Occurrence : Occasional around the hamlets (MR 24561).

Caesalpinia bonduc (L.) Roxb. (FABACEAE)

Vernacular name : Kalanchi
Habit : Climber
Part used : Cotyledons
Used for : Stomach-ache with Diarrhoea
Mode of application: The water boiled cotyledons and its decoction, is orally administered, thrice a day, for stomachache with diarrhoea (CR 2).
Occurrence : Occasional in moist deciduous forests adjoining to the hamlets (MR 24478).

Dalbergia latifolia Roxb. (FABACEAE)

Vernacular name : Veeti maram
Habit : Tree
Part used : Bark
Used for : Stomach ache, inducing sterility/family planning
Mode of application: 1). Bark is crushed, boiled in water and administered orally, in empty stomach.

2). The roots along with the roots of Konna maram (*Cassia fistula*), Vengamaram (*Pterocarpus marsupium*) and a piece of deer horn are ground into a powder. The capsule made from it known as *hallake,* is administered orally, to the woman during 8th to 10th day of her monthly periods, in empty stomach. She is also not allowed to take tamarind and lemon for two weeks (CR 2).

Occurrence : Common in adjoining forest areas of the hamlets (24455).

Dendrocnide sinuata (Blume) Chew (URTICACEAE)

Vernacular name : Anavirati, Chudukolu

Habit : Small tree

Part used : Bark, decayed leaves

Used for : Itching caused by the leaves

Mode of application: The bark or decayed leaves ground into a paste along with humus soil is smeared over the affected area (CR 2)

Occurrence : Common in evergreen forests adjoining to the hamlets (MR 24770).

Diploclisia glaucescens (Blume) Diels (MENISPERMACEAE)

Vernacular name : Chilanthikizhangu

Habit : Lianas

Part used : Tubers

Used for : Poisonous sting by the insects

Mode of application: The tuber ground into a paste is applied over the affected area by the sting of wasp and spiders (CR 2).

Occurrence : Occasionally found in semi evergreen forests around the hamlets (MR 24511). (Plate 9. g.)

Drynaria quercifolia (L.) Js.Sm. (POLYPODIACEAE)

Vernacular name : Ulayalavalli, Kellola

Habit : Epiphytic pteridophyte

Part used : Rhizomes, leaves

Used for : Ear ache, snakebite; fever, diarrhoea and stomach ache in children

Mode of application: 1).The rhizomes are roasted in oil and used as an eardrop for earache (CR 2).

2). The tender leaf with circinnate venation is ground into a paste and smeared over wounds (CR 2).

3). The rhizome is ground into a paste and given orally for children for fever, diarrhoea and stomach ache (CR 2).

4). The mature stem along with the roots of Eyakundan (*Rauvolfia serpentina*) and Kottaiveru (*Zizyphus oenoplea*) is ground into a paste and applied over the bitten area (CR 2).

Occurrence : Common as an epiphyte in trees around the hamlets (MR 24897).

Diospyros cordifolia Roxb. (DIOSPYRACEAE)

Vernacular name : Vakkanai maram

Habit : Tree

Used for : Rheumatism

Part used : Leaves

Mode of application: The leaves along with the whole plant of Erippakodi (*Naravelia zeylanica*) are boiled and water applied over the body (CR 2).

Occurrence : Common in moist deciduous forests adjoining to the hamlet (MR 24632).

Entada rheedei Spreng. (FABACEAE)

Vernacular name : Theylakodi

Habit : Lianas

Part used : Seed kernel

Part used : Cotyledons of the seed

Used for : Body pain, abdominal pain (CR 2)

Mode of application: The cotyledons of the seeds are cut into small pieces and cooked along with rice (*Oryza sativa*), Fenugreek (*Trigonella foenum-graecum*) and salt. The soup is orally administered for relieving abdominal and body pains.

Occurrence : Common in moist deciduous forests around the hamlets (MR 24494).

Ensete superbum (Roxb.) Cheesman. (MUSACEAE)

Vernacular name : Kalluvazha

Habit : Tall herb with pseudostem

Part used : Seeds

Used for : Piles and urinary disorders

Mode of application: 1). The dried seeds are ground into a powder and dissolved in hot water and administered orally for piles (CR 2).

2). The decoction prepared by continuous boiling of seeds along with the mulanooru (bamboo manna of *Bambusa bamboos*) is orally administered (CR 2).

Occurrence : Rarely found in neighbouring forests around the hamlets due to over exploitation (MR 24812).

Erythropalum scandens Blume (ERYTHROPALACEAE)

Vernacular name : Pulluvallikodi

Habit : Climber

Part used : Leaves

Used for : Snake bite and earache

Mode of application: 1). The leaves are ground into a paste and smeared over the bitten area, the leaf juice is used as an eardrop (CR 2).

Occurrence : Occasional in margin of the semi evergreen forests (24428).

Elettaria cardamomum (L.) Maton (ZINGIBERACEAE)

Vernacular name : Aelam

Habit : Rhizomatous herb

Part used : Rhizome

Used for : Snake bite

Mode of application: The rhizome is ground into a paste and half of it is dissolved in water and orally administered, the remaining is smeared over the thoroughly washed wound, due to snake bite (CR 2).

Occurrence : Occasional in the evergreen forests adjoining to the hamlets (24805).

Ficus tinctoria G. Forst. ssp. ***parasitica*** (Koen. *ex* Willd.) Corner (MORACEAE)

Vernacular name : Paraveeti

Habit : Epiphytic tree
Part used : Roots
Used for : Body pain and stomach ache
Mode of application : The roots are cut into small pieces, boiled in water, the decoction is orally administered, twice a day, for the relief from overall body pain and acute stomach ache.
Occurrence : Common in adjoining forests around the hamlets (MR 24785).

Ficus racemosa L. (MORACEAE)
Vernacular name : Athimaram
Habit : Tree
Part used : Bark
Used for : Inducing fertility/family planning
Mode of application : The bark is ground into a paste, dissolved in water and orally administered, in empty stomach, for one week, during the menstrual periods (CR 2).
Occurrence : Common in adjoining forest areas of the hamlets (24783). (Plate 9. f.)

Ganoderma lucidum (Fr.) P. Karst (GANODERMACEAE)
Vernacular name : Marakumman
Habit : Fruiting body of bracket fungi
Part used : Lower surface of the thallus
Used for : Head ache
Mode of application : Fruiting body is ground into paste and smeared over the forehead (CR 2).
Occurrence : Common around the hamlets (MR 2424912).

Lagerstroemia microcarpa Wight (LYTHRACEAE)
Vernacular name : Vethekku
Habit : Tree
Part used : Bark
Used for : Indigestion
Mode of application : The bark is ground into a paste, dissolved in hot water and orally administered (CR 2).
Occurrence : Common in adjoining forest areas of the hamlets (24564).

Hedychium coronarium Koenig in Retz. (ZINGIBERACEAE)

Vernacular name : Anachukku

Habit : Rhizomatous herb

Part used : Rhizome

Used for : Stomach ache and itching

Mode of application: 1). The juice of the crushed rhizome is orally administered for stomach ache (CR 2)

2). The rhizome is ground into a paste and smeared over the body (CR 2).

Occurrence : Occasional in moist deciduous and semi evergreen forests adjoining to the hamlets (MR 24806).

Helicteres isora L. (STERCULIACEAE)

Vernacular name : Kivanu

Habit : Small tree

Part used : Bark, roots and fruits

Used for : Stomachache, Snakebite and ear ache (CR: 2)

Mode of application: 1). Three or four pieces of the bark along with a handful of leaves of Veeti maram (*Dalbergia sissoides*) are ground into a paste and dissolved in hot water and orally administered, twice a day, for stomach ache (CR 2).

2). The roots are cut into five to six small pieces and ground into a paste, applied over the wound due to bite of viper and a half of it is dissolved in water and orally administered (CR 2).

3). The fruits are roasted in coconut oil along with salt and used as an ear drop for earache (CR 2).

Occurrence : Common in deciduous forests, plantations and plains (MR 24406).

Haldina cordifolia (Roxb.) Ridsd. (RUBIACEAE)

Vernacular name : Chudalatholmaram Manjakadambu

Habit : Tree

Part used : Bark

Used for : Body pain

Mode of application: The bark along with bark of Thannimaram is boiled in water and bathing, relieves body pain.

Occurrence : Common around the hamlets (MR 24599).

Macaranga peltata (Roxb.) Muell. (EUPHORBIACEAE)

Vernacular name : Vattakanni

Habit : Tree

Part used : Bark

Used for : Toothache

Mode of application: The bark along with bark of Nellimaram (*Phyllanthus emblica*), whole plant of Murikodi (*Rubia cordifolia*), bark of Kattumuchi (*Mangifera indica*) are boiled in a pot with small mouth and the steam is applied over the affected teeth(CR 2).

Occurrence : Occasional around the hamlets (MR 24951).

Mangifera indica L. (ANACARDIACEAE)

Vernacular name : Kattumoochi

Habit : Tree

Part used : Bark, Cotyledons

Used for : Toothache, stomachache

Mode of application: 1). The bark along with bark of Vattakanni (*Macaranga peltata*), whole plant of Murikodi (*Rubia cordifolia*) and bark of Nellimaram (*Phyllanthus emblica*) is boiled in a pot with small mouth and the steam is applied over the affected teeth (CR 2).

2). The cotyledons of the seeds are dried and ground into a powder, is dissolved in hot water and orally administered, for stomachache (CR 2).

Occurrence : Common around the hamlets (MR 24931).

Musa paradasiaca L. (MUSACEAE)

Vernacular name : Vazha

Habit : Tall herb with pseudostem

Part used : Stem pith

Used for : Headache

Mode of application: The stem pith is ground into a paste and smeared over the forehead (CR 2).

Occurrence : Cultivated around the hamlets (MR 24950).

Mimosa pudica L. (FABACEAE)

Vernacular name : Thottasukki

Habit : Herb

Part used : Leaves

Used for : Rheumatic pain and wound healing,

Mode of application: 1). The tender leaves are ground into a paste along with lime (Calcium hydroxide) and smeared over the part of body having rheumatic pain (CR 2).

2). The leaves are crushed along with salt and the juice is applied over wound for wound healing (CR 1).

Occurrence : Common around the hamlets (MR 24495).

Naravelia zeylanica (Linn.) DC. (RANUNCULACEAE)

Vernacular name : Earppa kodi, Chalikkodi

Habit : Climbing herb

Part used : Roots, Whole plant, stem and leaves

Used for : Tooth ache, headache, cold and rheumatism

Mode of application: 1). The roots are cut into small pieces and placed in the cavities of the affected tooth (CR 2).

2). The tender leaves are ground into a paste and smeared over the forehead for headache (CR 2).

3). The whole plant is crushed and boiled in water and the fumes inhaled for cough and cold.

4). The roots and stem boiled in water and bathing, is good for rheumatism.

Occurrence : Common around the hamlets (MR 24502).

Ochlandra travancorica (Bedd.) Benth. (POACEAE)

Vernacular name : Odai

Habit : Reed bamboo

Part used : Leaves

Used for : Body pain, wound healing

Mode of application: 1). The leaves are boiled in water and bathing in it relieves body pain (CR 2)

2). The peelings of the culm is ground into a paste along with lime and is applied over the wounds (CR 1).

Occurrence : Common in ecotone of the semi evergreen forests around the hamlets (MR 24870).

Ochlandra scriptoria (Dennst.) Fischer in Gamble (POACEAE)

Vernacular name : Palodai

Habit : Reed bamboo

Part used : Tender shoots, peeling from the culm

Used for : Wound healing

Mode of application: 1). The tender shoots are squeezed and the juice is applied over the severe wound with inflammation (CR 2).
2). The peelings of the culm is ground in to a paste along with lime and applied over the wounds (CR 1).

Occurrence : Common in river banks adjoining to the hamlets (MR 24871).

Pittosporum neelgherrense Wight & Arn., Prodr. (PITTOSPORACEAE)

Vernacular name : Anali vegam

Habit : Tree

Part used : Bark

Used for : Snake bite

Mode of application: The bark is collected using non metallic tools, with chanting traditional prayers, along with roots of Alpam (*Apama siliquosa*) is ground into a paste and applied over the wound, the paste dissolved in water, is also orally administered for the treatment of Snake bite (CR 2).

Occurrence : Occasional in evergreen and Shola forest adjoining to the hamlets (MR 24526).

Pergularia daemia (Forssk.) Chiov. (ASCLEPIADACEAE)

Vernacular Name : Velipparuthi

Habit : Climber

Part used : Tender leaves

Part used : Whole plant

Used for : Restarting fertility

Mode of application: The whole plant along with the bark of Poovamaram (*Schiechlera oleosa*) and the bark of Thannimaram (*Terminalia bellarica*) is continuously boiled in 2 litres of water boiled down to 1/16 of litre, one ounce of the decoction, is orally administered, to woman during her 8th to 10th menstrual periods, in empty stomach (CR 2).

Occurrence : Common around the hamlets (MR 24646).

Piper longum L. (PIPERACEAE)

Vernacular name : Thippaliveru

Habit : Climber

Part used : Root

Used for : Toothache

Mode of application: The root is roasted slightly in fire and the juice is applied over the affected area (CR 2).

Occurrence : Common around the hamlets and adjoining forest (MR 24727).

Parahemionitis cordata (Roxb. *ex* Hook . & Grev.) Fraser-Jenk. (HEMIONITIDACEAE)

Vernacular name : Elichevi

Habit : Herb

Part used : Leaves

Used for : Burns and Wounds

Mode of application: The leaves are ground into a paste and applied over the affected area (CR 2).

Occurrence : Common around the hamlet (MR 24901).

***Pleurotus* sp.** (LENTINACEAE)

Vernacular name : Marakumman

Habit : Fruiting body of a saprophytic fungus on wood

Part used : Pileus

Used for : Burns and Wounds (CR 2).

Mode of application: The pileus of the wild mushroom is ground into a paste and smeared over the affected area.

Occurrence : Occasional in rotten trees around the hamlets (MR 24949).

Pterocarpus marsupium Roxb. (FABACEAE)

Vernacular name : Vengai maram

Habit : Tree

Part used : Bark, and Resin

Used for : Stomachache with indigestion, rheumatic fever and healing wounds

Mode of application: 1). A medicinal tea is prepared using the bark and orally administrated for one week, in empty stomach (CR 2).
2). The decoction prepared from the bark, is orally taken, twice a day, up to one month (CR 2).
3). Resin is applied over the wounds (CR 2).

Occurrence : Common around the hamlets (MR 24468).

Phyllanthus emblica L. (EUPHORBIACEAE)

Vernacular name : Nellimaram

Habit : Tree

Part used : Bark

Used for : Toothache

Mode of application: The bark along with bark of Vattakanni (*Macaranga peltata*), whole plant of Murikodi (*Rubia cordifolia*) and bark of Kattumoochi (*Mangifera indica*) are boiled in a pot with small mouth and the steam is applied over the affected teeth.

Occurrence : Common in neighbouring forests of the hamlets (MR 24763)

Psidum guajava L. (MYRTACEAE)

Vernacular name : Perathalai

Habit : Small tree

Part used : Leaves

Used for : Body pain

Mode of application: The leaves are boiled in water and bathing in it, relieves body pain (CR 2).

Occurrence : Cultivated around the hamlets (MR 24556).

Phyllanthus amarus Schum. & Thonn. (EUPHORBIACEAE)

Vernacular name : Keezharnelli

Habit : Herb

Part used : Whole plant

Used for : Jaundice

Mode of application: The whole plant is ground into a paste, dissolved in water and orally administered, in empty stomach (CR 1).

Occurrence : Common around the hamlets (MR 24762).

Pyrrosia lanceolata Farewell(POLYPODIACEAE)

Vernacular name : Thiriyan

Habit : Epiphytic herb

Part used : Whole plant

Used for : Earache

Mode of application: The whole plant is crushed and the juice is used as an ear drop (CR 1).

Occurrence : Occasional around the hamlets (MR 24906).

Rhaphidophora pertusa (Roxb.) Schott (ARACEAE)

Vernacular name : Marachempu

Habit : Climber

Part used : Stem

Used for : Ear pain

Mode of application: Stem is roasted in fire and the juice is used as an eardrop (CR 2).

Occurrence : Occasional in semi evergreen and evergreen forests adjoining to the hamlets (MR 24859).

Rauvolfia serpentina (L.) Benth. *ex* Kurz (APOCYNACEAE)

Vernacular name : Eyakundan veru

Habit : Shrub

Part used : Roots

Used for : Snake bite, stomach ache with diarrhoea.

Mode of application: 1). The roots along with mature stem of Ullalavalli (*Drynaria quercifolia*), Kottaiveru (*Zizyphus oenoplea*) are ground into a paste and applied over the bitten area (CR 2).

2). The roots are ground into paste, dissolved in hot water and orally administered for and the remaining of it, is smeared over the external part of the stomach for the treatment of stomachache with diarrhoea (CR 2).

Occurrence : Rare, found in moist deciduous forests around the hamlets (MR 24638)

Rubia cordifolia L. (RUBIACEAE)

Vernacular name : Murikodi

Habit : Herb

Part used : Leaves, whole plant

Used for : wound healing, tooth ache

Mode of application: 1). The leaves are crushed and the juice is applied over the wounds (CR 2).

2). The whole plant along with bark of Nellimaram (*Phyllanthus emblica*), whole plant of Vattakanni (*Macaranga peltata*) bark of Kattumuchi (*Mangifera indica*) are boiled in a pot with small mouth and the steam is applied over the affected teeth(CR 2).

Occurrence : Common in adjoining forest areas of the hamlets (MR 24606).

Rotula aquatica Lour. (BORAGINACEAE)

Vernacular name : Vettila vanchi

Habit : Shrub

Part used : Leaves, Mature stem and roots

Used for : Urinary trouble and kidney stone

Mode of application: 1). The leaves are chewed with lime (Calcium hydroxide) and areca nut (*Areca catehu*) as a pan and tribals have informed that, they get a slight hallucinogenic effect. If the leaves are chewed as such, the nerve stimulant properties increased (CR 2).

2). The mature stem with roots are cut into small pieces and boiled in water and the decoction is orally administered for urinary infections, painful urination and kidney stone (CR 2).

3). Few pieces of stem along with the stem of Malaimanchal koil (*Coscinium fenestratum*) Vegain pattai and salt are boiled together and orally administered for kidney stone (CR 2).

Occurrence : Occurring in Kuriar Kutty river (MR 24657).

Schleichera oleosa (Lour.) Oken (SAPINDACEAE)

Vernacular name : Poovamaram

Habit : Tree

Part used : Bark

Used for : Restarting fertility

Mode of application: The bark along with leaves of Velithalai (*Pergularia daemia*) *and* bark of Thannimaram (*Terminalia bellarica*) are continuously boiled in 2 litres of water boiled down to 1/16 of litre, one ounce of the decoction is orally administered to women during their 8th to 10th menstrual periods, in empty stomach (CR 2).

Occurrence : Occasional, found in adjoining forests around the hamlets (MR 24442).

Thottea siliquosa (Lam.) Ding Hou (ARISTOLOCHIACEAE)

Vernacular name : Alpam

Habit : Shrub

Part used : Leaves, Roots

Used for : Wound healing, snakebite,

Mode of application: 1). The leaves are mashed and smeared over the wounds (CR 2).

2). Roots are ground into a paste along with the bark of Analivegam (*Pittosporum neelgherrense*) which are collected using non metallic tools, with chanting traditional prayers, is applied over the wound; the paste dissolved in water is orally administered (CR 2).

Occurrence : Occasional around the neighbouring forests around the hamlets (MR 24724). (Plate 9. d.)

Terminalia bellarica (Graeuter.) Roxb. (COMBRETACEAE)

Vernacular name : Thannimaram

Habit : Trees

Part used : Inner bark

Used for : Jaundice, Allergy

Used for : Restarting fertility, all type of acute pain

Mode of application: 1). The bark along with the whole plant of Velithalai (*Pergularia daemia*) and bark of Poovamaram (*Schiechlera oleosa*) are continuously boiled in 2 litres of water boiled down to 1/16 of litre, one ounce of the decoction is orally administered to women during their 8th to 10th of menstrual period in empty stomach.

2). The bark along with the barks of Chudalathol (*Haldinia cordifolia*), Kattumanga (*Mangifera indica*), Ventheku (*Legerstromoea microcarpa*)and Pullamaruhtu (*Terminalia paniculata*) are crushed and boiled, the decoction prepared is administered orally in empty stomach for curing all types of pain in stomach and body.

Occurrence : Common around the hamlets (MR 24473).

Schumannianthus virgatus (Roxb.) Rolfe. (MARANTACEAE)

Vernacular name : Vella koova
Habit : Shrub
Part used : Rhizome
Used for : Stomachache
Mode of application : Rhizome is ground into a paste, dissolved in water and administered orally (CR 2).
Occurrence : Common around the hamlets (MR 24811).

Senna occidentalis (L.) Link, Handb. (FABACEAE)

Vernacular name : Kolthakarai
Habit : Herb
Part used : Leaves
Used for : Rheumatism
Mode of application : Leaf paste is smeared over the wounds (CR 2).
Occurrence : Common around the hamlets (MR 24484).

Solanum americanum Mill. (SOLANACEAE)

Vernacular name : Sukkuti dag, Kakai dag
Habit : Herb
Part used : Leaves
Used for : Stomach ache and Ulcers
Mode of application : The leaf juice is used for stomachache and ulcers.
Occurrence : Common around the hamlets (MR 24672).

Syzygium cumini (L.) Skeels, (MYRTACEAE)

Vernacular name : Njaval
Habit : Tree
Part used : Bark

Used for : Toothache

Mode of application: Bark is boiled in water and the steam is inhaled over the affected tooth (CR 2)

Occurrence : Common around the hamlets (MR 24557).

Spilanthes clava DC. (ATERACEAE)

Vernacular name : Palluvethanachedi

Habit : Herb

Part used : Flowers

Used for : Toothache

Mode of application: Crushed flowers are applied over the affected teeth.

Occurrence : Occasional around the hamlets (MR 24617).

Sterculia guttata Roxb. *ex* DC. (STERCULIACEAE)

Vernacular name : Peenari

Habit : Tree

Part used : Bark

Used for : Cold

Mode of application: The bark is boiled in water and the steam is inhaled by wrapping around head and body (CR 2).

Occurrence : Common in adjoining forest areas of the hamlets (24408).

Tectona grandis L. f. (VERBANACEAE)

Vernacular name : Thekkumaram

Habit : Tree

Part used : Tender leaves

Used for : Wound healing

Mode of application: The tender leaves are ground into a paste and smeared over the wounds (CR 2).

Occurrence : Common in adjoining forest areas of the hamlets (24695).

Terminalia paniculata Roth (COMBRETACEAE)

Vernacular name : Pullamaruthu

Habit : Tree

Part used : Bark

Used for : Body pain and back pain

Mode of application: The inner bark is ground into a paste and smeared over the body and after two hours bathing in water boiled with pieces of bark (CR 2).

Occurrence : Common in adjoining forest areas of the hamlets (24554).

Toddalia asiatica (L.) Lam (RUTACEAE)

Vernacular name : Puliyoru mull

Habit : Climber

Part used : Root

Used for : Tooth ache

Mode of application: The root is ground into a paste and applied over the aching tooth (CR 2).

Occurrence : Common in adjoining forest around the hamlet (MR 24423).

Vanda thwaitesii Hook. f. (ORCHIDACEAE)

Vernacular name : Kellola marayola

Habit : Epiphytic herb

Part used : Leaves

Used for : Earache

Mode of application: The leaf extract is used as an ear drop (CR 2).

Occurrence : Occasional in neighbouring trees around the hamlets (MR 24796).

Wrightia tinctoria (Roxb.) R. Br. (APOCYNACEAE)

Vernacular name : Nelam palai

Habit : Medium tree

Part used : Tender leaves

Used for : Scabies

Mode of application: The tender leaves are ground into a paste and smeared over the affected part (CR 2).

Occurrence : Common in plains and adjoining forest areas of the hamlets (MR 24642).

Zizyphus rugosa Lam. (RHAMANACEAE)

Vernacular name : Kotta

Habit : Straggler

Part used : Roots
Used for : Stomach ache
Mode of application: The roots along with the seeds of Chalingi (*Caesalpinia bounduc*) are ground into a paste, mixed with paste of Elephant tooth, dissolved in hot water, is administered orally (CR 2).
Occurrence : Common in adjoining forest areas of the hamlets (MR 24432).

Zizyphus oenoplia (L.) Mill. (RHAMNACEAE)
Vernacular name : Kottai veru
Habit : Climber
Part used : Roots
Used for : Snake bite
Mode of application: The roots along with the mature stem of Ullalavalli (*Drynaria quercifolia*), roots of Amalpori veru (*Rauvolfia serpentina*) are ground into a paste and applied over the bitten area.
Occurrence : Common around the hamlets and neighbouring areas of the forests (MR 24430). (Plate 9. e.)

5. 3. 3. 3. Miscellaneous plant uses

5. 3. 3. 3. 1. Fibre yielding plants

Bauhinia racemosa Lam. (FABACEAE)
Vernacular name : Aram puli
Habit : Tree
Part used : the fibres obtained from bark
Mode of use : The fresh bark fibres are peeled from the wood and kept for one or two days for curing (CR 1).
Occurrence : Common around the hamlets and neighbouring areas (MR 24477).

Caryota urens L. (ARECACEAE)
Vernacular name : Koontha panai naru
Habit : Tree

Part used : Fibres obtained from peduncle of leaves and infrutescence

Mode of use : The fibres peeled from the peduncle are dried in sunlight and whenever needed is stored in water for sometime. The branches of the fresh infrutescence are directly used as fibre (CR 1).

Occurrence : Common around the hamlets (MR 24844).

Ficus racemosa L. (MORACEAE)

Vernacular name : Athi naru

Habit : Tree

Part used : The fibres obtained from bark

Mode of use : The fresh bark fibres peeled from the wood are kept for one or two days for curing (CR 1).

Occurrence : Occasional around the hamlets and in moist deciduous forest around the hamlets (MR 24783).

Grewia tiliifolia Vahl. (TILIACEAE)

Vernacular name : Unnam naru

Habit : Tree

Part used : The fibres obtained from bark

Mode of use : The fresh bark fibres peeled from the wood are kept for one or two days for curing (CR 1).

Occurrence : Common around the hamlets and moist deciduous forests (MR 24937).

Helicteres isora L. (STERCULIACEAE)

Vernacular name : Kaivan

Habit : Small tree

Part used : The fibres obtained from bark

Mode of use : The fresh bark fibres peeled from the wood are kept for one or two days for curing (CR 1).

Occurrence : Occasional in neighbouring forest areas (MR 24406).

Sterculia villosa Roxb. *ex* DC. (STERCULIACEAE)

Vernacular name : Vakka naru

Habit : Tree

Part used : The fibres obtained from bark

Mode of use : The fresh bark fibres peeled from the wood are kept for one or two days for curing (CR 1).

Occurrence : Occasional in neighbouring forest areas (MR 24409).

Trema orientalis (L.) Blume (ULMACEAE)

Vernacular name : Amai thali naru

Habit : Tree

Part used : The fibres obtained from bark

Mode of use : The fresh bark fibres peeled from the wood are kept for one or two days for curing (CR 1).

Occurrence : Occasional in neighbouring forest areas (MR 24773).

5. 3. 3. 3. 2. Plants for Fish stupefaction

Acacia sinuata (Lour.) Merr. (FABACEAE)

Vernacular name : Cheenikai

Habit : Climbing shrub

Part used : Fruits

Mode of use : The crushed fruits are dissolved in the water of small streams or selected areas (CR 2).

Occurrence : Occasional in moist deciduous forests of the adjoining areas (MR 24488).

Acacia torta (Roxb.) Craib (FABACEAE)

Vernacular name : Incham pattai

Habit : Climbing shrub

Part used : Fruits

Mode of use : The crushed fruits are dissolved in the water of small streams or selected areas (CR 1).

Occurrence : Occasional in moist deciduous forests of the adjoining areas (MR 24489).

Anamirta cocculus (L.) Wight & Arn. (MENISPERMACEAE)

Vernacular name : Pollakay

Habit : Lianas

Part used : Fruits

Mode of use : The crushed fruits are dissolved in the water of small streams or selected areas (CR 1).

Occurrence : Common around the hamlets (MR 24507).

Bambusa bambos (L.) Voss. (POACEAE)

Vernacular name : Mulamkuruthu

Habit : Tree grass

Part used : Tender shoots

Mode of use : The tender shoots are crushed and the juice is dissolved in streams (CR 1).

Occurrence : Common in moist deciduous forests around the hamlets (MR 24867).

Cycas circinalis L. (CYCADACEAE)

Vernacular name : Eath

Habit : Tree

Part used : Bark

Mode of use : The bark is crushed and dissolved in streams (CR 1).

Occurrence : Common in moist deciduous forests around the hamlets (MR 24887).

Canthium rheedei DC. (RUBIACEAE)

Vernacular name : Karakkay

Habit : Small tree

Mode of use : The fruits are crushed and dissolved in water of small streams or selected areas (CR 2).

Occurrence : Occasional in neighbouring forest areas (MR 24597).

Caryota urens L. (ARECACEAE)

Vernacular name : Koontha panai

Habit : Tree

Part used : Fruits

Mode of use : The fruits are crushed and dissolved in water of small streams or selected areas (CR 1).

Occurrence : Common around the hamlets (MR 24844).

Diospyros cordifolia Roxb. (DIOSPYRACEAE)

Vernacular name : Vakkanai maram

Habit : Tree
Part used : Leaves and branches
Mode of use : The leaves along with branches are crushed and the juice is dissolved in streams (CR 1).
Occurrence : Common in moist deciduous forests adjoining to the hamlet (MR 24632).

Dillenia pentagyna Roxb (DILLENIACEAE)
Vernacular name : Vazham punna
Habit : Tree
Part used : Fruits
Mode of use : The fruits are crushed and dissolved in water of small streams or selected areas (CR 1).
Occurrence : Common around the hamlets (MR 24503).

Sapindus trifoliata L. (SAPINDACEAE)
Vernacular name : Poochakotta, Urunchi
Habit : Tree
Part used : Fruits
Mode of use : The fruits are crushed and dissolved in water of small streams or selected areas (CR 1).
Occurrence : Common in neighbouring forest areas of the hamlets (MR 24441).

Strychnos nux-vomica L. (LOGANIACEAE)
Vernacular name : Kanchiram
Habit : Tree
Part used : Fruits and leaves
Mode of use : The fruits or leaves are crushed and dissolved in water of small streams or selected areas (CR 1).
Occurrence : Occasional in neighbouring forest areas (MR 24654).

5. 3. 3. 3. 3. Plants as Repellents

Azadirachta indica A. Juss. (MELIACEAE)
Vernacular name : Veepumaram
Habit : Tree

Part used : Oil, leaves

Used for : Leach and insect repellent

Mode of application: 1). The oil is mixed along with salt, pukalai (powder of *Nicotiana tabacum*) and smeared over the external parts of the body exposed to leaches (CR 1).

2). The leaves are mixed with the seeds to be stored for a longer period so as to free it from insects attack (CR 1).

Occurrence : Common in plains and adjoining areas of the hamlets (MR 24427).

Cyclea peltata (Lam.) Hook. f. & Thoms. (MENISPEMACEAE)

Vernacular name : Padakilangu

Habit : Herb

Part used : Tuberous roots

Used for : Leach repellents

Mode of use : The tuberous roots are roasted in coconut oil along with salt and smeared over the external parts of the body exposed to leaches (CR1).

Occurrence : Occasional in adjoining forest areas (MR 24510).

Canarium strictum Roxb.(BURSERACEAE)

Vernacular name : Kunkillyam

Habit : Tree

Part used : Resin

Used for : Repellents of insects

Mode of use : The resin collected from wood is put in fire during night hours for repelling the harmful insects (CR 1).

Occurrence : Occasional in adjoining forest areas (MR 24426).

Crotalaria pallida Dryand. (FABACEAE)

Vernacular name : Kilukkey

Habit : Tree

Part used : Seeds

Used for : Rodenticide

Mode of use : The seeds are mixed with sugar candy and placed near the rat path (CR 1).

Occurrence : Common around the hamlets (MR 24452).

Harpullia arborea (Blanco) Radlk. (SAPINDACEAE)

Vernacular name : Pookoli maram
Habit : Tree
Part used : Bark
Used for : Leach repellents
Mode of use : The bark is crushed and the juice smeared over the external parts of the body exposed to leaches (CR 1).
Occurrence : Occasional in adjoining forest areas (MR 24440).

Solanum virginianum L. (SOLANACEAE)

Vernacular name : Mullukathrica
Habit : Herb
Part used : Fruits
Used for : Leach repellents
Mode of use : The fruits are crushed and the juice is smeared over the external parts of the body exposed to leaches (CR 1).
Occurrence : Occasional in plains and neighbouring forests (MR 24676).

Strychnos nux-vomica L. (LOGANIACEAE)

Vernacular name : Kanchiram
Habit : Tree
Part used : Fruits and leaves
Used for : Insect repellents
Mode of use : The leaves are mixed along with the seeds to be stored for a longer period to prevent it from insect attack (CR 1).
Occurrence : Occasional in neighbouring forest areas (MR 24654).

5. 3. 3. 3. 4. Plants as soaps and shampoo

Acacia sinuata (Lour.) Merr. (FABACEAE)

Vernacular name : Cheenikai
Habit : Climbing shrub
Part used : Fruits and bark
Used for : Soap
Mode of use : The fruits or bark is crushed and the foam is applied over the dresses while washing (CR 1).

Occurrence : Occasional in moist deciduous forests of the adjoining areas (MR 24488).

Sapindus trifoliata L. (SAPINDACEAE)

Vernacular name : Pooch kottai

Habit : Tree

Part used : fruits

Used for : Soap

Mode of use : The fruits or bark is crushed and the foam is applied over the dresses while washing (CR 1).

Occurrence : Common in neighbouring forest areas of the hamlets (MR 24441).

Grewia tiliifolia Vahl. (TILIACEAE)

Vernacular name : Unnam

Habit : Tree

Part used : Bark

Used for : Shampoo

Mode of use : The juice obtained from the bark is used as a shampoo (CR 1).

Occurrence : Common around the hamlets and moist deciduous forests (MR 24937).

Sida rhombifolia L. (MALVACEAE)

Vernacular name : Kurunthotti

Habit : Herb

Part used : Leaves

Used for : Shampoo

Mode of use : The leaves are crushed in water and the mucilaginous extract is used as a shampoo (CR 1).

Occurrence : Common around the hamlets (MR 24597)

5. 3. 3. 3. 5. Plant as masticators

Rotula aquatica Lour.(BORAGINACEAE)

Vernacular name : Vettila vanchi

Habit : Shrub

Part used : Leaves

Mode of use : The leaves are chewed with lime (Calcium hydroxide) and areca nut (*Areca catechu*) as a pan and tribals have informed that it gave them a slight hallucinogenic effect. If the leaves are chewed as such, it acts as a nerve stimulant (CR 2).

Occurrence : Occurring in Kuriarkutty river (MR 24657).

5. 3. 3. 3. 6. Plants in Beliefs

According to Kadars the huge trees like Palai (*Alstonea scholaris*), Athimaram (*Ficus racemosa*), Alamaram (*Ficus benghalensis, Ficus religiosa*) are the domiciles of Peyi (evil spirits) and are called as Peyimarams. The fresh green culms of the bamboos are considered the symbol of purity and it is used to carry the corpse to the burial ground. They believed that the 'Malai majal kol'(*Coscinium fenestratum*) and Analivegam (*Pittosporum neelgherrense*) are the plants with ultimate powers to cure all kinds of diseases and also believed that both the plants wards off evil spirits. The bark of Anelivegam (*Pittosporum neelgherrense*) and Kandaravalli (*Aristolochia sp.*) kept around the houses would keep away the snakes and other harmful creatures.

5. 3. 3. 3. 7. Plants in worships and Religious rituals

They worship the Veppamaram (*Azadirachta indica*) as the domicile of Goddess Mariyatha and believed that their Goddesses lived under the Alamaram (*Ficus benghalensis*) and Athimaram (*Ficus racemosa*) and cutting of these trees are taboo.

The fresh green culms of bamboos are considered to ward off evils spirits.

5. 3. 3. 3. 8. Plants in traditional songs

There are few plants like, Panai (*Caryota urens*), Alamaram (*Ficus sp.*), Mula (*Bambusa bambos*), that are mentioned in some of their traditional songs.

5. 3. 3. 3. 9. Plants in material culture

A. Musical instruments

Muram and Oli

The basketry made up of Oda (*Ochlandra travancorica*) is used also as sacred carrier of *Oili* a traditional instrument made up of iron rings during the

rituals. During ritual ceremonies they perform a mystic spell with traditional songs and recite by holding a bamboo basketry known as *Muram* and a chain of large iron rings called as *Oli*. They pray to the nature God through a *Muramkulukkippattu* a traditional mystic spell in the form of a song. (Plate 8. d.)

Kulumbu

Kulumbu is a pipe made up of Palai mram (*Wrightia tinctoria*) and is used as the musical instrument during their dance.

B. Basketries

Koodai

Used for : Collecting storing seeds

Mode of making : The culms of Mula (*Bambusa bambos*) or Oda (*Ochlandra travancorica*)

Mode of making : The long culm is woven in the form of basket (Plate 8. f.).

Muram

Used for : Collecting and storing seeds

Mode of making : The culms of Mula (*Bambusa bambos*) or Oda (*Ochlandra travancorica*)

Mode of making : The culm fibres are woven in the form of basket.

C. Ornaments

The leaves of Kattu thengu (*Arenga wightii*), Kaithathalai (*Pandanus thwaitesii*) and Karimpana (*Borassus flabellifer*) rolled in a special form, like a disc, called *Oalai* or *thoda* (Earpins) is inserted in the posterior portion of the ear lobes which is dilated sufficiently to contain them . Some times, the seeds of Kunni (*Abrus precatorius*) or Manjadi (*Adenanthera pavonina*) are also put in rolled leaves for beautification. The bamboo culms are carved in the form of beads and beautiful chains are made from it. The seeds of Muthukaya (*Coix lacryma jobi*) are also used for making chains.

D. Comb

Kadars comb is one of the characteristic products of their craft. The combs are made from bamboo culms (*Bambusa bambos*) by carving. There are two

types of combs, one with four prongs and the other with numerous prongs. Few years back the Kadar ladies used to wear a comb as a sign for identification.

E. Mark

The exudates of Venga (*Pterocarpus marsupium*) are used for making traditional marks. The milky latex is allowed to ooze out by making a small wound in the stem and the sticky gum is placed at the centre of the forehead as a decorative mark.

F. Tooth cleaner

The Stem of Veppai maram (*Azadirachta indica*), Petiole of the mature leaves of (*Mangifera indica*) and Charcoal obtained from Mula (*Bambusa bambos*) are used for cleaning the tooth.

G. Cloths

According to the elder members of this community, it is reported that about fifty years ago they used to wear flattened and cured bark of Aranjali (*Antiaris toxicaria*) as cloths.

H. Bathing brush

The fibrous fruit cover of Peaikin kay (*Luffa acutangula*), Perin peekin kay (*Luffa cylindrica*) are used as a brush while bathing. The bark fiber of Kattu seenkai (*Acacia torta*) is also used as a bathing brush.

I. Traditional house construction

The traditional houses are generally made up of bamboos. Pillars and other poles are made up of Mula (*Bambusa bambos*), Churuli maram (*Mesua ferea*), Veetimaram (*Dalbergia latifolia*) *etc.* The walls of houses are made of Mula (*Bambusa bambos*) or Oda (*Ochlandra travancorica*) Thatching is done by Oda thalai (leaves of *Ochlandra travancorica*).

J. House hold article

Uralu

Used for	: As a mortar
Material used	: The large culm of Mula (*Bambusa bambos*)
Mode of making	: The one end of the nodal wall is removed and used as a mortar.

Ulakkai

Used for : As pestle

Material used : The wood

Mode of making : The mature wood of Churuli (*Mesua ferrea*) is carved in the form a pestle and the outer portion is smoothened by continuous rubbing. The medium sized culms with thick walls are cut almost to one metre length.

Korakolu

The tools used for food gathering include digging sticks made up of Mula (Bambusa *bambos*) or Panni Chooral (*Calamus thwiatesii*) which is a long stick with a pointed end.

Parakolu

A stick made up of Bambusa *bambos*) or Panni Chooral (*Calamus thwiatesii*) in which an iron blade is fitted at one end

Brooms

The dried twigs of Kurumthotti (*Sida rhombifolia*), (*Sida acuta*) is tied and used as brooms. Finely sliced culm fibre of Palodai (*Ochlandra scriptoria*) and Valliodai (*Teinostachyum wightii*) are also used as brooms.

Cooking Utensils

The large sized culms of *Bambusa bambos* are used as utensils for preparing food. The rice with adequate amount of water is added through the small opening made in the internodes; the hole is covered and put in the fire for some time. According to the tribals the cooked rice in bamboo culms is very good for health. The culms of 'Oda' (*Ochlandra travancorica*) and 'Vallioda' (*Teinostachyum wightii*) are used for the preparation of coffee and tea. They still use bamboo cylinders for storing food items, honey, oil etc.

Water bottles

Drinking water drawn from streams and rivulets are kept in bamboo (*Bambusa bambos*) cylinders, which they carry with them to the forests.

Plates

Leaves of Plasu (*Butea monosperma*), Kalluvazhai (*Ensete superbum*) and Thekku (*Tectona grandis*), Vazham punna (*Dillinia pentagyna*), Vattakanni (*Macaranga peltata*) are used for serving food.

K. Decoration

Kalluvazha (*Ensete superbum*), Kunnan Vazha (*Musa paradasiaca*) and Enthusoppu (*Cycas circinalis*) are used for decorating pandals during marriage and other auspicious occasions.

L. Torches

Kerosine filled in culms of Oda (*Ochlandra travancorica*) and caped with cloth or cotton is used as a troche during the night hours.

M. Traditinal fire making equipments

Chakki mukki

Material used : The culms of *Bambusa bambos*, pieces of stone and fibres collected from the base of the peduncles of the compound leaf of Panai (*Caryota urens*).

Mode of making : The bamboo culms along with the stone are rubbed together with chanting of mantras praising their traditional gods. The continuous friction produces fire, which is collected in the fibres of Panai (*Caryota urens*).

N. Traps

Various kinds of traps like *Elikkeni* (Rat trap), *Kooran keni* (Mouse deer trap), *Meenkuruthi* (Fish trap) made up of Bambusa bambos are commonly used by them.

O. Weapons

During the past, the culms of Munga maram (*Bambusa bambos*) were used as bow and the finely pointed culms of same plant as arrows. The other weapons included *chavana* (catapult) (Plate 8. g.); *Vettukathy*, is a chopper with a long and curved iron blade fitted to a wooden handle; *Pichathy*, a kitchen knife with a long blade and a short wooden handle. The *Kykodali* is an ordinary handle axe with an iron cutting edge with about six inches long.

5. 3. 4. Conclusion

Kadars, the nomadic food gathering tribal groups, are rich in their traditional knowledge, beliefs, customs and practices. They believe in supernatural powers of plants and their methods of treatment for diseases consist of mantras and traditional medicines. They directly depended on 207

plants for their various needs. Among these, 120 plants are used in food, 77 in medicine and 53 in their material culture, customs and beliefs. Being a nomadic tribe they do not rear livestock, other than dogs. Therefore, knowledge of fodder plants and plants for ethno veterinary purposes are not available with them. Out of the 207 plants representing 155 genera and 75 families recorded, the lower plants are represented by seven Pteridophytes and 12 Fungi. The higher plants are represented by 187 plants and one Gymnosperm. Though settled agricultural life is of recent for them, they cultivate 18 species of food plants around the hamlets. As regard to the representative plant families, *Fabaceae* is represented by 20 species followed by *Dioscoreaceae* (9), *Euphorbiaceae* (9), *Solanaceae* (9), *Arecaceae* (8), *Moraceae* (8) *etc.* The medicinal plants restricted to this tribe are *Diploclisia glaucescens, Haldina cordifolia, Asplenium phyllitidis, Pleurotus sp.* and *Rotula aquatica.* Another characteristic medicinal plant of this tribe is Malaimanjal kodi (*Coscinium fenestratum*) and owing to its curative power they use it in their magico-religious believes. Among the various ethnomedicinal uses recorded in the present study, 23 are undocumented till date. The knowledge of psychoactive property of leaves of *Rotula aquatica* is known to this tribe alone. The widely used plants in life and culture of Kadar tribe are *Bambusa bambos* (18 uses); *Curcuma longa, Ochlandra travancorica* (9 uses); *Ensete superbum, Cocos nucifera Drynaria quercifolia* (5 uses); *Ficus racemosa, Cycas circinalis* (5 uses each).

Kurumbars

There is a tribe who still called themselves Kurumbars in the Attappady valley. There are different hypothesis pertaining to the various Kurumba communities particularly in respect of their name, identity, origin and history. (Dr. P.R.G. Mathur)

5. 4. KURUMBARS

5. 4. 1. Introduction

The Kurumbars are one of the tribe confined to the reserve forests and vested forests of Nilgiris. There are different tribal groups known in the name of *Kurumba Kurumban* or *Kurumars*. Among the Kurumbars of Malabar, Thurston (1909) recorded three sub divisions such as *Mulla kurumban*, *Jenukurumban* and *Urali Kurumban* or *Betta Kurumban*. The one among the three tribal groups of Attappady valley, introduce themselves as Kurumbars. They are settled in the higher altitude of the mountain in the northwest part of the valley. They have no relationship with Kurumbas, mentioned by Thurston. The Kurumbars of Attappady are sometimes called *Palu Kumbar* to distinguish them from the *Alu Kurumbars* of Nilgiris. They seem to be the two segments of same tribe; they are differentiated from each other because of the territorial separation. The *Alu Kurumbars* live in the upper mountains of Nilgiris and the *Palu kurumbar* live in the lower reaches, on both sides of Bhavani River after it falls over the precipitous slopes of the avalanche peak (Menon & Sasikumar, 1996). Most of the Kurumbar hamlet is surrounded with less disturbed forests. In the study area they have 16 hamlets and the one seen in the highest elevation is at Thudukki at about 1500 meters followed by Galasi, Kadukumanna, Anavayi, Murukala, Thadikkundu, Gottiarkandi, Kurukkathikal, Yedavani and Pazhayoor, all in the Reserve forests and Moolakombu, Soottara, Boothayur, are in the vested forests(Fig. 9.). The traditional dress of men includes a loin cloth and women wear a piece of cloth, *Chela* round their waist, allowing one end to drape their chest up to armpit, covering the breasts. The women used to wear a wide variety of ornaments made up of plants, metals, glass or plastics. They have a population of 1667 individuals including 816 m1les and 851 females (GOI census, 2001). Their language is a mixture of Tamil, Kannada and Malayalam.

5. 4. 2. Socio-Cultural and Anthropological aspects

5. 4. 2. 1. Hut and Hamlet

The hamlet is known as *Ooru*, which is located on a terrace of a hihly sloping hillside, with thick vegetation and the access is provided by a winding foot path. They look for the availability of deep soil which would support their shifting cultivation and and also a forest that would provide them with small

animals and plenty of forest produce. The House of Kurumbars is termed as *Alai* or *Chalai*. Their houses are in rows and seldom in isolation (except for field watching station in the agricultural lands). The front veranda of a house is called *mettu*. The courtyard of their huts is called *Kalam* where threshing is done after harvest. The huts are erected on a raised mud platform. Most of the Kurumbars have Veranda known as *Tavara* on a raised mud (*Denai*) and a central room (*veetu*) that has a back door opening out into another long veranda (*Melai Tavara*). The *Denais* are often enclosed wholly or in part with low mud walls and utilised as sleeping rooms and sometimes as an additional room. The *Veetu* is the main sleeping room. A portion of the *Veetu* is marked off as the Kitchen and hearth. Over the hearth there is a ceiling of bamboo called '*Girasi*' on which Ragi (*Eluesine cracana*) and Chama (*Panicum sumatrense*) are dried. Just over the '*Girasi*' there is another ceiling called *Attai* that is used for storing household articles and grains. The houses are generally made up of bamboo and pole of small trees; thatching is done with grasses. The houses are found very close to each other and in opposite row. The cattle shed and goat houses are also found near the houses. The hamlets consist of 15 to 65 houses including the field watching houses. Presently, many of the members reside in modern houses constructed by the Government authorities under the tribal development schemes (Plate 11.a, b, d & f).

5. 4. 2. 2. Social system

The Kurumbars are part of a patrilocal and patrilineal society (Mathur, 1977). The joint family system is not found among them. When a boy grows up and get married, he prefers to live in a separate house with his consort. The aged parents live with one of their sons or with each son in rotation. Most of the families are monogamous. Polygamy is a very rare phenomenon among them. Kurumba family consist of four to five persons, which includes husband, wife and unmarried children.

The Kurumbars have exogamous dual organisation. Their traditional moieties *Thamayam-Thampi* and *Maman-Macha* are subdivided into four classes each, which are exogamous. The *Thamayom-Thampi* is split up into four classes, viz., *Vellaka*, *Arar*, *Champaka* and *Uppili*. *Maman-Macha* is also subdivided into four classes such as *Karungas*, *Devanar*, *Peradara* and *Karthika*. Each of the four exogamous class of *Thamayam-Thampi* moiety gets their wives from the four classes of *Maman-Macha* exogamous moieties. The Kurumbars have their own socio-political leader of the hamlet (*Ooru*) known as

Fig. 9 Map showing the distribution of Kurumbars

Plate 11. KURUMBARS. **a.** Hamlet; **b.** Hut; **c.** Ladies participating a post death ceremony; **d.** Traditional healers; **e.** Kitchen; **f.** Medicine man; **g.** Mouse trap; **h.** Musical instrument; **j.** Basketry; **k.** Ladies dancing while a post death ceremony; **l.** Mortar and pestle.

Moopan. The *Moopan* presides over all the socio-cultural and religious ceremonies He is expected to tackle all the common problems of the community as and when they arise. The position of the *Moopan* is hereditary. *Moopan* is assisted by two officials such as *Kuruthalai* (peon) and *Bhandari* (cashier). *Mannukkaran* is another important member of the traditional tribal council. The *Mannukaran* is responsible for the agricultural practices of the *Ooru* and have adequate knowledge of the fertility of the soil and the seeds that are to be sown during a particular season.

5. 4. 2. 3. Life and subsistence Economy

5. 4. 2. 3. 1. Traditional agricultural practices

The Kurumbars practice shifting cultivation and also are food gatherers. Shifting cultivation on the hill slopes of the Attappady Reserve forest is the principal means of their subsistence. They depend for their maintenance and basic needs primarily on shifting cultivation and food gathering. Their economy revolves chiefly around shifting cultivation and every Kurumba household has a piece of land known as '*Kothukadu*' where they grow food grains for self-consumption as well as for barter. It requires very few agricultural implements and little knowledge of mannuring, irrigation and crop rotation. The Kurumbars prefer thier kothukadu near the hamlet. Ragi (*Eleusine coracana*), Chama (*Panicum sumatrense*), Thuvarai (*Cajanus cajan*), Kirai (*Amaranthus caudatus*), paddy (*Oryza sativa*), red gram (*Vigna ungiculata*), mustard (Brassica juncea), Black gram (*Vigna mungo*) and chillies (*Capsicum annuum*) are all sown together(Plate 12. a-g)

5. 4. 2. 3. 2. NTFP collection

The Non Wood Forest Produce (NTFP) Chinikkay (*Acasia consina*), Kunkiliyan (*Cannarium strictum*), Nellikay (*Phyllanthus emblica*), Urinchikkay (*Sapindus trifoliata*), Kattelam (*Elettaria cardamomum*), Padaveru (*Cyclea peltata*), Kurumthotti (*Sida rhombifolia*), Thippali (*Piper longum*), Orila (*Desmodium gangeticum*) honey, honey wax *etc.*, provides a source of income. These products are sold through Tribal Co-operative Societies.

5. 4. 2. 3. 3. Other income sources

Roots and tubers are collected, especially when there is a scarcity for grains. Edible tubers and roots are eaten throughout the year. They also make

baskets, go for hunting and fishing. Animal husbandry also plays an important role in their life and subsistence economy. Some of the younger tribesmen also work as casual labourers in forest department and in plantations.

5. 4. 2. 4. Tradition and culture

5. 4. 2. 4. 1. Ceremonies associated with birth

Within the three months of the first pregnancy, the news is reported to the headman. On the subsequent Monday, the girl's parents visit her with sweets and bring her to their home accompanied by her husband and relatives. They return after a feast. There used to be isolation sheds for parturition in the past, but now a days, it is done in a portion of the Varanda itself. The mother of either or both the spouses will attend to the delivery. The pollution period is up to 21 days. The birth of a male child is an occasion of great joy for Kurumbars. The new mother is forbidden from eating non-vegetarian food and she is given ragi gruel with turmeric juice, salt and pepper. A chain made from plaited plantain fibres is tide on to the child's waist by the grandmother and the father announces the name of the new born.

5. 4. 2. 4. 2. Puberty

At menarche, the girl shifted to an isolation hut, meant for the women of the hamlets during their monthly periods. A girl under puberty is kept in isolation for 14 days after which she is given a ceremonial bath, accompanied by all the young girls of the hamlet. Her maternal uncle presents a new cloth to her and other relatives supply rice and pulses required for feast.

5. 4. 2. 4. 3. Marriage

The Kurumbars intermarry with Mudugars. Marriage normally takes place after a girl attains her puberty. Usually it takes place at the age of 14 to 20 for ladies and 17 to 25 for boys. Marriages are arranged by negotiations but many boys see the girl for facilitating a selection. Marriage with maternal uncle's daughter is preferred among the Kurumbars and that with paternal aunt's daughter is also allowed. However, marriage with in the same clan is prohibited. Widow marriage is permitted. Divorce is allowed but not very frequent. A widow can marry her late husband's younger brother or widower can marry the wife's elder sister. Polyandry is forbidden but polygamy is

Plate 12. KURUMBAR'S SHIFTING CULTIVATION. **a & b.** Preparing land for cultivation; **c.** Kothukadu; **d.** Sowing seeds; **e.** Seeds treated with repellents; **f & g.** Crops ready for harvesting.

allowed. Marriage is celebrated at the bride's residence and there is a lot of singing and dancing. Bride price (*Pariyal panam*) is obligatory and at present, it ranges from 500 to 3000 rupees. The couple proceeds to the groom's house accompanied by the band and the dancers. A feast is also arranged for the gathering. After the marriage, the newly wedded couple start their own independent household. A male member is always the head of the family and his decisions regarding religions, social and economic matters are final.

5. 4. 2. 4. 4. Ceremonies associated with death

The Kurumbars dispose of the dead by burial on the third day. The dead bodies are kept in small decorated pandal in front of the deceased's house. The corpse is washed and dressed in new clothes and is carried in green bamboo culms by the son-in-law and brothers-in-law of the deceased to the burial pit which is about 5 to 6 feet in depth. On placing the dead body in the pit the eldest son performs the ceremony by throwing three handfuls each of grains and soil to the dead body. The corpse is placed in a sitting posture, the legs stretching towards the south. All the personal belongings of the deceased are also buried along with him. Thereafter, all the people present over there will throw soil into the pit until it is levelled to the ground. The son then brings *Dharbha* grass shouts the name of the deceased. After taking a bath he returns to the *Chalai.*

Their pollution lasts for fifteen days. Women also participate in the funeral procession. The funeral procession is generally accompanied by dance and beating drums. Memorial stones are erected in the name of the departed. The chief mourner is generally the eldest son. About a year later, the jawbone is collected and deposited in an ossuary. There is a small celebration when the jawbone is collected which is known as *chir.* It is generally celebrated once in twelve years, or when the hamlet is prosperous enough to afford, the ossuary is cleared, the bones deposited are worshiped and a grand feast is arranged for the entire tribe (Plate 11. c & k.).

5. 4. 2. 4. 5. Worships

They worship ancestors; the elders claim that the spirits of the dead appear in their dreams and they are directed to make offerings. *Banjama Tayi* (Female deity) commands universal respect. A special shrine is set apart for this deity. The next important deity is *Kakkilanga* or *Kara Daivam. Kara*

Daivam is propitiated at the time of sowing and harvesting. The *Mannukkkaran* officiates as the priest. Thus important rituals are performed when all fields are sown and harvested. The God *Malleeswara* situated in *Maḷleeswaran Mudi* is the universal deity for all the three tribes of Attappady. They also worshiped other Hindu Gods like Ayyappan, Murugan and Ganapathy *etc.* The kurumbrs are animists and believe in ghosts and spirits to whom periodical offerings are made (Plate 32. a, f & g).

5. 4. 2. 4. 6. Festivals

Their important festival is *Sivarathri*, which is celebrated in the month of February. During sivarathri festival, they offer a part of harvested crops to the God *Malleeswara* situated in a temple at Chemmannur, at the foot of Malleswara mudi. It is observed that, recently they have started celebrating other Hindu festivals like Onam, Vishu and Deppavali. Besides these, they also celebrate agricultural festivals like *Rayithodu*, *Chamathodu*, *Sapputhodu* and *Kambalam* like Irulars and Kurumbars of Attappady valleys. The agricultural festivals are celebrated among all the tribal groups of Attappady.

5. 4. 3. Ethnobotanical aspects

5. 4. 3. 1. Plants in Food

A. Roots

Dioscorea hispida Dennst. (DIOSCOREACEAE)

Vernacular name : Mazhavukilangu
Habit : Herbaceous climber
Mode of use : The root tubers are cooked in water with salt or roasted in fire (CR 1).
Occurrence : Occasional in semi evergreen forests around the hamlets (MR 24936).

Dioscorea intermedia Thw. (DIOSCOREACEAE)

Vernacular name : Riya
Habit : Herbaceous climber
Mode of use : The root tubers are cooked in water with salt or roasted in fire (CR 1).
Occurrence : Occasional in Semi evergreen and evergreen forests near the hamlet (MR 24818).

Dioscorea oppositifolia L. (DIOSCOREACEAE)

Vernacular name : Karimkodi, Kattukilangu

Habit : Herbaceous climber

Mode of use : The root tubers are cooked in water with salt or roasted in fire (CR 1).

Occurrence : Common in Semi evergreen forests (MR 24819).

Dioscorea pentaphylla L. (DIOSCOREACEAE)

Vernacular name : Nooran

Habit : Herbaceous climber

Mode of use : the root tubers are cooked in water with salt or roasted in fire (CR 1).

Occurrence : Common in near by forest area of the hamlets (MR 24821).

Dioscorea spicata Roth (DIOSCOREACEAE)

Vernacular name : Kavala

Habit : Herbaceous climber

Mode of use : The root tubers are cooked in water with salt or roasted as raw in fire (CR 1).

Occurrence : Occasional in Semi evergreen forest near the hamlet (MR 24822).

***Dioscorea* sp.** (DIOSCOREACEAE)

Vernacular name : Joddykizhangu

Habit : Herbaceous climber

Mode of use : The root tubers are cooked in water with salt or roasted as raw in fire (CR 1).

Occurrence : occasional in Moist deciduous forest around the hamlets (24935).

Dioscorea wallichii Hook. f. (DIOSCOREACEAE)

Vernacular name : Nara kilangu

Habit : Herbaceous climber

Mode of use : The root tubers are cooked in water with salt or roasted as raw in fire (CR 1).

Occurrence : Occasional in evergreen and moist deciduous forests adjoining to the hamlets (MR 24824).

Protasparagus racemosus (Willd.) Oberm. (LILIACEAE)

Vernacular name : Thennaibiri
Habit : Climbing shrub
Mode of use : The root tubers eaten as raw or roasted in fire (CR 1).
Occurrence : Occasional around the hamlets (MR 24833) (Plate 6. h.).

B. Rhizomes

Colocasia esculenta (L.) Schott. (ARACEAE)

Vernacular name : Chembu kilangu
Habit : Rhizomatous herb
Mode of use : The rhizome tubers are cut into small pieces, cooked along with, Tamarind, salt, chillies and finally roasted in oil (CR 1).
Occurrence : Common around the hamlets (MR 24854).

C. Stem pith

Caryota urens L. (ARECACEAE)

Vernacular name : Koontha panai
Habit : Tree
Mode of use : The starchy stem pith is crushed well and dissolved in water taken in large pots, excess water is drained off, kept for some time and the starch is allowed to sediment and the starchy matter is cooked. Used for preparing puddings and various indigenous items (CR 1).
Occurrence : Common around the hamlets (MR 24844).

Ensete superbum (Roxb.) Cheesman (MUSACEAE)

Vernacular name : Kalluvazha thandu
Habit : Tall rhizomatous herb with pseudo stem.
Mode of use : The tender pith is cooked as vegetable (CR 1).
Occurrence : Rare, found in neighbouring forests around the hamlets (MR 24812).

D. Tender shoots

Bambusa bambos (L.) Voss. (POACEAE)

Vernacular name : Moongkuruthu

Habit : Tree grass

Mode of use : The tender shoots around 15 centimetres long is removed from rhizome, cleaned by removing sheaths and cut into small pieces, cooked in water along with salt and water is drained off and cooked again and the same process is repeated and roasted in oil along with chillies and Onion (CR 1).

Occurrence : Common in moist deciduous forests around the hamlets (MR 24867).

Dendrocalamus strictus (Roxb.) Nees (POACEAE)

Vernacular name : Koravanmoongkuruthu

Habit : Tree grass

Mode of use : The tender shoots around 15 centimetres long removed from rhizome, cleaned by removing sheaths and cut into small pieces, cooked in water with salt and drained off water and cooked again and repeated the same process and roasted in oil along with chillies and Onion (CR 1).

Occurrence : Common in moist deciduous forests and dry forests around the hamlets (MR 24873).

Phoenix loureirii Kunth var. ***humilis*** (Royle *ex* Becc.) Barrow (ARECACEAE)

Vernacular name : Easapaka

Habit : Srub

Mode of use : The tender shoots eaten as raw (CR 1).

Occurrence : Occasional in grasslands (MR 24845).

E. Leaves

Acacia pennata (L.) Willd. (FABACEAE)

Vernacular name : Seenkey sappu

Habit : Scandent shrub

Mode of use : The tender leaves cooked along with salt, onion and chillies and finally roasted in oil (CR 1).

Occurrence : Occasional in moist deciduous forests near streams (MR 24490).

Alternanthera sessilis (L.) R.Br. ex. DC. (AMARANTHACEAE)

Vernacular name : Meenankanni sappu

Habit : Herb

Mode of use : The tender leaves are cooked along with dhal (*Cajanus cajan*), chillies, Onion, and salt and finally roasted in oil (CR 2).

Occurrence : Common in paddy fields and plains around the hamlets (MR 24710).

Allmania nodiflora (L.) R.Br. ex Wight (AMARANTHACEAE)

Vernacular name : Kallu keerai sappu

Habit : Herb

Mode of use : The tender leaves are cooked along with dhal (*Cajanus cajan*), chillies, Onion, and salt and finally roasted in oil (CR 2).

Occurrence : Common in paddy fields and plains around the hamlets (MR 24978).

Amranthus spinosus L. (AMARANTHACEAE)

Vernacular name : Mullukeerai sappu

Habit : Herb

Mode of use : The tender leaves are roasted in coconut oil along with Onion, chillies and salt or cooked in water along with dhal (*Cajanus cajan*), chillies, salt and finally roasted in oil (CR 1).

Occurrence : Common (MR 24711).

Amaranthus viridis L. (AMARANTHACEAE)

Vernacular name : Pattikerai sappu

Habit : Herb

Mode of use : The tender leaves are roasted in coconut oil along with Onion, chillies and salt or cooked in water along with dhal (*Cajanus cajan*), chillies, salt and finally roasted in coconut oil (CR 1).

Occurrence : Common around the hamlets (MR 24712)

Amorphophallus paeoniifolius (Dennst.) Nicols. (ARACEAE)

Vernacular name : Kattuchena sappu

Habit : Tuberous herb

Mode of use : The tender leaves are roasted in oil along with leaves of *Colocasia esculenta* and *Vigna ungiculata* (CR 2).

Occurrence : Occasional around the hamlets (MR 24851).

Ardisia solanacea Roxb. (MYRSINACEAE)

Vernacular name : Pulipan sappu

Habit : Tuberous herb

Mode of use : The tender leaves are roasted in oil along with chillies and salt (CR 2).

Occurrence : Occasional around the hamlets (MR 24627).

Boerhavia diffusa L. (NYCTAGINACEAE)

Vernacular name : Peruserandae sappu

Habit : Herb

Mode of use : Tender stem and leaves are cooked in water along with dhal (*Cajanus cajan*), chillies, salt and finally roasted in oil (CR 1).

Occurrence : Common in and around the hamlets (MR 24707)

Cycas circinalis L. (CYCADACEAE)

Vernacular name : Eathansappu

Habit : Tree

Mode of use : The tender leaves are cooked in excess of water along with salt, excess of water is drained off and roasted along with chillies, dhal in coconut oil (CR 1).

Occurrence : Common in Moist deciduous forests around the hamlets (MR 24887).

Celosia argentea L. (AMARANTHACEAE)

Vernacular name : Pannai sappu

Habit : Herb

Mode of use : The tender leaves are roasted in coconut oil along with Onion, chillies and salt or cooked in water along with dhal (*Cajanus cajan*), chillies, salt and finally roasted in coconut oil (CR 1).

Occurrence : Common in and around the hamlets (MR 24713). (Plate 18. c)

Colocasia esculenta (L.) Schott (ARACEAE)

Vernacular name : Shembu sappu

Habit : Rhizomatous herb

Mode of use : The tender leaves are roasted in oil along with leaves of *Amorphophallus paeonifolius* and *Vigna ungiculata*. The leaves are also cooked along with Tamarind, Chilli, Onion and salt (CR 1).

Occurrence : Common around the hamlets (MR 24854).

Commelina benghalensis L. (COMMELINACEAE)

Vernacular name : Koynay sappu

Habit : Herb

Mode of use : The tender leaves cooked along with salt and chillies and roasted in oil (CR 1).

Occurrence : Common in moist shady places around the hamlets during rainy season (MR 24835).

Corchorus aestuans L. (TILIACEAE)

Vernacular name : Illipukai sappu

Habit : Herb

Mode of use : The tender leaves cooked along with salt, chillies, onion and roasted in oil (CR 1).

Occurrence : Common in moist shady places around the hamlets during rainy season (MR 24411).

Diplazium esculentum (Retz.) Sw.(ATHYRIACEAE)

Vernacular name : Surulisappu

Habit : Shrub

Mode of use : Tender leaves are roasted in coconut oil along with onion, Chillies and salt (CR 1).

Occurrence : Common in banks of river and streams (MR 24896). (Plate 18. e)

Gynandropsis gynandra (L.) Briq. (CAPPARACEAE)

Vernacular Name : Velai sappu

Habit : Herb

Mode of use : The tender leaves are roasted in coconut oil along with Onion, chillies and salt (CR 1).

Occurrence : Occasional around the hamlets (MR 24520)

Holostemma ada-kodien Schult.(ASCLEPIADACEAE)

Vernacular name : Palai sappu
Habit : Climber
Mode of use : The tender leaves are roasted in coconut oil along with Onion, chillies and salt (CR 1).
Occurrence : Occasional in moist deciduous forests around the hamlet (MR 24652).

Mollugo pentaphylla L. (MOLLUGINACEAE)

Vernacular name : Chalikkerai sappu
Habit : Herb
Mode of use : Tender leaves roasted in coconut oil along with Onion, Chillies and salt (CR 1).
Occurrence : Occasional around the hamlets (MR 24979).

Momordica dioica Roxb. *ex* Willd.(CUCRBITACEAE)

Vernacular name : Pavalai sappu
Habit : Herb
Mode of use : Tender leaves are roasted in coconut oil along with Onion, Chillies and salt (CR 1).
Occurrence : Occasional around the hamlets (MR 24581).

Oxalis corniculata L. (OXALIDACEAE)

Vernacular name : Pulikerai sappu
Habit : Herb
Mode of use : Tender leaves are cooked along with Chillies, Onion and salt (CR 2).
Occurrence : Common around the hamlets (MR 24419).

Portulaca oleracea L. (PORTULACACEAE)

Vernacular name : Gonikey sappu
Habit : Herb
Mode of use : Tender stem and leaves are cooked in water along with dhal (*Cajanus cajan*), chillies, salt and finally roasted in oil (CR 1).
Occurrence : Common in and around the hamlets (MR 24529).

Persicaria chinensis (L.) Gross. (POLYGONACEAE)

Vernacular name : Gonki sappu

Habit : Herb

Mode of use : Tender stem and leaves are cooked in water along with dhal (*Cajanus cajan*), chillies, salt and finally roasted in oil (CR 1).

Occurrence : Common in and around the hamlets (MR 24719).

Senna occidentalis (L.) Link (FABACEAE)

Vernacular name : Ponthakarai sappu

Habit : Herb

Mode of use : The tender leaves are cooked in water along with salt, Chillies etc. drained off excess of water and roasted in coconut oil (CR 1).

Occurrence : Common around the hamlets (MR 24484).

Senna tora (L.) Roxb. (FABACEAE)

Vernacular name : Sattitagarai

Habit : Herb

Mode of use : The tender leaves are roasted in coconut oil along with salt, chillies etc. (CR 1).

Occurrence : Common around the hamlets (MR 24483)

Solanum americanum Mill. (SOLANACEAE)

Vernacular name : Sukkuti sappu, Kakai sappu

Habit : Herb

Mode of use : The tender leaves are roasted in coconut oil along with salt, chillies etc. (CR 1).

Occurrence : Common around the hamlets (MR 24672). (Plate 18. h)

Trianthema portulacastrum L (AIZOACEAE)

Vernacular name : Serandai sappu

Habit : Herb

Mode of use : Tender stem and leaves are cooked in water along with dhal (*Cajanus cajan*), chillies, salt and finally roasted in oil (CR 1).

Occurrence : Common in and around the hamlets (MR 24589).

F. Fruits

Antidesma acidum Retz (EUPHORBIACEAE)

Vernacular name : Adukodantha paka

Habit : Shrub
Mode of use : The ripened fruits eaten as raw (CR 1).
Occurrence : Common around the hamlets (MR 24746).

Antidesma ghaesembilla Gaertn., Fruct. (EUPHORBIACEAE)
Vernacular name : Kambilithoori paka
Habit : Tree
Mode of use : The ripened fruits eaten as raw (CR 1).
Occurrence : Occasional in adjoining forests around the hamlets (MR 24747).

Antidesma ghaesembilla Gaertn. (EUPHORBIACEAE)
Vernacular name : Perum kodantha
Habit : Tree
Mode of use : The ripened fruits eaten as raw (CR 1).
Occurrence : Occasional in adjoining forest around the hamlets (MR 24748).

Argyreia hirsute Wight & Arn. (CONVOLVULACEAE)
Vernacular name : Onkattai paka
Habit : Climber
Mode of use : The tender fruits are cooked as vegetable and ripened fruits eaten as raw (CR 1).
Occurrence : Common around the hamlets and occasional in forests (MR 24660).

Artocarpus heterophyllus Lam. (MORACEAE)
Vernacular name : Sakkai paka
Habit : Tree
Mode of use : The tender fruits are cooked as vegetable and ripened fruits eaten as raw (CR 1).
Occurrence : Common around the hamlets and occasional in forests (MR 24777).

Artocarpus hirsutus Lam. (MORACEAE)
Vernacular name : Ayani sakkai paka
Habit : Tree
Mode of use : The ripened fruits eaten as raw (CR 1).

Occurrence : Occassional in moist deciduous forests adjoining to the hamlet (MR 24778).

Baccaurea courtalensis (Wight) Muell. (EUPHORBIACEAE)

Vernacular name : Moottipaka, Onapaka
Habit : Tree
Mode of use : The ripened fruits eaten as raw (CR 1).
Occurrence : Common around the hamlets and neighbouring areas of the forests (MR 24939).

Briedelia retusa (L.) Spreng (EUPHORBIACEAE)

Vernacular name : Mulluvengai paka
Habit : Tree
Mode of use : The ripened fruits eaten as raw (CR 1).
Occurrence : Common around the hamlets and neighbouring forest areas (MR 24751)

Calamus gamblei Becc.(ARECACEAE)

Vernacular name : Choorapaka
Habit : Climbing palm
Mode of use : The ripened fruits are eaten raw (CR 1).
Occurrence : Occasional in forests (MR 24840).

Pithecellobium dulce (Roxb.) Benth. (FABACEAE)

Vernacular name : Puli paka
Habit : Tree
Mode of use : The ripened fruits eaten as raw (CR 1).
Occurrence : Common around the hamlets and neighbouring forest areas (MR 24496)

Cereus pterogonus Lam. (CACTACEAE)

Vernacular name : Kalli paka
Habit : Succulent shrubs
Mode of use : The ripened fruits eaten as raw (CR 1).
Occurrence : Common around the hamlets (MR 24587)

Colocasia esculenta (L.) Schott (ARACEAE)

Vernacular name : Shembu paka
Habit : Rhizomatus herb

Mode of use : The ripened fruits eaten as raw (CR 1).
Occurrence : Common around the hamlets (MR 24854).

Cordia obliqua Willd. (BORAGINACEAE)
Vernacular name : Cheruviri paka
Habit : Tree.
Mode of use : The ripened fruits eaten as raw (CR 1).
Occurrence : Rare, found in neighbouring forests around the hamlets (MR 24656).

Cordia wallichii G. Don (BORAGINACEAE)
Vernacular name : Viri paka
Habit : Tree.
Mode of use : The ripened fruits eaten as raw (CR 1).
Occurrence : Rare, found in neighbouring forests around the hamlets (MR 24655).

Ensete superbum (Roxb.) Cheesman. (MUSACEAE)
Vernacular name : Kalluvazhai paka
Habit : Tall rhizomatous herb with pseudostem.
Mode of use : The ripened fruits eaten as raw (CR 1).
Occurrence : Rare, found in neighbouring forests around the hamlets (MR 24812).

Eugenia indica (Wight) Chithra (MYRTACEAE)
Vernacular name : Neerapaka
Habit : Tree.
Mode of use : The ripened fruits eaten as raw (CR 1).
Occurrence : Occasional in neighbouring forest (MR 24555).

Ficus racemosa L. (MORACEAE)
Vernacular name : Athipaka
Habit : Tree
Mode of use : The ripened fruits eaten as raw (CR 1).
Occurrence : Occasional around the hamlets and in moist deciduous forests around the hamlets (MR 24783).

Flacourtia montana Graham (FLACOURTIACEAE)
Vernacular name : Chaliru

Habit : Tree
Mode of use : The ripened fruits eaten as raw (CR 1).
Occurrence : Occasional in evergreen and semi evergreen forests neighbouring to the hamlets (MR 24522).

Grewia tiliifolia Vahl. (TILIACEAE)
Vernacular name : Lummay paka
Habit : Tree
Mode of use : The ripened fruits eaten as raw (CR 1).
Occurrence : Common around the hamlets and moist deciduous forests (MR 24937).

Glycosmis pentaphylla (Retz.) DC. (RUTACEAE)
Vernacular name : Mekulukki paka
Habit : Shrub
Mode of use : The ripened fruits eaten as raw (CR 1).
Occurrence : common around the hamlets and plains (MR 24421).

Lantana camara L. var. ***aculeata*** (L.) Moldenke (ASTERACEAE)
Vernacular name : Unnipalam
Habit : Shrub
Mode of use : The ripened fruits eaten as raw (CR 1).
Occurrence : Common around the hamlets and waste places (MR 24694).

Maesa indica (Roxb.) DC. (MYRSINACEAE)
Vernacular name : Mirimpuli paka
Habit : Shrub
Mode of use : The ripened fruits eaten as raw (CR 1).
Occurrence : Occasional in moist deciduous forests around the hamlets (MR 24628).

Madhuca indica J. Gmelin (SAPOTACEAE)
Vernacular name : Ilupei paka
Habit : Tree
Mode of use : The tender fruits are cooked as vegetable, used in pickles and ripened fruits eaten as raw (CR 1).
Occurrence : Occasional in moist deciduous forests around the hamlets (MR 24630).

Mangifera indica L. (ANACARDIACEAE)

Vernacular name : Kattumangai palam, Jeeraka mangai paka

Habit : Tree

Mode of use : The tender fruits are cooked as vegetable, used in pickles and ripened fruits eaten as raw (CR 1).

Occurrence : Occasionally found as wild in semi evergreen forests neighbouring to the hamlets and also, widely cultivated in and around the hamlets (MR 24931).

Momordica dioica Roxb. *ex* Willd. (CUCRBITACEAE)

Vernacular name : Kattupavarai

Habit : Herb

Mode of use : The fruits are cooked as vegetables (CR 1).

Occurrence : Occasional around the hamlets (MR 24581).

Mimusops elengi L. (SAPOTACAEAE)

Vernacular name : Elengi paka

Habit : Tree

Mode of use : The ripened fruits eaten as raw (CR 1).

Occurrence : Occasional in neighbouring areas of the forest, cultivated in hamlets as a shade tree (MR 24629).

Musa rosacea Jacq. (MUSACEAE)

Vernacular name : Kattuvazha

Habit : Rhizomatous herb with pseudostem

Mode of use : The ripened fruits eaten as raw (CR 1).

Occurrence : Occasional in neighbouring areas of the forest (MR 24813).

Nicandra physalodes (L.) Gaertn. (SOLANACEAE)

Vernacular Name : Doramottai

Habit : Herb

Mode of use : The ripened fruits eaten as raw (CR 1).

Occurrence : Occasional around the hamlets (MR 24668).

Opuntia stricta Haw. var. ***dillenii*** (Ker-Gawl.) L.(CACTACEAE)

Vernacular name : Mullu kallipaka

Habit : succulent shrubs

Mode of use : The ripened fruits eaten as raw (CR 1).

Occurrence : Occasional in dry areas around the hamlets (MR 24588).

Palaquium ellipticum (Dalz.) Baill.(SAPOTACEAE)

Vernacular name : Palipaka

Habit : Tree

Mode of use : The ripened fruits eaten as raw (CR 1).

Occurrence : Common in evergreen forests adjoining to hamlets (MR 24631).

Phoenix loureirii Kunth var. ***humilis*** (Royle *ex* Becc.) Barrow (ARECACEAE)

Vernacular name : Easapaka

Habit : Shrub

Mode of use : The ripened fruits eaten as raw (CR 1).

Occurrence : Occasional in grasslands around the hamlets (MR 24845).

Phyllanthus emblica L. (EUPHORBIACEAE)

Vernacular name : Nellipaka

Habit : Tree

Mode of use : Mature fruits eaten as raw and also used for the preparation of pickles (CR 1).

Occurrence : Common around hamlets and moist deciduous forests (MR 24763).

Physalis angulata L (SOLANACEAE)

Vernacular name : Sunda paka

Habit : Herb

Mode of use : The ripened fruit eaten as raw (CR 1).

Occurrence : common around the hamlets especially in rainy season (MR 24670).

Physalis peruviana L. (SOLANACEAE)

Vernacular name : Perum pottari paka

Habit : Herb

Mode of use : The ripened fruits are eaten raw (CR 1).

Occurrence : common around the hamlets especially in the rainy season (MR 24671).

Rubus glomeratus Blume (FABACEAE)

Vernacular name : Mullupalam
Habit : Shrub
Mode of use : The ripened fruits eaten as raw (CR 1).
Occurrence : Common around the hamlets and neighbouring forest areas (MR 24499).

Rubus indicus Thunb. (FABACEAE)

Vernacular name : Mullumunthiripalam
Habit : Shrub
Mode of use : The ripened fruits eaten as raw (CR 1).
Occurrence : Common around the hamlets and neighbouring forest areas (MR 24500).

Semecarpus anacardium L. f. (ANACARDIACEAE)

Vernacular name : Cherumpaka
Habit : Herb
Mode of use : The ripened fruits eaten as raw (CR 1).
Occurrence : common around the hamlets especially in rainy season (MR 24444).

Solanum americanum Mill. (SOLANACEAE)

Vernacular name : Sukkuttipalam
Habit : Herb
Mode of use : The ripened fruits eaten as raw (CR 1).
Occurrence : Common around the hamlets (MR 24672).

Solanum torvum Sw. (SOLANACEAE)

Vernacular name : Sundai
Habit : Herb
Mode of use : The tender fruits are cooked as vegetables. The fruits are preserved in salt for some time and dried in sun light and stored for preparing curries whenever required (CR 1).
Occurrence : Common around the hamlets (MR 24673)

Syzygium cumini (L.) Skeels (MYRTACEAE)

Vernacular name : Neera paka

Habit : Tree
Mode of use : The ripened fruits eaten as raw (CR 1).
Occurrence : Common around the hamlets and neighbouring forest areas (MR 24557).

Syzygium densiflorum Wall. *ex* Wight & Arn.(MYRTACEAE)
Vernacular name : Mundineera paka
Habit : Tree
Mode of use : The ripened fruits eaten as raw (CR 1).
Occurrence : Common around the hamlets and neighbouring forest areas (MR 24559).

Syzygium mundagam (Bourd.) Chithra (MYRTACEAE)
Vernacular name : Kuruvineera paka
Habit : Tree
Mode of use : The ripened fruits eaten as raw (CR 1).
Occurrence : Common around the hamlets and neighbouring forest areas (MR 24560).

Syzygium caryophyllatum (L.) Alston (MYRTACEAE)
Vernacular name : Mani neera paka
Habit : Tree
Mode of use : The ripened fruits eaten as raw (CR 1).
Occurrence : Common around the hamlets and neighbouring forest areas (MR 24558).

Tamarindus indica L. (FABACEAE)
Vernacular name : Puli palam
Habit : Tree
Mode of use : Tender as well as ripened fruits eaten as raw (CR 1).
Occurrence : Common in and around the hamlets and occasionally found in the neighbouring forest areas (MR 24486).

Zizyphus oenoplia (L.) Mill. (RHAMNACEAE)
Vernacular name : Mullupalam
Habit : Climber
Mode of use : The ripened fruits eaten as raw (CR 1).
Occurrence : Common around the hamlets and neighbouring areas of the forests (MR 24430).

Zizyphus mauritiana Lam. (RHAMNACEAE)

Vernacular name : Peumsoori palam
Habit : Tree
Mode of use : The ripened fruits eaten as raw (CR 1).
Occurrence : Common around the hamlets and neighbouring areas of the forests (MR 24431).

Zizyphus rugosa Lam. (RHAMNACEAE)

Vernacular name : Kottalai paka
Habit : Straggler
Mode of use : The ripened fruits eaten as raw (CR 1).
Occurrence : Occasional found in forest margins (MR 24432).

G. Seeds

Amaranthus caudatus L. (AMARANTHACEAE)

Vernacular name : Porikkerai
Habit : Herb
Mode of use : The dried seeds are roasted and eaten (CR 1).
Occurrence : Cultivated around the hamlets and also in the wild (MR 24715). (Plate 18. b)

Artocarpus heterophyllus Lam. (MORACEAE)

Vernacular name : Sakkai kuru
Habit : Tree
Mode of use : The mature seeds cooked as vegetables and dried seeds roasted and eaten.
Occurrence : Common around the hamlets and occasional in forests (MR 24777).

Artocarpus hirsutus Lam. (MORACEAE)

Vernacular name : Ayani sakkai Kuru
Habit : Tree
Mode of use : The roasted seeds eaten (CR 1).
Occurrence : Occassional in moist deciduous forests adjoining to the hamlet (MR 24778)

Bambusa bambos (L.) Voss. (POACAEAE)

Vernacular name : Munga nellu

Habit : Tree grass

Mode of use : The seeds are roasted and eaten. The powdered seeds are used for the preparation of different items and seeds are also used for the preparation of gruel (CR 1).

Occurrence : Common around the hamlets and neighbouring forest areas (MR 24867).

Cycas circinalis L. (CYCADACEAE)

Vernacular name : Eathankay

Habit : Tree

Mode of use : The seeds are boiled in water and the water is drained off, dried and powdered. The flour used to prepare various items (CR 1).

Occurrence : Common in moist deciduous forests around the hamlets (MR 24887).

Dendrocalamus strictus (Roxb.) Nees (POACEAE)

Vernacular name : Koravanmoonga nellu

Habit : Tree grass

Mode of use : The seeds are roasted and eaten. The powdered seeds are used for the preparation of different items and seeds are also used for the preparation of gruel (CR 1).

Occurrence : Common in moist deciduous forests and dry forests around the hamlets (MR 24873).

Entada rheedei Spreng. (FABACEAE)

Vernacular name : Onthotti kay

Habit : Lianas

Mode of use : The cotyledons of the dried seeds are cooked, water is drained off and eaten (CR 1).

Occurrence : Common in moist deciduous forests around the hamlets (MR 24494).

Tamarindus indica L. (FABACEAE)

Vernacular name : Pulinchi kuuru

Habit : Tree

Mode of Use : The dried seeds roasted and eaten (CR 1).

Occurrence : Common around the hamlets (MR 24486).

Terminalia bellarica (Graeuter.) Roxb. (COMBRETACEAE)

Vernacular name : Thannimaram
Habit : Trees
Mode of use : The seeds are eaten raw (CR 1).
Occurrence : Common around the hamlets (MR 24473).

Xylia xylocarpa (Roxb.) Taub. (FABACEAE)

Vernacular name : Irumullu
Habit : Tree
Mode of use : The dried seeds eaten as raw (CR 1).
Occurrence : Common in moist deciduous forests around the hamlets (MR 24497).

H. Mushrooms

Auricularia sp. (AURICULARICEAE)

Vernacular name : Kathampay
Habit : Saprophytic fungus on rotten wood
Mode of use : The pileus and stipes are washed in water and boiled with condiments or fried in soil or hearth roasted (CR 2).
Occurrence : Very rare, in neighbouring forest (MR 24910).

***Peziza* sp.** (AGARICACEAE)

Vernacular name : Ennaapay, Apiampay
Habit : Saprophytic fungus on dung
Mode of use : The pileus and stipes are washed in water and boiled with condiments or fried in soil or hearth roasted (CR 2).
Occurrence : Occasionally found growing in dung (MR 24911).

***Lycoperdon* sp.** (LYCOPERDACEAE)

Vernacular name : Panthra kumman
Habit : Fruiting body of a saprophytic fungus growing in soil.
Mode of use : The round and fleshy pileus is washed in water and boiled with condiments or fried in oil or hearth roasted (CR 1).
Occurrence : Occasional in soil around the hamlets soon after rail fall (24913).

***Plurotus* sp.** (LENTINACEAE)

Vernacular name : Athiampay

Habit : Fruiting body of saprophytic fungus

Mode of use : The pileus and stipes is washed in water and boiled with condiments or fried in oil oil or hearth roasted (CR 1).

Occurrence : Occasional in dried bamboo culms of neighbouring forests during rainy season (MR 24916)

***Plurotus* sp.** (LENTINACEAE)

Vernacular name : Keerayampay

Habit : Fruiting body of saprophytic fungus

Mode of use : The pileus and stipes are washed in water and boiled with condiments or fried in oil or hearth roasted (CR 1).

Occurrence : Occasional in dried bamboo culms of neighbouring forests during rainy season (MR 24940).

***Plurotus* sp.** (LENTINACEAE)

Vernacular name : Vendayampay

Habit : Fruiting body of saprophytic fungus

Mode of use : The pileus and stipes are washed in water and boiled with condiments or fried in oil or hearth roasted (CR 1).

Occurrence : Occasional in dried bamboo culms of neighbouring forest during rainy season (MR24969).

***Coprinus* sp.** (LENTINACEAE)

Vernacular name : Nayalampay

Habit : Fruiting body of saprophytic fungus

Mode of use : The pileus and stipes are washed in water and boiled with condiments or fried in oil or hearth roasted (CR 2).

Occurrence : Occasional, sporopores scattered or in dense clusters on the ground richely manured soil (MR 24911).

Pluerotus tuber regium (Fr.) Singer (LENTINACEAE)

Vernacular name : Karavandu

Habit : Fruiting body of saprophytic fungus

Mode of use : The pileus and stipes washed in water and boiled with condiments or fried in oil or hearth roasted (CR 2).

Occurrence : Occasional, on dried woods, in the neighbouring forests during rainy season (MR 24917).

***Pluerotus* sp.** (LENTINACEAE)

Vernacular name : Kattampay
Habit : Fruiting body of saprophytic fungus
Mode of use : The pileus and stipes are washed in water and boiled with condiments or fried in oil or hearth roasted (CR 2).
Occurrence : Occasional, on dried woods, in the neighbouring forests during rainy season (MR 24917).

***Pluerotus* sp.** (LENTINACEAE)
Vernacular name : Perulampay
Habit : Fruiting body of saprophytic fungus
Mode of use : The pileus and stipes are washed in water and boiled with condiments or fried in oil or hearth roasted (CR 2).
Occurrence : Occasional, on dried woods, in the neighbouring forests during rainy season (MR 24916).

Termitomyces clypeatus Heim. (PLUTEACEAE)
Vernacular name : Choodiyampay
Habit : Fruiting body of a saprophytic fungus
Mode of use : The pileus and stipes are washed in water and boiled with condiments or fried in oil or hearth roasted (CR 1).
Occurrence : Occasional, in and around the hamlets, appear in groups during rainy season (MR 24919).

Termitomyces eurhizus (Berk) Heim (PLUTEACEAE)
Vernacular name : Koolanampay
Habit : Fruiting body of a saprophytic fungus
Mode of use : The pileus and stipes are washed in water and boiled with condiments or fried in oil or hearth roasted (CR 1).
Occurrence : Occasional, in and around the hamlets, appear in groups during rainy season (MR 24920).

Termitomyces microcarpus (Berk and Br.) Heim. (PLUTEACEAE)
Vernacular name : Koyampay, Ariyambe
Habit : Saprophytic fungus on soil
Mode of use : The pileus and stipes are washed in water and boiled with condiments or fried in oil or hearth roasted (CR 1).
Occurrence : Occasional, in and around the hamlets, appear in groups during rainy season (MR 24921).

Termitomyces heimii Natarajan (PLUTEACEAE)

Vernacular name : Puttenampay

Habit : Saprophytic fungus on soil

Mode of use : The pileus and stipes washed in water and boiled with condiments or fried in oil or hearth roasted (CR 2).

Occurrence : Occasional, in and around the hamlets, appear in groups during rainy season (MR 24957).

Letinus squarrosulus Mont [LENTINACEAE]

Vernacular name : Maradiyampay

Habit : Saprophytic fungus on dead trees

Mode of use : The pileus and stipes are washed in water and boiled with condiments or fried in oil or hearth roasted (CR 2).

Occurrence : Occasional, in and around the hamlets (MR 24955).

Volvariella volvacea (Bull. Fr.) Singer (PLUTEACEAE)

Vernacular name : Vaikaampay

Habit : Saprophytic fungi on paddy straw.

Mode of use : The pileus and stipes are washed in water and boiled with condiments or fried in oil or hearth roasted(CR 2).

Occurrence : Occasional, found growing in paddy straw during rainy season (MR 24922).

I. Spices and Condiments

Garcinia gummi-gutta (L.) Robs. (CLUSIACEAE)

Vernacular name : Kodam puli

Habit : Tree

Mode of use : The fruits are used as a condiment (CR 1).

Occurrence : Common around the hamlets (MR 24532)

Oxalis corniculata L. (OXALIDACEAE)

Vernacular name : Pulisappu

Habit : Herb

Part used : Leaves

Mode of use : Tender leaves are used as a condiment (CR 2).

Occurrence : Common around the hamlets (MR 24419).

Piper mullesua Buch.-Ham. *ex* D. Don (PIPERACEAE)

Vernacular name : Kattukurumulakay

Habit	:	climber
Part used	:	Seeds
Mode of use	:	The seeds are used as a condiment and spice during the preparation of food items.
Occurance	:	Occasional in adjoining forest areas of the hamlets (MR 24728).

Piper nigrum L., Sp. Pl. (PIPERACEAE)

Vernacular name	:	Kurumulakay
Habit	:	Climber
Part used	:	Seeds
Mode of use	:	The seeds are used as a condiment and spice during the preparation of food items.
Occurance	:	Occassional in the adjoining forest areas of the hamlets (MR 24729).

Zingiber neesanum (Graham) Ramam. (ZINGIBERACEAE)

Vernacular name	:	Malyinchi, Kattingi
Habit	:	Rhizomatous herb
Part used	:	Rhizome
Mode of use	:	The rhizome is ground into a paste and used as a condiment and spice during the fish preparations (CR 2).
Occurrence	:	Occasional in adjoining forest areas of the hamlets (MR 24807).

J. Oil yielding Plants

Castor oil (*Ricinus communis*) used for cooking.

H. Food from cultivated plants

The source of food from the cultivated crops are considered as common knowledge practices of tribals and non-tribals.They are listed here to show the diverse agricultural crops in their life with vernacular names followed by botanical names and family.

Tubers

Mulluvalli kilangu (*Dioscorea alata*) and Poola kilangu (*Manihot esculenta*)

Cereals and millets

Kara nellu (*Oryza sativa* variety cultivated in dryland), chamai (*Panicum sumatrense*), Corai (*Eleusine coracana*), Makka cholam (Zea mays), Poricholam (*Sorghum bicolor*) and Thena (*Setaria italica*).

Leaves

Agathi keeraisappu (*Sesbania grandiflora*), Porikeeray sappu (*Amaranthes cruentus, Amaranthus caudatus*), Peekin kerai sappu (*Luffa cylindrica-*), Poosanithalai sappu (*Benincasa hispida*), Sakkarai sappu (*Cucurbita maxima*), Muringai sappu (*Moringa pterigosperma*), Vasalai sappu (*Basella alba*) and Thanangani sappu (*Vigna ungiculata*).

Fruits

Thakkali (*Lycopersicum esculentum*), Mulakai (*Capsicum annuum*), Cheenimulakay (*Capsicum frutescence*), Sorai sappu (*Lagenaria siceraria*) Vellari (*Cucumis sativus*), Vendai (*Abelmoschus esculentus*) , Koyapaka (*Psidium guajava*) and Papali paka (*Carica papaya*).

Pulses

Thanngani (*Vigna ungiculata*), Avarai (*Lab lab purpureus*) and Thuvarai (*Cajanus cajan*)

Spices and Condiments

Inchi (*Zingiber officinale*), Manjal (*Cucuma longa*), Kurumulakay (Piper nigrum), Kothamalli (*Coriandrum sativum*) and Venkayam (*Allium cepa*).

5. 4. 3. 2. Plants as Fodder

Artocarpus heterophyllus Lam. (MORACEAE)

Vernacular name	:	Pila
Habit	:	Tree
Part Used	:	Leaves and fruits
Mode of use	:	The twig with leaves, raw and the ripened fruits are given to livestock (CR 1).
Occurrence	:	Common around the hamlets and occasional in forests (MR 24777).

Bauhinia racemosa Lam. (FABACEAE)

Vernacular name : Aram puli

Habit : Tree
Part Used : Leaves and fruits
Mode of use : The twigs with leaves are given to livestock (CR 1).
Occurrence : Common around the hamlets and neighbouring areas (MR 24477).

Bambusa bambos (L.) Voss (POACEAE)
Vernacular name : Moonga thalai
Habit : Tree grass
Part used : Leaves
Mode of use : The leafy twigs are given (CR 1)
Occurrence : Common around the hamlets (MR 24867).

Dendrocalamus strictus (Roxb.) Nees (POACEAE)
Vernacular name : Karuvan Mula
Habit : Tree
Part used : Leaves
Mode of use : The leaves are given (CR 1).
Occurrence : Common around the hamlets and neighbouring forest areas (MR 24873).

Erythrina stricta Roxb (FABACEAE)
Vernacular name : Mullu Murukku
Habit : Tree
Part used : Leaves
Mode of use : The leaves are given (CR 1).
Occurrence : Common around the hamlets and neighbouring forest areas (MR 24461).

Erythrina variegata L. (FABACEAE)
Vernacular name : Kattu Murukku
Habit : Tree
Part used : Leaves
Mode of use : The leaves are given (CR 1).
Occurrence : Common around the hamlets and neighbouring forest areas (MR 24462).

Ficus hispida L. f. (MORACEAE)
Vernacular name : Thunali

Habit : Tree
Part used : Leaves
Mode of use : The leaves are given (CR 1).
Occurrence : Common around the hamlets and neighbouring forest areas (MR 24782).

Ficus racemosa L. (MORACEAE)
Vernacular name : Athi maram
Habit : tree
Part used : Leaves
Mode of use : The leaves are given (CR 1).
Occurrence : Common around the hamlets and neighbouring forest areas (MR 24783).

Gliricidia sepium (Jacq.) Kunth *ex* Walp. (FABACEAE)
Vernacular name : Seema konna
Habit : Tree
Part Used : Leaves
Mode of use : The leaves are given raw (CR 1).
Occurrence : Common around the hamlets and also in the wild in neighbouring forest (MR 24464).

Merremia umbellata (L.) Hall. f. (CONVOLVULACEAE)
Vernacular name : Vakara valli
Habit : Climber
Part Used : Leaves and twining stem
Mode of use : The whole plant with leaves given (CR 1).
Occurrence : Common around the hamlets and neighbouring forests (MR 24663).

Trema orientalis (L.) Blume (ULMACEAE)
Vernacular name : Amai thalai
Habit : Tree
Part used : Leaves
Mode of use : The leaves given (CR 1).
Occurrence : Occasional in neighbouring forest areas (MR 24773).

5. 4. 3. 3. Plants in medicine

5. 4. 3. 3. 1. Human Medicine

Abelmoschus esculentus (L.) Moench.(MALVACEAE)

Vernacular Name : Venda
Habit : Herb
Part used : Fruits and leaves
Used for : Burns
Mode of application: The mucilaginous extact from the leaves and fruits along with plant ash is applied over the affected area (CR 2).
Occurrence : Cultivated (MR 24538).

Aeschynanthus perrottetii A.DC. in DC.(GESNERIACEAE)

Vernacular Name : Maraminji
Habit : Epiphytic herb
Part used : Whole plant
Used for : Bruise due to hitting of objects
Mode of application: The whole plant is ground into a paste and smeared over the affected area (CR 2).
Occurrence : Occasional on evergreen trees as an epiphytic plant (MR 24680).

Acacia sinuata (Lour.) Merr. (FABACEAE)

Vernacular Name : Cheevakay
Habit : Woody climber
Part used : Fruits
Used for : Toothache and swelling
Mode of application: The fruit of this plant along with Pukalai (*Nicotiana tabaccum*), Chunnabu (lime) and salt is ground into a paste and smeared over the swollen cheek, as an emollient before going to sleep (CR 2).
Occurrence : Occasional around the hamlets (MR 24488).

Acalypha fruticosa Forssk.(EUPHOBIACEAE)

Vernacular name : Chemma thalai
Habit : Herb

Part used : Leaves
Used for : Wound healing
Mode of application: The leaves are ground in to a paste and smeared over the affected area (CR 1).
Occurrence : Common around the hamlets (MR 24745)

Albizia amara (Roxb.) Boivin (FABACEAE)
Vernacular name : Vaka maram
Habit : Tree
Part used : Bark
Used for : Jaundice
Mode of application: Half glass of the juice extracted from the bark along with the bark of Karimaram (*Terminalia crenulata*) and bark of Ezhilam pala (*Alstonia scholaris*) in equal quantity, administered orally, twice a day (CR 2).
Occurrence : Common around the hamlets (MR 24491).

Allium sativum L. (LILIACEAE)
Vernacular name : Velluli, Venvenaigum
Habit : Herb
Part used : Bulb
Used for : Head ache
Mode of application: The bulb ground into a paste and smeared over the forehead (CR 2).
Occurrence : Cultivated (MR 24532).

Allium cepa L. (LILIACEAE)
Vernacular name : Venaigum
Habit : Herb
Part used : Bulb (Tuberous stem)
Used for : tooth ache with swelling
Mode of application: The bamboo manna along with Venkiyam (*Allium cepa*) roasted in coconut oil is applied over the affected teeth (CR 2).
Occurrence : Cultivated (MR 24932)

Alstonia scholaris (L.) R.br. (APOCYNACEAE)
Vernacular name : Palai maram

Habit : Tree

Part used : Bark, leaves

Used for : Jaundice

Mode of application: The bark of this tree along with the bark of Thanni (*Terminalia bellarica*) is powdered and dissolved in goat urine. The tablets are made from it and dried in shade and dissolved in goat's milk and administered orally. The patient is given bath in running water, at every four-hour intervals, for three days (CR 2).

Occurrence : Common around the hamlets (MR 24636)

Amaranthus spinosa L. (AMARANTHACEAE)

Vernacular Name : Mullukkeerai

Habit : Herb

Part used : Leaves

Used for : Urinary troubles, Indigestion

Mode of application: 1). The tender leaves and stem are cooked along with Curcuma (*Curcuma longum*) and salt as vegetable and this dish is given to a person suffering from urinary trouble (CR 2).

2). The roots are crushed along with Pattikkera (*Amaranthus vridis*), mustard seeds, salt and ash. This medicine is taken in small quantities and given for indigestion (CR 2).

Occurrence : Common around the hamlets (MR 24711).

Anisomeles indica (L.) O. Ktze. (LAMIACEAE)

Vernacular Name : Kozhithumba

Habit : Herb

Part used : Whole plant

Used for : Pediculosis

Mode of application: The whole plant is crushed and juice applied over the head (CR 2).

Occurrence : Occasional, around the hamlets (MR 24698). (Plate 13. a.).

Amaranthus viridis L. (AMRANTHACEAE)

Vernacular Name : Pattikkerai

Habit : Herb

Plate 13. KURUMBAR'S MEDICINAL PLANTS. **a.** ***Anisomeles indica***; **b.** ***Arundinaria wightiana***; **c.** ***Cajanus cajan***; **d.** ***Caesalpinia cucullata***; **e.** ***Gardenia resinifera***; **f.** ***Oxytenanthera monadelpha***; **g.** ***Phyllanthus amarus***; **h.** ***Porpax reticulata***; **i.** ***Stereospermum*** colais .

Plate 14. EDIBLE MUSHROOMS. **a.** ***Lycoperdon sp.***; **b.** ***Auricularia sp.***; **c.** ***Pleurotus sp.***; **d.** ***Termitomyces heimii***; **e.** ***Termitomyces microcarpus***; **f.** ***Volvariella volvaceae***; **g.** ***Pleurotus sp.***; **h.** ***Termitomyces eurhizus.***

Part used : Root, Leaves

Used for : Urinary troubles

Mode of application: The roots are crushed along with Mullukkera (*Amaranthus spinosus*), mustard seeds, salt and ash. This medicine is taken in small quantities and given for indigestion (CR 2).

Occurrence : Common around the hamlets (MR 24712)

Arisaema leschenaultii Blume (ARACEAE)

Vernacular Name : Kattuchena

Habit : Rhizomatous herb

Part used : Rhizome

Used for : Snake bite

Mode of application: The rhizome is ground into a paste and smeared over the bitten area (CR 2).

Occurrence : Occasional abound the hamlets (MR 24853).

Aristolochia indica L. (ARISTOLOCHIACEAE)

Vernacular name : Urivalli, Karlakam

Habit : Climber

Part used : Roots and leaves

Used for : Snake bite and wound healing

Mode of application: 1). The roots are ground into a paste and smeared over the wound due to cobra bite after a thorough washing with the solution of plant ash in hot water and half of it is dissolved in hot water, administered orally (CR 2).

2). The leaves are ground into a paste smeared over the wound (CR 1).

Occurrence : Rare, found in the adjoining areas of the hamlets (MR 24722).

Arundinaria wightiana Nees (POACEAE)

Vernacular names : Cholamoongil

Habit : Shrubby bamboo

Part used : young shoots, rhizomes and culm, peeling of the culm and leaves

Used for : Body pain and wound healing

Mode of application: 1). The young shoots, culms and rhizomes are cut into pieces and boiled along with leaves of Eanthasappu (*Cycas circinalis*) and bathing in this water relieves body pain (CR 2).

2). The tender leaves and peelings from the culmsare used for wound healing (CR 2).

Occurrence : Endemic to Neelgiris, occassional in shoal forest (MR 24866). (Plate 13. b.)

Azadirachta indica A. Juss. (MELIACEAE)

Vernacular Name : Veppai maram

Habit : Tree

Part used : Leaves

Used for : Fever, Headache and chicken pox.

Mode of application: 1). The leaves are ground into a paste and smeared all over the body, especially for children suffering from fever and head ache (CR 2).

2). The tender leaves of this plant is spread over the bed and the patient having chicken pox is allowed to lay on it, the leaves along with Manchal (*Curcuma longa*) is ground into a paste and applied over the body for curing the same (CR 2).

Occurrence : Cultivated around the hamlets (MR 24427)

Baliospermum montanum (Willd.) Muell. (EUPHOBIACEAE)

Vernacular name : Sitha thondai

Habit : Herb

Part used : Roots

Used for : Indigestion, stomach problem

Mode of application: The roots of this plant along with the roots of Kolu Kattai (Thespesia lampas) is crushed and the juice given to the person suffering from indigestion and related stomach problems (CR 2).

Occurrence : Occasional, around the hamlets (MR 24943)

Bambusa bambos (L.) voss (POACEAE)

Vernacular Name : Mula, Mungil

Habit : Tree grass

Part used : Peeling from culm surface, bamboo manna (the siliceous secretion of culm pith)

Used for : Wound healing, toothache with swelling

Mode of application: 1). The culm peelings are ground into a paste and mixed with coconut oil or honey and applied over the fresh or old wounds.

2). The bamboo manna along with Venkiyam (*Allium cepa*) roasted in coconut oil is applied over the affected teeth.

Occurrence : Common around the hamlets and neighbouring forest areas (MR 24867).

Bidens pilosa L. (ASTERACEAE)

Vernacular Name : Mukkuthi kodi

Habit : Herb

Part used : Leaves and roots

Used for : Head ache body pain and abscess

Mode of application: 1). Mash the leaves and smear over the forehead (CR 2).

2). Roots ground into a paste, smeared over the body and taking bath in the evening (CR 2).

3). Tender leaves along with salt and leaves of Vellottu (*Urena lobata*) ground into a paste and smeared over the affected area (CR 2).

Occurrence : Common around the hamlets (MR 24611).

Boerhavia diffusa L. (NYCTAGINACEAE)

Vernacular Name : Peruserande

Habit : Herb

Part used : Tender leaves and stem

Used for : Stomach ache, indigestion and diarrhoea

Mode of application: The tender part of this plant with leaves is cooked with Manjal (*Curcuma longum*) and salt and given for indigestion and stomach ache (CR 2).

Occurrence : Common around the hamlets (MR 24707).

Brassica juncea (L.) Czern &Cross (BRASSICACEAE)

Vernacular name : Kaduku

Habit : herb

Part used : Leaves
Used for : Ear infection
Mode of application: The juice extracted from leaves used as an ear drop (CR 2).
Occurrence : Common around the hamlets (MR 24516).

Bridelia retusa (L.) Spreng (EUPHOBIACEAE)
Vernacular name : Gonchay maram
Habit : Trees
Part used : Bark
Used for : Stomach ache and diarrhoea.
Mode of application: The bark is ground into a paste and is eaten for curing stomach ache and the same dissolved in hot water and administered orally for diarrhoea (CR 2).
Occurrence : Common around the hamlets (MR 24750).

Butea monosperma (L.) Toub. (FABACEAE)
Vernacular Name : Muthangu
Habit : Tree
Part used : Bark
Used for : Epilepsy with shivering, piles
Mode of application: 1). The bark is crushed and the paste is applied over the forehead and the patient is made to hold the braches in his hand during the shivering (CR 3).
2). The bark ground along with charcoal prepared from coconut shell is smeared over piles (CR 2).
Occurrence : Common around the hamlets (MR 24448).

Cajanus cajan L. (FABACEAE)
Vernacular name : Thuvari
Habit : Shrub
Part used : Tender leaves
Used for : Diabetics and burns
Mode of application: The tender leaf juice is given for diabetics. Dried leaves are ground into a paste, coconut oil is added and smeared over the burns (CR 2).
Occurrence : Common around the hamlets (MR 24449). (Plate 13. c.)

Callicarpa tomentosa (L.) Murray (VERBINACEAE)
Vernacular name : Nay thekku

Habit : Large shrub
Part used : Tender leaves
Used for : Wound healing
Mode of application: The tender leaves are crushed and the salve applied over the wounds for a dog bite (CR 2).
Occurrence : Common around the hamlets (MR 24690).

Calotropis gigantea (L.) R.Br. (ASCLEPIADACEAE)
Vernacular Name : Erukku
Habit : Shrub
Part used : Leaves, Roots
Used for : Carries tooth, snake bite
Mode of application: 1). Ground leaves along with salt to be placed in the cavity (CR 2).
2). The root paste is smeared on the wound for a cobra bite as an antidote (CR 2).
Occurrence : Common around the hamlets (MR 24643).

Caesalpinia cucullata Roxb. (FABACEAE)
Vernacular Name : Erankseenkai
Habit : Lianas
Part used : Stem, roots
Used for : Stomach ache, Jaundice
Mode of application: 1). The stem boiled in water and the decoction administered orally (CR 2).
2). The root paste dissolved in water and administered orally for jaundice (CR 2).
Occurrence : Occasional, in evergreen forests around the hamlets (MR 24643). (Plate 13. d.)

Cannabis sativa L. (CANNABINACEAE)
Vernacular Name : Karuppuchedi, Kanjav
Habit : Herb
Part used : Leaves
Used for : Fever and Headache, diarrhoea
Mode of application: 1). The leaves and roots of this plant are ground into a paste and smeared all over the body for fevers and head ache.

2). The dried leaves powdered with hands and put in hen's egg through a small hole after a thoroughly shaking, the contents of the uncooked egg is swallowed, twice a day.

Occurrence : Illegally cultivated around the hamlets as a narcotic and medicinal plant. (MR 24774)

Cassia fistula L. (FABACEAE)

Vernacular Name : Konnai

Habit : Tree

Part used : Roots and leaves

Used for : Fever and itches

Mode of application: 1). The roots are ground in to a paste and smeared over the body (CR 2).

2). The leaf paste is smeared over the affected area (CR 2)

Occurrence : Common in moist deciduous forests around the hamlets (MR 24480).

Carica papaya L. (CARICACEAE)

Vernacular Name : Pappaya

Habit : Tree

Part used : Latex

Used for : Toothache

Mode of application: The latex from the raw fruits is mixed with salt and applied over the aching tooth. Applied externally for a swollen cheeck (CR 2).

Occurrence : Cultivated (MR 24569).

Celastrus paniculatus Wild. (CELASTRACEAE)

Vernacular Name : Ampu kana

Habit : Climbing shrub

Part used : Leaves, Roots

Used for : Dysentery, Stomach ache

Mode of application: 1). The juice squeezed out from leaves is administered orally to cure dysentery (CR 2).

2). The mashed leaves of this plant is mixed with lime and administered orally.

Occurrence : Common, around the hamlets (MR 24429).

Chenopodium ambrosiodes L. (CHENOPODIACEAE)

Vernacular name : Sooru chedi
Habit : Herbs
Part used : Whole plant
Used for : Skin diseases
Mode of application: The whole plant is ground into a paste and applied over the body for scabies and itches and as a remedy for other skin diseases. The plant is also used as an insect repellent (CR 2).
Occurrence : Common around the hamlets (MR 24717).

Chromolaena oderata(L.) King & Robinson (ASTERACEAE)

Vernacular name : Pachai, Ayama pachai
Habit : Herb
Part used : Laeves
Used for : Wound healing
Mode of application: The leaves are ground into a paste and applied over the wounds (CR 2).
Occurrence : Common around the hamlets (MR 24612).

Clematis gouriana Roxb.ex D C. (RANUNCULACEAE)

Vernacular Name : Chinne nikadikkodi, Thalai sithari
Habit : Climbing herb
Part used : Tender leaves, stem and roots
Used for : Head ache and cold
Mode of application: Fresh roots, leaves and stem are crushed and inhaled thrice daily. The juice of tender stem and leaves is pored in the nasal cavity.
Occurrence : Common in neighbouring forest areas of the hamlets (MR 24501).

Cuminum cyminum L. (APIACEAE)

Vernacular name : Jeerakam
Habit : Herb
Part used : Seeds
Used for : Chest pain
Mode of application: the seeds are roasted, powdered, boiled in water and administerd orally for chest pain (CR 2).
Occurrence : Cultivated (MR 24985).

Clitoria ternataL. (FABACEAE)

Vernacular Name : Sankuchi

Habit : Herbaceous climber

Part used : Roots

Used for : Eye infection

Mode of application : The roots are mashed, filtered through a cloth and used as an eye drop (CR 2).

Occurrence : Occasional around the hamlets (MR 24451).

Colocasia esculenta (L.) schott (ARACEAE)

Vernacular Name : Chembu

Habit : Herb

Part used : Tender leaves

Used for : Ulcers, indigestion.

Mode of application : The tender leaves are cooked along with Pulicheerai (*Oxalis corniculata*) and used as a remedy for stomach problems especially, ulcers and indigestion (CR 2).

Occurrence : Common around the hamlets (MR 24854).

Commelina benghalensis L. (COMMELINACEAE)

Vernacular Name : Koyne

Habit : Herb

Part used : Tender leaves

Used for : Stomach ache, indigestion.

Mode of application : The young plants are taken as vegetables for preparing *koyne sappu* and used for stomachache (CR 2).

Occurrence : Common around the hamlets (MR 24835).

Coriandrum sativum L. (APIACEAE).

Vernacular Name : Kothamalli

Habit : Herb

Part used : Roots

Used for : Chest pain

Mode of application : The roots along with the roots of Mullukeerai (*Amaranthus spinosus*), Gonikey (*Portulaca oleracea*), ground into a paste and dissolved in hot water and administered orally (CR 2).

Occurrence : Cultivated (MR 24591).

Clerodendrum serratum (L.) Moon (VERBENACEAE)

Vernacular Name : Mottathekku

Habit : Shrubs

Part used : Roots and leaves

Used for : Chest pain, couph and respiratory trouble

Mode of application: 1). The roots boiled in water and the decoction administerd orally for chestpain (CR 2).

2). The tender leaves are crushed, the juice mixed with honey is administerd orally for respiratory troubles.

Occurrence : Occassional around the hamlets (MR 24692).

Cryptolepis buchnani Roem & Schult. (ASCLEPIADACEAE)

Vernacular name : Palvirandi chedi

Habit : Climbers

Part used : Roots

Used for : Milk production in mothers

Mode of application: The roots ground into a paste and applied over the breast of ladies after delivery (CR 2).

Occurrence : Common around the hamlets (MR 24649).

Curculigo orchioides Gaertn. (HYPOXIDACEAE)

Vernacular name : Nilam pannai, Sikkennai.

Habit : Herb

Part used : Tubers of root

Used for : Snake bite, Jaundice with Albuminura

Mode of application: 1). The root tubers along with rhizome tuber of shikya (*Curcuma neilgherrensis*) are ground into a paste and applied over the wounds due to snake bite (Viper).

2). The raw roots are eaten for Jaundice with Albuminuria (CR 2).

Occurrence : Common around the hamlets (MR 24829).

Cucumis prophetarum L.(CURCURBITACEAE)

Vernacular name : Attanga.

Habit : Herbaceous climber

Part used : Fruit

Used for : Scabies

Mode of application: The fruit along with the fruit pulp of Kanchiram (*Strychnos nux-vomica*) are ground into a paste and smeared over the affected area (CR 2).

Occurrence : Common around the hamlets (MR 24572).

Curcuma longa L. (ZINGIBERACEAE)

Vernacular Name : Manchai, Manchal

Habit : Rhizomatous Herb

Part used : Rhizomes

Used for : Wound healing, skin diseases indigestion, poisonous effect, head ache etc.

Mode of application: 1). The fresh turmeric is ground into a paste and applied over wounds (CR 2).

2). This plant along with several other pants used for curing various skin diseases, indigestion and also used as an antidote for snake bite (CR 3).

3). The fresh rhizomes ground into a paste, dissolved in water and administered orally for curing vomiting (CR 2).

4). The leaves of Thottavadi (*Mimosa pudica*) along with the fresh rhizomes ground into a paste and smeared over the forehead (CR 2).

Occurrence : Common around the hamlets (MR 24803).

Curcuma neilgherrensis Wight (ZINGIBERACEAE)

Vernacular Name : Sikhey

Habit : Rhizomatous Herb

Part used : Tubers

Used for : Snake bite

Mode of application: The rhizome of this plant ground along with Shikennai (*Curculigo orchoides*) and applied over the wound from snake bite especially, viper (CR 2).

Occurrence : Occasional around the hamlets (MR 24802).

Cyclea peltata (Lam.) Hook.f. Thomas (MENISPERMACEAE)

Vernacular Name : Pada, Didukke

Habit : Climbing herb

Part used : Leaves tubers

Used for : Fever, cold, repellents.

Mode of application: 1). For fever and cold of children a few leaves of this plant is squeezed for juice and add little water. The solution gets solidified after some time and applied as a thick coating over the head and tied with a headband (CR 2).

2). Roasted tubers in coconut oil made into a paste and are smeared over the legs as leach repellents (CR 2).

3). The leaves are ground into a paste and dissolved in water and the solidified mixture is applied over the head as a cooling agent (CR 2).

Occurrence : Common around the hamlets (MR 24510).

Dalbergia latifolia Roxb. (FABACEAE)

Vernacular Name : Veeti

Habit : Tree

Part used : Bark of wood

Used for : Stomach ache, dysentery

Mode of application: Few pieces of bark is ground into a paste and dissolved in water. The solution kept for some time and the watery part is administered orally (CR 2).

Occurrence : Common around the hamlets (MR 24455).

Dalbergia volubilis Roxb. (FABACEAE)

Vernacular Name : Kodiveeti

Habit : Small tree

Part used : Leaves, bark of wood

Used for : Stomachache, worm trouble

Mode of application: The leaf juice is given to children for worm trouble. The bark is boiled in water and the decoction is administered orally for stomachache (CR 2).

Occurrence : Common around the hamlets (MR 24457).

Drynaria quercifolia (L.) J. Sm. (POLYPODIACEAE)

Vernacular name : Marachuralai

Habit : Epiphytic perennial herb

Part used : Rhizomes, Leaves

Used for : Wound healing, scabies, itches of children and ear ache

Mode of application: 1). The rhizems are ground into a paste and applied twice a day over the body for scabies and itches and bathing in hot water.

2). Leaves are ground into a paste and applied for sacbies (CR 24897).

3). The rhizome roasted in oil is used as an ear drop.

Occurrence : Common around the hamlets (MR 24897). (Plate 24. 4)

Elaeocarpus tuberculatus Roxb (ELAEOCARPACEAE)

Vernacular name : Kara

Habit : Tree

Part used : Leaves

Used for : Headache

Mode of application: The leaves are ground into a paste and dissolved in water and administered orally and also the paste is smeared over the forehead (CR 2).

Occurrence : Common in neighbouring forest areas of the hamlets (MR 24415).

Eleusine indica (Linn.) Gaertn. (POACEAE)

Vernacular name : Nay ragi

Habit : Herb

Part used : Root, whole plant

Used for : Skin diseases, dog bite and premature ejaculation

Mode of application: 1). The whole plant is ground into a paste with salt and Coconut oil and applied over the body for scabies and itches (CR 2).

2). The whole plant is ground into a paste and applied over the wound from dog bite and rabies infection (CR 2).

3). Keep a small piece of the root is kept beneath the tongue during sexual intercourse (CR 2).

Occurrence : Common around hamlets (MR 24877).

Entada rheedii Spreng (FABACEAE)

Vernacular Name : Onthottikay

Habit : Lianas

Part used : Seed kernel

Used for : Vomiting, diarrhoea

Mode of application: The kernel of the fruit is boiled with coffee powder and administered orally for curing vomiting. The same is cooked along with rice and eaten for curing diarrhoea and related stomach problems (CR 2).

Occurrence : Common around the hamlets (MR 24494).

Ensete superbum (Roxb.) Cheerman (MUSACEAE)

Vernacular name : Kallu vazhai

Habit : Erect tree like herbs

Part used : Seeds, tender stem pith, and tubers

Used for : Urinary troubles, stomach problems and blood purification

Mode of application: 1). The dried seeds of the plant is powdered well and dissolved in goat milk and consumed for urinary troubles and kidney stone.

2). The tender stem pith and tubers are eaten for blood purification and stomach disorders (CR 2).

Occurrence : Common around the hamlets (MR 24812).

Euphorbia hirta L. (EUPHORBIACEAE)

Vernacular name : Paderukku

Habit : Herb

Part used : Whole plant

Used for : Scabies and itches

Mode of application: Whole plant is ground into a paste and mixed in Gingelly oil (Sesamun indicum) and smeared over the affected area (CR 2).

Occurrence : Common around the hamlets (MR 24755).

Erythrina variegata L. (FABACEAE)

Vernacular name : Murukku

Habit : Tree

Part used : Leaves

Used for : Abscess

Mode of application: The leaves are ground into a paste and smeared over the affected area (CR 2).

Occurrence : Common around the hamlets (MR 24461).

***Ficus benghalensis* L.**(MORACEAE)

Vernacular name : Alamaram
Habit : Trees
Part used : Tender Proproots
Used for : Hair lies and nourishment of hair
Mode of application: The tender aerial root along with thallus of Maraganchi (lichen- *Usnea subchaybaea*) is ground into a paste and roasted in coconut oil and smeared over the hairs and massaged thoroughly (CR 2).
Occurrence : Common around the hamlets (MR 24779).

***Ficus hispida* L.f.** (MORACEAE)

Vernacular name : Thunali
Habit : Trees
Part used : Bark peelings
Used for : Inducing lactation
Mode of application: The bark peelings (4 or 5) pieces are ground into a paste and dissolved in water and administered orally twice a day for increasing the milk production in women (CR 2).
Occurrence : Common around the hamlets (MR 24782).

***Ficus racemosa* L.**(MORACEAE)

Vernacular name : Athi
Habit : Trees
Part used : Bark
Used for : Stomachache
Mode of application: The bark kept for 24 hours in water and the water is administered orally for stomach ache (CR 2).
Occurrence : Common around the hamlets (MR 24783).

***Ficus religiosa* L.** (MORACEAE)

Vernacular name : Alamaram
Habit : Trees
Part used : Sap
Used for : Toothache with swelling
Mode of application: The sap obtained from branches dissolved in hot water is used as a mouth wash (CR 2).
Occurrence : Occasional around the hamlets (MR 24784).

Gardenia resinifera Roth (RUBIACEAE)

Vernacular Name : Murinchi
Habit : Small tree
Part used : Bark
Used for : Piles
Mode of application: The bark along with the meat of Tortoise is cooked and eaten (CR 3).
Occurrence : Common in neighbouring forest areas of the hamlets (MR 24598). (Plate 13. e.)

Gaultheria fragrantissima Wall. (ERICACEAE)

Vernacular Name : Malakudukki
Habit : Shrub
Part used : Leaves
Used for : Body pain, cold and fever
Mode of application: 1). The leaves are boiled in water and taken bath for relieving body pain (CR 2).
2). The leaves boiled in water and the fumes inhaled for curing cold and fever (CR 2).
Occurrence : Occasional in shoals (MR 24626).

Glycosmis pentaphylla (Retz.) DC. (RUTACEAE)

Vernacular name : Mele kulukki
Habit : Shrub
Part used : Roots
Used for : Stomachache
Mode of application: The root growing towards northern side is collected and ground into a paste, dissolved in water and administered orally for stomach ache (CR 2).
Occurrence : Common around the hamlets (MR 24421).

Gynandropsis gynandra (L.) Briq. (CAPPARACEAE)

Vernacular Name : Velaiveru
Habit : Herb
Part used : Tender leaves and stem
Used for : Ear Infection
Mode of application: The tender stem with leaves are roasted in coconut oil and pored into the ear as an eardrop (CR 2).
Occurrence : Occasional around the hamlets (MR 24520)

Gnetum edule (Willd.) Blume (GNETACEAE)

Vernacular name : Ulavalli

Habit : Large climber

Part used : Bark, Seeds

Used for : Stomach pain and wound due to itches

Mode of application: 1). The bark is boiled in water and the decoction administered orally for stomach ache (CR 2).

2). The dried seeds are powdered, roasted in coconut oil and used as poultice for wounds due to itches (CR 2).

Occurrence : Occasional, in the evergreen forests adjoining to hamlets (MR 24886).

Holigarna arnottiana Hook. f. (ANACARDIACEAE)

Vernacular name : Cherumaram

Habit : Tree

Part used : Resinous exudates from seeds

Used for : Foot corn

Mode of application: The resinous exudate from seeds is applied over the affected part (CR 2).

Occurrence : Occasional in the evergreen forests near the hamlets (MR 24443).

Ixora coccinea L. (RUBIACEAE)

Vernacular name : Sheki, chetti (K)

Habit : Shrub

Part used : Roots

Used for : Fever and head ache

Mode of application: Few pieces of roots of (*Mimosa pudica*) and Thakara (*Senna tora*) are ground in equal quantity by adding water and is smeared over the forehead (CR 2).

Occurrence : Occasional around the hamlets (MR 24600).

Jasminum multiflorum (Burm. f.) Andr. (OLEACEAE)

Vernacular name : Mullai

Habit : Shrubs

Part used : Leaves

Used for : Wound healing

Mode of application: Few leaves are crushed and the juice is smeared over the fresh wounds.

Occurrence : Occasional around the hamlets (MR 24635).

Jatropha curcas L. (EUPHORBIACEAE)

Vernacular Name : Kadalavanakku, Masai kotta

Habit : Small tree

Part used : Bark, Latex from stem, stem bark

Used for : Tooth ache, wound healing, itches and scabies

Mode of application: 1). The bark is crushed and mixed with table salt is placed in the cavity for tooth ache (CR 2).

2). The latex applied over the wounds and inflammation (CR 2).

3). The bark is ground into a paste and mixed with salt and oil and smeared over the body part for scabies and itches (CR 2).

Occurrence : Common around the hamlets (MR 24759).

Lantana camara L. var. ***aculeata*** (L.) Moldenke (VERBENACEAE)

Vernacular Name : Unnipoochedi

Habit : shrub

Part used : Tender leaves

Used for : Stomach ache with constipation, Wound healing

Mode of application: 1). The crushed root juice is administered orally (CR 2).

2). The tender leaves along with salt is ground into a paste and smeared over the affected area.(CR 2)

Occurrence : Common around the hamlets (MR 24694).

Leucas indica (L.) R. Br. ex Vatke in Oesterr. (LAMIACEAE)

Vernacular Name : Thubai chedi

Habit : Herb

Part used : Tender leaves

Used for : Tooth ache with swelling

Mode of application: The leaf juice is applied over the affected tooth (CR 2).

Occurrence : Common around the hamlets (MR 24701).

Lycopersicum esculentum Mill. (SOLANACEAE)

Vernacular Name : Mathurakotta

Habit : Herb
Part used : Tender leaves
Used for : Head ache
Mode of application: Tender leaves of this plant is smeared on the forehead as a salve, twice a day, in the morning and in the evening (CR 2).
Occurrence : Commonly cultivated around the hamlets (MR 24667)

Mallotus philippensis (Lam.) Muell.-Arg. (EUPHORBIACEAE)
Vernacular Name : Kathivettumaram
Habit : Tree
Part used : Bark
Used for : Wound healing and tooth ache with swelling
Mode of application: 1). The bark is ground into a paste and applied over the wound (CR 2)
2). The bark along with the bark of Njaval (*Syzygium cumini*) is ground in to a paste and smeared over the affected area (CR 2)
Occurrence : Occasional in adjoining forest areas around the hamlets (MR 24760)

Mallotus tetracoccus (Roxb.) Kurz (EUPHORBIACEAE)
Vernacular Name : Pokkumaram
Habit : Tree
Part used : Tender leaves
Used for : Wound healing and cooling
Mode of application: The leaves of this plant along with leaves of Peethemarem (*Clerodendrum viscosum*) and leaves of Shedikkasupu (*Cyclea peltata*) are ground into a paste and applied over the wounds (CR 2)
Occurrence : Occasional in adjoining forest areas around the hamlets (MR 24945)

***Mangifera indica* L.** (ANACARDIACEAE)
Vernacular Name : Kattumangai
Habit : Tree
Part used : Bark
Used for : Tooth ache

Mode of application: The bark of this plant is boiled in water and the steam is applied to the affected tooth and gums (CR 2).

Occurrence : Occasional in adjoining forest areas around the hamlets (MR 24931)

Mimosa pudica L.(FABACEAE)

Vernacular name : Thotavadi

Habit : Herb

Part used : Roots

Used for : Fever and Head ache, wound healing

Mode of application: 1). Few pieces of roots along with roots of (*Ixora coccinea*)) and Thakara (*Senna tora*) are ground in equal quantity by adding water and smeared over the forehead for fever and head ache (CR 2).

2). The leaves along with the fresh rhizomes are ground into a paste and smeared over the forehead for head ache (CR 2).

3). The leaves are ground into paste and smeared over the wounds.

Moringa pterygosperma Gaertn. (MORIGACEAE)

Vernacular name : Mornga thalai

Habit : Trees

Part used : Bark

Used for : Stomach pain

Mode of application: The juice extracted from bark is administered orally, twice a day (CR 2).

Occurrence : Cultivated (MR 24446).

Mussaenda bellila Buch. (RUBIACEAE)

Vernacular name : Vellila

Habit : Shrubs

Part used : Roots

Used for : Body pain

Mode of application: The roots are ground to a paste, dissolved in water and administered orally, for one week (CR 2)..

Occurrence : Common in neighbouring forest areas of the hamlets (MR 24603)

Naravelia zeylanica (L.) DC.(RANUNCULACEAE)

Vernacular name : Periya Nikadikkodi
Habit : Climbing herb
Part used : Tender leaves, stem, roots
Used for : Head ache and cold
Mode of application: Fresh roots; leaves and stem are crushed and inhaled thrice daily. The juice of tender stem and leaves is pored in the nasal cavity (CR 2).
Occurrence : Common in neighbouring forest areas of the hamlets (MR 24502)

Ocimum basilicum L. (LAMIACEAE)

Vernacular Name : Ramathulasi
Habit : Herb
Part used : Leaves
Used for : Head ache during sunrise
Mode of application: The leaves of this plant are squeezed along with Malai thulasi (*Ocimum gratissimum*) and administered orally (CR 2).
Occurrence : Cultivated (MR 24702)

Ocimum gratissimum L. (LAMIACEAE)

Vernacular Name : Malai thulasi, Kattuthulasi
Habit : Herb
Part used : Leaves
Used for : Head ache during sunrise
Mode of application: The leaves of this plant are squeezed along with Rama thulasi (*Ocimum basilicum*) and administered orally (CR 2).
Occurrence : Cultivated (MR 24703)

Ocimum tenuiflorum L. (LAMIACEAE)

Vernacular Name : Thulasi
Habit : Herb
Part used : Leaves
Used for : Head ache
Mode of application: The leaves of thulasi plant along with seeds of Kaduka (*Brassica campestris*) and Cora (*Eleusine coracana*) are ground into a paste and applied over the temple (CR 2).
Occurrence : Common around the hamlets (MR 24704).

Oroxylum indicum (L.) Benth. *ex* Kurz (BIGNONIACEAE)

Vernacular Name : Palaka Payyani
Habit : Tree
Part used : Roots
Used for : Snake bite
Mode of application : The roots are ground into a paste and dissolved in water and administered orally (CR 2)
Occurrence : Occasional around the hamlets (MR 24682)

Oxalis corniculata L. (OXALIDACEAE)

Vernacular Name : Pulikeerai
Habit : Herb
Part used : Roots
Used for : Stomach ache with constipation.
Mode of application : The juice extracted from the root is administered orally, twice a day for stomach ache with constipation (CR 2).
Occurrence : Common around the hamlets (MR 24419).

Oxytenanthera monadelpha (Thw.) Alston (POACEAE)

Vernacular names : Vallimoongil
Habit : Climbing bamboo
Part used : Young shoots, rhizomes and culm, peeling of the culm and leaves
Used for : Joint pain due to rheumatism and wound healing
Mode of application : 1). The young shoots, culms and rhizomes are cut into pieces and boiled and bathing in the same relieves the joint pains due to rheumatism (CR 2).
2). The tender leaves and peelings from the culms used for wound healing (CR 2).
Occurrence : Occasional, in semievergreen and ecotone of the evergrren forests adjoining to the hamlets (MR 24869). (Plate 13. f.)

Pergularia daemia (Forssk.) Chiov. (ASCLEPIADACEAE)

Vernacular Name : Velipparathi
Habit : Climber
Part used : Tender leaves
Used for : Cough, fever and head ache and wound healing

Mode of application: 1). The tender leaves of this plant along with kurumulaka (*Piper nigrum*) jeera (*Cuminum cyminum*) are ground into a paste and dissolved in hot water. The infusion is administered orally, twice a day, for recovering cough fever and head ache (CR 2).

2). The leaves along with Venkiyam (*Allium cepa*) are ground into a paste and salve smeared over the wounds

Occurrence : Occasional around the hamlets (MR 24646) (Plate 13. g.)

Phyllanthus amarus Schum. & Thonn. (EUPHOBIACEAE)

Vernacular name : Sirunelli, Kikanelli

Habit : Herb

Part used : Whole plant

Used for : Jaundice

Mode of application: The whole plant is ground into a paste and dissolved in 'Karad pal' (Milk of black goat) and administered orally, for one weak (CR 2).

Occurrence : Occasional around the hamlets (MR 24762)

Physalis angulata L. (SOLANACEAE)

Vernacular name : Mottai chedi

Habit : Herb

Part used : Leaves

Used for : Head ache and fever

Mode of application: Crushed leaves of Mottai chedi and bark of Muduga thonda (*Ricinus communis*) ground in to a paste and smeared over the temple (CR 2).

Occurrence : Common around the hamlets (MR 24670)

Phyllanthus emblica L. (EUPHORBIACEAE)

Vernacular name : Nellimaram

Habit : Trees

Part used : Bark

Used for : Whooping cough

Mode of application: The bark is ground into a paste, dissolved in water and administered orally, for the treatment of wooping cough in children (CR 2).

Occurrence : Common around the hamlets (MR 24763).

Piper longum L. (PIPERACEAE)

Vernacular name : Thippali, Kuttu thippali

Habit : Under shrub

Part used : Roots

Used for : Fever stomach ache and indigestion

Mode of application: 1). The roots along with whole plant of serende (*Trianthema portulacastrum*) and Gonikay (*Portulca oleracea*) are crushed and the juice is administered orally twice a day (CR 2).

2). The roots are crushed and the juice is administered, orally, for stomach-ache and indigestion (CR 2).

Occurrence : Common around the hamlets (MR 24727)

Plumbago zeylanica L. (PLUMBAGINACEAE)

Vernacular name : Vella varagu

Habit : Herb

Part used : Roots, tender leaves and branches

Used for : Stomachache and head ache

Mode of application: 1). The roots are ground into a paste, dissolved in water and administerd orally.

2). The paste of leaves and tender branches is smeared over the forehead (CR 2).

Occurrence : Occasional around the hamlets (MR 24623).

Polypleurum dichotomum (Gard.) Hall (PODOSTEMACEAE)

Vernacular name : Pasaru

Habit : Aquatic herb

Part used : Whole plant

Used for : Epilepsy

Mode of application: The whole plant along with the small crab and bark of Pakshavu (*Sterculia guttata*) are crushed and the juice is smeared over the face and body of the person having epilepsy (CR 3).

Occurrence : Occasional, in tributaries of Bhavani River, adjoining to the hamlets (MR 24886).

Porpax reticulata Lindl. (ORCHIDACEAE)

Vernacular name : Parottu

Habit : Lithophytic herb
Part used : Whole plant
Used for : Scabies and abscess
Mode of application: The whole plant is ground intoa paste and smeared over the affected area (CR 2).
Occurrence : Occasional in rocks near streams (MR 24795). (Plate 13. h.)

Portulaca oleracea L.(PORTULACACEAE)
Vernacular Name : Gonigay
Habit : Herb
Part used : Tender plants, whole plants
Used for : Fever, diarrhoea and indigestion
Mode of application: 1). The roots and leaves along with whole plant of serende (*Trianthema portulacastrum*), roots of thippali (*Piper longum*) are crushed and the juice is administered orally, twice a day (CR 2).
2). The fleshy stem and leaves are cooked along with dhal of Thuvarai (*Cajanus cajan*) and used for curing diarrhoea and indigestion (CR 2).
Occurrence : Common around the hamlets (MR 24529).

Pterocarpus marsupium Roxb. (FABACEAE)
Vernacular name : Vengi
Habit : Tree
Part used : Bark
Used for : Stomach ache and burns
Mode of application: The bark is crushed and the juice is administered orally for stomach ache (CR 2).
Occurrence : Common around the hamlets (MR 24468).

Pterocarpus santalinus L.f. (FABACEAE)
Vernacular name : Chandragiri
Habit : Tree
Part used : Roots
Used for : Snake bite
Mode of application: The root is ground into a paste and smeared over the bitten part.
Occurrence : Cultivated (MR 24469).

Ricinus communis L. (EUPHORBIACEAE)

Vernacular name : Thonda Kattaimutha, Mudugar thondi

Habit : An annual or perennial bush or a small tree

Part used : Bark seed

Used for : Head ache, fever

Mode of application: Bark of this plant is crushed with a handful of the leaves of *Physalis minimum* L. and squeezed for infusion and used as a salve over the forehead (CR 2).

Occurrence : Common around the hamlets (MR 24765).

Rotula aquatica Lour. (LYTHRACEAE)

Vernacular name : Kalvanchi

Habit : small shrub

Part used : Roots

Used for : Urinary trouble, Leucorrhoea

Mode of application: 1). The dried roots are cut into small pieces and boiled in water and the decoction is administered orally, twice a day, for urinary troubles like painful urination, kidney stone *etc.* (CR 2).

2). The stem along with roots cut in to small pieces, boiled in water and the decoction is administered orally, for at least one month, for Leucorrhoea (CR 2).

Occurrence : Occasional in tributaries of Bhavani River near the hamlets (MR 24657).

Rauvolfia serpentina (L.) Benth. *ex* Kurz (APOCYNACEAE)

Vernacular name : Pooveru, Amalpori

Habit : Herb

Part used : Roots

Used for : Snake bite

Mode of application: 1). The roots along with the roots of kolingi (*Tephrosia purpurea*), salt and seeds of Kothamalli (*Corandrum sativum*) are ground into a paste and dissolved in water and administered orally.

2). The root paste is smeared over the wound (CR 2).

Occurrence : Occasional (MR 24638).

Rubia cordifolia L. (RUBIACEAE)

Vernacular name : Sevanekkodi, Mattumanchi

Habit : Climber

Part used : Leaves
Used for : Wound healing
Mode of application: The fresh leaves are crushed well and the juice is applied over the wounds (CR 2)
Occurrence : Common around the hamlets (MR 24606).

Sapindus trifoliata L.(SAPINDACEAE)
Vernacular Name : Urunchikai
Habit : Tree
Part used : Dried fruit
Used for : Toothache and swelling
Mode of application: Seed are ground into a fine powder and mixed with water and made into a paste and smeared over the swollen part as an emollient (CR 2).
Occurrence : Common around the hamlets (MR 24441).

Selaginella delicatula (Desv. *ex* Poir.) Alston (SELAGINELLACEAE)
Vernacular name : Dikkey
Habit : Herb
Part used : Whole plant
Used for : Wound healing
Mode of application: The whole plant ground into a paste and smeared over the wounds (CR 2).
Occurrence : Common around the hamlets (MR 24903). (Plate 24. g)

Semicarpus anacardium L.f. (ANACARDIACEAE)
Vernacular name : Cheru maram
Habit : Tree
Part used : Seeds
Used for : Foot disease
Mode of application: The seeds are burned and oil obtained the seed coat smeared over the affected part for two week (CR 2)
Occurrence : Occasional around the hamlets (MR 24444).

Senna occidentalis (L.) Link (FACBACEAE)
Vernacular name : Shensappuaiai, Sappuarai
Habit : Annual herb
Part used : Leaves

Used for : Worm trouble

Mode of application: The tender leaves of this plant along with kathank (*Vernonia ceneria*) Ilippuka (*Corchorus aestuans*) and Thakara (*Cassia tora*) are cooked and given to the children for worm trouble (CR 2).

Occurrence : Common around the hamlets (MR 24484).

Senna tora (L.) Roxb. (FABACEAE)

Vernacular Name : Thakarai

Habit : Herb

Part used : Roots

Used for : Fever and headache, Anaemia

Mode of application: 1). Few pieces of roots along with roots of (*Mimosa pudica*) and Cetti (*Ixora coccinea*) are ground and smeared over the temple.

2). Cooked leaves are given to pregnant ladies for Anaemia (CR 2).

Occurrence : Common around the hamlets (MR 24483).

Sida rhombifolia L. (MALVACEAE)

Vernacular Name : Kurumthotti

Habit : Herbs

Part used : Roots and leaves

Used for : Fever and head ache

Mode of application: Mashed roots and leaves of this plant are applied over the forehead before taking bath. (CR 2)

Occurrence : Common around the hamlets (MR 24547).

Solanum americanum Mill. (SOLANACEAE)

Vernacular name : Kakkai keerai, Sukkuthi keerai

Habit : Annual herb

Part used : Leaves

Used for : Fever, Worm trouble

Mode of application: 1). Leaf juice of this plant is administered orally for fever. (CR 2)

2). The leaves are cooked and the delicious Kakkai sappu is given for worm trouble (CR 2)

Occurrence : Common around the hamlets (MR 24547).

Spatholobus parviflorus (Roxb. *ex* DC.) O. Ktze (FABACEAE)

Vernacular name : Muthanku kodi
Habit : Woody climber
Part used : Bark
Used for : Stomachache, dysentery
Mode of application: The bark is ground into a paste and dissolved in water and administered orally twice a day (CR 2).
Occurrence : Occasional around the hamlets (MR 24472).

Sterculia guttata Roxb. *ex* DC.(STERCULIACEAE)

Vernacular name : Achane
Habit : Trees
Part used : Roots
Used for : Gynaecological problems.
Mode of application: 1). The roots are ground into a paste and given to ladies after childbirth to expel the placenta (CR 2).
2). The whole plant along with the small crab and bark of Pakshavu (*Sterculia guttata*) are crushed and the juice is smeared over the face and body of the person having epilepsy (CR 3).
Occurrence : Occasional around the hamlets (MR 24408).

Sterculia ureus Roxb. (STERCULIACEAE)

Vernacular name : Pakshavu
Habit : Trees
Part used : Bark
Used for : Epilepsy
Mode of application: The bark along with the small crab and whole plant of Pasaru (*Polypleuron dichotomum*) are crushed and the juice is smeared over the face and body of the person having epilepsy (CR 3).
Occurrence : Common around the hamlets (MR 24410).

Stereospermum colais (Dillwyn) Mabb. (BIGNONIACEAE)

Vernacular name : Pathiri
Habit : Trees
Part used : Tender leaves and bark
Used for : Fever, Tooth ache

Mode of application: 1). Few tender leaves of this plant is ground into a paste and mixed with almost two tablespoon of breast milk is given to children for fever (CR 2).
2). The bark ground into a paste is applied over the affected part of teeth.

Occurrence : Occasional in moist decidous forest around the hamlet (MR 24683). (Plate 13. i)

Strychnos nux-vomica L. (LOGANIACEAE)

Vernacular name : Kanchiram

Habit : Tree

Part used : Fruit pulp

Used for : Snake bite and scabies

Mode of application: 1). The bark crushed along with roots of Veetimaram (*Dalbergia latifolia*) is applied over the bitten part (CR 2).
2). The fruit pulp along with fruit of Attanga (*Cucumis prophetarum*) ground into a paste is smeared over the affected area (CR 2).

Occurrence : Common around the hamlets (MR 24654).

Syzygium cumini (L.) Skeels. (MYRTACEAE)

Vernacular Name : Njaval, Nara

Habit : Tree

Part used : Bark

Used for : Toothache and swelling

Mode of application: The bark crushed along with Kathivettu (*Mallotus philippense*) and the salve is applied over the aching tooth (CR 2).

Occurrence : Common around the hamlets and adjoining forest (MR 24557).

Tamarindus indica L. (FABACEAE)

Vernacular name : Pulinchi, Puli

Habit : Tree

Part used : Leaves

Used for : Headache, abscess

Mode of application: 1). The leaves are ground into a paste and smeared over the forehead for an hour for relieving headache (CR 2).
2). The paste from tender leaf is smeared over the body part having abscess (CR 2).

Occurrence : Cultivated around the hamlets (MR 24486).

Terminalia bellarica (Graeuter.) Roxb. (COMBRETACEAE)

Vernacular name : Thannimaram

Habit : Trees

Part used : Inner bark

Used for : Jaundice, Allergy

Mode of application: 1). The inner bark of this tree along with roots of Kolukkatai (*Thespesia lampas)* are ground into a paste and dissolved in one glass full of Karadu milk (milk of black goat) and given in the early morning to the person suffering from jaundice (CR 2).

2). The leaf paste is applied as an antidote over the blisters formed on the skin due to the contact of Cheru maram (*Semecarpus anacardium*) (CR 2).

Occurrence : Common around the hamlets (MR 24550).

Tephrosia purpurea (L.) Pers. (FABACEAE)

Vernacular name : Kolingi

Habit : Herb

Part used : Roots

Used for : Snake bite

Mode of application: The roots along with roots of Pooveru (*Rauvolfia serpentina*), salt and seeds of Kothamalli (*Corandrum sativum*) are ground into a paste and dissolved in water and administered orally. The root paste Pooveru (*Rauvolfia serpentina*) smeared over the wound (CR 2).

Occurrence : Occasional around the hamlets (MR 24473).

Terminalia elliptica Willd. (COMBRETACEAE)

Vernacular name : Karimaram

Habit : Tree

Part used : Dried leaves

Used for : Back pain

Mode of application: The dried leaves along with the leaves of Thippali (*Piper longum*) made into the form of a *Beedi* (country cigar) and smocked twice a day (CR 2).

Occurrence : Common in neighbouring forests around the hamlets (MR 24553).

Thespesia lampas (Cav.) Dals. (MALVACEAE)

Vernacular name : Kolukkattai

Habit : Shrubs

Part used : Whole plant

Used for : Jaundice, rheumatism and ear ache

Mode of application: 1). The root of this plant along with inner bark of Thannitholi (*Terminalia bellarica*) is ground into a paste and dissolved in one glass full of Karadu milk (milk of black goat) and given in the early morning to a person suffering from jaundice up to one week(CR 2).

2). The roots of this plant (2or 3 pieces) are ground into a paste and dissolved in hot water and administered orally for one week for rheumatism (CR 2).

3). The crushed root juice extract is used as an ear drop (CR 2).

Occurrence : Common in moist deciduous forest adjoining to the hamlets (MR 24401)

Trianthema portulacastrum L. (AIZOACEAE)

Vernacular Name : Serenday

Habit : Herb

Part used : Tender plants, whole plants

Used for : Fever, diarrhoea and indigestion

Mode of application: 1). The roots and leaves along with whole plant of Gonikay (*Portulaca oleracea*) roots of thippali (*Piper longum*) are crushed and the juice is administered orally twice a day.

2). The fleshy stem and leaves are cooked along with dhal of Thuvarai (*Cajanus cajan*) and given for curing diarrhea and indigestion.

Occurrence : Common around the hamlets (MR 24589).

Triumfetta pilosa Roth (TILACEAE)

Vernacular name : Mullankodi

Habit : Herb

Part used : Roots

Used for : Stomach ache

Mode of application: The crushed root juice is administered orally twice a day (CR 2).

Occurrence : Common around the hamlets (MR 24413).

Vaccinium neailghreens (VACCNIACEAE)

Vernacular name : Malai Vanchi

Habit : Tree

Part used : Roots

Used for : Snake bite

Mode of application: The roots ground into a paste and smeared over the bitten part. The root paste dissolved in water and administered orally (CR 2).

Occurrence : Occasional in shoal forest around the hamlets (MR 24623).

Urena lobata L. (MALVACEAE)

Vernacular name : Vellotu

Habit : Herb

Part used : Tender leaves

Used for : Abscess

Mode of application: Tender leaves along with salt and leaves of Mukkuti kodi (*Bidens pilosa*) are ground into a paste and smeared over the affected area.

Occurrence : Common around the hamlets (MR 24403).

Vernonia Cinerea (L.) Less. (ASTERACEAE)

Vernacular name : Kathank

Habit : Herb

Part used : Leaves

Used for : Worm trouble

Mode of application: The leaves are cooked along with the leaves of Koyne (*Commelina benghalensis*) Ilippuka (*Corchorus aestuans*) and thakara (*Cassia tora*) are given for the treatments of stomach ache and body pain for women during pregnancy (CR 2).

Occurrence : Common around the hamlets (MR 24620).

Wrightia tinctoria (Roxb.)R.Br. (APOCYNACEAE)

Vernacular name : Palai

Habit : Medium tree

Part used : Leaves, bark, and milky latex

Used for : Psoriasis, Skin diseases and tooth carries.

Mode of application: 1). The peeling of bark is ground into a paste and applied for skin infection such as Psoriasis, itches and scabies (CR 1).

2). The leaves along with salt are ground into a paste and applied over the aching tooth with swelling. (CR 1).

Occurrence : Common in plains and adjoining forest areas of the hamlets (MR 24642).

Zingiber officinale Rosc. (ZIGIBERACEAE

Vernacular Name : Inchi

Habit : Rhizomatous Herb

Part used : Tubers rhizomes

Used for : Eye pain, indigestion

Mode of application: 1). The juice from the mashed dry ginger is pored in the eyes (CR 2).

2). Fresh rhizome along with salt is crushed and administered orally for indigestion (CR 2).

Occurrence : Cultivated (MR 24808).

Thevetia peruviana (APOCYNACEAE)

Vernacular name : Ponnarali

Habit : Shrub

Part used : Roots

Used for : Snake bite

Mode of application: The roots ground into a paste and are smeared over the bitten part. The root paste is dissolved in water and administered orally.

Tectona grandis L. f. (VERBENACEAE)

Vernacular name : Thekkamaram

Habit : Trees

Part used : Tender leaves

Used for : Wound healing

Mode of application: The tender leaves are roasted in coconut oil and applied for wound healing (CR 1).

Occurrence : Common around the hamlets (MR 24695).

Thottea siliquosa (Lam.) Ding Hou (ARISTOLOCHIACEAE)

Vernacular name : Kottasari

Habit : Shrub

Part used : Roots

Used for : Snakebite,

Mode of application: The Roots are ground into a paste and smeared over the wounds from viper bite, followed by chewing few roots and the juice is also administered orally.

Occurrence : Occasional, around the neighbouring forests and the hamlets (MR 24724).

5. 4. 3. 3. 2. Veterinary Medicine

Desmodium triflorum (L.) DC (FABACEAE)

Vernacular name : Nile pulichedi

Habit : Prostrate herbs

Part used : Whole plant

Used for : Wound healing

Mode of application: The whole plant is ground into a paste and smeared over the wounds of livestock (CR 2).

Occurrence : Common around the hamlets (MR 24459).

Datura metel L. (SOLANACEAE)

Vernacular name : Ummathu

Habit : Herb

Part used : Roots, fruits.

Used for : Wound healing

Mode of application: 1). The roots are ground into paste and applied on furuncle and wounds.

2). The fruit pulp along with Pukalai (*Nicotiana tabacum*), lime and leaves of Koyyika (*Psidium guajava*) are ground into a paste and applied over the deep wound of livestock infested with worms (CR 2).

Occurrence : Common around the hamlets (MR 24666).

5. 4. 3. 4. Miscellaneous plant uses

5. 4. 3. 4. 1. Fibre yielding plants

Bauhinia racemosa Lam. (FABACEAE)

Vernacular name : Aram puli
Habit : Tree
Part used : the fibres obtained from bark
Mode of use : The fresh bark fibre is peeled from wood and kept for one or two days for long duration (CR 1).
Occurrence : Common around the hamlets and neighbouring areas (MR 24477).

Caryota urens L. (ARECACEAE)

Vernacular name : Koontha panai naru
Habit : Tree
Part used : Fibres obtained from peduncle of leaves and infrutescence
Mode of use : The fresh in frutescence branches directly used as a fibre (CR 1).
Occurrence : Common around the hamlets (MR 24844).

Ficus racemosa L. (MORACEAE)

Vernacular name : Athi naru
Habit : Tree
Part used : the fibres obtained from bark
Mode of use : The fresh bark fibres peeled from wood and kept for one or two days for long duration (CR 1).
Occurrence : Occasional around the hamlets and in moist deciduous forests around the hamlets (MR 24783).

Grewia tiliifolia Vahl. (TILIACEAE)

Vernacular name : Lummai naru
Habit : Tree
Part used : the fibres obtained from bark
Mode of use : The fresh bark fibres peeled from wood is kept for one or two days for long duration (CR 1).
Occurrence : Common around the hamlets and moist deciduous forest areas of the adjoining forests (MR 24937).

Helicteres isora L. (STERCULIACEAE)

Vernacular name : Kevri
Habit : Small tree
Part used : the fibres obtained from bark
Mode of use : The fresh bark fibres peeled from wood and kept in sunlight for one or two days for long duration (CR 1).
Occurrence : Occasional in neighbouring forest areas (MR 24406)

Sterculia villosa Roxb. *ex* DC. (STERCULIACEAE)

Vernacular name : Vakka naru
Habit : Tree
Part used : The fibres obtained from bark
Mode of use : The fresh bark fibres peeled from wood and kept in sunlight for one or two days for long duration (CR 1).
Occurrence : Occasional in neighbouring forest areas (MR 24409).

Trema orientalis (L.) Blume (ULMACEAE)

Vernacular name : Amai naru
Habit : Tree
Part used : The fibres obtained from bark
Mode of use : The fresh bark fibres peeled from wood and kept in sunlight for one or two days for long duration (CR 1).
Occurrence : Occasional in neighbouring forest areas (MR 24773).

5. 4. 3. 4. 2. Plants for Fish stupefaction

Acacia torta (Roxb.) Craib (FABACEAE)

Vernacular name : Kattu Cheenikai
Habit : Climbing shrub
Part used : fruits
Mode of use : The fruits are crushed and dissolved in water of small streams or selected areas of river with fishes (CR 1).
Occurrence : Occasional in moist deciduous forests of the adjoining areas (MR 24489).

Bambusa bambos (L.) Voss. (POACEAE)

Vernacular name : Moongkuruthu
Habit : Tree grass

Part used : Tender shoots

Mode of use : The tender shoots are crushed and juice dissolved in streams (CR 1).

Occurrence : Common in moist deciduous forests around the hamlets (MR 24867).

Cycas circinalis L. (CYCADACEAE)

Vernacular name : Eathapattai

Habit : Tree

Mode of use : The tender leaves are crushed and dissolved in streams (CR 1).

Occurrence : Common in moist deciduous forests around the hamlets (MR 24887).

Canthium rheedei DC. (RUBIACEAE)

Vernacular name : Karakkay

Habit : Small tree

Mode of use : The fruits are crushed and dissolved in water of small streams or selected areas of river with fishes (CR 2).

Occurrence : Occasional in neighbouring forest areas (MR 24597).

Catunaregam spinosa (Thunb.) Tirveng. (RUBIACEAE)

Vernacular name : Malankara

Habit : Small tree

Mode of use : The fruits are crushed and dissolved in water of small streams or selected areas of river with fishes (CR 2).

Occurrence : Occasional in neighbouring forest areas (MR 24605).

Caryota urens L. (ARECACEAE)

Vernacular name : Eranpana, Koontha panai

Habit : Tree

Part used : Fruits

Mode of use : The fruits are crushed and dissolved in water of small streams or selected areas of river with fishes (CR 1).

Occurrence : Common around the hamlets (MR 24844).

Diospyros cordifolia Roxb. (DIOSPYRACEAE)

Vernacular name : Vakkanai maram

Habit : Tree

Part used : Leaves and branches

Mode of use : The leaves along with branches are crushed and juice dissolved in streams (CR 1).

Occurrence : Common in moist deciduous forests adjoining to the hamlet (MR 24632).

Dendrocalamus strictus (Roxb.) Nees (POACEAE)

Vernacular name : Koravanmoongkuruthu

Habit : Tree grass

Part used : Tender shoots

Mode of use : The tender shoots are crushed and juice is dissolved in streams (CR 1).

Occurrence : Common in moist deciduous forests and dry forests around the hamlets (MR 24873).

Gnidia glauca (Fresen.) Gilg (THYMELIACEAE)

Vernacular name : Karananchu

Habit : Shrub

Part used : Tender shoots, fruits

Mode of use : The tender shoots or fruits are crushed and juice is dissolved in streams (CR 1).

Occurrence : Occasional in sholas (MR 24736).

Sapindus trifoliata L. (SAPINDACEAE)

Vernacular name : Urunchi pattai

Habit : Tree

Part used : fruits

Mode of use : The fruits are crushed and dissolved in water of small streams or selected areas of river with fishes (CR 1).

Occurrence : Common in neighbouring forest areas of the hamlets (MR 24441)

Strychnos nux-vomica L. (LOGANIACEAE)

Vernacular name : Kanchiram

Habit : Tree

Part used : Fruits and leaves

Mode of use : The fruits or leaves are crushed and dissolved in water of small streams or selected areas of river with fishes (CR 1).

Occurrence : Occasional in neighbouring forest areas (MR 24654)

5. 4. 3. 4. 3. Plants as repellents

Azadirachta indica A. Juss. (MELIACEAE)

Vernacular name : Veepumaram

Habit : Tree

Part used : Oil, leaves

Used for : Leach and insect repellent

Mode of application: 1). The oil is mixed along with salt, powder of pukalai (*Nicotiana tabacum*) and smeared over the external parts of the body exposed to leaches (CR 1).

2). The leaves are mixed along with the seeds that are to be stored for a long time, to keep it free from insects (CR 1)

Occurrence : Common in plains and adjoining areas of the hamlets (MR 24427).

Briedelia scandens (Roxb.) Willd. (EUPHORBIACEAE)

Vernacular name : Gonchay Kodi

Habit : Scandent shrubs

Part used : Bark

Used for : Leach repellents

Mode of use : The bark is crushed and the juice is applied over the external part of the body exposed to leaches (CR 1).

Occurrence : Common around the hamlets (MR 24752)

Canarium strictum Roxb. (BURSERACEAE)

Vernacular name : Kunkillyam

Habit : Tree

Part used : Resin

Used for : Repellents of insects

Mode of use : The resin collected from wood is put in fire during night hours for repelling harmful insects (CR 1).

Occurrence : occasional in adjoining forest areas (MR 24426).

Vateria indica L. (DIPTEROCARPACEAE)

Vernacular name : Vella Kunkillyam
Habit : Tree
Part used : Resin
Used for : Insect repellents
Mode of use : The resin collected from the wood is put in fire during night hours for repelling the harmful insects (CR 1).
Occurrence : occasional in adjoining forest areas (MR 24537).

Cyclea peltata (Lam.) Hook. f. & Thoms. (MENISPEMACEAE)

Vernacular name : Padakilangu
Habit : Herb
Part used : Tuberous roots
Used for : Leach repellents
Mode of use : The tuberous roots are roasted in coconut oil along with salt and smeared over the part of the body exposed to leaches (CR 1).
Occurrence : Occasional in adjoining forest areas (MR 24510).

Capsicum annuum L. (SOLANACEAE)

Vernacular name : Malakay
Habit : Herb
Part used : Dried fruits
Used for : Repellents
Mode of use : The dried seeds are kept along with stored garins as a repellent for insects (CR 1).
Occurrence : Cultivated (MR 24664).

Capsicum frutescens Calark (SOLANACEAE)

Vernacular name : Cheenimalakay
Habit : Herb
Part used : Dried fruits
Used for : Repellents and insecticide
Mode of use : 1). The dried seeds are kept along with stored garins as a repellent for insect.
2). The fruit crushed and dissolved in the urine of cow or goat is sprayed in crops affected by diseases (CR 1).
Occurrence : Cultivated (MR 24665).

Harpullia arborea (Blanco) Radlk. (SAPINDACEAE)

Vernacular name : Pookoli maram
Habit : Tree
Part used : bark
Used for : Leach repellents
Mode of use : The bark is crushed and the juice is smeared over the external parts of the body exposed to leaches (CR 1).
Occurrence : occasional in adjoining forest areas (MR 24440).

Piper nigram L (PIPERACEAE)

Vernacular name : Kurumalakay
Habit : Climber
Part used : Dried fruits
Used for : Repellents
Mode of use : The dried seeds are kept along with stored garins as a repellent for insects (CR 1).
Occurrence : Cultivated (MR 24729).

Rubia cordifolia L. (RUBIACEAE)

Vernacular name : Sevalikkodi, Mattumanchi
Habit : Climber
Part used : Roots
Used for : Insect repellents in stored grains
Mode of application : The pieces of dried roots are mixed along with the seeds before storing to free from insects (CR 1).
Occurrence : Common around the hamlet and adjoining forest (MR 24606).

Solanum virginianum L. (SOLANACEAE)

Vernacular name : Mullukathrica
Habit : herb
Part used : fruits
Used for : Leach repellents
Mode of use : The fruits are crushed and the juice is smeared over the external parts of the body exposed to leaches (CR 1).
Occurrence : Occasional in plains and neighbouring forests (MR 24676).

Strychnos nux-vomica L. (LOGANIACEAE)

Vernacular name : Kanchiram
Habit : Tree
Part used : Fruits and leaves
Used for : Insect repellents
Mode of use : The leaves are mixed along with seeds before storing to keep it free from insects (CR 1).
Occurrence : Occasional in neighbouring forest areas (MR 24654).

Zingiber officinale Rosc. (ZINGIBERACEAE)

Vernacular name : Sukku
Habit : Climber
Part used : Dried rhizomes
Used for : Repellents
Mode of use : The dried seeds are kept along with it as a repellent for insects (CR 1).
Occurrence : Cultivated (MR 24808).

5. 4. 3. 4. 4. Plants as soaps and shampoo

Acacia sinuata (Lour.) Merr. (FABACEAE)

Vernacular name : Cheenikai
Habit : Climbing shrub
Part used : Fruits and bark
Used for : Soap
Mode of use : The fruits or bark is crushed and the foam is applied over the dresses while washing (CR 1).
Occurrence : Occasional in moist deciduous forests of the adjoining areas (MR 24488).

Sapindus trifoliata L. (SAPINDACEAE)

Vernacular name : Pooch kottai
Habit : Tree
Part used : fruits
Used for : Soap
Mode of use : The fruits or bark is crushed and the foam is applied over the dresses while washing (CR 1).
Occurrence : Common in neighbouring forest areas of the hamlets (MR 24441)

Kydia calycina Roxb. (MALVACEAE)

Vernacular name : Vekki maram
Habit : Tree
Part used : Bark
Used for : Shampoo
Mode of use : The juice obtained from the bark is used as a shampoo (CR 1).
Occurrence : Common around the hamlets and moist deciduous forests (MR 24543).

Grewia tiliifolia Vahl. (TILIACEAE)

Vernacular name : Lummai maram
Habit : Tree
Part used : Bark
Used for : Shampoo
Mode of use : The juice obtained from bark is used as a shampoo (CR 1).
Occurrence : Common around the hamlets and moist deciduous forests (MR 24937).

Hibiscus rosa-sinensis L. (MALVACEAE)

Vernacular name : Addukuchembarathi
Habit : Shrub
Part used : Leaves
Used for : Shampoo
Mode of use : The mucilaginous extract from the crushed leaves is used as a shampoo (CR 1).
Occurrence : Common around the hamlets as cultivated ornamental (MR 24541)
Occurrence : Common.

Sida rhombifolia L. (MALVACEAE)

Vernacular name : Kurunthotti
Habit : Herb
Part used : Leaves
Used for : Shampoo
Mode of use : The mucilaginous extract from the crushed leaves is used as a shampoo (CR 1).
Occurrence : Common around the hamlets (MR 24597)

5. 4. 3. 4. 5. Plants for coagulating milk

The milk is consumed as the curd by using coagulants of plant origin. The peelings of the bark of *Palai maram* (*Wrightia tinctoria*), fruit pulp of Puli (*Tamarindus indica*) and crushed fruit of Chundai (*Solanum torvum*) are generally used for coagulating the milk. The coagulated milk is cut in to small pieces and eaten as raw.

5. 4. 3. 4. 6. Plants in Beliefs

According to Mudugars the trees like Palai (*Alstonia scholaris*), Athimaram (*Ficus racemosa*), Alamaram (*Ficus benghalensis, Ficus religiosa*) are the domiciles of Peyi (evil spirits) and called as Peyimarams. The fresh green culm of the bamboos is considered the symbol of purity and it is used to carry the corpse to the burial ground. They believe that the *Erangu seenkai* (*Dalbergia horrida* and *Caesalpinia cucullata*) have ultimate power and both the plants wards off evil spirits, snakes and other harmful organisms. The ripend fruits of Kookiri valli *(Mucuna pruriens*) along with powdered seeds of jeenimulakay is placed on the path of enemies and it is believed that the mythical power of these plants will keep away their enemies and harm ful animals.The bunch of Vanchi (*Homonoia riparia*) is knotted in Thuvarai chedi (*Cajanus cajan*) and it is believed that it will increase the yield. There is a belief that if the paste of the rhizome of Marachembu (*Remusatia vivipara*) or Naychembu (*Arisaema tortuosum*) are applied over the teeth of the dogs before going for hunting, will increase the efficiency of the dog.When the twig of Netharu (*Breynia retusa*) touches a root tuber, it would not cook properly, due to the mythical effect of the plant. The Kurumbars believe that flowering of Malai kurunchi (*Strobilanthes sp.)* will increase the yield of honey.

5. 4. 3. 4. 7. Plants in Worships and Religious rituals

They worship the veppamaram (*Azadirachta indica*) as the domicile of Goddess Mariyammanthayi and believe that their Goddesses live under the Alamaram (*Ficus benghalensis*), Pongamaram (*Pongamia pinnata*) and cutting of these trees are taboo. The fresh green culms of bamboos would ward off evils spirits. The leaves of Mangaimaram (*Mangifera indica*) and Cheruthala (*Aerva lanata*), Aviram poo (*Senna auriculata*) are placed in front of the huts during festivals and are considered as the agents for purification, protection from evil spirits and evil eyes.

5. 4. 3. 4. 8. Plants in traditional songs

There are few plants such as, Veppamaram (*Azadirachta indica*), Alamaram (*Ficus spp.)*, Mungamaram (*Bambusa bambos*), mentioned in their traditional songs.

5. 4. 3. 4. 9. Plants in proverbs

The plants like Vakamaram (Albizia spp.), Vanchi (*Homanoia riparia*), Edalamaram (*Olea dioica*) are mentioned in some of their proverbs.

Vakaikkoru Kalm, Vanchikkoru Kalam- For indicating good and bad occasions in life

Edalamaram chudulukkum Akathu - The tree named Edala (*Olea dioica*) is not a useful tree even as firewood.

5. 4. 3. 4. 10. Plants with Ecological importance

The Attappady valleys are with sloppy terrain and prone to soil erosion to the maximum due to slash and burn cultivation practices. It is also observed that Moongamaram (*Bambusa bambos*) and Pongu maram (*Pongamia pinnata*) are planted around the hamlets as a protection from wind.

5. 4. 3. 4. 11. Plants in material culture

A. Musical instruments

Dhavil

Used for : Making the sound of a drum during traditional occasions.

Material used : The wood of Vengaimaram (*Pterocarpus marsupium)* or Kummulumaram (*Gmelina arborea)* and skin of animals (Plate 11. h.).

Mode of making : The cortex and pith of the wood is removed by carving, the open end is covered by the treated skin of animals such as ox, buffalos etc. and used as a drum like instruments.

Kuzhal

Used for : Making the sound like a bugle during traditional occasions.

Material used : The carved wood of Palai maram (*Wrightia tinctorea*) along with metal parts.

Mode of making : The cortex and pith of the wood is removed by carving, and sthe mouth is sheathed by a metal plate.

Buggiri

Used for : Making the sound like a flute during traditional occasions.

Material used : The culms of Odai (*Ochlandra setigera*)

Mode of making : Samll holes are made in the mature culms

B. Basketries

Gummey

Used for : Collecting storing gains in large quantities

Material used : The culms of Mungai maram (*Bambusa bambos*)

Mode of making : The long culm is woven in the form of basket.

Girasi

Used for : Drying garins

Material used : The culms of Mungai maram (*Bambusa bambos*)

Mode of making : The culms woven into a flat structure and placed above the furnace (Plate 11. e.)..

Koodai

Used for : Collecting storing seeds

Material used : The culms of Mungai maram (*Bambusa bambos*)

Mode of making : The long culm woven in the form of a basket.

Kullukke

Used for : Collecting storing gains in large quantities

Material used : The culms of Mungai maram (*Bambusa bambos*)

Mode of making : The long culm woven in the form of basket.

Muram

Used for : Collecting storing seeds

Material used : The culms of Mungai maram (*Bambusa bambos*)

Mode of making : The culm fibres woven in the form of basket.

Puttuthekku

Used for : Collecting and storing powdered grains

Material used : The culms of Mungai maram (*Bambusa bambos*)

Mode of preparation: The fibers of culm woven in the form of basket (Plate 11. j.).

Rajikave

Used for : Removing the grass from the agricultural field

Mode of making : The culms of Mungai maram (*Bambusa bambos*)

Mode of preparation: The culm used as handle and at base woven in a manner to trap grasses.

Thukkuthekku

Used for : Sawing seeds

Mode of making : The culms of Mungai maram (*Bambusa bambos*)

Mode of preparation: The fibers of culm woven in the form of basket

C. Ornaments

The leaves of Kattu thengu (Arenga wightii), Kaithathalai (*Pandanus thwaitesii*) and Karimpana (*Borassus flabellifer*) are rolled in a special manner like a disc, called *Oalai* inserted in the holes made in the posterior portion of the ear lobes that are sufficiently dilated to contain them. The seeds of Muthukaya (*Coix lacryma jobi*) are used for making chains,

D. Beauty spots

The exudates of Venga (*Pterocarpus marsupium*) and Unnam kodi (*Argyria nervosa*) are used for making beauty spots. The milky latex are allowed to exude by making a small wound in the stem and the sticky gum is placed at the centre of the forehead.

E. Tooth cleaner

The plants and plant parts used for cleaning of tooth are; stem of Veppai maram (*Azadirachta indica*), petiole of the mature leaves of (*Mangifera indica*) and charcoal obtained from Munga maram (*Bambusa bambos*) and Paralai maram (*Symplocos cochinchinensis*).

F. Cloths

According to the elder members of this community they used the flattened and cured bark of Aranjali (*Antiaris toxicaria*) as cloth fifty years ago.

G. Bathing brush

The fibrous fruit spong of Peekin kay (*Luffa acutangula*), Perin peekin kay (*Luffa cylindrica*) are used as a bathing brush. The bark fiber of Kattu seenkai (*Acacia torta*) is also used.

H. Traditional house construction

The traditional houses are generally made up of bamboos. Pillars and other poles are generally made up of Mungamaram (*Bambusa bambos*), Churuli maram (*Mesua ferea*), Veetimaram (*Dalbergia latifolia*), Vakaimaram (*Albizia odoratisima*) *etc.* The walls of houses are made up of splitted, flattened Munga maram (*Bambusa Bambusa*) and plastered with mud. Thatching is done with Dharvai pullu (*Imperta cylindrica*), Kavara pull (*Pennisetum polystachyon*).

I. House hold article

Uralu

Used for : As a mortar

Material used : The wood of Vengai maram (*Pterocarpus marsupium*)

Mode of making : The cortex and pith of the wood is removed by carving (Plate 11. l).

Ulakkai

Used for : As pestle

Material used : The wood

Mode of making : The mature wood Churuli (*Mesua ferrea*) is carved in the form of a pestle and the outer portion is smoothened by continuous rubbing The medium sized culms with thick walls are cut almost to one metre length.

Kavai

Used for : As digger

Material used : Bamboo

Mode of making : The mature cum is selected and one end of the branch is retain as a hook like structure

Brooms

The dried twigs of Kurumthotti (*Sida rhombifolia*), Aliyan kurumthotti (*Sida cordifolia*) is tied and used as brooms. The leafy twigs of Esa (*Phoenix loureirii* var. *humilis*) are also used for preparing brooms (Plate 11. i.).

Cooking Utensils

The large culm of Mungamaram (*Bambusa bambos*) is used for preparing food. The rice, adequate amount of water is added through the small opening made in the internodes, and then the hole is closed and put in fire for some time. According to the tribals the cooked rice in bamboo culms is one of the most delicious foods available to them.

Plates

Leaves of Muthangu (*Butea monosperma*), Kalluvazhai (*Ensete superbum*), Mala vazai (*Musa rosacea*) and Thekku (*Tectona grandis*) are used for serving food.

J. Decoration

Kalluvazha (*Ensete superbum*), Kunnan Vazha (*Musa paradasiaca*) Enthusoppu (*Cycas circinalis*) are used for decorating pandals during marriage and other auspicious occasions.

K. Torches

Kerosine filled in the culms of Oda (*Ochlandra setigera*) and caped with cloth or cotton are used as a troche during night hours. The dried fruits of Thonda kotta (*Jatropha curcus*) are burn and the used as a light source.

L. Traps

Various kinds of trap like *Elikkeni* (Rat trap), *Kooran keni* (Mouse deer trap), *Meenkuruthi* (Fish trap) are commonly available with them. All these traps are made up of *Bambusa bambos*

M. Irrigation pipes

They arrange irrigation through bamboo pipes or split bamboo channel of *Bambusa bambos* and regulate the flow from field to field.

N. Weapons

In olden days, they were using the culms of Munga maram (*Bambusa bambos*) as Bow and the finely pointed culms of same plant as arrows. The other weapons include *Gavan* (catapult) and *Madava* (Long knife).

5.4. 4. Conclusion

Kurumbars are one of the hill tribe confined to the semievergreen and evergrren forests of the restoration zone of Nilgiri Biosphere Reserve. They are rich in traditional knowledge and practices, beliefs and customs. The modernisation in different sectors has directly affected them especially in their life style due to affinity towards illeagal Ganja cultivation. The study revealed that, kurumbars of Palakkad district directly depended on 260 plants, among which, 139 are used in food, 11 as fodder and 125 in medicines. The plants belong to 211 genera and 85 families. Among the plants used 12 are fungi, three pteridophytes, two gymnosperms and 243 angiosperms. They also

cultivate 33 plants around the hamlets. The dominant plant families are Fabaceae (32 species) followed by Euphorbiaceae (18), Poaceae (14), Solanaceae (12) Cucurbitaceae (10) etc. The most important plants involved in the life and culture of Kurumbars are *Bambusa bambos* (18 uses); *Curcuma longa* (8 uses); *Ensete superbum, Azadirachta indica* (6 uses); *Cocos nucifera* (5 uses), *Pterocarpus marsupium* (5 uses), *Ficus racemosa* (5 uses), *Artocarpus heterophyllus* (5 uses) *etc.* Some of the characteristic medicinal plants used by the Kurumbars are *Aeschynanthus perrottetii, Arundinaria wightiana, Caesalpinia cucullata, Polypleurum dichotomum, Porpax reticulata etc.* Among the medicinal plants recorded 44 medicinal uses are found to be unreported and also the medicinal uses of *Arundinaria wightiana, Oxytenanthera monadelpha* and *Polypleurum dichotomum* are hitherto unknown and documented for the first time. The occurrence and distribution of *Dalbergia horrida, Ensete superbum, Aristolochia indica, Rauwolfia serpentina* are represented only by few plants due to the over exploitation and habitat destruction. Ganja plant (*Cannabis sativa*) played an important in their life and culture not only of its narcotic property but also due to the medicinal and the magico religious aspects.

5. 5. MALAMALASARS

5. 5. 1. Introduction

The Malamalasars are one of the primitive tribal groups of Kerala State. They mostly resemble the primitive tribes, *Kadars* of the Anamalais and the *Cholainaikans* of Nilambur forests, in their lifestyle, culture and subsistence economy. The word Malamalasars denotes the forest dwelling habit and they are also known as *Maha malasar* owing to their own belief as a superior tribe or the highest in rank among the other neighbouring tribal groups like *Malasars* and *Kadars*. *Malasar* is the generic name for the tribes known as *Malamalasar* or *Mahamalasar*, *Nattumalasars* and *Malasars* (Menon & Sasikumar, 1996). It is also true that *Malamalasars* consider themselves superior to Malasars because they dwell in the inaccessible high mountain regions of the interior forests. They do not have any knowledge of agriculture, domestication of animals and use of the imported food obtainable through barter, trade, services or any other means until the end of the 20th century.

They have medium height with well-built body, taller than Malasars. They have black or brown skin, black hair, prominent nose, protruding pointed chin and lips. The youngsters crop their hair; the older men grow their hair and gather in tufts similar to women, knotting at the back. Chipping of the incisor teeth to make the teeth more pointed was observed as seen in the Kadar tribes a few years ago (Parthasarathy, 1996). Their language is a mixture of Tamil and Malayalam dialects. Speech is very slow and always lagging.

They are food gathers and go for hunting to the interior forests and shift from one place to another in search of better food, water and shelter, irrespective of the climatic conditions. They are isolated and keep themselves as smaller units for better gathering and hunting.

They are distributed in Anaimalais of the Western Ghats especially in Chittoor Thaluk of Palakkad district and Pollachi and Udumalpettu Thaluk of Coimbatore district of Tamil Nadu. Their population is dominant in the Indira Gandhi Wildlife Sanctuary of Pollachi Thaluk (Parthasarathy, 1996). In the study area, they are found distributed in between the Parambikkulam Wildlife

Malamalasars

The word Malamalasars denotes the forest dwelling habit and they are also known as Mahamalasar owing to their own belief as a superior tribe or the tallest tribe, among the other neighbouring tribal groups like Malasars and Kadars. (Dr. Jakka Parthasarathy)

Sanctuary and Nelliampathy reserved forests. They had remained as nomadic group of tribals for a long time and were not settled in separate hamlets until 1960. A major group of this tribe was located by the forest officials at reserved forests and with the joint effort of the forest officials and Maharaja of Kollengodu, permanent hamlets at Thekkady of the Kollengodu forest ranges were established that is presently known as Muppethekkar Veeramooppan Colony(Fig 10.). Due to the interference of the modern culture and strict forest laws, the younger generation are in search for new livelihood other than food gathering in the forests. Presently, three smaller groups were found established as tea workers in Kattilappara and Vazhakundu at Nelliampathies and labourers in forest department at earth dam colony near to the Parambikulam reservoir. It has been estimated that at present, there are fifty-two families and 204 individuals in the study area.

5. 5. 2. Socio-Cultural and Anthropological aspects

5. 5. 2. 1. Hut and hamlets

The Malamlasars are nomadic tribes and the concept of a hamlet is not observed in their system other than the houses constructed by the Government authorities. They lived in caves few years ago and caves were modified slightly in the form of roof like structure, made up of the leaves of reed and bamboo. Now also, they are very much reluctant to stay in a modern house throughout the year. It has been observed that in the month of November onwards they move to the neighbouring forest areas where they lead a nomadic life. The hut is made up of bamboo culms (*Bambusa bamboos*, *Ochlandra travancorica*) and thatched with the reed leaves (*Ochlandra travancorica*) and rarely with teak leaves (*Tectona grandis*). It consists of a single room that constitutes living room, kitchen and bedroom. The houses with two rooms are also observed (Plate 15. a, b & c).

5. 5. 2. 2. Social system

When compared to the other tribal groups of the study area, a well-established hamlet, headman, medicine man and other officials are not observed among Malamalasars. However, they obey the elder people of the

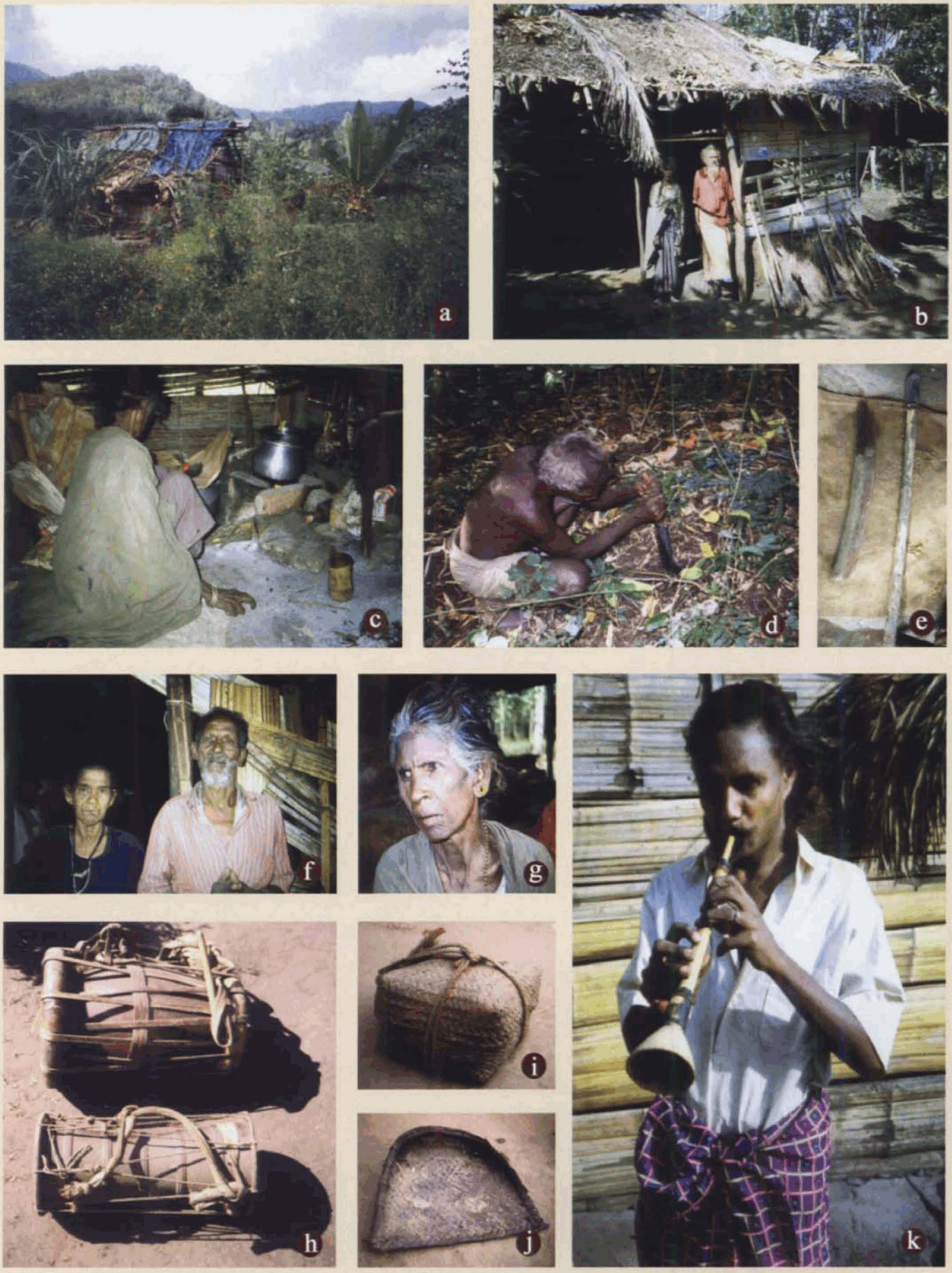


Plate 15. MALAMALASARS. **a.** Hamlet; **b.** Hut; **c.** Kitchen; **d.** Man collecting tubers; **e.** Equipments for collecting tubers; **f.** Malamalasar couple; **g.** Malamalasar lady; **h.** Musical instruments; **i & j.** Basketry; **k.** Man performing music with Kuval.

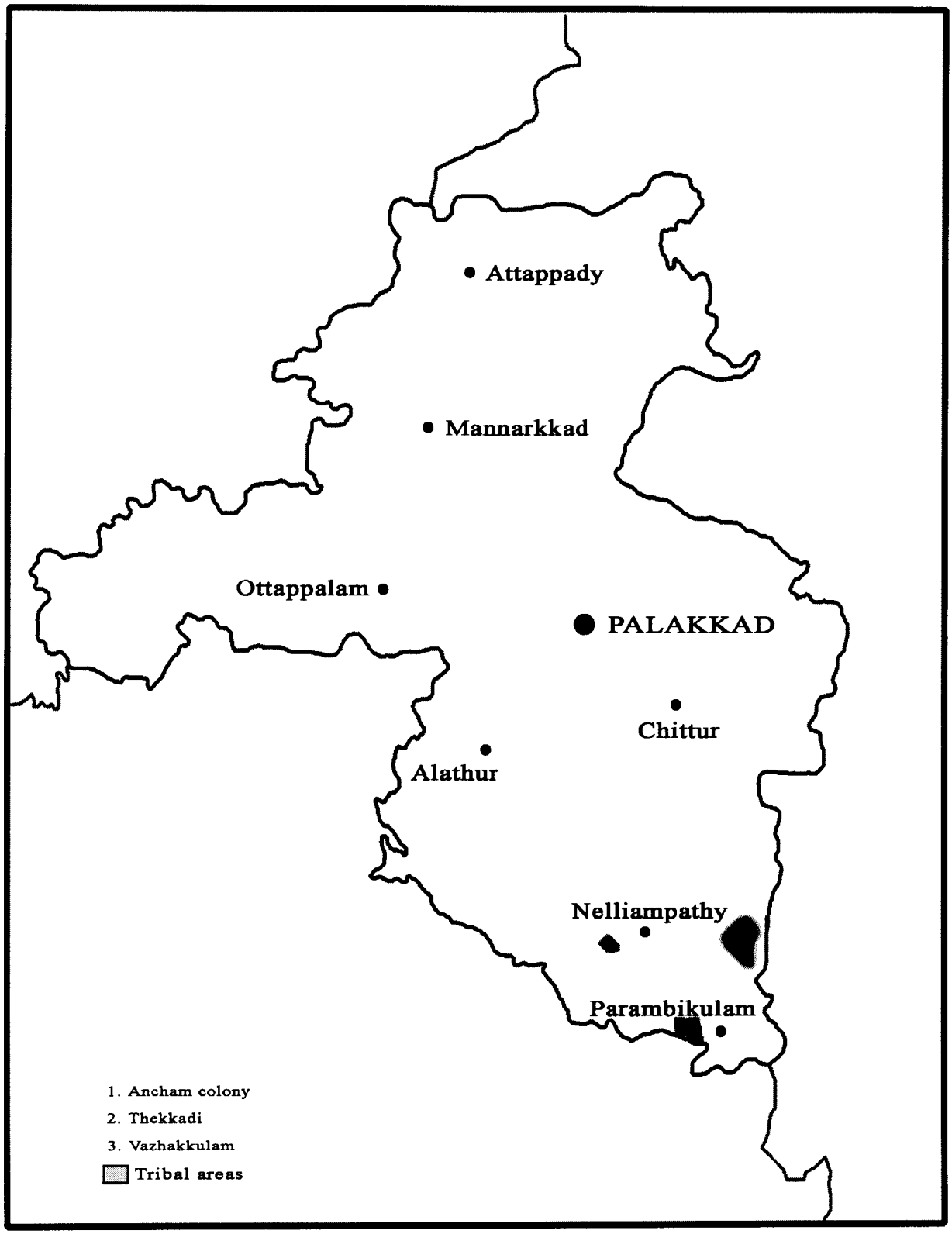


Fig. 10 Map showing the distribution of Malamalasars

same community and called them *Mooppan* and their wives as *Moopathi.* The inheritance is paternal and the son takes his father's billhook. The mother continues to be a member of the marital family after the death of her husband. The women enjoy equal status in all walks of life along with the men tribe. (Parthasarathy, 1996).

5. 5. 2. 3. Life and Subsistence Economy

Due to the nomadic way of life they were not aware of the agricultural practices and lived with their traditional foods like tubers, edible leaves, fruits, seeds, flesh of hunted animals and fishes. After their establishment in hamlets, some people from younger generation have started working as agriculture and forest labourers. At the same time, many of the people still continue their nomadic life and collect Non Timber Forest Produces (NTFPs) like Honey, Padakkilangu (*Cyclea peltata*), Nannari (*Hemidesmus indicus*), Orila (*Desmodium gangeticum*), Moovila (*Pseudarthria viscida*), Kunkiliyam (*Canarium strictum*), Kurunthotti (*Sida rhombifolia*) and sell then in the markets for their livelihood (Plate 15. d-g).

5. 5. 2. 4. Tradition and culture

The Malamalasars possess simple manners and customs like Kadars. During their past nomadic life, they were fully naked or little dressed. Their dress includes the bark of Karayani (*Antiaris toxicaria*), finely woven mats of reed bamboo (*Ochlandra travancorica*) and the leaves of various plants, their ornaments are made up of the bamboo beads and finely carved culms of bamboo. The ear ornaments known as *olai* is made up of the leaves of *Odathalai* (*Ochlandra travancorica*). Presently, they wear all types of modern dress like shirt, dothies, nighties, sarees.

5. 5. 2. 4. 1. Ceremonies associated with birth

If a lady gives birth to a child, pollution is observed among them and she is isolated to a separate hut known as *Pettuchalai.* The birth pollution observed for a male child is five days and for a female child is four days.

5. 5. 2. 4. 2. Puberty

When a girl attains maturity she is also transferred to a separate hut with an elder woman up to seven days. A special care is given during this period with sufficient wild foods. On the last day, the elder woman gives a ceremonial bath to her and she is allowed to enter the hut. Now a days, some gifts like ornaments, dress, cosmetic items are also given along with sweets by maternal uncle and aunt. Married women perform *Kootam*, sprinkling of turmeric water (*Curcuma longa*), after which she is allowed to enter the kitchen.

5. 5. 2. 4. 3. Marriage

Marriage is simple when compared to other tribal groups. When a matured girl and a boy of two different families of Malamalasars happen to meet or they fall in love, the girl's parents directly hand over the girl to the boy and they start living together as a separate family. The age at marriage varies from 13 to 15 years for girls and from 18 to 22 for the boys. Sometimes, bride price is also given. Now days, the marriages are conducted similar to Malasars and the fellow tribals give small amount money called *Moy* (helping fund) for meeting the expenditure during the marriage and a small feast is also served. Re marriage is not allowed but, in special circumstances the widower and a widow are allowed to live together.

5. 5. 2. 4. 4. Ceremonies associated with death

When a person dies the relatives of the deceased inform the fellow tribes men. The fellow tribesmen and women perform traditional songs and dance with musical instrument. The disposal of the dead body is by burial. The body of the deceased person is transferred to a structure known as *'Thithal'*, which is made up of fresh bamboo culms and the body is covered by a sack or any available cloths, oil is applied on the head and then taken to the burial ground. They collect few stones, chant some words and throw the stones into the valley with the belief that if any evil spirits are accompanying the dead body could be chased away. All the fellow tribals mourn for the departed soul. The death pollution is observed for seven days. It is also observed that if a person dies inside his or her hut, the other members of the family of the deceased shift to new places and lives in a new hut. After completing seven

days they perform *Karumathy* by leaving some cooked rice in a new pot at the burial ground, which is offered, to the departed soul. A small feast to the members to the community is hosted. It is also observed that now days they have started worshiping their ancestral spirits and make annual offering to them.

5. 5. 2. 4. 5. Worships

They consider forest and their traditional environment as their God and called as *Maladaivam.* The other deities are *Mariatha, Kamithal.* Presently, they also believe in the Hindu Gods like *Ayyapaswami, Murugan, Paramasivan, Bhadrakali.* It has also been observed that some tribal people have converted themselves to Christianity (Plate 32. e).

5. 5. 2. 4. 6. Festivals

They are not aware of any festivals other than their traditional and cultural occasions like marriage, puberty, birth and death until few years ago. Presently, it is found that few of them are celebrating the Hindu festivals like Onam, Vishu and Deepavali.

5. 5. 3. Ethnobotanical aspects

5. 5. 3. 1. Plants in food

A. Roots

Dioscorea bulbifera L (DIOSCOREACEAE)

Vernacular name : Noopakilangu
Habit : Herbaceous climber
Mode of use : the root tubers were kept in running water for one night to remove the poisonous effect and cooked in water with salt in pots or roasted in fire and used as a staple food (CR 1).
Occurrence : Common (MR 24815).

Dioscorea hispida Dennst. (DIOSCOREACEAE)

Vernacular name : Thali kilangu
Habit : Herbaceous climbers

Mode of use : The root tubers are cooked along with salt in pots or roasted in fire (CR 1).

Occurrence : Occasional in semi evergreen forests around the hamlets (MR 24936).

Dioscorea intermedia Thw. (DIOSCOREACEAE)

Vernacular name : Pillamkodi

Habit : Herbaceous climber

Mode of use : The root tubers are cooked in water with salt in pots or roasted in fire and used as a staple food (CR 1).

Occurrence : Occasional in Semi evergreen and evergreen forests (MR 24818).

Dioscorea oppositifolia L. (DIOSCOREACEAE)

Vernacular name : Kanakilangu

Habit : Herbaceous climber

Mode of use : The root tubers are cooked along with salt or roasted in fire (CR 1).

Occurrence : Common in Semi evergreen forests (MR 24819).

Dioscorea pentaphylla L. (DIOSCOREACEAE)

Vernacular name : Nura kilangu

Habit : Herbaceous climber

Mode of use : The root tubers are cooked along with salt in pots or roasted in fire (CR 1).

Occurrence : Common in near by forest area of the hamlets (MR 24821).

Dioscorea tomentosa Koenig *ex* Spreng. (DIOSCOREACEAE)

Vernacular name : Chelukilangu

Habit : Herbaceous climber

Mode of use : The root tubers are cooked along with salt in pots or roasted in fire (CR 1).

Occurrence : Occasional in Semi evergreen forests near the hamlet (MR 24823).

Dioscorea wallichii Hook. f. (DIOSCOREACEAE)

Vernacular name : Narakilangu

Habit : Herbaceous climber

Mode of use : The root tubers are cooked along with salt in pots or roasted in fire (CR 1).

Occurrence : Occasional in evergreen and moist deciduous forests adjoining to the hamlets (MR 24824).

B. Rhizomes

Amorphophallus paeoniifolius (Dennst.) Nicols. (ARACEAE)

Vernacular name : Kattuchena

Habit : Rhizomatous herb

Mode of use : The corm is cut in to small pieces and cooked along with salt, tamarind and chillies (CR 2).

Occurrence : Occasional around the hamlets (MR 24851).

Colocasia esculenta (L.) Schott. (ARACEAE)

Vernacular name : Chembu kilangu

Habit : Rhizomatous herb

Mode of use : The rhizome tubers are cut into small pieces, cooked along with, tamarind, salt, chillies and finally roasted in oil (CR 1).

Occurrence : Common around the hamlets (MR 24854).

Curcuma zedoaria (Christm.) Rosc. (ZINGIBERACEAE)

Vernacular name : Manja Kuvai

Habit : Rhizomatous herb

Mode of use : The starchy rhizome is cut into small pieces, crushed and starch is allowed to dissolve in water and kept for sometime. The sedimented starch is separated by sieving through cloths and dried in bamboo mats or rocks and powdered. It is used for preparing puddings (CR 1).

Occurrence : Common around the hamlets (MR 24804).

C. Stem pith

Caryota urens L. (ARECACEAE)

Vernacular name : Panai

Habit : Tree

Mode of use : The starchy stem pith is crushed well, dissolved in water taken in large pots and the starch is allowed to sediment, excess water is drained off after keeping for some time, the starchy matter is cooked, used for preparing puddings and various indigenous items (CR 1).

Occurrence : Common around the hamlets (MR 24844).

Ensete superbum (Roxb.) Cheesman (MUSACEAE)

Vernacular name : Kalluvazha thandu

Habit : Tall rhizomatous herb with pseudo stem.

Mode of use : The tender pith is cooked as vegetable (CR 1).

Occurrence : Rare, found in the neighbouring forests around the hamlets (MR 24812).

D. Tender shoots

Arenga wightii Griff (ARECACEAE)

Vernacular name : Kattuthengu

Habit : Tree

Mode of use : The tender shoots are eaten as raw (CR 1).

Occurrence : Occasional in grasslands (MR 24838).

Bambusa bambos (L.) Voss. (POACEAE)

Vernacular name : Mulakuruthu

Habit : Tree grass

Mode of use : The tender shoots around 15 centimetres long is removed from rhizome, cleaned by removing sheaths, cut into small pieces, cooked in water with salt and drained off water, cooked again, the same process is repeated and finally roasted in oil along with chillies and onion (CR 1).

Occurrence : Common in moist deciduous forests around the hamlets (MR 24867).

Pinanga dicksonii (Roxb.) Blume (ARECACEAE)

Vernacular name : Kattupakku maram

Habit : Shrub

Mode of use : The tender shoots are eaten as raw (CR 1)

Occurrence : Occasional in evergreen forests (MR 24846).

Phoenix loureirii Kunth var. ***humilis*** (Royle *ex* Becc.) Barrow (ARECACEAE)

Vernacular name : Cheevan
Habit : Shrub
Mode of use : Tender shoots are eaten as raw (CR 1)
Occurrence : Occasional in grasslands (MR 24845).

E. Leaves

Adenia hondala (Gaertn.) de Wilde (PASSIFLORACEAE)

Vernacular name : Kannanadagu
Habit : Tuberous climber
Mode of use : Tender leaves along with onion, salt and chillies, roasted in coconut oil (CR 1).
Occurrence : Occasional in semi evergreen and evergreen forests around the hamlets (MR 24568).

Alternanthera sessilis (L.) R.Br. ex. DC. (AMARANTHACEAE)

Vernacular name : Komanapeeri adagu
Habit : Herb
Mode of use : The tender leaves are cooked along with chillies, onion, and salt and finally roasted in oil (CR 2).
Occurrence : Common around the hamlets (MR 24710).

Amaranthus spinosus L. (AMARANTHACEAE)

Vernacular name : Mullunadagu
Habit : Herb
Mode of use : The tender leaves are roasted in coconut oil along with onion, chillies and salt or cooked in water and finally roasted in oil.
Occurrence : Common (MR 24711).

Amaranthus viridis L. (AMARANTHACEAE)

Vernacular name : Pattiyadagu
Habit : Herb
Mode of use : The tender leaves are roasted in coconut oil along with onion, chillies and salt or cooked in water along with dhal (*Cajanus cajan*), chillies, salt and finally roasted in coconut oil (CR 1).
Occurrence : Common around the hamlets (MR 24712)

Amorphophallus paeonifolius (Dennst.) Nicols. (ARACEAE)

Vernacular name : Chenadagu

Habit : Tuberous herb

Mode of use : The tender leaves are roasted in oil along with leaves of Chembu (*Colocasia esculenta*)(CR 2).

Occurrence : Occasional around the hamlets (MR 24851).

Boerhavia diffusa L. (NYCTAGINACEAE)

Vernacular name : Komanadagu

Habit : Herb

Mode of use : Tender stem and leaves cooked in water along with dhal (*Cajanus cajan*), chillies, salt and finally roasted in oil (CR 1).

Occurrence : Common around the hamlets (MR 24707)

Celosia argentea L. (AMARANTHACEAE)

Vernacular name : Pannadagu

Habit : Herb

Mode of use : The tender leaves are roasted in coconut oil along with onion, chillies and salt or cooked in water along with dhal (*Cajanus cajan*), chillies, salt and finally roasted in coconut oil (CR 1).

Occurrence : Common in and around the hamlets (MR 24713)

Colocasia esculenta (L.) Schott (ARACEAE)

Vernacular name : Chembadagu

Habit : Rhizomatous herb

Mode of use : The tender leaves are roasted in oil along with leaves of *Amorphophallus paeonifolius* and *Vigna ungiculata.* The leaves are also cooked along with tamarind, chilli, onion and salt (CR 1).

Occurrence : Common around the hamlets (MR 24854).

Cucumis prophetarum L. (CUCRBITACEAE)

Vernacular name : Attangadagu

Habit : Climber

Mode of use : The tender leaves are roasted in coconut oil along with chilli, onion and salt (CR 1).

Occurrence : Common around the hamlets (MR 24572)

Cycas circinalis L. (CYCADACEAE)

Vernacular name : Konkanadagu

Habit : Tree

Mode of use : The tender leaves are cooked in water along with salt, excess of water is drained off, roasted along with chillies and dhal in coconut oil (CR 1).

Occurrence : Common in moist deciduous forests around the hamlets (MR 24887).

Diplazium esculentum (Retz.) Sw. (ATHYRIACEAE)

Vernacular name : Suruliadagu

Habit : Shrub

Mode of use : Tender leaves are roasted in coconut oil along with onion, chillies and salt (CR 1).

Occurrence : Common in banks of river and streams (MR 24896)

Diplocyclos palmatus (L.) Jeffrey (CUCRBITACEAE)

Vernacular name : Kovaladagu

Habit : Climber

Mode of use : The tender leaves are roasted in coconut oil along with chilli, onion and salt (CR 1).

Occurrence : Common around the hamlets (MR 24576)

Holostemma ada-kodien Schult. (ASCLEPIADACEAE)

Vernacular name : Paladagu

Habit : Climber

Mode of use : The tender leaves are roasted in coconut oil along with onion, chillies and salt (CR 1).

Occurrence : Occasional in moist deciduous forests around the hamlet (MR 24652).

Laportea interrupta (L.) Chew. (URTICACEAE)

Vernacular name : Thuvadagu

Habit : Herb

Mode of use : The leaves are cooked along with salt and oil (CR 1).

Occurrence : Common around the hamlets (MR 24769).

Lobelia dichotoma Miq.(LOBELIACEAE)

Vernacular name : Manadagu

Habit : Herb

Mode of use : The tender leaves are cooked along with salt, chilly and roasted in oil (CR 2).

Occurrence : Common around the hamlets (MR 24621).

Momordica dioica Roxb. *ex* Willd. (CUCRBITACEAE)

Vernacular name : Pavadagu

Habit : Herb

Mode of use : Tender leaves are roasted in coconut oil along with onion, chillies and salt (CR 1).

Occurrence : Occasional around the hamlets (MR 24581).

Oxalis corniculata L. (OXALIDACEAE)

Vernacular name : Puliadagu

Habit : Herb

Mode of use : Tender leaves are cooked along with chillies, onion and salt (CR 2).

Occurrence : Common around the hamlets (MR 24419).

Persicaria chinensis (L.) Gross. (POLYGONACEAE)

Vernacular name : Odijanadagu

Habit : Herb

Mode of use : Tender stem and leaves are cooked in water along with dhal (*Cajanus cajan*), chillies, salt and finally roasted in oil (CR 1).

Occurrence : Common around the hamlets (MR 24719).

Portulaca oleracea L. (PORTULACACEAE)

Vernacular name : Thammai kelanthanadagu

Habit : Herb

Mode of use : Tender stem and leaves are cooked in water along with, chillies, salt and finally roasted in oil (CR 1).

Occurrence : Common in and around the hamlets (MR 24529).

Senna occidentalis (L.) Link (FABACEAE)

Vernacular name : Kolthakaradagu

Habit : Herb

Mode of use : The tender leaves are cooked in water along with salt, excess of water is drained off and roasted in coconut oil (CR 1).

Occurrence : Common around the hamlets (MR 24484).

Senna tora (L.) Roxb. (FABACEAE)

Vernacular name : Sattitagaradagu

Habit : Herb

Mode of use : The tender leaves are roasted in coconut oil along with salt, chillies *etc.* (CR 1).

Occurrence : Common around the hamlets (MR 24483).

Solanum americanum Mill. (SOLANACEAE)

Vernacular name : Sukkuti adagu

Habit : Herb

Mode of use : The tender leaves are roasted in coconut oil along with salt, chillies etc. (CR 1).

Occurrence : Common around the hamlets (MR 24672)

Trianthema portulacastrum L (AIZOACEAE)

Vernacular name : Seranadagu

Habit : Herb

Mode of use : Tender stem and leaves are cooked in water along with dhal (*Cajanus cajan*), chillies, salt and finally roasted in oil (CR 1).

Occurrence : Common in and around the hamlets (MR 24589).

F. Flowers

Cullenia exarillata Robyns (CULLINIACEAE)

Vernacular name : Karanipu

Habit : Tree

Mode of use : Tender flowers are eaten as raw

Occurrence : Common in the evergreen forests adjoining to the hamlets (MR 24405).

Holostemma ada-kodien Schult. (ASCLEPIADACEAE)

Vernacular name : Anchampalaipoo

Habit : Climber

Mode of use : The flowers are roasted in coconut oil along with onion, chillies and salt (CR 1).

Occurrence : Occasional in the moist deciduous forests around the hamlet (MR 24652).

G. Fruits

Antidesma acidum Retz (EUPHORBIACEAE)

Vernacular name : Kambilipulipalam

Habit : Shrub

Mode of use : The ripened fruits are eaten as raw (CR 1).

Occurrence : Common around the hamlets and occasional in forests (MR 24746).

Argyreia nervosa (N. Burm.) Bojer.(CONVOLVULACEAE)

Vernacular name : Onkattapalam

Habit : Climber

Mode of use : Ripened fruits are eaten as raw (CR 1).

Occurrence : Common around the hamlets and occasional in forests (MR 24660).

Artocarpus heterophyllus Lam. (MORACEAE)

Vernacular name : Sakkai palam

Habit : Tree

Mode of use : The tender fruits are cooked as vegetable and ripened fruits are eaten as raw (CR 1).

Occurrence : Common around the hamlets and occasional in neighbouring forests (MR 24777).

Artocarpus hirsutus Lam. (MORACEAE)

Vernacular name : Ayani sakkai palam

Habit : Tree

Mode of use : The ripened fruits are eaten as raw (CR 1).

Occurrence : Occasional in the moist deciduous forests adjoining to the hamlet (MR 24778).

Baccaurea courtalensis (Wight) Muell. (EUPHORBIACEAE)

Vernacular name : Moottipalam
Habit : Tree
Mode of use : The ripened fruits are eaten as raw (CR 1).
Occurrence : Common around the hamlets and neighbouring areas of the forests (MR 24939).

Bauhinia racemosa Lam. (FABACEAE)

Vernacular name : Kodukam puli
Habit : Tree
Mode of use : The ripened fruits are eaten as raw (CR 1).
Occurrence : Common around the hamlets (MR 24477).

Briedelia retusa (L.) Spreng (EUPHORBIACEAE)

Vernacular name : Mulluvengai palam
Habit : Tree
Mode of use : The ripened fruits are eaten as raw (CR 1).
Occurrence : Common around the hamlets and neighbouring forest areas (MR 24751).

Calamus hookerianus Becc. (ARECACEAE)

Vernacular name : Valli Chura palam
Habit : Climbing palm
Mode of use : The ripened fruits are eaten as raw (CR 1).
Occurrence : Common in the adjoining forests of the hamlets (24841)

Calamus thwaitesii Becc. (ARECACEAE)

Vernacular name : Ponthi chura palam
Habit : Climbing palm
Mode of use : The ripened fruits are eaten as raw (CR 1).
Occurrence : Common in adjoining forests of the hamlets (24843)

Colocasia esculenta (L.) Schott (ARACEAE)

Vernacular name : Shembu palam
Habit : Rhizomatus herb
Mode of use : The ripened fruits are eaten as raw (CR 1).
Occurrence : Common around the hamlets (MR 24854).

Cordia wallichii G. Don (BORAGINACEAE)

Vernacular name : Viri palam

Habit : Tree.

Mode of use : The ripened fruits are eaten as raw (CR 1).

Occurrence : Common around the hamlets (MR 24655).

Dolichos trilobus **L.** (FABACEAE)

Vernacular name : Kattavarai

Habit : Climber

Mode of use : The tender fruits are cooked as vegetable (CR 2).

Occurrence : Common around the hamlets (MR 24460).

Ensete superbum (Roxb.) Cheesman. (MUSACEAE)

Vernacular name : Kalluvazhai palam

Habit : Tall rhizomatous herb with pseudostem.

Mode of use : The ripened fruits are eaten as raw (CR 1).

Occurrence : Rare, found in neighbouring forest around the hamlets (MR 24812).

Ficus racemosa L. (MORACEAE)

Vernacular name : Athipalam

Habit : Tree

Mode of use : The ripened fruits are eaten as raw (CR 1).

Occurrence : Occasional around the hamlets and in moist deciduous forests around the hamlets (MR 24783).

Ficus drupacea Thunb. var. ***pubescens*** (Roth) Corner (MORACEAE)

Vernacular name : Athipalam

Habit : Tree

Mode of use : The ripened fruits are eaten as raw (CR 1).

Occurrence : Occasional in the moist deciduous forests around the hamlets (MR 24780).

Flacourtia montana Graham (FLACOURTIACEAE)

Vernacular name : Chaliru palam

Habit : Tree

Mode of use : The ripened fruits are eaten as raw (CR 1).

Occurrence : Occasional in evergreen and semi evergreen forests neighbouring to the hamlets (MR 24522).

Garcinia gummi-gutta (L.) Robs.(CLUSIACEAE)

Vernacular name : Kodam puli

Habit : Tree

Mode of use : The ripened fruit are eaten as raw (CR 1).

Occurrence : Common around the hamlets (MR 24532)

Grewia tiliifolia Vahl. (TILIACEAE)

Vernacular name : Unnam pazham

Habit : Tree

Mode of use : The ripened fruits are eaten as raw (CR 1).

Occurrence : Common around the hamlets and moist deciduous forests (MR 24937).

Glycosmis pentaphylla (Retz.) DC. (RUTACEAE)

Vernacular name : Pana pazham

Habit : Shrub

Mode of use : The ripened fruits are eaten as raw (CR 1).

Occurrence : Common around the hamlets and plains (MR 24421).

Lantana camara L. var. ***aculeata*** (L.) Moldenke (VERBENACEAE)

Vernacular name : Kongini palam, Ari palam

Habit : Shrub

Mode of use : The ripened fruits are eaten as raw (CR 1).

Occurrence : Common around the hamlets (MR 24694).

Madhuca indica J. Gmelin (SAPOTACEAE)

Vernacular name : Pala palam

Habit : Tree

Mode of use : Ripened fruits are eaten as raw (CR 1).

Occurrence : Occasional in the moist deciduous forests around the hamlets (MR 24630).

Mangifera indica L. (ANACARDIACEAE)

Vernacular name : Kattumangai palam

Habit : Tree

Mode of use : The tender fruits are cooked as vegetable, used in pickles and ripened fruits are eaten as raw (CR 1).

Occurrence : Occasionally found as wild in semi evergreen forests neighbouring to the hamlets (MR 24931).

Mesua ferrea L. (CLUSIACEAE)

Vernacular name : Nankapalam

Habit : Tree

Mode of use : The ripened fruit are eaten as raw (CR 1).

Occurrence : Occasional around the evergreen forests around the hamlets (MR 24536).

Mimusops elengi L. (SAPOTACAEAE)

Vernacular name : Elenji palam

Habit : Tree

Mode of use : The ripened fruits are eaten as raw (CR 1).

Occurrence : Occasional in neighbouring areas of the forest (MR 24629).

Momordica dioica Roxb. *ex* Willd. (CUCRBITACEAE)

Vernacular name : Kattupavarai

Habit : Herb

Mode of use : The fruits are cooked as vegetables (CR 1).

Occurrence : Occasional around the hamlets (MR 24581).

Opuntia stricta Haw. var. ***dillenii*** (Ker-Gawl.) L.(CACTACEAE)

Vernacular name : Mullu kalli palam

Habit : succulent shrubs

Mode of use : The ripened fruits are eaten as raw (CR 1).

Occurrence : Occasional in dry areas around the hamlets (MR 24588).

Palaquium ellipticum (Dalz.) Baill.(SAPOTACEAE)

Vernacular name : Pali palam

Habit : Tree

Mode of use : The ripened fruits are eaten as raw (CR 1).

Occurrence : Common in the evergreen forests adjoining to hamlets (MR 24631).

Phoenix loureirii Kunth var. ***humilis*** (Royle *ex* Becc.) Barrow (ARECACEAE)

Vernacular name : Easapalam
Habit : Shrub
Mode of use : The ripened fruits are eaten as raw (CR 1).
Occurrence : Occasional in grasslands around the hamlets (MR 24845).

Phyllanthus emblica L. (EUPHORBIACEAE)

Vernacular name : Nellipalam
Habit : Tree
Mode of use : Mature fruits are eaten as raw (CR 1).
Occurrence : Common around hamlets (MR 24763).

Physalis angulata L (SOLANACEAE)

Vernacular name : Pottari palam
Habit : Herb
Mode of use : The ripened fruit are eaten as raw (CR 1).
Occurrence : Common around the hamlets especially in rainy season (MR 24670).

Physalis peruviana L. (SOLANACEAE)

Vernacular name : Perum pottari palam
Habit : Herb
Mode of use : The ripened fruits are eaten raw (CR 1).
Occurrence : common around the hamlets especially in the rainy season (MR 24671).

Pithecellobium dulce (Roxb.) Benth. (FABACEAE)

Vernacular name : Puli palam
Habit : Tree
Mode of use : The ripened fruits are eaten as raw (CR 1).
Occurrence : Common around the hamlets and neighbouring forest areas (MR 24496).

Polyalthia coffeoides (Thw. *ex* Hook. f. & Thoms.) Hook. f. & Thoms.

Vernacular name : Villa Nedunar palam
Habit : Tree

Mode of use : The ripened fruit are eaten as raw (CR 1).

Occurrence : Common in adjoining moist deciduous forests (MR 24505)

Polyalthia fragrans (Dalz.) (ANNONACEAE)

Vernacular name : Nedunar palam

Habit : Tree

Mode of use : The ripened fruit are eaten as raw (CR 1).

Occurrence : Common in adjoining moist deciduous forests (MR 24506)

Rubus glomeratus Blume(FABACEAE)

Vernacular name : Mullarojapalam

Habit : Shrub

Mode of use : The ripened fruits are eaten as raw (CR 1).

Occurrence : Common around the hamlets and neighbouring forest areas (MR 24499).

Semecarpus anacardium L. f. (ANACARDIACEAE)

Vernacular name : Cherumpalam

Habit : Herb

Mode of use : The ripened fruits are eaten as raw (CR 1).

Occurrence : Occasional around the hamlets (MR 24444).

Scolopia crenata (Wight & Arn.) Clos (FLACOURTIACEAE)

Vernacular name : Chithali palam

Habit : Tree

Mode of use : The ripened fruits are eaten as raw (CR 1).

Occurrence : Occasional in evergreen and semi evergreen forests neighbouring to the hamlets (MR 24525).

Solanum americanum Mill. (SOLANACEAE)

Vernacular name : Sukkutti palam

Habit : Herb

Mode of use : The ripened fruits are eaten as raw (CR 1).

Occurrence : Common around the hamlets (MR 24672).

Solanum torvum Sw. (SOLANACEAE)

Vernacular name : Sundai palam

Habit : Herb

Mode of use : The tender fruits are cooked as vegetables (CR 1).

Occurrence : Common around the hamlets (MR 24673).

Syzygium cumini (L.) Skeels (MYRTACEAE)

Vernacular name : Nava palam

Habit : Tree

Mode of use : The ripened fruits are eaten as raw (CR 1).

Occurrence : Common around the hamlets and neighbouring forest areas (MR 24557).

Syzygium densiflorum Wall. *ex* Wight & Arn.(MYRTACEAE)

Vernacular name : Cherunava pazham

Habit : Tree

Mode of use : The ripened fruits are eaten as raw (CR 1).

Occurrence : Common around the hamlets and neighbouring forest areas (MR 24559).

Tamilnadia uliginosa (Retz.) Tirveng. & Sastry

Vernacular name : Vellanochi

Habit : Tree

Mode of use : The tender fruits are cooked as vegetables (CR 1).

Occurrence : Common in moist deciduous and semi evergreen forests around the hamlets (MR 24608).

Zizyphus oenoplia (L.) Mill. (RHAMNACEAE)

Vernacular name : Sooripalam

Habit : Climber

Mode of use : The ripened fruits are eaten as raw (CR 1).

Occurrence : Common around the hamlets and neighbouring forests areas (MR 24430).

Zizyphus mauritiana Lam. (RHAMNACEAE)

Vernacular name : Peumsoori palam

Habit : Tree

Mode of use : The ripened fruits are eaten as raw (CR 1).

Occurrence : Common around the hamlets and neighbouring forests areas (MR 24431).

Zizyphus rugosa Lam. (RHAMNACEAE)

Vernacular name : Kottalai palam

Habit : Straggler

Mode of use : The ripened fruits are eaten as raw (CR 1).

Occurrence : Occasional in forest margins around the hamlets (MR 24432).

H. Seeds

Artocarpus heterophyllus Lam. (MORACEAE)

Vernacular name : Sakkai kuru

Habit : Tree

Mode of use : The mature seeds are cooked as vegetables and dried seeds are roasted and eaten.

Occurrence : Common around the hamlets and occasional in forests (MR 24777).

Artocarpus hirsutus Lam. (MORACEAE)

Vernacular name : Ayani sakkai Kuru

Habit : Tree

Mode of use : The roasted seeds are eaten (CR 1).

Occurrence : Occassional in moist deciduous forests adjoining to the hamlet (MR 24778)

Bambusa bambos (L.) Voss. (POACAEAE)

Vernacular name : Mulanellu

Habit : Tree grass

Mode of use : The seeds are roasted and eaten. The powdered seeds are used for the preparation of different items and seeds are also used for the preparation of gruel (CR 1).

Occurrence : Common around the hamlets and neighbouring forest areas (MR 24867).

Cullenia exarillata Robyns (CULLINIACEAE)

Vernacular name : Karanikuru

Habit : Tree

Mode of use : Mature seeds are roasted and eaten.

Occurrence : Common in the evergreen forests adjoining to the hamlets (MR 24405)

Cycas circinalis L. (CYCADACEAE)

Vernacular name : Eathankay

Habit : Tree

Mode of use : The seeds are boiled in water, the water is drained off and dried, powdered and the flour is used to prepare various items (CR 1).

Occurrence : Common in moist deciduous forests around the hamlets (MR 24887).

Entada rheedei Spreng. (FABACEAE)

Vernacular name : Thaylakay

Habit : Lianas

Mode of use : The cotyledons of the dried seeds are cooked and eaten (CR 1).

Occurrence : Common in moist deciduous forests around the hamlets (MR 24494).

Sterculia foetida L. (STERCULIACEAE)

Vernacular name : Kavala

Habit : Tree

Mode of use : The seeds are roasted and eaten (CR 1).

Occurrence : Common in moist deciduous forests around the hamlets (MR 24407).

Tamarindus indica L. (FABACEAE)

Vernacular name : Pulinchi kuuru

Habit : Tree

Mode of use : The seeds are roasted and eaten (CR 1).

Occurrence : Common around the hamlets (MR 24486).

Terminalia bellarica (Graeuter.) Roxb. (COMBRETACEAE)

Vernacular name : Thannimaram

Habit : Trees
Mode of use : The cotyledon of seeds are eaten raw (CR 1).
Occurrence : Common around the hamlets (MR 24473).

Xylia xylocarpa (Roxb.) Taub.(FABACEAE)
Vernacular name : Irumullu
Habit : Tree
Mode of use : The dried seeds are eaten as raw (CR 1).
Occurrence : Common in moist deciduous forests around the hamlets (MR 24497).

I. Mushrooms

***Auricularia* sp.** (AURICULARICEAE)
Vernacular name : Kathu kumman
Habit : Saprophytic fungus on rotten wood
Mode of use : The pileus and stipes are washed in water and boiled with condiments or fried in oil or roasted in hearth (CR 2).
Occurrence : Very rare, in neighbouring forest (MR 24910).

***Lycoperdon* sp.** (LYCOPERDACEAE)
Vernacular name : Panthrakumman
Habit : Fruiting body of a saprophytic fungus growing in soil.
Mode of use : The round and fleshy pileus are washed in water and boiled with condiments or fried in oil or roasted in hearth (CR 1).
Occurrence : Occasional in soil around the hamlets soon after rail fall (24913).

***Plurotus* sp.** (LENTINACEAE)
Vernacular name : Marakumman
Habit : Fruiting body of saprophytic fungus
Mode of use : The pileus and stipes washed in water and boiled with condiments or fried in oil or roasted in hearth (CR 1).
Occurrence : Occasional in dried bamboo culms of neighbouring forest during rainy season (MR 24916).

***Plurotus* sp.** (LENTINACEAE)

Vernacular name : Mungakumman

Habit : Fruiting body of saprophytic fungus

Mode of use : The pileus and stipes are washed in water and boiled with condiments or fried in oil or roasted in hearth (CR 1).

Occurrence : Occasional in dried bamboo culms of neighbouring forest during rainy season (MR 24916).

Termitomyces microcarpus (Berk and Br.) Heim. (PLUTEACEAE)

Vernacular name : Arikumman

Habit : Saprophytic fungus on soil

Mode of use : The pileus and stipes are washed in water and boiled with condiments or fried in oil or roasted in hearth (CR 1).

Occurrence : Occasional around the hamlets in groups during rainy season (24921).

Termitomyces eurhizus (Berk)Heim (PLUTEACEAE)

Vernacular name : Anamethyan

Habit : Fruiting body of a saprophytic fungus

Mode of use : The pileus and stipes are washed in water and boiled with condiments or fried in oil or roasted in hearth (CR 1).

Occurrence : Occasional in and around the hamlets which appeared in groups during rainy season(MR 24920)

Termitomyces clypeatus Heim. (PLUTEACEAE)

Vernacular name : Pitukumman

Habit : Fruiting body of saprophytic fungi

Mode of use : The pileus and stipes are washed in water and boiled with condiments or fried in oil or roasted in hearth (CR 1).

Occurrence : Occasional around the hamlets in groups during rainy season (MR 24919).

J. Spices and Condiments

Garcinia gummi-gutta (L.) Robs.(CLUSIACEAE)

Vernacular name : Kodam puli

Habit : Tree
Mode of use : The fruit is used as a condiment (CR 1).
Occurrence : Common around the hamlets (MR 24532).

Oxalis corniculata L. (OXALIDACEAE)
Vernacular name : Puliadagu
Habit : Herb
Part used : Leaves
Mode of use : Tender leaves are used as a condiment (CR 2).
Occurrence : Common around the hamlets (MR 24419).

Piper mullesua Buch.-Ham. *ex* D. Don (PIPERACEAE)
Vernacular name : Kattukurumulakay
Habit : climber
Part used : Seeds
Mode of use : The seeds are used as a condiment and spice.
Occurrence : Occasional in adjoining forest areas of the hamlets (MR 24728).

Piper nigrum L., Sp. Pl.
Vernacular name : Kurumulakay
Habit : Climber
Part used : Seeds
Mode of use : The seeds used as a condiment and spice.
Occurrence : Occasional in adjoining forest areas of the hamlets (MR 24729).

Zingiber neesanum (Graham) Ramam. (ZINGIBERACEAE)
Vernacular name : Malyinchi, Kattingi
Habit : Rhizomatous herb
Part used : Rhizome
Mode of use : The rhizome is ground into a paste and used as a condiment and spice (CR 2).
Occurrence : Occasional in adjoining forest areas of the hamlets (MR 24807).

K. Food from cultivated plants

The plants used by the tribal groups that are known under cultivation are included. Malamalasars are nomadic tribe and they are not practice traditional agriculture but recently, some of them have started the cultivation as inspired by other tribes and local people. The source of food from the cultivated crops is considered as common knowledge practices of tribals and non-tribals. They are listed here to know the diversity of agricultural crops in tribal life with vernacular names followed by botanical names.

Tubers

Kavathu kilangu (*Dioscore alata*), Nana kilangu (*Dioscorea esculenta*) and Poola kilangu (*Manihot esculenta*)

Leaves

Agathi adagu (*Sesbania grandiflora*), Thandanadagu (*Amaranthus caudatus*) and Arasankanni(*Cucurbita maxima*),

Flower vegetables

Agathi poo (*Sesbania grandiflora*)

Vegetables and Fruits

Koyapaka (*Psidium guajava*) and Papali paka (*Carica papaya*)

Pulses

Thanngani (*Vigna ungiculata*), and Thuvarai (*Cajanus cajan*)

Condiments and Spices

Manjal (*Cucuma longa*), Milakay (*Capsicum annuum*) and Cheeny milakay (*Capsicum frutescens*)

5. 5. 3. 2. Plants in medicine

The Malamalasars do not rear livestock and therefore, they are not aware of any plant particular to animal diseases.

Allium cepa L. (LILLIACEAE)
Vernacular name : Venkiyam
Habit : Herb
Part used : Bulb

Used for : Earache

Mode of application: The bulb is crushed, roasted in coconut oil and used as an ear drop (CR 2).

Occurrence : Cultivated (MR 24932).

Acalypha fruticosa Forssk.(EUPHOBIACEAE)

Vernacular name : Murian thalai

Habit : Herb

Part used : Leaves

Used for : Wound healing

Mode of application: The leaves are ground into a paste and applied over the wound (CR 1).

Occurrence : Common in dry forests around the hamlets (MR 24744).

Atalantia wightii Tanaka (RUTACEAE)

Vernacular name : Maranrakam

Habit : Shrub

Part used : Bark

Used for : Stomach ache

Mode of application: Few pieces of bark are crushed and the juice is administered orally (CR 2).

Occurrence : Rare, found in adjoining forest areas around the hamlets (MR 24420).

Acampe praemorsa (Roxb.) Blatt. & McCann (ORCHIDACEAE)

Vernacular name : Marayola

Habit : Epiphytic herb

Part used : Velamen roots

Used for : Earache

Mode of application: The velamen roots are crushed and the juice is used as an ear drop (CR 2).

Occurrence : Common on trees of adjoining forest areas (MR 24788). (Plate 16. a)

Bambusa bambos (L.) Voss. (POACEAE)

Vernacular name : Mula, illy

Habit : Tree grass

Part used : Charcoal from culms, leaves and peelings of the culm

Used for : tooth ache, body pain and wound healing

Mode of application: 1. The charcoal prepared from bamboo culms is dipped in hot water along with salt and kept in mouth for some time.

2. Leaves are boiled in water and taken bath in the same.

3. The peelings obtained from the bark of fresh culms along with salt is ground into a paste and applied over cuts and wounds.

Occurrence : Common in the moist deciduous forests around the hamlets (MR 24867).

Bulbophyllum sterile (Lam.) Suresh (ORCHIDACEAE)

Vernacular Name : Pollathandu

Habit : Epiphytic herb

Part used : Whole plant

Used for : Burns and wound healing

Mode of application: The whole plant is ground into a paste and smeared over the affected area (CR 2).

Occurrence : Occasional in neighbouring forest areas (MR 24790)

Bombax insigne Wall.(BOMBACACEAE)

Vernacular name : Poolamaram

Habit : Tree

Part used : Tender fruits

Used for : Stomach ache

Mode of application: The tender dry fruits are ground into a paste, dissolved in hot water and administered orally for stomach ache (CR 2).

Occurrence : Occasional around the hamlets (MR 24404).

Biophytum reinwardtii (Zucc.) Klotzsch.(OXALIDACEAE)

Vernacular name : Murikoodi

Habit : Herb

Part used : Whole plant

Used for : Wound healing

Mode of application: The whole plant is ground into a paste and smeared over the wounds (CR 2).

Occurrence : Common around the hamlets (MR 24418).

Canthium rheedei DC. (RUBIACEAE)

Vernacular name : Karakay

Habit : Small tree

Part used : fruits

Used for : Ear ache with inflammation

Mode of application: fruits are ground into a paste and smeared over the affected ear (CR 2).

Occurrence : Common around the hamlets (MR 24597).

Calophyllum polyanthum Wall. *ex* Choisy(CLUSIACEAE)

Vernacular name : Malampunna

Habit : Tree

Part used : Bark

Used for : Scabies

Mode of application: The bark is ground into a paste and smeared over the affected area (CR 2).

Occurrence : Occasional in the semi evergreen and evergreen forests around the hamlet (MR 24531).

Ceropegia candelabrum L.(ASCLEPIADACEAE)

Vernacular name : Veepakizhangu

Habit : Herbaceous climber

Part used : Root tubers

Used for : Wound healing and inflammation

Mode of application: Tuberous roots are ground into a paste and smeared over the wounds and also for inflammation (CR 2).

Occurrence : Occasional in the moist deciduous forests around the hamlets (MR 24644). (Plate 16. b)

Chlorophytum nimmonii (Graham) Dalz. (LILLIACEAE)

Vernacular name : Kattu poola

Habit : Tuberous herb

Part used : Rhizomatous bulb

Used for : Snake bite

Mode of application: the bulb is roasted in fire and applied over the wound and ground into a paste and smeared around to it (CR 2).

Occurrence : Occasional around the hamlets (MR 24831). (Plate 16. c)

Curcuma zedoaria (Christm.) Rosc. (ZINGIBERACEAE)

Vernacular name : Manja Kuvai

Habit : Rhizomatous herb

Part used : Rhizome

Used for : chest pain

Mode of application: Rhizome is ground into paste and dissolved in one glass of water and administered orally twice a day for chest pain (CR 2).

Occurrence : Common around the hamlets (MR 24804)

Curcuma aromatica Salisb. (ZINGIBERACEAE)

Vernacular name : Kastoori manjal

Habit : Rhizomatous herb

Part used : Rhizome

Used for : Respiratory trouble, rheumatism

Mode of application: 1. The rhizome is ground into a paste and dissolved in one glass of water kept for some time, the clear water obtained after sedimentation is administered orally twice a day (CR 2).

2. The rhizome paste along with the rhizome of Manja koova (*Curcuma zeodoaria*) and kattuly are ground into a paste and applied over the body for rheumatism (CR 2).

Occurrence : Occasionally found in the adjoining forests around the hamlets (MR 24801).

Cyperus rotundus L.(CYPERACEAE)

Vernacular Name : Muthapullu

Habit : Herb

Part used : Root tubers

Used for : Stomachache

Mode of application: The root tubers are ground into a paste, dissolved in water and administered orally (CR 2).

Occurrence : Occasional in neighbouring forest areas (MR 24860).

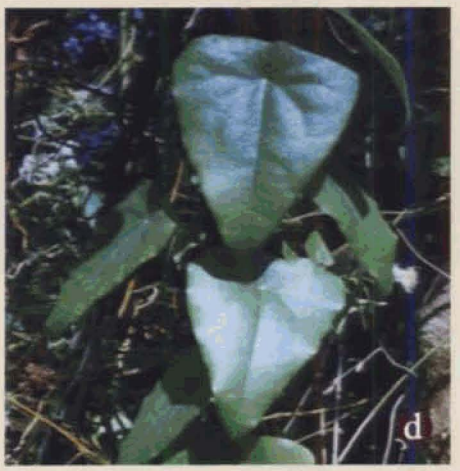


Plate 16. MALAMALASAR'S MEDICINAL PLANTS. **a.** *Acampe praemorsa*; **b.** *Ceropegia candelabrum*; **c.** *Chlorophytum nimmonii*; **d.** *Cyclea peltata*; **e.** *Gloriosa superba*; **f.** *Thespesia lampas*; **g.** *Zanthoxylum rhetsa*; **h.** Zeylanidium *lichenoides*.

***Cyclea peltata* (Lam.)** Hook.f. Thomas (MENISPERMACEAE)

Vernacular name : Padakkizhangu

Habit : Climbing herb

Part used : Leaves and tubers

Habit : Herbaceous climber

Part used : Root tubers and leaves

Used for : Stomach ache, hair lice and itches

Mode of application: 1. Tuberous root is ground into a paste and dissolved in half a glass of water and administered orally, twice a day, for stomach ache (CR 2).

2. Leaves are crushed well and the mucilaginous extract is applied over the head for lice (CR 2).

3. The mucilaginous extract is applied over the body for itches (CR 2).

Occurrence : Occasional in adjoining forest areas (MR 24510). (Plate 16. d)

Dalbergia latifolia Roxb. (FABACEAE)

Vernacular name : Veeti, Kariveeti

Habit : Tree

Part used : Bark

Used for : Diarrhoea

Mode of application: the bark of Veeti (four to five pieces of one inch long) along with four to five tender leaves of Thekkumaram (*Tectona grandis*) are ground into a paste dissolved in water, and administered orally, thrice a day (CR 2).

Occurrence : Common around the hamlets (MR 24455).

Dalbergia sissoides Graham *ex* Wight & Arn. (FABACEAE)

Vernacular name : Veeti

Habit : Tree

Part used : Leaves

Used for : Stomach ache

Mode of application: A hand full of the leaves along with three or four pieces of the bark of Kaivan (*Helictreres isora*) are ground into a paste, dissolved in hot water and administered orally, twice a day (CR:2).

Occurrence : Common in moist deciduous forest around the hamlets (MR 24456).

Drynaria quercifolia (L.) Js.Sm. (POLYPODIACEAE)

Vernacular name : Ulayalavalli, Kellola

Habit : Epiphytic Pteridophytes

Part used : Rhizomes, leaves

Used for : Ear ache, wound healing snakebite;

Mode of application: 1. The rhizomes are roasted in oil and the oil is used as an eardrop for earache (CR 2).

2. The tender leaves are ground into a paste and smeared over the wounds (CR 2).

3. The mature stem along with roots of Eyakundan (*Rauvolfia serpentina*) and Kottaiveru (*Zizyphus oenoplea*) are ground into a paste and applied over the bitten area (CR 2).

Occurrence : Common as an epiphyte in trees around the hamlets (MR 24897)

Erythrina stricta Roxb.(FABACEAE)

Vernacular name : Murikku

Habit : Tree

Part used : Bark

Used for : Scabies and itches

Mode of application: The bark is ground into a paste and smeared over the wounds (CR 2).

Occurrence : Occasional around the hamlets (MR 24461).

Ensete superbum (Roxb.) Cheesman. (MUSACEAE)

Vernacular name : Kalluvazha, Malavazha

Habit : Rhizomatous herb with pseudo stem

Part used : Stem pith, seeds

Used for : stomach problem, urinary trouble

Mode of application: 1. The juice extracted from the stem pith is administered orally for indigestion and stomach ache

2. The seeds boiled in water is given for urinary trouble

Occurrence : Rare, found in the adjoining forest areas around the hamlets (MR 24812)

Entada rheedei Spreng. (MALVACEAE)

Vernacular name : Thylakkai

Habit : Lianas

Part used : Cotyledons of seeds

Used for : Stomach problem

Mode of application : The cotyledons are cut into small pieces and cooked with rice. And the rice soup is administered orally, for various stomach problems like indigestion and diarrhoea (CR 2).

Occurrence : Common in the moist deciduous and semi evergreen forests (MR 24494).

Elephantopus scaber L.(ASTERACEAE)

Vernacular name : Anayadian

Habit : Herb

Part used : Whole plant

Used for : Foot diseases and psoriasis

Mode of application : 1. The whole plant along with Manjal (Curcuma longa) are ground into a paste and smeared over the affected area (CR: 2).

2. The whole plant is roasted in coconut oil and smeared over the affected area for psoriasis

Occurrence : Common in Lower Ghats (MR 24456).

Gloriosa superba L.(LILIACEAE)

Vernacular name : Malanthivalli

Habit : Climber

Part used : Tubers

Used for : Wound healing

Mode of application : The tuberous roots are ground into a paste and smeared over the wounds (CR2).

Occurrence : occasional around the hamlets (MR 24832). (Plate 16. e)

Helicteres isora L. (STERCULIACEAE)

Vernacular name : Kaivan

Habit : Small tree

Part used : Bark, root and fruits

Used for : Stomach ache, snake bite, ear ache (CR: 2)

Mode of application: 1. The bark of this plant (3 or 4 pieces) along with a handful of leaves of veeti (Dalbergia sissoides) are ground into a paste, dissolved in hot water and administered orally, twice a day, for stomach ache.

2. The roots of the plant cut into five to six small pieces are ground into a paste, smeared over the wound due to bite of viper, half of it is dissolved in water and administered orally.

3. The fruit roasted in coconut oil along with salt is used as an ear drop for earache.

Occurrence : Common in deciduous forests plantations and plains (MR 24406).

Hydnocarpus alpina Wight (FLACOURTIACEAE)

Vernacular name : Marotti kay

Habit : Tree

Part used : Seeds

Used for : Itches

Mode of application: The juice from the crushed seeds is applied over the affected area (CR 2).

Occurrence : Common in adjoining forests of the hamlets (MR 24523).

Kalanchoe laciniata (L.) Pers. (CRASSULACEAE)

Vernacular name : Elakkali, Elachedi,

Habit : Herb

Part used : whole plant, leaves

Used for : inflammation, wound healing and snake bite (CR 2)

Mode of application: 1. The whole plant is ground into a paste and smeared over the swellings due to insect bites or accidents

2. The leaves are ground into a paste and applied over cuts and wounds

3. Leaves are ground into a paste and smeared over the wounds due to the snake bite

Occurrence : Occasional in rocky areas around the hamlets (MR 24548).

Mangifera indica L. (ANACARDIACEAE)

Vernacular Name : Kattu moochi, Mangai maram

Habit : Tree

Part used : Bark

Used for : Toothache

Mode of application: The bark along with the barks of Navulumaram (*Syzigium cumini*), Nellimaram (*Phyllanthus emblica*) are boiled in water in a small mouthed pot and the fumes applied over the affected teeth.

Occurrence : Occasionally found in the semi evergreen forests neighbouring to the hamlets and widely cultivated in and around the hamlets (MR 24931).

Myristica beddomei King (MYRISTICASEAE)

Vernacular name : Kattu jathi. Pathripoovu

Habit : Tree

Part used : Epicarp of the fruit

Used for : Head ache and Stomach ache (CR 2)

Mode of application: 1. The epicarp of the ripened fruit is ground into a paste and smeared over the forehead for head ache (CR 2).

2. The epicarp of the ripened fruit is eaten as raw for acute stomach pain(CR 2).

Occurrence : Very common in the evergreen and semi evergreen forests around the hamlets (MR 24730).

Naravelia zeylanica (Linn.) DC. (RANUNCULACEAE)

Vernacular name : Earppa kodi, Chalikkodi

Habit : Climbing herb

Part used : Roots, Whole plant, stem and leaves

Used for : Tooth ache, headache, cold and rheumatism

Mode of application: 1. The roots are cut into pieces and placed over the holes of the affected tooth (CR 2)

2. The tender leaves are ground into a paste and smeared over the forehead for headache (CR 2)

3. The whole plant is crushed and boiled in water and the fumes inhaled for cough and cold (CR 2).

4. The roots and stem boiled in water and taken a bath in the same for rheumatism (CR 2)

Occurrence : Common around the hamlets (MR 24502).

Nicotiana tabacum L. (SOLANACEAE)

Vernacular name : Pukalai

Habit : Herb

Part used : Dried and processed leaves

Used for : Wound healing

Mode of application: The dried leaves along with lime (Calcium hydroxide) is applied over the wound (CR 2).

Occurrence : Cultivated (MR 24669).

Oberonia brunoniana Wight (ORCHIDACEAE)

Vernacular name : Marayola

Habit : Epiphytic herb

Part used : Whole plant

Used for : Ear ache

Mode of application: The whole plant is crushed and the juice is used as an ear drop

Occurrence : Occasional in adjoining forest (MR 24793).

Ochlandra travancorica (Bedd.) Benth. *ex* Gamble (POACEAE)

Vernacular name : Oda, Eatta

Habit : Reed bamboo

Part used : Charcoal obtained from culms and leaves

Used for : toothache and body pain (CR 2).

Mode of application: 1. The charcoal prepared from bamboo culms is dipped in salted hot water and kept in the mouth for some time.
2. Leaves are boiled in water and taken a bath in it.

Occurrence : Common in the moist deciduous and ecotone of the semi evergreen forests around the hamlets (MR 24870).

Phyllanthus emblica L. (EUPHORBIACEAE)

Vernacular name : Nelli maram

Habit : Tree

Part used : Bark

Used for : Toothache

Mode of application : The bark along with the barks of Kattumoochi (*Mangifera indica*), Navulumaram (*Syzigium cumini*) are boiled in water in small mouthed pot and the fumes applied over the affected teeth.

Occurrence : Common around hamlets and the moist deciduous forests of the neighbouring forest areas (MR 24763).

Piper longum L. (PIPERACEAE)

Vernacular name : Thippaliveru

Habit : Climber

Part used : Root

Used for : Toothache

Mode of application : The root is slightly roasted in fire and the juice is applied over the affected area (CR 2).

Occurrence : Common around the hamlets and adjoining forest (MR 24727).

Protasparagus racemosus (Willd.) Oberm. (LILIACEAE)

Vernacular name : Neehali kilangu, Sathavari

Habit : Climber

Part used : Root tubers

Used for : Toothache

Mode of application : The root tubers are roasted and chewed (CR 2).

Occurrence : Occasional in neighbouring forest areas (MR 24833).

Pothos scandens L.

Vernacular name : Padappan thippali

Habit : Climber

Part used : Whole plant

Used for : Scabies and itches

Mode of application : The whole plant is ground into a paste and smeared over the body.

Occurrence : Occasional in neighbouring forest areas (MR 24857).

Pteris pellucida C.Presl (PTERIDACEAE)

Vernacular name : Murithali

Habit : Herb

Part used : Leaves

Used for : Wound healing

Mode of application: The leaves are ground into a paste and smeared over the wounds (CR: 2).

Occurrence : Occasional around the hamlets (MR 24902).

Pterocarpus marsupium Roxb. (FABACEAE)

Vernacular name : Vengai maram

Habit : Tree

Part used : The extract from the bark of the wood

Used for : Chest pain and body pain (CR 2).

Mode of application: 1. The bark is cut into small pieces and crushed using a stone and put in one glass of water, kept for some time and the clear water obtained is administered orally, twice a day (CR 2).

2. The bark is boiled in water and the affected part of the body is washed (CR 2).

Occurrence : Common around the hamlets (MR 24468)

Rauvolfia serpentina (L.) Benth. *ex* Kurz (APOCYNACEAE)

Vernacular name : Eyakundan veru

Habit : Shrub

Part used : Roots

Used for : Snake bite, stomach ache with diarrhoea.

Mode of application: 1. The roots along with the mature stem of Ullalavalli (*Drynaria quercifolia*), Kottaiveru (*Zizyphus oenoplea*) are ground into a paste and applied over the bitten area (CR 2).

2. The roots are ground into a paste, dissolved in hot water and administered orally; a portion of it is smeared over the external part of stomach (CR 2).

Occurrence : Rare, found in the moist deciduous forests around the hamlets (MR 24638).

Senna alata (L.) Roxb. (FABACEAE)

Vernacular name : Anathakara

Habit : Tree

Part used : Bark

Used for : Scabies and itches

Mode of application: The bark is ground into a paste and smeared over the wounds (CR 2).

Occurrence : Occasional around the hamlets (MR 24482).

Scilla hyacinthina (Roth) Macbr.(LILLIACEAE)

Vernacular name : Kattulli

Habit : Herb

Part used : Bulb

Used for : Rheumatism

Mode of application: the bulb along with the rhizome of Koova (*Curcuma zedorea*) and Kasturi manjal (*Curcuma aromatica*) are ground into a paste and smeared over the legs (CR 2).

Occurrence : Occasional around the hamlets (MR 24834).

Solanum virginianum L. (SOLANACEAE)

Vernacular name : Mullu kathiri

Habit : Herb

Part used : fruits

Used for : Toothache

Mode of application: the fruits are roasted in fire and applied over the affected tooth.

Occurrence : Common in the deciduous forests and plantations around the hamlets (MR 24676).

Syzygium cumini (L.) Skeels (MYRTACEAE)

Vernacular Name : Njaval, Nara

Habit : Tree

Part used : Bark

Used for : Toothache

Mode of application: The bark along with the barks of Kattumoochi (*Mangifera indica*), Nellimaram (*Phyllanthus emblica*) are boiled in water in a small mouthed pot and the fumes applied over the affected teeth.

Occurrence : Common around the hamlets (MR 24557).

Tabernaemontana heyneana Wall. APOCYNACEAE)

Vernacular name : Koonanpala

Habit : Tree

Part used : Fruits

Used for : Scabies, itches

Mode of application: The latex obtained from the fruits is applied over the scabies and itches (CR2).

Occurrence : Occasional in dry forests around the hamlets (MR 24640).

Terminalia travancorensis Wight & Arn. (COMBRETACEAE)

Vernacular name : Kattu kadukka

Habit : Tree

Part used : Dry fruits

Used for : Head ache

Mode of application: the fruits are ground into a paste by rubbing in rocks along with water and smeared over the forehead (CR2).

Occurrence : occasional in the evergreen forests around the hamlets (MR 24552).

Tectona grandis L. f. (VERBENACEAE)

Vernacular name : Thekkamaram

Habit : Trees

Part used : tender leaves, petiole of the mature leaves

Used for : diarrhoea, wound healing

Mode of application: 1. Four or five tender leaves are ground into a paste along with bark of veeti (*Dalbergia latifolia*) and dissolved in water, and administered orally, thrice a day for diarrhoea.

2. The tender leaves along with salt is ground into a paste and applied over the wounds.

3. The ash obtained from the petiole of the dried leaves is roasted in coconut oil and applied over the cut end of the umbilical cord of infants for easy healing and sterilization.

Occurrence : Common around the hamlets (MR 24695).

Thespesia lampas (Cav.) Dalz. & Gibs. (MALVACEAE)

Vernacular name : Kattupartuthi

Habit : Herb

Part used : Roots, stem

Used for : Stomach problem in children

Mode of application : the tuberous root of very small quantity are ground into a paste, boiled in water and given for children having worm trouble, indigestion and stomach ache. The stem is slightly crushed and tied over the belly (CR 2).

Occurrence : Occasionally found in the moist deciduous forests around the hamlets (MR 24401). (Plate 16. f)

Zanthoxylum rhetsa (Roxb.) DC. (RUTACEAE)

Vernacular name : Mullilamaram

Habit : Tree

Part used : Bark

Used for : Scabies and itches

Mode of application : The bark is ground into a paste and smeared over the affected area (CR 2).

Occurrence : Common in the semi evergreen and evergreen forests (MR 24425). (Plate 16. g)

Zeylanidium lichenoides (Kurz) Engl.

Vernacular name : Pra pacha

Habit : Herb

Part used : Whole plant

Used for : Scabies and itches

Mode of application : The whole plant is ground into a paste and smeared over the affected area (CR 2).

Occurrence : Common in the semi evergreen and evergreen forests (MR 24721). (Plate 16. h)

5. 5. 3. 3. Miscellaneous Plants uses

5. 5. 3. 3. 1. Fibre yielding plants

Bauhinia racemosa Lam. (FABACEAE)

Vernacular name : Aram puli

Habit : Tree

Part used : the fibres obtained from bark

Mode of use : The fresh bark fibre is peeled from the wood and kept for one or two days for long duration (CR 1).

Occurrence : Common around the hamlets and neighbouring areas (MR 24477).

Caryota urens L. (ARECACEAE)

Vernacular name : Koontha panai naru

Habit : Tree

Part used : Fibres obtained from peduncle of leaves and infrutescence

Mode of use : The fibres peeled from peduncle is dried in sunlight and whenever needed is kept in water for sometime. The fresh infrutescence branches are directly used as a fibre (CR 1).

Occurrence : Common around the hamlets (MR 24844).

Ficus racemosa L. (MORACEAE)

Vernacular name : Athi naru

Habit : Tree

Part used : the fibres obtained from bark

Mode of use : The fresh bark fibre is peeled from wood and kept for one or two days for long duration (CR 1).

Occurrence : Occasional around the hamlets and in the moist deciduous forest around the hamlets (MR 24783).

Ficus microcarpa L. f.

Vernacular name : Chinnathi naru

Habit : Tree

Part used : the fibres obtained from bark

Mode of use : The fresh bark fibre is peeled from the wood and kept for one or two days for long duration (CR 1).

Occurrence : Occasional around the hamlets and in the moist deciduous forest around the hamlets (MR 24981).

Grewia tiliifolia Vahl. (TILIACEAE)

Vernacular name : Unnam naru

Habit : Tree

Part used : the fibres obtained from bark

Mode of use : The fresh bark fibre is peeled from the wood and kept for one or two days for long duration (CR 1).

Occurrence : Common around the hamlets and the moist deciduous forests (MR 24937).

Helicteres isora L. (STERCULIACEAE)

Vernacular name : Kaivan

Habit : Small tree

Part used : the fibres obtained from bark

Mode of use : The fresh bark fibre is peeled from the wood and kept in sunlight for one or two days for long duration (CR 1).

Occurrence : Occasional in neighbouring forest areas (MR 24406)

Sterculia villosa Roxb. *ex* DC. (STERCULIACEAE)

Vernacular name : Vakka naru

Habit : Tree

Part used : The fibres obtained from bark

Mode of use : The fresh bark fibre is peeled from the wood and kept in sunlight for one or two days for long duration (CR 1).

Occurrence : Occasional in neighbouring forest areas (MR 24409).

Trema orientalis (L.) Blume (ULMACEAE)

Vernacular name : Amai thali naru

Habit : Tree

Part used : The fibres obtained from bark

Mode of use : The fresh bark fibre is peeled from the wood and kept in sunlight for one or two days for long duration (CR 1).

Occurrence : Occasional in neighbouring forest areas (MR 24773).

Tetrastigma nilagiricum (Miq.) Shetty (VITACEAE)

Vernacular name : Vakkavalli

Habit : Small tree

Part used : Stem fibres

Mode of use : The stem is put in the water to decay and is crushed and flattened (CR 1).

Occurrence : Occasional in the neighbouring forest areas (MR 24435)

Ampelocissus tomentosa (Heyne ex Roth)Planch. (VITACEAE)

Vernacular name : Ananaru

Habit : Lianas

Part used : the fibres obtained from bark

Mode of use : The fresh bark fibre is peeled from the wood and kept for one or two days for long duration.

Occurrence : Common in the semi evergreen and the moist deciduous forests around the hamlet (MR 24980).

5. 5. 3. 3. 2. Plants for Fish stupefaction

Acacia sinuata (Lour.) Merr. (FABACEAE)

Vernacular name : Cheenikai

Habit : Climbing shrub

Part used : fruits

Mode of use : The fruits are crushed and dissolved in water of small streams or selected areas of river with fishes (CR 2).

Occurrence : Occasional in the moist deciduous forests of the adjoining areas (MR 24488).

Acacia torta (Roxb.) Craib (FABACEAE)

Vernacular name : Incham pattai

Habit : Climbing shrub

Part used : fruits

Mode of use : The fruits are crushed and dissolved in water of small streams or selected areas of river with fishes (CR 1).

Occurrence : Occasional in the moist deciduous forests of the adjoining areas (MR 24489).

Anamirta cocculus (L.) Wight & Arn. (MENISPERMACEAE)

Vernacular name : Pollakay

Habit : Lianas

Part used : Fruits

Mode of use : The fruits are crushed and dissolved in water of small streams or selected areas of river with fishes (CR 1).

Occurrence : Common around the hamlets (MR 24507).

Bambusa bambos (L.) Voss. (POACEAE)

Vernacular name : Mulamkuruthu

Habit : Tree grass

Part used : Tender shoots

Mode of use : The tender shoots are the crushed and juice is dissolved in streams (CR 1).

Occurrence : Common in the moist deciduous forests around the hamlets (MR 24867).

Cycas circinalis L. (CYCADACEAE)

Vernacular name : Eath

Habit : Tree

Part used : Bark

Mode of use : The bark is crushed and dissolved in streams (CR 1).

Occurrence : Common in the moist deciduous forests around the hamlets (MR 24887).

Crataeva magna (Lour.) DC. (CAPPARACEAE)

Vernacular name : Poothalukay

Habit : Tree

Part used : Bark and fruits

Mode of use : The bark and fruits are crushed and dissolved in streams (CR 1).

Occurrence : Common in the moist deciduous forests around the hamlets (MR 24887).

Canthium rheedei DC. (RUBIACEAE)

Vernacular name : Karakkay

Habit : Small tree

Mode of use : The fruits are crushed and dissolved in water of small streams or selected areas of river with fishes (CR 2).

Occurrence : Occasional in the neighbouring forest areas (MR 24597)

Caryota urens L. (ARECACEAE)

Vernacular name : Koontha panai

Habit : Tree

Part used : Fruits

Mode of use : The fruits are crushed and dissolved in water of small streams or selected areas of river with fishes (CR 1).

Occurrence : Common around the hamlets (MR 24844).

Diospyros cordifolia Roxb. (DIOSPYRACEAE)

Vernacular name : Vakkanai maram

Habit : Tree

Part used : Leaves and branches

Mode of use : The leaves along with branches are crushed and the juice is dissolved in the streams (CR 1).

Occurrence : Common in the moist deciduous forests adjoining to the hamlet (MR 24632).

Dillenia pentagyna Roxb (DILLENIACEAE)

Vernacular name : Vazham punna

Habit : Tree

Part used : Fruits

Mode of use : The fruits are crushed and dissolved in water of small streams or selected areas of river with fishes (CR 1).

Occurrence : Common around the hamlets (MR 24503).

Hydnocarpus pentandra (Buch.-Ham.) Oken (FLACOURTIACEAE)

Vernacular name : Kalali kay

Habit : Tree

Part used : Fruits

Mode of use : The fruits are crushed and dissolved in water of small streams or selected areas of river with fishes (CR 1).

Occurrence : Common around the hamlets (MR 24524).

Sapindus trifoliata L. (SAPINDACEAE)

Vernacular name : Poochakotta, Urunchi

Habit : Tree

Part used : fruits

Mode of use : The fruits are crushed and dissolved in water of small streams or selected areas of river with fishes (CR 1).

Occurrence : Common in the neighbouring forest areas of the hamlets (MR 24441).

Strychnos nux-vomica L. (LOGANIACEAE)

Vernacular name : Kanchiram

Habit : Tree

Part used : Fruits and leaves

Mode of use : The fruits or leaves are crushed and dissolved in water of small streams or selected areas of river with fishes (CR 1).

Occurrence : Occasional in the neighbouring forest areas (MR 24654)

5. 5. 3. 3. 3. Plants as Repellents

Azadirachta indica A. Juss. (MELIACEAE)

Vernacular name : Veepumaram

Habit : Tree

Part used : Oil, leaves

Used for : Leach and insect repellent

Mode of application: 1. The oil is mixed along with salt, powder of pukalai (*Nicotiana tabacum*) and smeared over the external parts of the body exposed to leaches (CR 1).

2. The leaves are mixed along with seeds before storing to keep it free from insect attack (CR 1).

Occurrence : Common in plains and adjoining areas of the hamlets (MR 24427).

Cyclea peltata (Lam.) Hook. f. & Thoms. (MENISPEMACEAE)

Vernacular name : Padakilangu

Habit : Herb

Part used : Tuberous roots

Used for : Leach repellents

Mode of use : The tuberous roots are roasted in coconut oil along with salt smeared over the external parts of the body exposed to leaches (CR 1).

Occurrence : occasional in adjoining forest areas (MR 24510)

Canarium strictum Roxb.(BURSERACEAE)

Vernacular name : Kunkillyam

Habit : Tree

Part used : Resin

Used for : Repellents of insects

Mode of use : The resin collected from wood is put on fire during night hours for repelling harmful insects (CR 1).

Occurrence : occasional in the adjoining forest areas (MR 24426).

Dillenia pentagyna Roxb (DILLENIACEAE)

Vernacular name : Vazham punna

Habit : Tree

Part used : Bark

Mode of use : The bark is crushed and the juice is smeared over the external parts of the body exposed to leaches (CR 1).

Occurrence : Common around the hamlets (MR 24503).

Harpullia arborea (Blanco) Radlk. (SAPINDACEAE)

Vernacular name : Pookoli maram

Habit : Tree

Part used : bark

Used for : Leach repellents

Mode of use : The bark is crushed and the juice is smeared over the external parts of the body exposed to leaches (CR 1).

Occurrence : occasional in the adjoining forest areas (MR 24440)

Mastixia arborea (Wight) Bedd. ssp. ***meziana*** (Wang.) Matthew (CORNACEAE)

Vernacular name : Mattipalamarm

Habit : Tree

Part used : Resinous extraction from wood

Used for : Insect repellents

Mode of use : The resin collected from wood is put on fire during night hours for repelling harmful insects (CR 1).

Occurrence : Occasional in the adjoining forest areas (MR 24595)

Solanum virginianum L. (SOLANACEAE)

Vernacular name : Mullukathrica

Habit : herb

Part used : fruits

Used for : Leach repellents

Mode of use : The fruits are crushed and the juice is smeared over the external parts of the body exposed to leaches (CR 1).

Occurrence : Occasional in plains and in the neighbouring forests (MR 24676).

Strychnos nux-vomica L. (LOGANIACEAE)

Vernacular name : Kanchiram
Habit : Tree
Part used : Fruits and leaves
Used for : Insect repellents
Mode of use : The leaves are mixed along with seeds before storing to keep it free from insects (CR 1).
Occurrence : Occasional in the neighbouring forest areas (MR 24654).

5. 5. 3. 3. 4. Plants as soaps and shampoo

Acacia sinuata (Lour.) Merr. (FABACEAE)

Vernacular name : Cheenikai
Habit : Climbing shrub
Part used : Fruits and bark
Used for : Soap
Mode of use : The fruits or bark is crushed and the foam is applied over the dresses while washing (CR 1).
Occurrence : Occasional in the moist deciduous forests of the adjoining areas (MR 24488).

Sapindus trifoliata L. (SAPINDACEAE)

Vernacular name : Pooch kottai
Habit : Tree
Part used : fruits
Used for : Soap
Mode of use : The fruits or bark is crushed and the foam is applied over the dresses while washing (CR 1).
Occurrence : Common in the neighbouring forest areas of the hamlets (MR 24441).

Grewia tiliifolia Vahl. (TILIACEAE)

Vernacular name : Unnam
Habit : Tree

Part used : Bark

Used for : Shampoo

Mode of use : The juice obtained from the bark is used as a shampoo (CR 1).

Occurrence : Common around the hamlets and the moist deciduous forest areas (MR 24937).

Sida rhombifolia L. (MALVACEAE)

Vernacular name : Kurunthotti

Habit : Herb

Part used : Leaves

Used for : Shampoo

Mode of use : The leaves are crushed along with water and mucilaginous extract is used as a shampoo (CR 1).

Occurrence : Common around the hamlets (MR 24597)

5. 5. 3. 3. 5. Plants in Beliefs

According to Malamalasars, the huge trees like Palai (*Alstonea scholaris*), Athimaram(*Ficus microcarpa*, *Ficus racemosa*), Alamaram (*Ficus benghalensis*), Kungillyamaram (*Cannarium strictum*), Karayani (*Antiaris toxicaria*) etc. are the domiciles of Peyi (evil spirits) and are called as Peyimarams.

5. 5. 3. 3. 6. Plants in worships and religious rituals

Alaai Maram (*Ficus* sp.), Athi maram (*Ficus microcarpa*) and Palai maram (*Alstonia scholaris*) are considered as domiciles of their Goddess. The fresh green culms of bamboos are considered to ward off evils spirits. The dead bodies are carried in fresh bamboo culms. The roots of Eyakundan veru (*Rauwolfia serpentiana*) is considered to have great magical powers and hence used for warding of evil spirits.

5. 5. 3. 3. 7. Plants in traditional songs

The plants like *Bambusa bambos*, *Alstonia scholaris* and *Caryota urens* have been mentioned in some of their traditional songs.

5. 5. 3. 3. 8. Plants in material culture

A. Musical instruments

Dhavil

Used for : Making the sound of a drum during traditional occasions.

Material used : The wood of Kummulumaram (*Gmelina arborea)* and skin of animals (Plate 15. h).

Mode of making : The cortex and pith of the wood is removed by carving, the open end is covered by the treated skin of animals such as ox, buffalos etc. and used as a drum like instruments.

Urummal

Used for : Making the sound of a drum during traditional occasions.

Material used : The wood of Vengaimaram (*Pterocarpus marsupium)* and skin of animals.

Mode of making : The cortex and pith of the wood is removed by carving, the open end is covered by the treated skin of animals such as ox, buffalos etc. and used as a drum like instruments.

Karimbu

Used for : Making the sound like a bugle during traditional occasions.

Material used : The culms of Mungaimaram (*Bambusa bambos*), or carved wood of Palai maram (*Wrightia tinctorea*) along with metal parts.

Mode of making : The cortex and pith of the wood is removed by carving, the cup like mouth is made of brass (Plate 15. k).

B. Basketry

Koodai

Used for : Collecting storing seeds

Material used : The culms of Mungaimaram (*Bambusa bambos*) and Odaicv (*Ochlandra travancorica*)

Mode of making : The fine fibres from the culms are woven into fine basketries and cured in smoke for increasing the durability (Plate 15. i & j).

Puni

Used for : Collecting and carrying various forest produce.

Material used : The culms of Odai (*Ochlandra travancorica*).

Mode of making : The fine fibres from the culms are woven into large baskets with long belt like structures, to carry and cured in smoke for increasing the durability.

C. Ornaments

Katholai

Used for : As an ear ornament

Material used : The leaves of odai (*Ochlandra travancorica*) or leaves Malamthengu (*Arenga wightii*).

Mode of making : The leaves are rolled in a special manner and inserted in the holes made in the posterior portion of the external ear.

Malai

Used for : Neck lace

Material used : The clums of Mungai (*Bambusa bambos*) and seeds of Pullumuthu (*Coix lacryma jobi*).

Mode of making : The culms are carved into a bead like structure and are stringed together with bamboo threads. The seeds of Pullumuthu (*Coix lacryma jobi*) is inserted using bamboo thread.

D. Marks

The exudates of Venga (*Pterocarpus marsupium*) are used for making beauty spots. The milky latex is allowed to exude by making a small wound in the stem and the sticky gum is placed at the centre of the forehead as a decorative mark.

E. Tooth cleaner

The plants and plant parts used for cleaning of the tooth are; stem of Veppai maram (*Azadirachta indica*), petiole of the mature leaves of (*Mangifera indica*) and Charcoal obtained from burning of Mula (*Bambusa bambos*).

F. Cloths

According to the elderly people, a few years of ago, they had used the processed bark of Karayani (*Antiaris toxicaria*), the leaves thekkumarm(*Tectona grandis*), finely woven mats of *Odai* (*Ochlandra travancorica*) etc. in the place of cloths.

G. Bathing brush

The fibrous portion of Peaikin kay (*Luffa acutangula*), Perin peekin kay (*Luffa cylindrica*) are used as a bathing brush. The bark fibres of Kattu seenkai (Acacia torta) are also used.

H. Traditional house construction

The traditional houses are generally made up of bamboo. Pillars and other poles are generally made up of Mula (*Bambusa bambos*), Churuli maram (*Mesua ferea*), Veetimaram (*Dalbergia latifolia*) *etc.* The walls of houses are made up of Mula (*Bambusa bambos*) or Oda (*Ochlandra travancorica*) Thatching is done by the leaves of Oda thalai (*Ochlandra travancorica*).

I. House hold items

Uralu

Used for	:	as a mortar
Material used	:	The culms of Mungaimaram (*Bambusa bambos*).
Mode of making	:	The large basal culms of the *Bambusa bambos* are used for making mortar. The one end of the culm is made open and other end is retained as the base.

Ulakkai

Used for	:	as a pestle
Material used	:	The culms of Mungaimaram (*Bambusa bambos*) growing in rocky areas.
Mode of making	:	The medium sized culms with thick walls are cut almost one metre length.

J. Weapons

In olden days, they used the culms of Munga maram (bambusa bambos) as bow and the finely pointed culms of Odai (Ochalndra travacorica) as arrows.

K. Traditinal fire making equipments

Chakki mukki

Material used: The culms of *Bambusa bambos*, piece of stone and fibres collected from the base of the peduncle of the compound leaf of Panai (Caryota urens).

Mode of making: The bamboo culms along with the stone are rubbed together with chanting of mantras praising their traditional gods. The continuous friction produces fire, which is collected in the fibres of Panai (*Caryota urens*).

5. 5. 4. Conclusion

Malamalasars are known as a food gathering tribe and their ethnobotanical knowledge is recorded for the first time. They are represented by three small and scattered settlements. They are primitive and nomadic tribe like Kadars in the district. They are not so rich in ethnobotanical knowledge when compared to the other tribal groups especially on medicinal plants. The study revealed that, they use 50 plants in medicines, 124 in food and 53 for miscellaneous purposes. A total of 202 plants belonging to 155 genera and 67 families have been reported during this study out of which 192 plants are Angiosperms, three Pteridophytes, six Fungi and one Gymnosperm. Among the plants collected, 19 belonged to *Fabaceae* followed by *Solanaceae* (10), *Arecaceae*(9), *Euphorbiaceae* (9), *Dioscoreaceae* (8) *etc.* Though, they are not so familiar with traditional agricultural practices, recently, some of them are found to cultivate 14 plant species around their hamlets. The most useful species for the Malamalasars are *Bambusa bambos* (17 uses); *Curcuma longa* (11 uses), *Ochlandra* travancorica (7 uses), *Cocos nucifera* (6 uses), *Ensete superbum* (5 uses) *Pterocarpus marsupium* (5 uses). Some of the knowledge on the medicinal uses of certain plants such as, *Calophyllum polyanthum, Elephantopus scaber, Gloriosa superba,* Pteris *pellucida, Terminalia travancorensis, Tabernaemontana heyneana* and *Zeylanidium lichenoides* are restricted to this tribe. Among these, the use of *Calophyllum polyanthum, Terminalia travancorensis* and *Zeylanidium lichenoides* are hither to unknown and reported for the first time. Besides these, there are 34 new uses of known medicinal plants among Malamalasars which were not known earlier. The plants such as *Rauvolfia serpentina* and *Ensete superbum* used by the Malamalsars are less in number in the area and there is an urgent need for appropriate conservational methods to protect them.

Malasars

"Malasars are good at game tracking, and very happy with their axes, with the help of which they construct a bamboo house for the wandering sportsman in a few hours." (Edgar Thurston)

5. 6. MALASARS

5. 6. 1. Introduction

Malasars are one of the important hill tribes found in Chittur taluk of Palakkad District in Kerala and Pollachi taluk of Coimbatore District in Tamil Nadu. They are known under different names such as *Malasir*, *Malayar*, *Malayaraser* etc., depending upon the status they enjoyed and are considered to be the lord of the hills. In Kerala, Malasar occupy in the moist deciduous forests around the reservoirs at Thunakadavu and adjoining areas of Parambikulam such as Kachithode, Kadappara, Oravanpadi, Sungham, Thekkady, Kottengadi, Pakidippalam and Pothumala (Fig. 11). They are also found scattered in the plains of Chittur thaluk. It is believed that they originally belonged to Kongunadu, now a part of Coimbatore District.

According to Luiz (1962), the Malasars have no information about their origin and early history. There is every possibility that, they were an endogamous section of the Kurumbas, who had once dominated the south of India till the Chola King evacuated them to the forests during the 17th century. There are wonderful stories describing the origin of the Malasar tribe. According to one story, they are the descendants of Shiva and Parvathy, when they were in disguise of Kirathas or hunters. At the request of Arjuna the divine couple lived at the foothills and their progeny became Malasars. According to another story, they are the descendents of Surpanaka, the only sister of Ravana (Menon and Sasikumar, 1996). Their dialect is a mixture of Tamil and Malayalam. They are represented by 3638 individuals which include1812 males and 1826 females (GOI Census, 2001).

5. 6. 2. Socio cultural and Anthropological aspects

5. 6. 2. 1. Hut and hamlets

A Malasar settlement or a hamlet is called *Padi* or *'Pathis'* consisting of 20 to 30 houses. They are named after the owners of the land like Sarkarpathy Kunchumenonpathy etc. The individual hut is known as *Alai* or *Chalai.* The house is made up of bamboo and thatched by leaves of reed bamboos, grass or teak leaves. The leaves of Palmyra palms are generally used for thatching of

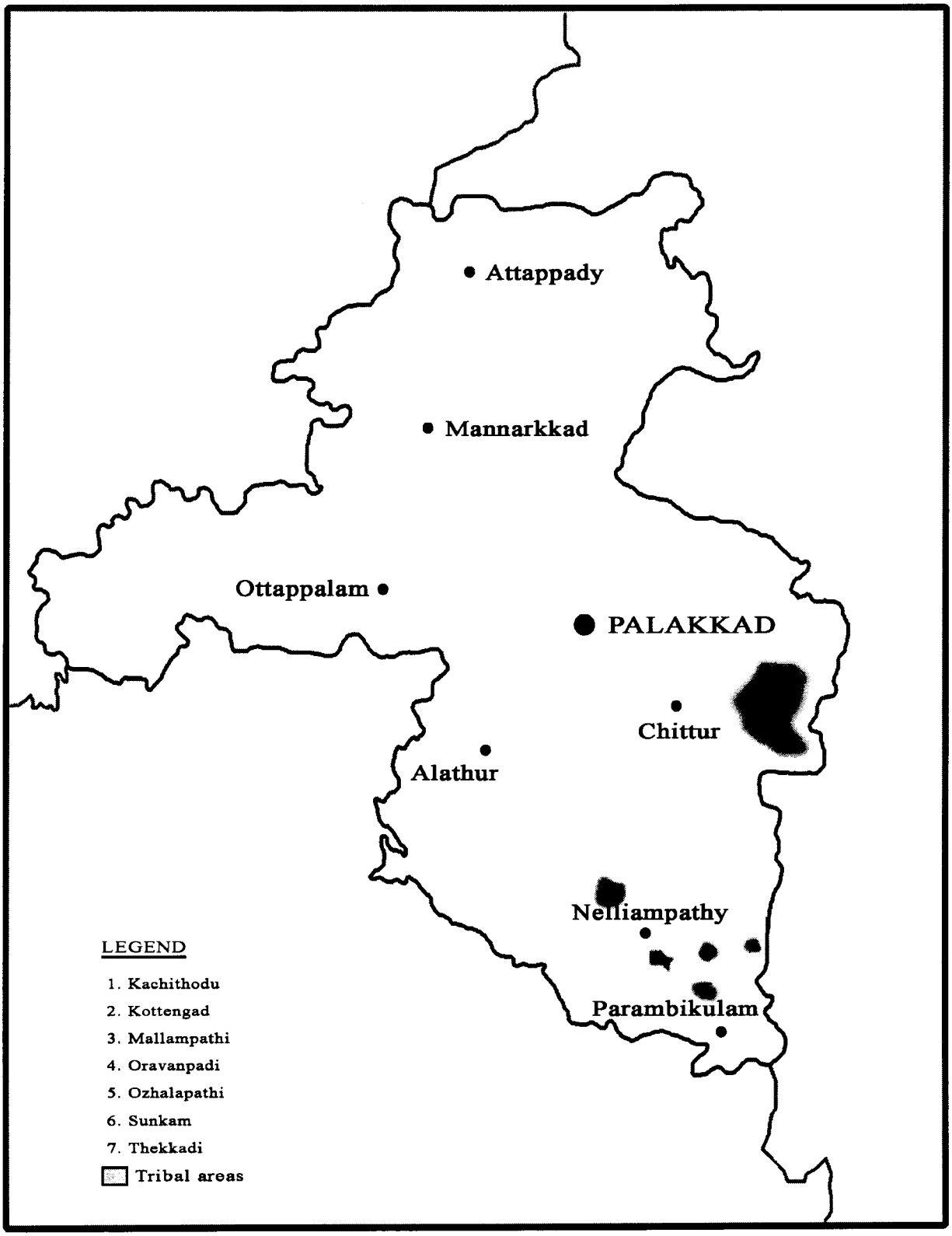


Fig. 11 Map showing the distribution of Malasars

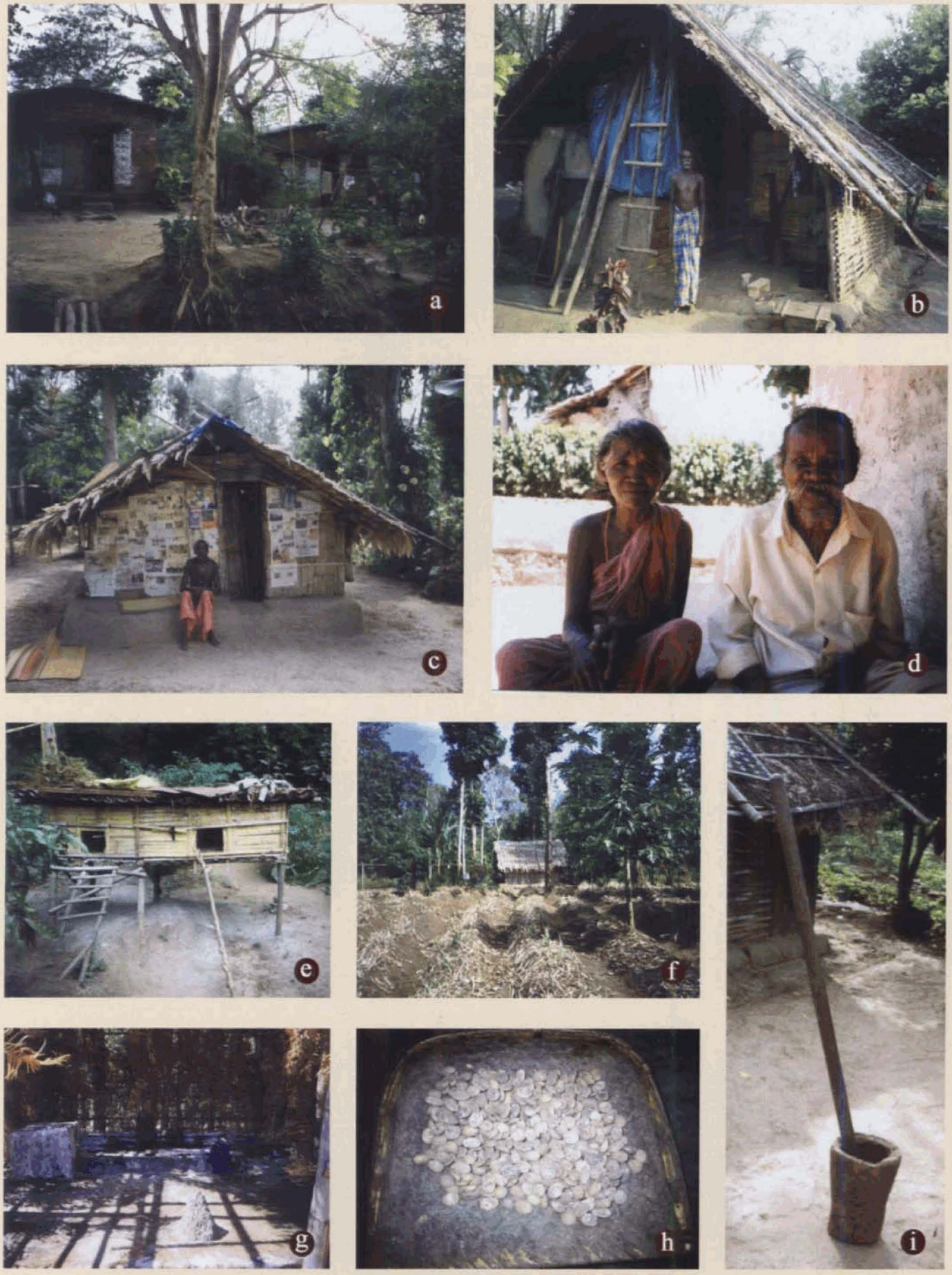


Plate 17. MALASARS. **a.** Hamlet; **b & c.** Hut; **d.** Malasar couple; **e.** Fowl house; **f.** Home garden; **g.** Shrine; **h.** Basketry with *Cycas* seeds; **i.** Mortar and pestle.

the hut. The walls are made up of bamboo, plastered with mud or Palmyra palm leaves. The house consists of a hall and a kitchen or rarely with only one room. The fowl house, cattle house and goat houses are found attached to the hut. The traditional system of hut and hamlets existed only in Malasars, who live in the interior forest areas. Nowadays they reside in small houses constructed by the Government as a colony or hamlets (Plate 17. a-g).

5. 6. 2. 2. Social system

Malasar have their own hereditary councils called *Kulapanchayaths* headed by the *Moopan* with a *Ponnamoopan, Thalairai, Vandari* and *Manaikaran* to assist him. The priest is known as *Sadayan.* They are an endogamous group without any exogamous subdivision. They prefer cross cousin marriages, monogamy and polygamy is permitted. Before any marriage is finalised, the headman consults with other members of the family and help them in arrangements. Prior sanction needs to be obtained from the headman, to get a divorce. They are patrilineal with neo-local residence after marriage. Typically, they have nuclear families.

5. 6. 2. 3. Life and subsistence Economy

Malasars do hill cultivation and go for casual labour. Their traditional food habits include tubers, edible leaves, fruits, seeds, flesh of hunted animals and fishes. At the same time, many of the people continue their nomadic life and collect Non Timber Forest Produces (NTFPs) like Honey, Padakkilangu (*Cyclea peltata*), Nannari (*Hemidesmus indicus*), Orila (*Desmodium gangeticum*), Moovila (*Pseudarthria viscida*), Kunkiliyam (*Canarium strictum*), Kurunthotti (*Sida rhombifolia*) etc., sell them in the markets for their livelihood. They follow shifting cultivation in certain hamlets. The livestock like cattle, goats and fowls also provide subsidiary income to them.

5. 6. 2. 4. Tradition and Culture

5. 6. 2. 4. 1. Ceremonies associated with birth

The pregnant woman is taken to her home for the first delivery during the ninth month. The delivery is arranged in a seclusion hut. The elder ladies

attend the delivery. Birth pollution is observed for seven days. On the seventh day, the mother and child are brought back to the hut. The child is put in the cradle gifted by her brother. The naming ceremony is performed in the second year. The priest *Sadayan* selects the name for the baby.

5. 6. 2. 4. 2. Puberty

The attainment of puberty is known as *Sadangakaradu.* During this period, she stays in a separate hut (*tinnai*) erected by her maternal uncle. Pollution is observed for seven days. On the seventh day she is given a bath and returns to her home. A measure full of paddy and a lamp are placed before the hut, and the girl has to cross over them with her right foot foremost. She then steps backwards and again goes forward before entering the hut. The married women among her relatives prepare a *Seer*, which consists of a container with cooked rice, comb, small arrow, mirror and plantain fruits, and is placed in front of the girl. The girl has to cross the *Seer* from the right to left and vice versa, three times. A feast is hosted for the girl, at the end.

5. 6. 2. 4. 3. Marriage

Marriages are fixed by negotiations in the presence of the headman and it takes place only on Wednesdays. The ceremonies associated with it are performed at the bride's residence. The bridegroom goes on a Wednesday to the bride's house and takes her to his home on the following day. A *pandal* made of sorghum and bamboo is erected in front of the hut. The boy and the girl are given an oil bath and dressed in new clothes. They are taken to the *pandal* from the nearby *Kaliyamman* temple, with *Kottumulakku*, a customary musical performance. The couple are seated on the dais. The *tali* is tied and the fingers of the couple are linked together (*Kaidharam*). During their wedding ceremony, an iron ring is tied to the bridegrooms' wrist. A non-vegetarian feast is served. They eat together from the same plate. It is customary that, the bridegroom should feed his relatives and friends at his own house, as well as at bride's residence. A marriage procession along with the *Kalyana attam* (marriage dances) is also taken out through all the streets of the settlement.

5. 6. 2. 4. 4. Ceremonies associated with death

After death, they do not bathe the dead body. It is covered by a new cloth and carried on a bier made up of green bamboo culms to the graveyard. The body is usually buried face upward and occasionally it is cremated. The belongings of the deceased are also buried along with him. Sometimes the dead are buried in a sitting posture in a niche excavated on one side of the grave. In the case of the Malasars in the plains, the widow chews a betel leaf with areca nuts and she spits the betel over the eyes and neck of the corpse. On the 8th day after death, cooked rice and meat are offered to the departed soul on seven leaves of *Eruku* (*Calotropis gigantea*). The male members of the family then eat from the same leaf.

5. 6. 2. 4. 5. Worships

It is customary among the Malasars to offer cooked rice and the flesh of the fowl on seven leaves to the ancestors before commencing their ceremonies. The God of this tribe is called *Mallung* represented by a stone that is enclosed by a wall, which serves as a temple. Sacrifice of goats, offerings of rice, honey and the like, is done once in every year (during the month of April). It is believed that, if it were not done, the God would send elephants and tigers to destroy them and their houses. They worship *Kali* and *Mariamman* (The Goddess of small pox), but their special deity is *Manakadvata* to whom they sacrifice fouls and sheep in the month of February. A male member of the tribe performs the rituals during these occasions. Other deities worshipped include Ponnalamman (Mariamma), Pallarapachi(Ganesa) and Kaliamman.

5. 6. 2. 4. 6. Festivals

They don't have a festival of their own. Presently, they celebrate the Hindu festivals like Onam, Vishu and Deepavali. They make celebration during their traditional and cultural occasions like marriage, puberty, and birth and post death ceremonies.

5. 6. 3. Ethnobotanical aspects

5. 6. 3. 1. Plants in food

A. Roots

Cereus pterogonus Lam. (CACTACEAE))

Vernacular name : Kathala kilangu

Habit : Shrub

Mode of use : The root tubers are cooked along with tamarind, salt, chillies, the excess water is drained off and finally roasted in oil (CR 1).

Occurrence : Occasional around the hamlets (MR 24587).

Decalepis hamiltonii Wight & Arn. (ASCLEPIADACEAE)

Vernacular name : Mahalikilangu

Habit : Climber

Mode of use : The root tubers are cooked with chillies and eaten or pickles are made from it (CR 1).

Occurrence : Very rare in Nelliampathies (MR 24650).

Dioscorea hispida Dennst. (DIOSCOREACEAE)

Vernacular name : Thalikilangu

Habit : Herbaceous climber

Mode of use : The root tubers are cooked in water with salts or roasted in fire and used as a staple food (CR 1).

Occurrence : Occasional in the semi evergreen forests around the hamlets (MR 24936).

Dioscorea oppositifolia L. (DIOSCOREACEAE)

Vernacular name : Kanakodi

Habit : Herbaceous climber

Mode of use : The root tubers are cooked in water with salts or roasted in fire and used as a staple food (CR 1).

Occurrence : Common in the semi evergreen forests (MR 24819).

Dioscorea pentaphylla L. (DIOSCOREACEAE)

Vernacular name : Nutta kilangu

Habit : Herbaceous climber

Mode of use : the root tubers are cooked in water with salts or roasted in fire and used as a staple food (CR 1).

Occurrence : Common in near by forest area of the hamlets (MR 24821).

Dioscorea bulbifera var. ***bulbifera*** (DIOSCOREACEAE)

Vernacular name : Noopakilangu

Habit : Herbaceous climber

Part used : root tubers

Mode of use : the root tubers are kept in running water for one night to remove the poisonous effect and cooked in water with salts or roasted in fire and used as a staple food (CR 1).

Occurrence : Common (MR 24815) (Plate 6. c., d., e.).

Dioscorea wallichii Hook. f. (DIOSCOREACEAE)

Vernacular name : Narakilangu

Habit : Herbaceous climber

Mode of use : The root tubers are cooked in water with salts or roasted in fire and used as a staple food (CR 1).

Occurrence : Occasional in the evergreen and the moist deciduous forest adjoining to the hamlets (MR 24824).

Dioscorea tomentosa Koenig *ex* Spreng. (DIOSCOREACEAE)

Vernacular name : Chelikilangu

Habit : Herbaceous climber

Mode of use : The root tubers are cooked in water with salts or roasted in fire and used as a staple food (CR 1).

Occurrence : Occasional in the semi evergreen forests near the hamlet (MR 24823).

Dioscorea spicata Roth. (DIOSCOREACEAE)

Vernacular name : Mankodi

Habit : Herbaceous climber

Mode of use : The root tubers are cooked in water with salts or roasted in fire and used as a staple food (CR 1).

Occurrence : Occasional in the semi evergreen forests near the hamlet (MR 24822).

Dioscorea intermedia Thw. (DIOSCOREACEAE)

Vernacular name : Pillamkodi

Habit : Herbaceous climber

Mode of use : The root tubers are cooked in water with salts or roasted in fire and used as a staple food (CR 1).

Occurrence : Occasional in the semi evergreen and evergreen forests near the hamlet (MR 24818).

Protasparagus racemosus (Willd.) Oberm. (LILIACEAE)

Vernacular name : Chathavalli

Habit : Climbing shrub

Mode of use : The root tubers are eaten raw or roasted in fire (CR 1)

Occurrence : Occasional around the hamlets (MR 24833) (Plate 6. h.).

Utleria salicifolia Bedd. *ex* Hook. f.(ASCLEPIADACEAE)

Vernacular name : Mahalikilangu

Habit : Climber

Mode of use : Root tubers are cut into mall pieces and pickles are made from it (CR 1).

Occurrence : Very rare in Nelliampathies (MR 24651).

B. Rhizomes

Colocasia esculenta (L.) Schott. (ARACEAE)

Vernacular name : Chembu kilangu

Habit : Rhizomatous herb

Mode of use : The rhizome tubers are cut into small pieces, cooked along with, Tamarind, salt, chillies and finally roasted in oil (CR 1).

Occurrence : Common around the hamlets (MR 24854).

Curcuma zedoaria (Christm.) Rosc. (ZINGIBERACEAE)

Vernacular name : Manja Kuvai

Habit : Rhizomatous herb

Mode of use : The starchy rhizomes are cut into small pieces and crushed. The starchy matter is allowed to dissolve in water and kept for sometime. The sediment starch is separated by sieving through a cloth and dried in bamboo mats or rocks. The powder is used for preparing puddings (CR 1).

Occurrence : Common around the hamlets (MR 24804) (Plate 6. b.).

Amorphophallus paeoniifolius (Dennst.) Nicols. (ARACEAE)

Vernacular name : Kattuchena

Habit : Rhizomatous herb

Mode of use : The corm is cut into small pieces and cooked along with salt, tamarind and chillies (CR 2).

Occurrence : Occasional around the hamlets (MR 24851).

C. Tender shoots

Arenga wightii Griff (ARECACEAE)

Vernacular name : Kattuthengu

Habit : Tree

Mode of use : The tender shoots are eaten raw (CR 1).

Occurrence : Occasional in grasslands (MR 24838).

Bambusa bambos (L.) Voss. (POACEAE)

Vernacular name : Mulakuruthu

Habit : Tree grass

Mode of use : The tender shoots about 15 centimetres long is removed from the rhizome, sheaths are removed, cleaned and cut into small pieces, cooked in water with salt and water is drained off and cooked again, the same process is repeated to remove the hydrocyanic acid and roasted in oil along with chillies and Onion (CR 1).

Occurrence : Common in moist deciduous forests around the hamlets (MR 24867).

Phoenix loureirii Kunth var. ***humilis*** (Royle *ex* Becc.) Barrow (ARECACEAE)

Vernacular name : Cheevan

Habit : Shrub
Mode of use : The tender shoots eaten as raw (CR 1).
Occurrence : Occasional in grasslands (MR 24845).

Pinanga dicksonii (Roxb.) Blume (ARECACEAE)
Vernacular name : Kattupakku maram
Habit : Shrub
Mode of use : The tender shoots eaten as raw (CR 1).
Occurrence : Occasional in the evergreen forests (MR 24846).

D. Stem pith

Caryota urens L. (ARECACEAE)
Vernacular name : Panai
Habit : Tree
Mode of use : The starchy stem pith is crushed well and dissolved in water taken in large pots and the starch is allowed to sediment, after keeping for some time excess water is drained off, the starchy matter is cooked, used for preparing puddings and various indigenous items (CR 1).
Occurrence : Common around the hamlets (MR 24844).

Cycas circinalis L. (CYCADACEAE)
Vernacular name : Eanth
Habit : Tree
Mode of use : The starchy stem pith is crushed well and dissolved in water taken in large pots and the starch is allowed to sediment, after keeping for some time excess water is drained off, the starchy matter is cooked, used for preparing puddings (CR 1).
Occurrence : Common in the moist deciduous forests around the hamlets (MR 24887).

Ensete superbum (Roxb.) Cheesman (MUSACEAE)
Vernacular name : Kalluvazha unnithandu
Habit : Tall rhizomatous herb with pseudo stem.

Mode of use : The tender pith is cooked as vegetable (CR 1).

Occurrence : Rare, found in the neighbouring forests around the hamlets (MR 24812).

E. Leaves

Alternanthera sessilis (L.) R.Br. ex. DC. (AMARANTHACEAE)

Vernacular name : Meenamkannikeerai

Habit : Herb

Mode of use : The tender leaves are cooked along with dhal (*Cajanus cajan*), chillies, Onion, and salt and finally roasted in oil (CR 2).

Occurrence : Common in paddy fields and plains around the hamlets (MR 24710).

Amaranthus spinosus L. (AMARANTHACEAE)

Vernacular name : Mullukeerai

Habit : Herb

Mode of use : The tender leaves are roasted in coconut oil along with onion, chillies and salt or cooked in salted water and finally roasted in oil.

Occurrence : Common (MR 24711).

Amaranthus viridis L. (AMARANTHACEAE)

Vernacular name : Kuppakeerai

Habit : Herb

Mode of use : The tender leaves are roasted in coconut oil along with onion, chillies and salt or cooked in water along with dhal (*Cajanus cajan*), chillies, salt and finally roasted in coconut oil (CR 1).

Occurrence : Common around the hamlets (MR 24712)

Amorphophallus paeoniifolius (Dennst.) Nicols. (ARACEAE)

Vernacular name : Kattuchenasappu

Habit : Tuberous herb

Mode of use : The tender leaves are roasted in oil along with leaves of *Colocasia esculenta* (CR 2).

Occurrence : Occasional around the hamlets (MR 24851).

Adenia hondala (Gaertn.) de Wilde (PASSIFLORACEAE)

Vernacular name : Kannamchirattakeerai

Habit : Tuberous climber

Mode of use : tender leaves along with onion, salt and chillies, are roasted in coconut oil (CR 1).

Occurrence : Occasional in the semi evergreen and evergreen forests around the hamlets (MR 24568). (Plate 18. a)

Boerhavia diffusa L. (NYCTAGINACEAE)

Vernacular name : Komanambery

Habit : Herb

Mode of use : Tender stem and leaves are cooked in water along with dhal (*Cajanus cajan*), chillies, salt and finally roasted in oil (CR 1).

Occurrence : Common in and around the hamlets (MR 24707).

Celosia argentea L. (AMARANTHACEAE)

Vernacular name : Pannakeerai

Habit : Herb

Mode of use : The tender leaves are roasted in coconut oil along with onion, chillies and salt or cooked in water along with dhal (*Cajanus cajan*), chillies, salt and finally roasted in coconut oil (CR 1).

Occurrence : Common in and around the hamlets (MR 24713).

Colocasia esculenta (L.) Schott (ARACEAE)

Vernacular name : Shembu keerai

Habit : Rhizomatous herb

Mode of use : The tender leaves are roasted in oil along with leaves of *Amorphophallus paeonifolius* and *Vigna ungiculata.* The leaves are also cooked along with Tamarind, Chilli, Onion and salt (CR 1).

Occurrence : Common around the hamlets (MR 24854).

Cucumis prophetarum L. (CUCRBITACEAE)

Vernacular name : Chithran kay

Habit : Climber

Mode of use : The tender leaves are roasted in coconut oil along with Chilli, Onion and salt (CR 1).

Occurrence : Common around the hamlets (MR 24572).

Cycas circinalis L. (CYCADACEAE)

Vernacular name : Eathan keerai

Habit : Tree

Mode of use : The tender leaves are cooked in water along with salt; excess of water is drained off and roasted along with chillies, dhal in coconut oil (CR 1).

Occurrence : Common in the moist deciduous forests around the hamlets (MR 24887).

Diplazium esculentum (Retz.) Sw. (ATHYRIACEAE)

Vernacular name : Suruli keerai

Habit : Shrub

Mode of use : Tender leaves are roasted in coconut oil along with Onion, Chillies and salt (CR 1).

Occurrence : Common in banks of river and streams (MR 24896).

Diplocyclos palmatus (L.) Jeffrey (CUCRBITACEAE)

Vernacular name : Iviralkeerai

Habit : Climber

Mode of use : The tender leaves are roasted in coconut oil along with Chilli, Onion and salt (CR 1).

Occurrence : Common around the hamlets (MR 24576).

Holostemma ada-kodien Schult. (ASCLEPIADACEAE)

Vernacular name : Anchampalai keerai

Habit : Climber

Mode of use : The tender leaves are roasted in coconut oil along with Onion, chillies and salt (CR 1).

Occurrence : Occasional in the moist deciduous forests around the hamlet (MR 24652). (Plate 10. e)

Laportea interrupta (L.) Chew. (URTICACEAE)

Vernacular name : Thuva keerai

Plate 18. EDIBLE LEAVES. **a.** *Adenia hondala*; **b.** *Amaranthus caudatus*; **c.** *Celosia argentea*; **d.** *Digera muricata*; **e.** *Diplazium esculentum*; **f.** *Ipomoea aquatica*; **g.** *Laportea interrupta*; **h.** *Solanum americanum*.

Habit : Herb

Mode of use : The leaves are made into balls by knotting and cooked along with salt and oil (CR 1).

Occurrence : Common around the hamlets (MR 24769).

Lobelia dichotoma Miq.(LOBELIACEAE)

Vernacular name : Mankeerai

Habit : Herb

Mode of use : The tender leaves are cooked along with salt and chilly and roasted in oil (CR 2).

Occurrence : Common around the hamlets (MR 24621). (Plate 10. g.)

Ipomoea aquatica Forssk. (CONVOLVULACEAE)

Vernacular name : Vellakeerai

Habit : Aquatic herb

Mode of use : The tender leaves are roasted in coconut oil along with Onion, chillies and salt (CR 1).

Occurrence : Common in paddy fields and in ponds (MR 24662).

Marsilea minuta L. (MARSELIACEAE)

Vernacular name : Arakeerai

Habit : Herb

Mode of use : Tender leaves are roasted in coconut oil along with Onion, Chillies and salt (CR 1).

Occurrence : Common in paddy fields and ponds (MR 24907).

Momordica dioica Roxb. *ex* Willd. (CUCRBITACEAE)

Vernacular name : Pavalaikeerai

Habit : Herb

Mode of use : Tender leaves are roasted in coconut oil along with Onion, Chillies and salt (CR 1).

Occurrence : Occasional around the hamlets (MR 24581).

Oxalis corniculata L. (OXALIDACEAE)

Vernacular name : Pulikeerai

Habit : Herb

Mode of use : Tender leaves are cooked along with chillies, onion and salt (CR 2).

Occurrence : Common around the hamlets (MR 24419).

Persicaria chinensis (L.) Gross. (POLYGONACEAE)

Vernacular name : Odimadavankeerai

Habit : Herb

Mode of use : Tender stem and leaves are cooked in water along with dhal (*Cajanus cajan*), chillies, salt and finally roasted in oil (CR 1).

Occurrence : Common in and around the hamlets (MR 24719).

Portulaca oleracea L. (PORTULACACEAE)

Vernacular name : Thammai kelanthan

Habit : Herb

Mode of use : Tender stem and leaves are cooked in water along with, chillies, salt and finally roasted in oil (CR 1).

Occurrence : Common in and around the hamlets (MR 24529).

Sauropus quadrangularis (Willd.) Muell.

Vernacular name : Kurumurangai

Habit : Herb

Mode of use : Tender stem and leaves are cooked in water along with, chillies, salt and finally roasted in oil (CR 2).

Occurrence : Common in the moist deciduous forests around the hamlets (MR 24766).

Senna occidentalis (L.) Link (FABACEAE)

Vernacular name : Kolthakara

Habit : Herb

Mode of use : The tender leaves are cooked in water along with salt; Chillies etc. excess of water is drained off and roasted in coconut oil (CR 1).

Occurrence : Common around the hamlets (MR 24484).

Senna tora (L.) Roxb. (FABACEAE)

Vernacular name : Sattitagarai

Habit : Herb

Mode of use : The tender leaves are roasted in coconut oil along with salt, chillies etc. (CR 1).

Occurrence : Common around the hamlets (MR 24483). (Plate 10. h.)

Solanum americanum Mill. (SOLANACEAE)

Vernacular name : Sukkuti keerai

Habit : Herb

Mode of use : The tender leaves are roasted in coconut oil along with salt, chillies etc. (CR 1).

Occurrence : Common around the hamlets (MR 24672)

Trianthema portulacastrum L (AIZOACEAE)

Vernacular name : Serani kerai

Habit : Herb

Mode of use : Tender stem and leaves are cooked in water along with dhal (*Cajanus cajan*), chillies, salt and finally roasted in oil (CR 1).

Occurrence : Common in and around the hamlets (MR 24589).

F. Flowers

Cullenia exarillata Robyns (CULLINIACEAE)

Vernacular name : Karanipu

Habit : Tree

Mode of use : Tender flowers are eaten raw

Occurrence : Common in the evergreen forests adjoining to the hamlets (MR 24405).

Holostemma ada-kodien Schult. (ASCLEPIADACEAE)

Vernacular name : Anchampalaipoo

Habit : Climber

Mode of use : The flowers are roasted in coconut oil along with Onion, chillies and salt (CR 1).

Occurrence : Occasional in the moist deciduous forests around the hamlet (MR 24652).

G. Fruits

Antidesma acidum Retz (EUPHORBIACEAE)

Vernacular name : Kambilipulipalam
Habit : Shrub
Mode of use : The ripened fruits are eaten (CR 1).
Occurrence : Common around the hamlets and occasional in forests (MR 24746).

Argyreia hirsute Wight & Arn. (CONVOLVULACEAE)

Vernacular name : Onkattapalam
Habit : Climber
Mode of use : Ripened fruits are eaten (CR 1).
Occurrence : Common around the hamlets and occasional in forests (MR 24660).

Artocarpus heterophyllus Lam. (MORACEAE)

Vernacular name : Sakkai palam
Habit : Tree
Mode of use : The tender fruits are cooked as vegetable and ripened fruits eaten as such (CR 1).
Occurrence : Common around the hamlets and occasional in forests (MR 24777).

Artocarpus hirsutus Lam. (MORACEAE)

Vernacular name : Ayani sakkai palam
Habit : Tree
Mode of use : The ripened fruits are eaten (CR 1).
Occurrence : Occasional in the moist deciduous forests adjoining to the hamlet (MR 24778).

Baccaurea courtalensis (Wight) Muell. (EUPHORBIACEAE)

Vernacular name : Moottipalam
Habit : Tree
Mode of use : The ripened fruits are eaten (CR 1).
Occurrence : Common around the hamlets and neighbouring areas of the forests (MR 24939).

Bauhinia racemosa Lam. (FABACEAE)

Vernacular name : Kodukam puli
Habit : Tree
Mode of use : The ripened fruits are eaten (CR 1).
Occurrence : Common around the hamlets and neighbouring areas (MR 24477).

Briedelia retusa (L.) Spreng (EUPHORBIACEAE)

Vernacular name : Mulluvengai palam
Habit : Tree
Mode of use : The ripened fruits are eaten (CR 1).
Occurrence : Common around the hamlets and neighbouring forest areas (MR 24751).

Calamus hookerianus Becc. (ARECACEAE)

Vernacular name : Valli Chura palam
Habit : Climbing palm
Mode of use : The ripened fruits are eaten (CR 1).
Occurrence : Common in adjoining forests of the hamlets (24841).

Calamus thwaitesii Becc. (ARECACEAE)

Vernacular name : Ponthi chura palam
Habit : Climbing palm
Mode of use : The ripened fruits are eaten (CR 1).
Occurrence : Common in adjoining forests of the hamlets (24843).

Colocasia esculenta (L.) Schott (ARACEAE)

Vernacular name : Shembu palam
Habit : Rhizomatus herb
Mode of use : The ripened fruits are eaten (CR 1).
Occurrence : Common around the hamlets (MR 24854).

Cordia obliqua Willd. (BORAGINACEAE)

Vernacular name : Thumba palam
Habit : Tree.
Mode of use : The ripened fruits are eaten (CR 1).

Occurrence : Rare, found in the neighbouring forests around the hamlets (MR 24656).

Cordia wallichii G. Don (BORAGINACEAE)

Vernacular name : Viri palam
Habit : Tree.
Mode of use : The ripened fruits are eaten (CR 1).
Occurrence : Rare, found in the neighbouring forests around the hamlets (MR 24655).

Dolichos trilobus **L.** (FABACEAE)

Vernacular name : Kattavarai
Habit : Climber
Mode of use : The tender fruits are cooked as vegetable (CR 2).
Occurrence : Rare, found in neighbouring forest around the hamlets (MR 24460).

Ensete superbum (Roxb.) Cheesman. (MUSACEAE)

Vernacular name : Kalluvazhai palam
Habit : Tall rhizomatous herb with pseudostem.
Mode of use : The ripened fruits are eaten (CR 1).
Occurrence : Rare, found in the neighbouring forest around the hamlets (MR 24812).

Ficus racemosa L. (MORACEAE)

Vernacular name : Athipalam
Habit : Tree
Mode of use : The ripened fruits are eaten (CR 1).
Occurrence : Occasional around the hamlets and in the moist deciduous forest around the hamlets (MR 24783).

Flacourtia montana Graham (FLACOURTIACEAE)

Vernacular name : Chaliru palam
Habit : Tree
Mode of use : The ripened fruits are eaten (CR 1).
Occurrence : Occasional in the evergreen and semi evergreen forests neighbouring to the hamlets (MR 24522).

Garcinia gummi-gutta (L.) Robs.(CLUSIACEAE)

Vernacular name : Kodam puli
Habit : Tree
Mode of use : The ripened fruit are eaten (CR 1).
Occurrence : Common around the hamlets (MR 24532)

Grewia tiliifolia Vahl. (TILIACEAE)

Vernacular name : Unnam pazham
Habit : Tree
Mode of use : The ripened fruits are eaten (CR 1).
Occurrence : Common around the hamlets and the moist deciduous forest areas of the adjoining forests (MR 24937).

Glycosmis pentaphylla (Retz.) DC. (RUTACEAE)

Vernacular name : Pana pazham
Habit : Shrub
Mode of use : The ripened fruits are eaten (CR 1).
Occurrence : common around the hamlets and plains (MR 24421).

Lantana camara L. var. ***aculeata*** (L.) Moldenke (VERBENACEAE)

Vernacular name : Kongini palam, Ari palam
Habit : Shrub
Mode of use : The ripened fruits are eaten (CR 1).
Occurrence : Common around the hamlets (MR 24694).

Madhuca indica J. Gmelin (SAPOTACEAE)

Vernacular name : Pala palam
Habit : Tree
Mode of use : Ripened fruits are eaten (CR 1).
Occurrence : Occasional in the moist deciduous forests around the hamlets (MR 24630).

Mangifera indica L. (ANACARDIACEAE)

Vernacular name : Kattumangai palam
Habit : Tree
Mode of use : The tender fruits are cooked as vegetable, used in pickles and ripened fruits are eaten (CR 1).

Occurrence : Occasionally found as wild in semi evergreen forests neighbouring to the hamlets and widely cultivated in and around the hamlets (MR 24931).

Mesua ferrea L. (CLUSIACEAE)

Vernacular name : Nankapalam
Habit : Tree
Mode of use : The ripened fruits are eaten (CR 1).
Occurrence : Occasional around the evergreen forest around the hamlets (MR 24536). (Plate 35. a)

Mimusops elengi L. (SAPOTACAEAE)

Vernacular name : Elenji palam
Habit : Tree
Mode of use : The ripened fruits are eaten (CR 1).
Occurrence : Occasional in neighbouring areas of the forest, cultivated in hamlets as shade tree (MR 24629).

Momordica dioica Roxb. *ex* Willd. (CUCRBITACEAE)

Vernacular name : Kattupavarai
Habit : Herb
Mode of use : The fruits are cooked as vegetables (CR 1).
Occurrence : Occasional around the hamlets (MR 24581).

Opuntia stricta Haw. var. ***dillenii*** (Ker-Gawl.) L.(CACTACEAE)

Vernacular name : Mullu kalli palam
Habit : succulent shrubs
Mode of use : The ripened fruits are eaten (CR 1).
Occurrence : Occasional in dry areas around the hamlets (MR 24588). (Plate 28. f)

Polyalthia coffeoides (Thw. *ex* Hook. f. & Thoms.) Hook. f. & Thoms.

Vernacular name : Villa Nedunar palam
Habit : Tree
Mode of use : The ripened fruits are eaten (CR 1).
Occurrence : Common, in adjoining moist deciduous forests areas (MR 24505)

Polyalthia fragrans (Dalz.) (ANNONACEAE)

Vernacular name : Nedunar palam
Habit : Tree
Mode of use : The ripened fruits are eaten (CR 1).
Occurrence : Common in the adjoining moist deciduous forests (MR 24506)

Palaquium ellipticum (Dalz.) Baill.(SAPOTACEAE)

Vernacular name : Pali palam
Habit : Tree
Mode of use : The ripened fruits are eaten (CR 1).
Occurrence : Common in the evergreen forest adjoining to hamlets (MR 24631).

Phoenix loureirii Kunth var. ***humilis*** (Royle *ex* Becc.) Barrow (ARECACEAE)

Vernacular name : Chevanpalam
Habit : Shrub
Mode of use : The ripened fruits are eaten (CR 1).
Occurrence : Occasional in grasslands around the hamlets (MR 24845).

Phyllanthus emblica L. (EUPHORBIACEAE)

Vernacular name : Nellipalam
Habit : Tree
Mode of use : Mature fruits are eaten and also used for the preparation of pickles (CR 1).
Occurrence : Common around hamlets and moist deciduous forests of the neighbouring forest areas (MR 24763).

Physalis angulata L (SOLANACEAE)

Vernacular name : Pottari palam
Habit : Herb
Mode of use : The ripened fruits are eaten (CR 1).
Occurrence : Common around the hamlets especially in rainy season (MR 24670).

Physalis peruviana L. (SOLANACEAE)

Vernacular name : Pottari palam

Habit : Herb
Mode of use : The ripened fruits are eaten raw (CR 1).
Occurrence : common around the hamlets especially in the rainy season (MR 24671).

Pithecellobium dulce (Roxb.) Benth. (FABACEAE)
Vernacular name : Puli palam
Habit : Tree
Mode of use : The ripened fruits are eaten (CR 1).
Occurrence : Common around the hamlets and neighbouring forest areas (MR 24496).

Rubus glomeratus Blume (FABACEAE)
Vernacular name : Mullarojapalam
Habit : Shrub
Mode of use : The ripened fruits are eaten (CR 1).
Occurrence : Common around the hamlets and neighbouring forest areas (MR 24499).

Semecarpus anacardium L. f. (ANACARDIACEAE)
Vernacular name : Cherumpalam
Habit : Herb
Mode of use : The ripened fruits are eaten (CR 1).
Occurrence : Occasional around the hamlets (MR 24444). (Plate 28. g)

Solanum americanum Mill. (SOLANACEAE)
Vernacular name : Sukkutti palam
Habit : Herb
Mode of use : The ripened fruits are eaten (CR 1).
Occurrence : Common around the hamlets (MR 24672).

Solanum torvum Sw. (SOLANACEAE)
Vernacular name : Sundai palam
Habit : Herb
Mode of use : The tender fruits are cooked as vegetables (CR 1).
Occurrence : Common around the hamlets (MR 24673)

Scolopia crenata (Wight & Arn.) Clos (FLACOURTIACEAE)

Vernacular name : Chithali palam
Habit : Tree
Mode of use : The ripened fruits are eaten (CR 1).
Occurrence : Occasional in the evergreen and semi evergreen forests neighbouring to the hamlets (MR 24525).

Syzygium cumini (L.) Skeels (MYRTACEAE)

Vernacular name : Nava palam
Habit : Tree
Mode of use : The ripened fruits are eaten (CR 1).
Occurrence : Common around the hamlets and neighbouring forest areas (MR 24557).

Syzygium densiflorum Wall. *ex* Wight & Arn.(MYRTACEAE)

Vernacular name : Cherunava pazham
Habit : Tree
Mode of use : The ripened fruits are eaten (CR 1).
Occurrence : Common around the hamlets and neighbouring forest areas (MR 24559).

Tamilnadia uliginosa (Retz.) Tirveng. & Sastry

Vernacular name : Vellanochi
Habit : Tree
Mode of use : The tender fruits are cooked as vegetables (CR 1).
Occurrence : Common in the moist deciduous and semi evergreen forests around the hamlets (MR 24608). (Plate 28. h)

Zizyphus oenoplia (L.) Mill. (RHAMNACEAE)

Vernacular name : Sooripalam
Habit : Climber
Mode of use : The ripened fruits are eaten (CR 1).
Occurrence : Common around the hamlets and neighbouring areas of the forests (MR 24430).

Zizyphus mauritiana Lam. (RHAMNACEAE)

Vernacular name : Peumsoori palam

Habit : Tree
Mode of use : The ripened fruits are eaten (CR 1).
Occurrence : Common around the hamlets and neighbouring areas of the forests (MR 24431).

Zizyphus rugosa Lam. (RHAMNACEAE)
Vernacular name : Kottalai palam
Habit : Straggler
Mode of use : The ripened fruits are eaten (CR 1).
Occurrence : Occasional found in forest margins (MR 24432).

H. Seeds

Artocarpus heterophyllus Lam. (MORACEAE)
Vernacular name : Sakkai kuru
Habit : Tree
Mode of use : The mature seeds are cooked as vegetables and dried seeds are roasted and eaten.
Occurrence : Common around the hamlets and occasional in forests (MR 24777).

Artocarpus hirsutus Lam. (MORACEAE)
Vernacular name : Ayani sakkai Kuru
Habit : Tree
Mode of use : The roasted seeds are eaten (CR 1).
Occurrence : Occasional in the moist deciduous forests adjoining to the hamlet (MR 24778)

Bambusa bambos (L.) Voss. (POACAEAE)
Vernacular name : Mulanellu
Habit : Tree grass
Mode of use : The seeds are roasted and eaten. The powdered seeds are used for the preparation of different items and seeds are also used for the preparation of gruel (CR 1).
Occurrence : Common around the hamlets and neighbouring forest areas (MR 24867).

Cullenia exarillata Robyns (CULLINIACEAE)

Vernacular name : Karanikuru
Habit : Tree
Mode of use : Matured seeds are roasted and eaten.
Occurrence : Common in the evergreen forests adjoining to the hamlets (MR 24405)

Cycas circinalis L. (CYCADACEAE)

Vernacular name : Eathankay
Habit : Tree
Mode of use : The seeds are boiled in water and the water is drained off dried and powdered. The flour is used to prepare various items (CR 1).
Occurrence : Common in the moist deciduous forests around the hamlets (MR 24887).

Entada rheedei Spreng. (FABACEAE)

Vernacular name : Thaylakay
Habit : Lianas
Mode of use : The cotyledons of the dried seeds are cooked, water is drained off and eaten (CR 1).
Occurrence : Common in the moist deciduous forests around the hamlets (MR 24494).

Sterculia foetida L. (STERCULIACEAE)

Vernacular name : Kavala
Habit : Tree
Mode of use : The seeds are roasted and cotyledons are eaten (CR 1)
Occurrence : Common in the moist deciduous forests around the hamlets (MR 24407).

Tamarindus indica L. (FABACEAE)

Vernacular name : Pulinchi kuuru
Habit : Tree
Occurrence : Common around the hamlets (MR 24486).

Terminalia bellarica (Graeuter.) Roxb. (COMBRETACEAE)

Vernacular name : Thannimaram

Habit : Trees
Mode of use : The seeds are eaten raw (CR 1).
Occurrence : Common around the hamlets (MR 24473).

Xylia xylocarpa (Roxb.) Taub.(FABACEAE)
Vernacular name : Irumullu
Habit : Tree
Mode of use : The dried seeds are eaten (CR 1).
Occurrence : Common in the moist deciduous forests around the hamlets (MR 24497).

I. Mushrooms

***Auricularia* sp.** (AURICULARICEAE)
Vernacular name : Kathu Kelan
Habit : Saprophytic fungus on rotten wood
Mode of use : The pileus and stipes are washed in water and boiled with condiments or fried in oil or is roasted in hearth (CR 2).
Occurrence : Very rare in neighbouring forest (MR 24910).

***Lycoperdon* sp.** (LYCOPERDACEAE)
Vernacular name : Panthra kelan
Habit : Fruiting body of a saprophytic fungus growing in soil.
Mode of use : The round and fleshy pileus is washed in water and boiled with condiments or fried in oil or roasted in hearth (CR 1).
Occurrence : Occasional in soil around the hamlets soon after rail fall (24913).

***Plurotus* sp.** (LENTINACEAE)
Vernacular name : Marakelan
Habit : Fruiting body of saprophytic fungus
Mode of use : The pileus and stipes are washed in water and boiled with condiments or fried in oil or is roasted in hearth (CR 1).
Occurrence : Occasional in dried bamboo culms of neighbouring forest during rainy season (MR 24916).

***Plurotus* sp.** (LENTINACEAE)

Vernacular name : Munga kelan

Habit : Fruiting body of saprophytic fungus

Mode of use : The pileus and stipes are washed in water and boiled with condiments or fried in oil or is roasted in hearth (CR 1).

Occurrence : Occasional in dried bamboo culms of neighbouring forest during rainy season (MR 24916).

Termitomyces microcarpus (Berk and Br.) Heim. (PLUTEACEAE)

Vernacular name : Arikelan

Habit : Saprophytic fungi on soil

Mode of use : The pileus and stipes washed in water and boiled with condiments or frying in soil or health roasting (CR 1).

Occurrence : Occasional in and around the hamlets during rainy season (MR24921).

Termitomyces eurhizus (Berk) Heim (PLUTEACEAE)

Vernacular name : Anamethyan kelan

Habit : Fruiting body of a saprophytic fungus

Mode of use : The pileus and stipes is washed in water and boiled with condiments or fried in oil or roasted in hearth (CR 1).

Occurrence : Occasional in and around the hamlets during rainy season (MR 24920).

Termitomyces clypeatus Heim. (PLUTEACEAE)

Vernacular name : Pitulakelan

Habit : Fruiting body of saprophytic fungi

Mode of use : The pileus and stipes is washed in water and boiled with condiments or fried in oil or roasted in hearth (CR 1).

Occurrence : Occasional in and around the hamlets during rainy season (MR 24919).

Volvariella volvacea (Bull. Fr.) Singer (PLUTEACEAE)

Vernacular name : Vaika kelan

Habit : Saprophytic fungi on paddy straw.

Mode of use : The pileus and stipes is washed in water and boiled with condiments or fried in oil or roasted in hearth (CR 1).

Occurrence : Occasional in found growing in paddy straw in rainy season (24922).

J. Spices and Condiments

Garcinia gummi-gutta (L.) Robs.(CLUSIACEAE)

Vernacular name : Kodam puli

Habit : Tree

Mode of use : The fruits are used as a condiment (CR 1).

Occurrence : Common around the hamlets (MR 24532)

Oxalis corniculata L. (OXALIDACEAE)

Vernacular name : Puliadagu

Habit : Herb

Part used : Leaves

Mode of use : Tender leaves are used as a condiment (CR 2).

Occurrence : Common around the hamlets (MR 24419).

Piper mullesua Buch.-Ham. *ex* D. Don (PIPERACEAE)

Vernacular name : Kattukurumulakay

Habit : climber

Part used : Seeds

Mode of use : The seeds are used as a condiment and spice during the preparation of food items.

Occurance : Occasional in adjoining forest areas of the hamlets (MR 24728).

Piper nigrum L., Sp. Pl.

Vernacular name : Kurumulakay

Habit : Climber

Part used : Seeds

Mode of use : The seeds are used as a condiment and spice during the preparation of food items.

Occurance : Occassional in the adjoining forest areas of the hamlets (MR 24729).

Zingiber neesanum (Graham) Ramam. (ZINGIBERACEAE)

Vernacular name	:	Malyinchi, Kattingi
Habit	:	Rhizomatous herb
Part used	:	Rhizome
Mode of use	:	The rhizome is ground into a paste and used as a condiment and spice during the fish preparations (CR 2).
Occurrence	:	Occasional in adjoining forest areas of the hamlets (MR 24807).

K. Food from cultivated plants

The sources of food from the cultivated crops are considered as a common knowledge practice of tribals and non-tribals. These are listed here to know the diverse agricultural crops in tribal life. Its vernacular name followed by the botanical names and the representative families are given in brackets.

Tubers

Kavathu kilangu (*Dioscorea alata*), Cheru kilangu (*Dioscorea esculenta*) and Poola kilangu (*Manihot esculenta*)

Cereals and millets

Corai (*Eleusine coracana*), Makka cholam (*Zea mays*), Poricholam (*Sorghum bicolor*) and Thena (*Setaria italica*)

Leafy vegetables

Agathi keerai (*Sesbania grandiflora*), Thandan keerai (*Amaranthus paniculatus, Amaranthus caudatus, A. cruentus*), Peekin kerai (*Luffa cylindrica*), Poosanikeerai (*Benincassa hispida*), Arasankanni (*Cucurbita maxima*), Muringai (*Moringa pterigosperma*), Vasalai (*Basella alba*) Kova keerai (*Coccinia grandis*), Thanangani (*Vigna ungiculata*) and Sucrumani (*Sauropus androgynus*).

Flower as vegetables

Agathi poo (*Sesbania grandiflora*)

Vegetables and Fruits

Thakkali (*Lycopersicum esculentum*), Sorai adagu (*Lagenaria siceraria*) Vellari (*Cucumis sativus*) Kathiri (*Solanum melangoena*), Vendai (*Abelmoschus esculentus*), Koyapaka (*Psidium guajava*) and Papali paka (*Carica papaya*)

Pulses

Thanngani (*Vigna ungiculata*), Avarai (*Lab lab purpureus*), Thuvarai (*Cajanus cajan*) and Kollu (*Dolichos unilobus*)

Condiments and Spices

Inchi (*Zingiber officinale*), Manjal (*Cucuma longa*), Kurumulakay (*Piper nigrum*), Milakay (*Capsicum annuum*), Cheeny milakay (*Capsicum frutescens*) and Venkayam (*Allium cepa*).

5. 6. 3. 2. Plants as fodders

Artocarpus heterophyllus Lam. (MORACEAE)

Vernacular name : Pila
Habit : Tree
Part Used : Leaves and fruits
Mode of use : The twigs with leaves are given to livestock and the ripened fruits are also given (CR 1).
Occurrence : Common around the hamlets and occasional in forests (MR 24777).

Bauhinia racemosa Lam. (FABACEAE)

Vernacular name : Aram puli
Habit : Tree
Part Used : Leaves and fruits
Mode of use : The twig with leaves are given to livestock (CR 1)
Occurrence : Common around the hamlets and neighbouring areas (MR 24477). (Plate 33. a & g)

Bambusa bambos (L.) Voss (POACEAE)

Vernacular name : Moonga thalai
Habit : Tree grass
Part used : Leaves
Mode of use : The leafy twigs are given (CR 1).
Occurrence : Common around the hamlets (MR 24867).

Dendrocalamus strictus (Roxb.) Nees (POACEAE)

Vernacular name : Karuvan Mula, Kallan Mula, Mirugle

Habit : Tree
Part used : Leaves
Mode of use : The leaves are given (CR 1).
Occurrence : Common around the hamlets and neighbouring forest areas (MR 24873).

Erythrina variegata L(FABACEAE)
Vernacular name : Kattu Murukku
Habit : Tree
Part used : Leaves
Mode of use : The leaves are given (CR 1).
Occurrence : Common around the hamlets and neighbouring forest areas (MR 24462).

Ficus racemosa L. (MORACEAE)
Vernacular name : Athi maram
Habit : tree
Part used : Leaves
Mode of use : The leaves are given (CR 1).
Occurrence : Common around the hamlets and neighbouring forest areas (MR 24783).

Gliricidia sepium (Jacq.) Kunth *ex* Walp. (FABACEAE)
Vernacular name : Seema konna
Habit : Tree
Part Used : Leaves
Mode of use : The leaves are given raw (CR 1).
Occurrence : Common around the hamlets and also ruining in wild in neighbouring forest (MR 24464).

Merremia umbellata (L.) Hall. f. (CONVOLVULACEAE)
Vernacular name : Vakara valli
Habit : Climber
Part Used : Leaves and twining stem
Mode of use : The whole plant with leaves are given (CR 1).
Occurrence : Common around the hamlets and neighbouring forests (MR 24663).

Trema orientalis (L.) Blume (ULMACEAE)

Vernacular name : Amai thalai
Habit : Tree
Part used : Leaves
Mode of use : The leaves are given (CR 1).
Occurrence : Occasional in neighbouring forest areas (MR 24773). (Plate 33. d)

5. 6. 3. 3. Plants in medicine

5. 6. 3. 3. 1. Human Medicine

Acalypha fruticosa Forssk.(EUPHOBIACEAE)

Vernacular name : Shinnathalai, Shini
Habit : Herb
Part used : Leaves
Used for : Stomach ache, swelling in bowels and wound healing
Mode of application: 1. The leaves along with salt are ground into a paste, dissolved in water and administered orally for stomach ache and swelling in bowels (CR 2).
2. The leaf paste is applied over the wound (CR 1)
Occurrence : Common in dry forests around the hamlets (MR 24744).

Aristolochia tagala Cham. (ARISTOLOCHIACEAE)

Vernacular Name : Padamchuki
Habit : Climber
Part used : Leaves and roots
Used for : Wound healing and snake bite
Mode of application: 1. The leaves along with the leaves of Piper betel are ground into a paste and smeared over the wounds (CR 2).
2. The roots ground in to a paste is dissolved in water and administered orally and also the leaf paste is smeared over the wounds (CR 2).
Occurrence : Occasional in adjoining forest areas around the hamlets (MR 24723)

Azadirachta indica A. Juss. (MELIACEAE)

Vernacular name : Veepumaram

Habit : Tree
Part used : Oil, leaves
Used for : Small pox and chicken pox
Mode of application : The leaves along with Manjal (*Curcuma longa*) is ground into a paste and smeared over the body for small pox and chicken pox.
Used for : Leach and insect repellent (CR 2)
Occurrence : Common in plains and adjoining areas of the hamlets (MR 24427).

***Allium sativun* L.** (LILIACEAE)
Vernacular Name : Vella venkiyam
Habit : herb
Part used : Bulb
Used for : Acute fever
Mode of application : The bulb along with seeds of Kattucheerakam (*Vernonia anthelmintica* are ground into a paste, dissolved in hot water and administered orally, twice a day for acute fever (CR 2).
Occurrence : Cultivated (MR 24971).

***Allium cepa* L.** (LILLIACEAE)
Vernacular name : Venkiyam
Habit : Herb
Part used : Bulb
Used for : Rheumatism
Mode of application : The bulb crushed along with kerosene is smeared over the joints for rheumatism (CR 2).
Occurrence : Cultivated (MR 24932).

Actiniopteris radiata (Sw.) Lin. (ACTINIOPTERIDACEAE)
Vernacular name : Kallupana
Habit : Xerophytic herb
Part used : Whole plant
Used for : wound healing
Mode of Application : The whole plant along with Manjal (*Curcuma longa*) are ground into a paste and smeared over the wounds (CR 2)

Occurrence : Rare, found in dry rocks around the hamlets (MR 24888)

Adiantum philippense L. (ADIANTACEAE)

Vernacular name : Kathirpanna
Habit : herb
Part used : Leaves
Used for : Wound healing
Mode of application: Leaves are ground into a paste and applied over the wound (CR 2).
Occurrence : Common in and around the hamlet (MR 24890).

Acanthospermum hispidum DC. (ASTERACEAE)

Vernacular Name : Kanthichedi
Habit : Herb
Part used : Leaves
Used for : Wound healing
Mode of application: The leaves are ground into a paste along with salt and smeared over the affected area (CR 2)
Occurrence : Common around the hamlets (MR 24954).

Acacia nilotica (L.) Willd. ex Del. (FABACEAE)

Vernacular name : Karuvelam
Habit : Tree
Part used : Bark
Used for : Wound healing, chest pain
Mode of application: 1. The bark is ground into a paste and smeared over the wound (CR 2).
2. The decoction prepared by continuous boiling of crushed bark pieces is smeared over the chest for curing chest pain (CR 2).
Occurrence : occasional, in the adjoining forest areas and plains (MR 24487).

Bambusa bambos (L.) voss (POACEAE)

Vernacular Name : Mungamaram
Habit : Tree grass

Plate 19. MALASAR'S MEDICINAL PLANTS. **a.** ***Baliospermum montanum***; **b.** ***Cassia fistula***; **c.** ***Drymaria cordata***; **d.** ***Ensete superbum***; **e.** ***Holoptelea integrifolia***; **f.** ***Naravelia zeylanica***; **g.** ***Wattakaka volubilis.***

Part used : Peeling from culm surface
Used for : Wound healing
Mode of application: The culm peelings are ground into a paste and mixed with coconut oil or honey and applied over the old or fresh wounds (CR 1)
Occurrence : Common, around the hamlets and neighbouring forest areas (MR 24867).

Brassica juncea (L.) Czern. & Coss. (BRASSICACEAE)
Vernacular name : Kaduku
Habit : Herb
Part used : Leaf
Used for : Acute fever
Mode of application: The leaf juice is applied over the body for acute fever (CR 2)
Occurrence : Occasional around the hamlets (MR 24516)

Baliospermum montanum (Willd.) Muell. (EUPHOBIACEAE)
Vernacular name : Sitha thondai
Habit : Herb
Part used : Leaves
Used for : Wounds
Mode of application: The leaves are ground into a paste and applied over the wounds (CR 2).
Occurrence : Occasional around the hamlets (MR 24943). (Plate 19. a)

Citrus limon (L.) Burm. f. (RUTACEAE)
Vernacular Name : Elumacham pazham
Habit : Small tree
Part used : Fruit
Used for : Stomach ache
Mode of application: The juice of the fruit dissolved in hot water with salt is administered orally for stomach ache (CR 2).
Occurrence : Cultivated (MR 24970).

Cucumis prophetarum L.(CUCURBITACEAE)
Vernacular Name : Aatanga

Habit : Herbaceous climber

Part used : Fruit

Used for : Inflammation on the nails

Mode of application : The fruits are cut at one end, added salt and the finger with inflammation is inserted on to it (CR 2).

Occurrence : Common around the hamlets (MR 24572).

Cassia fistula L. (FABACEAE)

Vernacular Name : Konnai

Habit : Tree

Part used : Leaves and roots

Used for : Body pain, inflammation and fever and snakebite

Mode of application : 1. The leaves along with the whole plant of Kanthichedi (*Acanthospermum hispidum*) and the water in which rice have been washed are boiled and taken bath in the same, for the relief of body pain, inflammation and fever (CR 2).

2. Few pieces of roots ground into a paste is dissolved in half a glass of hot water and administered orally followed by smearing the paste of the same for snakebite. The victim is allowed to take food with salt, only after a lapse of six hours (CR 2).

Occurrence : Common, around the hamlet (MR 24480). (Plate 19. b)

Cryptolepis buchananii Roem. & Schult.(ASCLEPIADACEAE)

Vernacular Name : Kodipala

Habit : Climber

Part used : Leaves

Used for : Psoriasis and itches

Mode of application : The leaves are crushed and roasted in coconut oil and smeared over the part of the body having itches, psoriasis *etc.* (CR 2).

Occurrence : common around the hamlets (MR 24649).

Coriandum sativum L. (APIACEAE)

Vernacular Name : Malli

Habit : Herb

Part used : Seeds

Used for : Indigestion

Mode of application: The seeds are roasted and powdered. The powder is dissolved in hot water with salt and administered orally (CR 2).

Occurrence : Cultivated (MR 24591).

Curcuma longa L. (ZINGIBERACEAE)

Vernacular name : Manjal

Habit : Rhizomatous herb

Part used : Rhizome and leaves

Used for : Scabies, itches, wound healing, small pox and chicken pox

Mode of application: 1. The leaf is ground into a paste and smeared over the affected area (CR 1)

2. The fresh rhizome is ground into paste and smeared over wounds (CR 1).

3. The rhizomes along with (*Azadiracta indica*) are ground into a paste and smeared over the body for small pox.

Occurrence : Cultivated (MR 24803).

Coccinia grandis (L.) Voigt (CUCURBITACEAE)

Vernacular name : Kovai

Habit : Climber

Part used : Leaves

Used for : Stomach ache

Mode of application: The leaves are crushed; the juice mixed with rice water is given for cattle for curing internal injuries after delivery (CR 2)

Occurrence : Cultivated (MR 24571).

Chromolaena oderata (L.) King & Robinson (ASTERACEAE)

Vernacular name : Pachai, Ayama pachai

Habit : Herb

Part used : Leaves

Used for : Stomach ache and wound healing

Mode of application: 1. The tender leave along with the leaves of Aripoochedi (*Lantana camara*), lime (Calcium Hydroxide) are ground into a paste and applied over the wounds.
2. The leaves are ground into a paste and applied over the wounds (CR 1).

Occurrence : Common around the hamlets and waste places (MR 24612)

Cayratia pedata (Lam.) A. Juss. *ex* Gagnep.(VITACEAE)

Vernacular Name : Chorivalli, Settupunnu thalai

Habit : Climber

Part used : Leaves

Used for : Foot disease

Mode of application: The leaves along with salt are ground into a paste and smeared over the affected area for foot diseases (CR 2).

Occurrence : Occasional, around the hamlets (MR 24434).

Curcuma zedoaria (Christm.) Rosc. (ZINGIBERACEA)

Vernacular Name : Manjakoova

Habit : Rhizomatous herb

Part used : Rhizome

Used for : Night blindness

Mode of application: The rhizome along with the rhizome of Vella Koova (*Schumannianthus virgatus*) and starch powder obtained from Koontha panai (*Caryota urens*) are ground into a paste and dissolved in hot water and administered orally up to one month for the treatment of night blindness (CR 2).

Occurrence : Common, in the moist deciduous and semi evergreen forests adjoining to the hamlets (MR 24804).

Calotropis gigantea (L.) R. Br. (ASCLEPIADACEAE)

Vernacular Name : Erukku

Habit : Shrub

Part used : Milky latex

Used for : Dog bite and earache

Mode of application: 1. The milky latex is applied over the wound from dog bite.

2 The leaves wrapped in the leaves of Chembu (*Colocasia antiquarum*), is roasted and the juice used as an eardrop.

Occurrence : Common around the hamlets (MR 24643).

Carica papaya L. (CARICACEAE)

Vernacular name : Papayamaram

Habit : Tree

Part used : Tender leaves

Used for : Stomach ache, diarrhoea and abortion

Mode of application: 1. The latex obtained from the fruit is dissolved in water and administered orally for stomach ache, diarrhoea

2. One glass of water boiled with the tender leaves and administered orally for abortion. (CR 2).

Occurrence : Cultivated around the hamlets (24569)

Careya arborea Roxb. (LECYTHADACEAE)

Vernacular Name : Pekupattai

Habit : Tree

Part used : Bark

Used for : Diarrhoea with bloody faecal maters, contraceptive agent, abortion and toothache.

Mode of application: 1. The bark is boiled in water and the decoction is administered orally, thrice a day for the treatment of diarrhoea with internal bleeding (CR 2).

2. The bark is cut into small pieces and kept in water for nearly eight hours and given as a contraceptive agent for a period of one week (CR 2).

3. The bark is crushed and the juice is given for the pregnant ladies for aborting the foetus (CR 2).

4. The bark is boiled in water and the steam is passed through the culm of Oda (*Ochlandra travancorica*) and is directly applied to affected area for curing tooth ache (CR 2).

Occurrence : Occasional in the adjoining forests around the hamlets (MR 24561).

Chenopodium ambrosiodes L. (CHENOPODIACEAE)

Vernacular name : Kasala chedi
Habit : Herbs
Part used : Whole plant
Used for : Fever
Mode of application : The whole plant along with Venkiyam (*Allium cepa*) is ground into a paste and smeared over the body for fever in children.
Occurrence : Common around the hamlets (MR 24717).

Cleome monophylla L. (CAPPARACEAE)

Vernacular name : Nayvela chappu
Habit : Herb
Part used : Leaves
Used for : Earache
Mode of application : 1. The leaves are crushed and the juice is used as an eardrop (CR2).
2. The leaves along with the bark of Moringa thalai (*Moringa pterygosperma*) are ground in to a paste and smeared over the body (CR 2).
Occurrence : Common, around the hamlet during rainy season (MR 24518).

***Cyclea peltata* (Lam.)** Hook.f. Thomas (MENISPERMACEAE)

Vernacular Name : Padakilangu
Habit : Climbing herb
Part used : Leaves and tubers
Used for : Headache, fever and cold, snake bite and stomach ache
Mode of application : 1. The tubers are ground into a paste and administered orally. For children a few leaves of this plant are squeezed and the juice is dissolved in water and orally administered (CR 2).
2. The roots are ground into a paste along with lime and smeared over the wounds from pit viper bite (CR 2).

3 The roots are ground into a paste dissolved in water and administered orally (CR 2).

Occurrence : occasional in adjoining forest areas (MR 24510)

Cocos nucifera L. (ARECACEAE)

Vernacular Name : Thenkai

Habit : Tree

Part used : Kernal

Used for : Torentula poison

Mode of application: The mature kernel (Copra) is eaten along with roasted green gram (*Phaseolus radiatus*) for relieving the pain and poisonous effect of *Torentula*, a kind of poisonous spider (CR 2).

Occurrence : Cultivated (MR 24848)

Curcuma aromatica Salisb. (ZINGIBERACEAE)

Vernacular Name : Kasthuri manjal

Habit : Rhizomatous herb

Part used : Rhizome

Used for : Chest pain

Mode of application: The rhizome along with salt is ground into a paste and dissolved in water and administered orally, twice a day (CR 2).

Occurrence : Cultivated around the hamlets (MR 24801).

Desmodium triflorum (L.) DC. (FABACEAE)

Vernacular Name : Pulincheerai

Habit : Herb

Part used : Whole plant

Used for : Pain in wound

Mode of application: The whole plant is ground into a paste and smeared over the wounds (CR 2).

Occurrence : Common around the hamlets (MR 2459).

Drymaria cordata (L.) Willd. *ex* Roem. & Schult. ssp. **diandra** (Blume) Duke (CARYOPHYLLACEAE)

Vernacular Name : Vattapullu

Habit : Herb
Part used : Whole plant
Used for : Foot disease
Mode of application: The whole plant is ground into a paste and smeared over the affected part (CR 2).
Occurrence : Common around the hamlets (MR 24527). (Plate 19. c)

Drynaria quercifolia (L.) Js.Sm. (POLYPODIACEAE)
Vernacular name : Shekuttolai, Marayolai
Habit : Rhizomatous epiphytic herb
Part used : Rhizome
Used for : Earache
Mode of application: The juice extracted from the roasted rhizomes is used as an eardrop for ear ache (CR 1).
Occurrence : Commonly found as an epiphytic herb on trees of adjoining forest areas (MR 24897).

Ensete superbum (Roxb.) Cheesman.(MUSACEAE)
Vernacular Name : Kalluvazha
Habit : Tall rhizomatous herb with pseudo stem
Part used : Juice from the stem, dried seeds
Used for : Burns, painful urination
Mode of application: 1. The juice from the stem is applied over burns (CR 2)
2. The dried seeds are ground into a powder, dissolved in water and given for the treatment of painful urination (CR 2).
Occurrence : Rare, found in neighbouring forests around the hamlets (MR 24812). (Plate 19. d)

Gynandropsis gynandra (L.) Briq. (CAPPARACEAE)
Vernacular Name : Velanchi
Habit : Herb
Part used : Whole plant
Used for : Joint pain
Mode of application: The whole plant is roasted in Neem oil (*Azadirachta indica*) and applied over the joints.
Occurrence : Occasional around the hamlets (MR 24520)

Holostemma ada-kodien Schult. (ASCLEPIADACEAE)

Vernacular name : Ancham pala

Habit : Climber

Part used : Leaves

Used for : Stomach ache

Mode of use : The juice extracted from the leaves is orally administered for the treatment of stomach-ache (CR 2).

Occurrence : Occasional in the moist deciduous forests around the hamlet (MR 24652).

Hemidesmus indicus (L.) R. Br. (ASCLEPIADACEAE)

Vernacular Name : Nannari

Habit : Climber

Part used : Roots

Used for : Dog bite

Mode of application : The leaves ground into a paste and smeared over the wound from dog bite (CR 2).

Occurrence : Common around the hamlets (MR 24946).

Helicteres isora L. (STERCULIACEAE)

Vernacular name : Kaivan

Habit : Small tree

Part used : Seeds, bark fibre and roots

Used for : Earache, spider poison and snake bite

Mode of application : 1. The seeds are roasted in coconut oil and the oil is used as an ear drop (CR 2).

2. The bark fibre is knotted over the body part bitten by the spider (CR 2).

3. The roots growing towards the northern side are cut into small pieces, ground in to a paste, dissolved in water and administered orally for snake bite. Just above the wound a paste of lime (Calcium Hydroxide) also is smeared (CR 2).

Occurrence : Occasional in neighbouring forest areas (MR 24406)

Hibiscus surattensis L.(MALVACEAE)

Vernacular Name : Pulingi

Habit : Herb
Part used : Leaves
Used for : Foot disease
Mode of application : The leaves along with flowers, fruits and salt are ground into a paste and packed in teak leaf is roasted in fire (CR 2).
Occurrence : Common around the hamlets (MR 24542).

Ipomoea deccana Austin (CONVOLVULACEAE)
Vernacular Name : Mooval kodi
Habit : Climber
Part used : Leaves
Used for : Furuncles
Mode of application : The leaves are crushed along with Venkiyam (*Allium cepa*) and the juice is applied over the furuncle.
Occurrence : Occasional around the hamlets (MR 24967).

Justicia gendarussa Burm. f. (ACANTHACEAE0
Vernacular Name : Vatha chappa
Habit : Shrub
Part used : Leaves
Used for : Rheumatism
Mode of application : The leaves boiled in water and the hot water with bearable temperature is applied over the body using a cotton cloth (CR 2).
Occurrence : Cultivated (MR 24688).

Justicia adhathoda L.
Vernacular Name : Adalapacha
Habit : Shrub
Part used : Leaves
Used for : Respiratory trouble
Mode of application : The leaves are crushed and the juice extract is mixed with a spoon full of honey and orally administered in empty stomach for curing respiratory trouble (CR 2).
Occurrence : Cultivated (MR 24687).

Jatropha curcus L. (EUPHORBIACEAE)

Vernacular Name : Kottavanakku, Kadalavanakku

Habit : Small tree

Part used : Bark, Latex from stem, stem bark

Used for : Head ache and Wound healing, itches and scabies

Mode of Application: 1. The latex obtained from the stem is smeared over the head for headache

2. The latex is also applied over the wounds and other inflammations.

3. The bark is ground into a paste and mixed with salt and oil is smeared over the part of the body suffering from scabies, itches and for wound healing (CR 2).

Occurrence : Common around the hamlets (MR 24759)

Lantana camara L. var. ***aculeata*** (L.) Moldenke (VERBENACEAE)

Vernacular Name : Arippoochedi, Unnipoochedi

Habit : shrub

Part used : Tender leaves

Used for : Stomach ache, wound healings and fever

Mode of application: 1. The tender leave along with the leaves of Pacaha (*Chromoleana oderata*), lime (Calcium Hydroxide) are ground into a paste and applied over the wounds (CR 2).

2. The tender leaves along with salt are ground into paste and smeared over the affected area (CR 2)

3. The leaf juice extract along with onion is smeared over the forehand, neck and joints for fever (CR 2).

Occurrence : Common around the hamlets (MR 24694).

Lygodium flexuosum (L.)Sw. (SCHIZAEACEAE)

Vernacular Name : Pullu valli kodi

Habit : Herbaceous climber

Part used : Leaves and stem

Used for : Wound healing

Mode of application: The leaves along with stem are ground into a paste and smeared over the wound (CR 2).

Occurrence : Occasional, around the hamlets (MR 24900).

Leucas aspera (Willd.) Spreng. (LAMINACEAE)

Vernacular Name : Thumba chedi
Habit : Herb
Part used : Leaves
Used for : Head ache
Mode of application: The crushed leaf juice along with Venkiyam (*Allum cepa*) is applied over the nostrils for head ache (CR 2).
Occurrence : Common around the hamlets (MR 24700).

Mecardonia procumbence(Mill) Small. (SCROPHULARIACEAE)

Vernacular Name : Manjappochedi
Habit : Herb
Part used : Leaves
Used for : White discharge in women
Mode of application: The whole plant is crushed and the juice is administered orally(CR 2)
Occurrence : occasional around the hamlets (MR 24954).

Mangifera indica L. (ANACARDIACEAE)

Vernacular Name : Kattu moochi, Mangai maram
Habit : Tree
Part used : Bark
Used for : Toothache
Mode of application: The bark along with the barks of Navulumaram (*Syzigium cumini*), Nellimaram (*Phyllanthus emblica*) are boiled in water in small mouthed pot and the fumes applied over the affected teeth.
Occurrence : Occasionally found as wild in the semi evergreen forests neighbouring to the hamlets and also, widely cultivated in and around the hamlets (MR 24931).

Moringa pterygosperma Gaertn.(MORINGACEAE)

Vernacular Name : Moringa thalai
Habit : Tree
Part used : Bark
Used for : Itches

Mode of application: The bark along with the leaves of Nayvela chappu (*Cleome monophylla*) are ground into a paste and smeared over the body(CR 2).

Occurrence : Cultivated around the hamlets (MR 24446).

Mimosa pudica L. (FABACEAE)

Vernacular Name : Thotta surukki

Habit : Herb

Part used : Tender leaves

Used for : Wound healing, furuncle

Mode of application: 1. The tender leaves are crushed and applied over the wounds (CR 2).

2. The leaves along with salt and lime are ground in to a paste and smeared over the furuncle (CR 2).

Occurrence : Common in and around the hamlets (MR 24495).

Melia dubia Cav. (MELIACEAE)

Vernacular Name : Malaveppu

Habit : Tree

Part used : Fruit

Used for : Cracks in heel

Mode of application: The fruit pulp is ground into a paste and smeared over the cracks on heels (CR 2).

Occurrence : Common in the moist deciduous forest around the hamlets (MR 24938).

Momordica dioica Roxb. *ex* Willd.(CUCRBITACEAE)

Vernacular Name : Kattupavara

Habit : Herbaceous climber

Mode of application: one spoon of the leaf juice is orally administerd, thrice a day for worm trouble (CR 2).

Occurrence : Occasional around the hamlets (MR 24581).

Mukia maderaspatana (L.) Roem. (CUCURBITACEAE)

Vernacular Name : Mrisa kuda

Habit : Climber

Part used : Leaves

Used for : cough, worm trouble

Mode of application: 1. The leaves juice administered orally for cough (CR 2).

2. The fruits along with Puli(*Tamarindus indica*), kernal of coconut etc. are ground in to a paste and administered orally(CR 2) .

Occurrence : Common around the hamlets (MR 24583).

Nymphaea pubescens Wild. (NYMPHAEACEAE)

Vernacular Name : Ambal

Habit : Aquatic Herb

Part used : Rhizomes

Used for : Body pain

Mode of application: The rhizome cooked along with salt is eaten for relieving body pain (CR 2).

Occurrence : Occasional in ponds (MR 24953)

Naravelia zeylanica (Linn.) DC. (RANUNCULACEAE)

Vernacular name : Chalikkodi

Habit : Climbing herb

Part used : Tender leaves, stem, roots

Used for : Head ache and cold

Mode of application: Fresh roots; leaves and stem are crushed and inhaled, thrice day. The juice of the tender stem and leaves is pored on to the nasal cavity (CR 2).

Occurrence : Common around the hamlets (MR 24502). (Plate 19. f)

Nicotiana tabacum L. (SOLANACEAE)

Vernacular Name : Pukalai

Habit : Herb

Part used : Dried leaves

Used for : Headache, Toothache

Mode of application: 1. The fumes of the dried and slightly roasted leaves are inhaled for headache (CR 2).

2. The leaves are crushed along with leaves of Vetta thalai(*Piper betel*) and the juice is applied over the affected area (CR 2).

Occurrence : Cultivated (MR 24934)

Ocimum tenuiflorum L. (LAMIACEAE)

Vernacular Name : Thulasi

Habit : Herb

Part used : Leaves

Used for : Cough and cold

Mode of application: The leaf juice is dissolved in honey and administered orally (CR 2).

Occurrence : Cultivated (MR 24704).

Pergularia daemia (Forssk.) Chiov. (ASCLEPIADACEAE)

Vernacular name : Velithalai

Habit : Climber

Part used : Leaves

Used for : Head ache, fever and lies

Mode of application: 1. The leaves along with leaves of Kotta (*Jatropha curcus*) and salt are crushed, the juice is orally administered, thrice a day ,for acute fever(CR 2).

2. The juice extracted from leaves are given to stop bleeding, the paste is smeared on the two sides of the hands (CR 2).

Occurrence : Common in and around the hamlets (MR 24646)

Piper longum L. (PIPERACEAE)

Vernacular name : Thippaliveru

Habit : Climber

Part used : Root

Used for : Toothache

Mode of application: The root is slightly roasted and the juice is applied over the affected area (CR 2).

Occurrence : Common around the hamlets and adjoining forest (MR 24727).

Piper betel L. (PIPERACEAE)

Vernacular Name : Vetla thalai

Habit : Climber

Part used : leaves

Used for : wound healing

Mode of application: The leaves are ground along with lime (Calcium hydroxide) into a paste and smeared over the wounds (CR 2).

Occurrence : Cultivated (MR 24934)

Phyllanthus amarus Schum. & Thonn. (EUPHOBIACEAE)

Vernacular name : Sirunelli, Kizharnelli

Habit : Herb

Part used : Whole plant

Used for : Jaundice

Mode of Application: The whole plant is ground into a paste and dissolved in 'Karad pal' (Milk of black goat) and administered orally for one weak (CR 2).

Occurrence : Common around the hamlets (MR 24762)

Pterocarpus marsupium Roxb. (FABACEAE)

Vernacular name : Vengi

Habit : Tree

Part used : Bark

Used for : Stomach ache

Mode of Application: The bark is crushed and the juice is administered orally for stomach ache (CR 2).

Occurrence : Common around the hamlets (MR 24468)

Phyllanthus emblica L. (EUPHORBIACEAE)

Vernacular Name : Nelli maram

Habit : Tree

Part used : Bark, leaves

Used for : Toothache, diarrhoea with stomach-ache

Mode of application: 1. The bark along with the barks of Navulumaram (*Syzigium cumini*), Kattumoochi (*Mangifera indica*), is boiled in water in a small-mouthed pot and fumes applied over the affected teeth (CR 2).

2. The tender leaves are crushed and the juice is orally administered for diarrhoea with stomach-ache (CR 2).

Occurrence : Common around hamlets and moist deciduous forests (MR 24763).

Pongamia pinnata (L.) Pierre (FABACEAE)

Vernacular name : Pongamaram
Habit : Tree
Part used : Seeds
Used for : Rheumatic pain
Mode of application: The seeds are ground into a paste and smeared over the joints for rheumatic pain (CR 2).
Occurrence : Common around the hamlets (MR 24467).

Protasparagus racemosus (Willd.) Oberm. (LILIACEAE)

Vernacular Name : Chathavalli
Habit : Climber
Part used : Root tubers
Used for : Toothache
Mode of application: The tuberous roots are roasted and the juice extracted from it is applied over the affected teeth (CR 2).
Occurrence : Occasional in neighbouring forest areas (MR 24833).

Rhaphidophora pertusa (Roxb.) Schott (ARACEAE)

Vernacular name : Marachembu
Habit : Climber
Part used : Stem
Used for : Acute ear ache
Mode of Application: The fresh stem is roasted in fire and the juice is used as an ear drop (CR 2).
Occurrence : Occasional, in the semi evergreen and the evergreen forests adjoining to the hamlets (MR 24859).

Rauvolfia serpentina (L.) Benth. *ex* Kurz (APOCYNACEAE)

Vernacular name : Eyyakundan Veru
Habit : Shrub
Part used : Roots
Used for : Snake bite and stomach ache
Mode of application: 1. A few pieces of roots are ground into a paste and smeared over the wound from snake bite, after washing thoroughly and a half of the paste is dissolved in water and administered orally (CR 2).

2. The bark ground into a paste is dissolved in water and administered orally (CR 2).

Occurrence : Rare, found in the moist deciduous forests around the hamlets (MR 24638).

Sapindus trifoliata L. (SAPINDACEAE)

Vernacular name : Pooch kottai

Habit : Tree

Part used : fruits

Used for : Cough, respiratory trouble

Mode of application: 1. The fruits are ground into paste and smeared over the throat (CR 2).

2. The fruits are ground into paste and applied over the chest for respiratory trouble (CR 2).

Occurrence : Common in the neighbouring forest areas of the hamlets (MR 24441).

Sansevieria roxburghiana Schult. & Schult. (LILIACAEAE)

Vernacular Name : Kadali

Habit : Rhizomatous herb

Part used : Rhizome

Used for : Cobra bite

Mode of application: The rhizome is ground into a paste and the paste is applied over the wound from cobra bite, half of it is dissolved in hot water and administered orally.

Occurrence : Cultivated (MR 24828).

Schumannianthus virgatus (Roxb.) Rolfe

Vernacular Name : Vellakoova

Habit : Rhizomatous herb

Part used : Rhizome

Used for : Night blindness

Mode of application: The rhizome along with the rhizome of Manja Koova (*Curcuma zedoaria*) and starch powder obtained from Koontha panai (*Caryota urens*) are ground into a paste and dissolved in hot water and administered orally up to one month for night blindness (CR 2).

Occurrence : Common in the moist deciduous and the semi evergreen forests adjoining to the hamlets (MR 24804).

Scilla hyacinthina (Roth) Macbr. (LILLIACEAE)

Vernacular Name : Kattulli
Habit : Herb
Part used : Leaves
Used for : Furuncles
Mode of application: The leaves are roasted in fire and the juice is applied over the furuncles (CR 2).
Occurrence : occasional, in rocky areas near the hamlets (MR 24834).

Spilanthes clava DC. (ATERACEAE)

Vernacular name : Palluvethanachedi
Habit : Herb
Part used : Flowers
Used for : Toothache
Mode of application: Flowers are crushed and applied over the affected teeth.
Occurrence : occasional around the hamlets (MR 24617).

Solanum virginianum L. (SOLANACEAE)

Vernacular name : Mullukathrica
Habit : herb
Part used : fruits
Used for : Tooth ache
Mode of use : The fruits are roasted in fire and the juice is smeared over the affected area (CR 1).
Occurrence : Occasional, in plains and neighbouring forests (MR 24676).

Streblus asper Lour., Fl. Cochinch.(MORACEAE)

Vernacular name : Parukkamaram
Habit : Tree
Part used : Bark
Used for : Increasing milk production

Mode of use : The bark is ground into a paste and smeared over the breast for increased milk production for mothers (CR 2).

Occurrence : Occasional in the moist deciduous forests around the hamlet (MR 24786).

Syzygium cumini (L.) Skeels (MYRTACEAE0

Vernacular Name : Navalu maram

Habit : Tree

Part used : Bark

Used for : Toothache

Mode of application: The bark along with the barks of Kattumoochi (*Mangifera indica*), Nellimaram(*Phyllanthus emblica*) are boiled in water in small mouthed pot and the fumes applied over the affected teeth(CR 2)

Occurrence : Common around the hamlets and neighbouring forest areas (MR 24557).

Tragia involucrata L.(EUPHORBIACEAE)

Vernacular Name : Kodithuva

Habit : Herbaceous climber

Part used : Leaves

Used for : Acute fever

Mode of application: The leaves are crushed and the juice extracted is smeared over the body for acute fever (CR 2).

Occurrence : Common around the hamlets (MR 24768).

Tridax procumbens L (ASTERACEAE)

Vernacular name : Shanippodu

Habit : Herb

Part used : Whole plant

Used for : Wound healing

Mode of application: The whole plant is ground into a paste and applied over the affected area (CR 2).

Occurrence : Common in and around the hamlets (MR 24618).

Thespesia lampas (Cav.) Dalz. & Gibs. (MALVACEAE)

Vernacular Name : Kattuparathi

Habit : Herb

Part used : Tuberous root

Used for : Diarrhoea

Mode of application: The tuberous root is ground into a paste, dissolved in hot water and administered orally, twice a day for diarrhoea (CR 2).

Occurrence : Common, in the moist deciduous forests around the hamlets (MR 24401).

Tectona grandis L. f. (VERBENACEAE)

Vernacular name : Thekkamaram

Habit : Trees

Part used : Tender leaves

Used for : Wound healing

Mode of application: The tender leaves are roasted in coconut oil for wound healing (CR 1).

Occurrence : Common around the hamlets (MR 24695).

Terminalia elliptica Willd (COMBRETACEAE)

Vernacular Name : Karimaruthu

Habit : Tree

Part used : Bark

Used for : Stomach ache and diarrhoea with bloody faecal maters

Mode of application: 1. The bark is crushed and the juice with salt is administered orally for stomach ache (CR 2).

2. Pieces of bark boiled in one litter of water up to half of its volume is administered orally in empty stomach for bloody diarrhoea.

Occurrence : Common in adjoining forest around the hamlets (MR 24553).

Utleria salicifolia Bedd. *ex* Hook. f.(ASCLEPIADACEAE)

Vernacular name : Mahalikilangu

Habit : Climber

Part used : Roots

Used for : Stomach ache

Mode of use : The juice obtained from crushed root tubers is administered orally, for acute stomach ache (CR 2)

Occurrence : Very rare in Nelliampathies (MR 24651).

Vernonia anthelmintica (L.) Willd. (ASTERACEAE)

Vernacular Name : Katucheerukam
Habit : Herb
Part used : Seeds
Used for : Acute fever
Mode of application : The seeds with Vella venkiyam (*Allium sativum*) are ground into a paste, dissolved in hot water and administered orally, twice a day, for acute fever (CR 2).
Occurrence : Cultivated (MR 24971).

Vitex negundo L. (VERBENACEAE)

Vernacular Name : Nochi
Habit : Large shrub
Part used : Leaves
Used for : Body pain and rheumatism
Mode of application : 1. The leaves crushed and boiled in water and take bath in the same for relieving body pain (CR 2)
2. The leaves ground into a paste and smeared over the painful area of the legs. (CR 2).
Occurrence : occasional around the hamlets (MR 24696).

Wattakaka volubilis (L. f.) Stapf. (ASCLEPIADACEAE)

Vernacular Name : Kakkavari
Habit : climber
Part used : Stem
Used for : Chest pain
Mode of application : The stem is crushed and the juice extracted is dissolved in water and administered orally for chest pain (CR 2).
Occurrence : occasional around the hamlets (MR 24648). (Plate 19. g)

Zingiber neesanum (Graham) Ramam. (ZINGIBERACEAE)

Vernacular name : Malyinchi, Kattingi
Habit : Rhizomatous herb
Part used : Rhizome
Used for : Stomach ache and indigestion

Mode of application: Rhizome along with salt is crushed and the juice is administered orally, twice a day (CR 2).

Occurrence : Occasional in adjoining forest areas of the hamlets (MR 24807).

Zingiber zerumbet (L.) J.E. Smith (ZINGIBERACEAE)

Vernacular Name : Kattinchi

Habit : Rhizomatous herb

Part used : Rhizome

Used for : Tooth ache with swelling and indigestion

Mode of application: 1. The rhizome along with the Pukalai (Nicotiana tabacum) is crushed and the juice is smeared over the affected area.

2. The rhizome is chewed along with salt for curing indigestion (CR 2).

Occurrence : occasional, in the evergreen and the semi evergreen forests (MR 24809).

Zizyphus rugosa Lam. (RHAMANACEAE)

Vernacular name : Kotta

Habit : Straggler

Part used : Roots

Used for : Stomach ache

Mode of application: The roots along with the seeds of Chalingi (*Caesalpinia bounduc*) ground into a paste, mixed with paste of the tooth of Elephant, dissolved in hot water and administered orally (CR 2).

Occurrence : Common in adjoining forest areas of the hamlets (MR 24432).

5. 6. 3. 3. 2. Veterinary medicine

Holoptelea integrifolia (Roxb.) Planch. (ULMACEAE).

Vernacular Name : Ayamaram

Habit : Tree

Part used : Bark

Used for : Foot and mouth disease in livestock

Mode of application: The bark with salt is ground into a paste and applied over the wound for foot and mouth disease in livestock (CR 2).

Occurrence : occasional around the hamlets (MR 24772). (Plate 19. e)

5. 6. 3. 4. Miscellaneous plant uses

5. 6. 3. 4. 1. Fibre yielding plants

Bauhinia racemosa Lam. (FABACEAE)

Vernacular name : Aram puli

Habit : Tree

Part used : the fibres obtained from bark

Mode of use : The fresh bark fibre is peeled from wood and kept for one or two days for curing (CR 1).

Occurrence : Common around the hamlets and neighbouring areas (MR 24477).

Caryota urens L. (ARECACEAE)

Vernacular name : Koontha panai naru

Habit : Tree

Part used : Fibres obtained from peduncle of leaves and infrutescence

Mode of use : The fibres peeled from peduncle is dried in sunlight and whenever needed is kept in water for sometime. The fresh infrutescence branches are directly used as a fibre (CR 1).

Occurrence : Common around the hamlets (MR 24844). (Plate 35. b)

Ficus racemosa L. (MORACEAE)

Vernacular name : Athi naru

Habit : Tree

Part used : the fibres obtained from bark

Mode of use : The fresh bark fibres are peeled from the wood and kept for one or two days for curing (CR 1).

Occurrence : Occasional, around the hamlets and in the moist deciduous forests around the hamlets (MR 24783).

Grewia tiliifolia Vahl. (TILIACEAE)

Vernacular name : Unnam naru

Habit : Tree

Part used : the fibres obtained from bark

Mode of use : The fresh bark fibres peeled from wood are kept for one or two days for curing (CR 1).

Occurrence : Common around the hamlets and the moist deciduous forests (MR 24937).

Helicteres isora L. (STERCULIACEAE)

Vernacular name : Kaivan

Habit : Small tree

Part used : the fibres obtained from bark

Mode of use : The fresh bark fibres is peeled from the wood and kept in sunlight for one or two days for curing (CR 1).

Occurrence : Occasional in neighbouring forest areas (MR 24406).

Sterculia villosa Roxb. *ex* DC. (STERCULIACEAE)

Vernacular name : Vakka naru

Habit : Tree

Part used : The fibres obtained from bark

Mode of use : The fresh bark fibres are peeled from the wood and kept in sunlight for one or two days for curing (CR 1).

Occurrence : Occasional in neighbouring forest areas (MR 24409).

Tetrastigma nilagiricum (Miq.) Shetty (VITACEAE)

Vernacular name : Vakkavalli

Habit : Small tree

Part used : Stem fibres

Mode of use : The stem is put in water to decay and the fibers are crushed and flattened (CR 1).

Occurrence : Occasional in neighbouring forest areas (MR 24435).

Trema orientalis (L.) Blume (ULMACEAE)

Vernacular name : Amai thali naru

Habit : Tree

Part used : The fibres obtained from bark

Mode of use : The fresh bark fibres are peeled from the wood and kept in sunlight for one or two days for curing (CR 1).

Occurrence : Occasional, in neighbouring forest areas (MR 24773).

5. 6. 3. 4. 2. Plants for Fish stupefaction

Acacia sinuata (Lour.) Merr. (FABACEAE)

Vernacular name : Cheenikai

Habit : Climbing shrub

Part used : fruits

Mode of use : The fruits are crushed and dissolved in water of small streams or selected areas of river with fishes (CR 2)

Occurrence : Occasional, in the moist deciduous forests of the adjoining areas (MR 24488).

Acacia torta (Roxb.) Craib (FABACEAE)

Vernacular name : Incham pattai

Habit : Climbing shrub

Part used : fruits

Mode of use : The fruits are crushed and dissolved in water of small streams or selected areas of river with fishes (CR 1).

Occurrence : Occasional, in the moist deciduous forests of the adjoining areas (MR 24489). (Plate 33. b)

Anamirta cocculus (L.) Wight & Arn. (MENISPERMACEAE)

Vernacular name : Pollakay

Habit : Lianas

Part used : Fruits

Mode of use : The fruits are crushed and dissolved in water of small streams or selected areas of river with fishes (CR 1).

Occurrence : Common around the hamlets (MR 24507).

Bambusa bambos (L.) Voss. (POACEAE)

Vernacular name : Mulamkuruthu

Habit : Tree grass

Part used : Tender shoots

Mode of use : The tender shoots are crushed and the juice is dissolved in streams (CR 1).

Occurrence : Common in the moist deciduous forests around the hamlets (MR 24867).

Canthium rheedei DC. (RUBIACEAE)

Vernacular name : Karakkay

Habit : Small tree

Mode of use : The fruits are crushed and dissolved in water of small streams or selected areas of river with fishes (CR 2).

Occurrence : Occasional, in the neighbouring forest areas (MR 24597).

Caryota urens L. (ARECACEAE)

Vernacular name : Koontha panai

Habit : Tree

Part used : Fruits

Mode of use : The fruits are crushed and dissolved in water of small streams or selected areas of river with fishes (CR 1).

Occurrence : Common around the hamlets (MR 24844).

Crataeva magna (Lour.) DC.(CAPPARACEAE)

Vernacular name : Poothalukay

Habit : Tree

Part used : Bark and fruits

Mode of use : The bark and fruits are crushed and dissolved in streams (CR 1).

Occurrence : Common in the moist deciduous forests around the hamlets (MR 24887). (Plate 35. e)

Cycas circinalis L. (CYCADACEAE)

Vernacular name : Eath

Habit : Tree

Part used : Bark

Mode of use : The bark is crushed and dissolved in streams (CR 1).

Occurrence : Common, in the moist deciduous forests around the hamlets (MR 24887).

Dillenia pentagyna Roxb (DILLENIACEAE)

Vernacular name : Vazham punna
Habit : Tree
Part used : Fruits
Mode of use : The fruits are crushed and dissolved in water of small streams or selected areas of river with fishes (CR 1).
Occurrence : Common around the hamlets (MR 24503).

Diospyros cordifolia Roxb. (DIOSPYRACEAE)

Vernacular name : Vakkanai maram
Habit : Tree
Part used : Leaves and branches
Mode of use : The leaves along with branches are crushed and the juice is dissolved in streams (CR 1).
Occurrence : Common in the moist deciduous forests adjoining to the hamlet (MR 24632).

Hydnocarpus pentandra (Buch.-Ham.) Oken (FLACOURTIACEAE)

Vernacular name : Kalali kay
Habit : Tree
Part used : Fruits
Mode of use : The fruits are crushed and dissolved in water of small streams or selected areas of river with fishes (CR 1).
Occurrence : Common, around the hamlets (MR 24524).

Sapindus trifoliata L. (SAPINDACEAE)

Vernacular name : Poochakotta, Urunchi
Habit : Tree
Part used : fruits
Mode of use : The fruits are crushed and dissolved in water of small streams or selected areas of river with fishes (CR 1).
Occurrence : Common, in the neighbouring forest areas of the hamlets (MR 24441) (Plate 33. c)

Strychnos nux-vomica L. (LOGANIACEAE)

Vernacular name : Kanchiram
Habit : Tree

Part used : Fruits and leaves

Mode of use : The fruits or leaves are crushed and dissolved in water of small streams or selected areas of river with fishes (CR 1).

Occurrence : Occasional, in the neighbouring forest areas (MR 24654). (Plate 35. d)

5. 6. 3. 4. 3. Plants as Repellents

Azadirachta indica A. Juss. (MELIACEAE)

Vernacular name : Veepumaram

Habit : Tree

Part used : Oil, leaves

Used for : Leach and insect repellent

Mode of application: 1. The oil is mixed along with salt, pukalai (powder of *Nicotiana tabacum*) and smeared over the external parts of the body exposed to leaches (CR 1).

2. The leaves are mixed along with the seeds that are to be stored for a long time prevents insect attack (CR 1).

Occurrence : Common in plains and adjoining areas of the hamlets (MR 24427).

Canarium strictum Roxb.(BURSERACEAE)

Vernacular name : Kunkillyam

Habit : Tree

Part used : Resin

Used for : Repellents of insects

Mode of use : The resin collected from the wood is put on fire and burnt during night hours for repelling the harmful insects (CR 1).

Occurrence : occasional, in adjoining forest areas (MR 24426).

Cyclea peltata (Lam.) Hook. f. & Thoms. (MENISPEMACEAE)

Vernacular name : Padakilangu

Habit : Herb

Part used : Tuberous roots

Used for : Leach repellents

Mode of use : The tuberous roots are roasted in coconut oil along with salt and smeared over the external parts of the body exposed to leaches (CR 1).

Occurrence : occasional, in adjoining forest areas (MR 24510).

Harpullia arborea (Blanco) Radlk. (SAPINDACEAE)

Vernacular name : Pookoli maram

Habit : Tree

Part used : bark

Used for : Leach repellents

Mode of use : The bark is crushed and the juice is smeared over the external parts of the body exposed to leaches (CR 1).

Occurrence : occasional, in adjoining forest areas (MR 24440).

Mastixia arborea (Wight) Bedd. ssp. ***meziana*** (Wang.) Matthew (CORNACEAE)

Vernacular name : Mattipalamarm

Habit : Tree

Part used : Resinous extraction from wood

Used for : Insect repellents

Mode of use : The resin collected from wood is put on fire and burnt during night hours for repelling harmful insects (CR 1).

Occurrence : Occasional, in the adjoining forest areas (MR 24595).

Solanum virginianum L. (SOLANACEAE)

Vernacular name : Mullukathrica

Habit : herb

Part used : fruits

Used for : Leach repellents

Mode of use : The fruits are crushed and the juice is smeared over the external parts of the body exposed to leaches (CR 1).

Occurrence : Occasional, in plains and neighbouring forests (MR 24676).

Strychnos nux-vomica L. (LOGANIACEAE)

Vernacular name : Kanchiram

Habit : Tree

Part used : Fruits and leaves

Used for : Insect repellents

Mode of use : The leaves are mixed along with the seeds that are to be stored for a long time prevents insect attack (CR 1).

Occurrence : Occasional in neighbouring forest areas (MR 24654).

5. 6. 3. 4. 4. Plants as soaps and shampoo

Acacia sinuata (Lour.) Merr. (FABACEAE)

Vernacular name : Cheenikai

Habit : Climbing shrub

Part used : Fruits and bark

Used for : Soap

Mode of use : The fruits or bark is crushed and the foam is applied over the dresses while washing (CR 1).

Occurrence : Occasional in the moist deciduous forest of the adjoining areas (MR 24488).

Sapindus trifoliata L. (SAPINDACEAE)

Vernacular name : Pooch kottai

Habit : Tree

Part used : fruits

Used for : Soap

Mode of use : The fruits or bark is crushed and the foam is applied over the dresses while washing (CR 1).

Occurrence : Common in neighbouring forest areas of the hamlets (MR 24441).

Grewia tiliifolia Vahl. (TILIACEAE)

Vernacular name : Unnam

Habit : Tree

Part used : Bark

Used for : Shampoo

Mode of use : The juice obtained from the bark is used as shampoo (CR 1).

Occurrence : Common, around the hamlets and in the moist deciduous forests (MR 24937).

Sida rhombifolia L. (MALVACEAE)

Vernacular name : Kurunthotti
Habit : Herb
Part used : Leaves
Used for : Shampoo
Mode of use : The leaves crushed along with water the mucilaginous extract is used as a shampoo (CR 1).
Occurrence : Common around the hamlets (MR 24597)

5. 6. 3. 4. 5. Plants in Beliefs

According to Malasars, the huge trees like Palai (*Alstonea scholaris*), Athimaram (*Ficus racemosa*), Alamaram (*Ficus benghalensis, Ficus religiosa*) are the domiciles of Peyi (evil spirits) and are called as Peyimarams. The fresh green culm of the bamboos is considered as the symbol of purity and it is used to carry the corpse to the burial ground.

5. 6. 3. 4. 6. Plants in worships and Religious rituals

They worship the Veppamaram (*Azadirachta indica*) as the domicile of Goddess Mariyatha and believed that their goddesses live under the Alamaram (*Ficus benghalensis*) and Athimaram (*Ficus racemosa*) and cutting of these trees are taboo. The Malasars who live in the plains consider the tree Alamaram (*Ficus beghalensis*) as sacred and worship it once in a year. They believed that at least one branch of this tree should be used during the construction of the marriage pandal and the menstrual hut. The Malasars avoid the use of the *Pongamia glabra* tree for any purpose. The fresh green culms of bamboos are considered to ward off evils spirits.

5. 6. 3. 4. 7. Plants in traditional songs

There are only a few plants like Panai (*Caryota urens*), Alamaram (*Ficus sp.)*, Mula (*Bambusa bambos*),that are mentioned in their traditional songs.

5. 2. 3. 4. 8. Plants in material culture

A. Musical instruments

Dhavil

Used for : Making the sound of a drum during traditional occasions.
Material used : The wood of Kummulumaram(*Gmelina arborea)*and skin of animals

Mode of making : The cortex and pith of the wood is removed by carving, the open end is covered by the treated skin of animals such as ox, buffalos etc.and used as a drum like instruments.

Urummal

Used for : Making the sound of a drum during traditional occasions.

Material used : The wood of Vengaimaram (*Pterocarpus marsupium*)and skin of animals.

Mode of making : The cortex and pith of the wood is removed by carving, the open end is covered by the treated skin of animals such as ox, buffalos etc.and used as a drum like instruments.

Kuval

Used for : Making the sound like a bugle during traditional occasions.

Material used : The culms of Mungaimaram (*Bambusa bambos*), or carved wood of Palai maram(*Wrightia tinctorea*) along with metal parts.

Mode of making : The cortex and pith of the wood is removed by carving, the mouth is prepared using cup like brass.

B. Basketries

Koodai

Used for : Collecting, storing seeds

Material used : The culms of Mula (*Bambusa bambos*) or Oda (*Ochlandra travancorica*)

Mode of making : The long culm is woven in the form of basket.

Muram

Used for : Collecting storing seeds

Material used : The culms of Mula (*Bambusa bambos*) or Oda (*Ochlandra travancorica*)

Mode of making : The culm fibres are woven in the form of basket (Plate 17. h).

C. Ornaments

The leaves of Kattu thengu (*Arenga wightii*), Kaithathalai (*Pandanus thwaitesii*) and Karimpana (*Borassus flabellifer*) are rolled like a disc, called

Oalai is inserted in the holes made in the posterior portion of the ear lobes. Some time the seeds of Kunni (*Abrus precatorius*) od Manjadi (*Adenanthera pavonina*) are also put in the rolled leaves for beautification. The bamboo culms are carved in the form of beads and beautiful chains are made. The seeds of Muthukaya (*Coix lacryma jobi*) are also used for making chains.

D. Marks

The exudates of Venga (*Pterocarpus marsupium*) are used for making beauty spots. The milky latex is made to exude by creating a small wound in the stem and the sticky gum is placed at the centre of the forehead as a decorative mark.

E. Tooth cleaner

Stem of Veppai maram (*Azadirachta indica*), petiole of the mature leaves of (*Mangifera indica*) and Charcoal obtained from Mula (*Bambusa bambos*) is used for tooth cleaning.

F. Cloths

According to the elder members of this community it is reported that the flattened and cured bark of Aranjali (*Antiaris toxicaria*) was used as cloths (dress material) fifty years ago. .

G. Bathing brush

The fibrous fruit cover of Peaikin kay (*Luffa acutangula*), Perin peekin kay (*Luffa cylindrica*) are used as brush while bathing. The bark fibers of Kattu seenkai (Acacia torta) are also used as bathing brush.

H. Traditional house construction

The traditional houses are generally made up of bamboo. Pillars and other polls are generally made up of Mula (*Bambusa bambos*), Churuli maram (*Mesua ferea*), Veetimaram (*Dalbergia latifolia*) *etc.* The walls of houses are made up of Mula (*Bambusa bambos*) or Oda (*Ochlandra travancorica*) Thatching is done by Oda thalai (leaves of Ochlandra travancorica), Pullu (*Cymbopogon martinii*) and *Thekkila* (*Tectona grandis*)

I. House hold article

Uralu

Used for : as a mortar

Material used : The wood of kummulu maram (*Gmelina arborea*) Vengai maram(*Pterocarpus marsupium*)

Mode of making: The one end of the nodal wall removed and used as a mortar.

Ulakkai

Used for : as pestle

Material used : The wood

Mode of making: The mature wood Churuli (*Mesua ferrea*) is carved in the form a pestle and the outer portion is smoothened continuous rubbing. Mungai (*Bambusa bambos*) also used as pestle. The medium sized culms with thick walls are cut almost one metre length (Plate 17. i).

Brooms

The dried twigs of Kurumthotti (*Sida rhombifolia*), (*Sida acuta*) is tied and used as brooms. Finely sliced culm fibre of Palodai (*Ochlandra scriptoria*) and Valliodai (*Teinostachyum wightii*) are also used as brooms

J. Cooking Utensils

The large culms of *Bambusa bambos* is used for preparing food. The rice, adequate amount of water added through the small opening made in the internodes, then closes the hole and put in fire for some time. According to the tribals the cooked rice in bamboo culms is one of the most delicious foods available to them. The culms of *Oda* (*Ochlandra travancorica*) and *Vallioda* (Teinostachyum wightii) are used to prepare coffee and tea.

K. Water bottles

The large culms of Mula (*Bambusa bambos*) are used to carry water from adjacent rivers or streams.

L. Plates

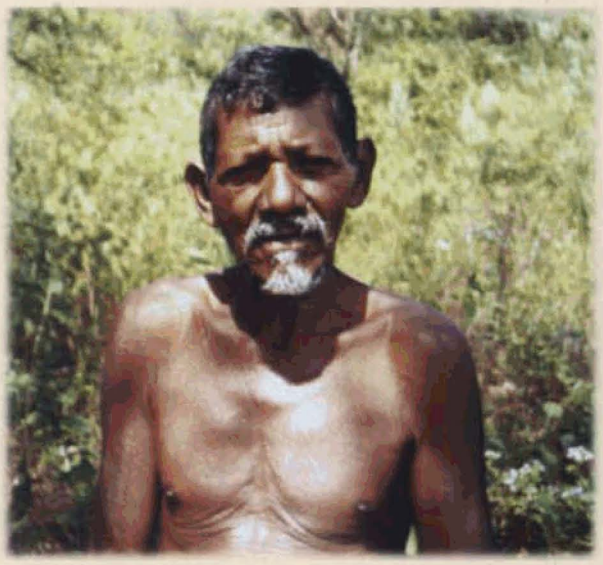
Leaves of Plasu (*Butea monosperma*), Kalluvazhai (*Ensete superbum*) and Thekku (*Tectona grandis*), Vazham punna (*Dillinia pentagyna*) are used for serving food

M. Decoration

Kalluvazha (*Ensete superbum*), Kunnan Vazha (*Musa paradasiaca*) Enthusoppu (*Cycas circinalis*) are used for decorating pandal during marriage and other auspicious occasions

N. Torches

Kerosine filled in culms of Oda (*Ochlandra travancorica*) and caped with cloth or cotton and used as troche during night hours.



Mudugars

Mudugars themselves believe that they had originated from Attappady hills. Their myths and legends generally revolve round the physical features of the valley itself and they do not have any history of migration. (Dr. P.R.G. Mathur)

O. Traps

Various kind of trap like *Elikkeni* (Rat trap), *Kooran keni* (Mouse deer trap), *Meenkuruthi* (Fish trap) are commonly available with them. These traps are made up of *Bambusa bambos* and *Ochlandra travancorica*

P. Weapons

In olden days they were used the culms of Munga maram (*Bambusa bambos*) as Bow and the finely pointed culms of same plant as arrows. The other weapons include *chavan* (catapult) and *Madava* (Long knife).

5. 6. 4. Conclusion

The study revealed that the Malasars use 243 plants belonging to 190 genera and 80 families for their livelihood which include 147 food plants, 9 fodder plants, 89 medicinal plants and 57 plants for miscellaneous purposes. There are 228 angiosperms, five pteridophytes, nine fungi and one gymnosperm. Among the plants collected, 25 plants belonged to Fabaceae follwed by Euphorbiaceae(12) Cucurbitaceae (10), Arecaceae(9), Dioscoreaceae (9) *etc.* The potential plants in the life and culture of Malasars are *Bambusa bambos* (18 uses); *Curcuma longa* (7 uses); *Borassus flabellifer* (6 uses); *Caryota urens, Curcuma aromatica*(6 uses); *Ensete superbum, Mangifera indica Ochlandra travancorica Sapindus trifoliata* (5 uses); *etc.* Some distinct medicinal plants used by the Malasars are *Acanthospermum hispidum, Cayratia pedata, Curcuma zedoaria, Careya arborea, Drymaria cordata, Ipomoea deccana, Lygodium flexuosum, Mecardonia procumdence, Melia dubia, Streblus asper* and *Utleria salicifolia.* Among the various medicinal uses recorded 36 uses are found to be unrecorded earlier. The medicinal value of *Ipomoea deccana* is hitherto unknown and new to science. The plants noted for further conservation and management measures are *Decalepis hamiltonii, Utleria salicifolia, Ensete superbum, Rauvolfia serpentina, Pinanga dicksonnii* and *Phoenix pusilla* var. *humilis.*

5. 7. MUDUGARS

5. 7. 1. Introduction

The Mudugars are one among the three tribals groups confined to Attappady valleys. Their settlements are mainly found in and around the Malleeswaran Peak. In many of the publications, the identity of this tribe is ambiguous and the name Mudugars usually is intermingling with Muthuvans. But, Mudugars are a separate tribal group distributed in Palakkad district. They are mainly found in Chindakki, Veeranoor, Karuvara, Pettikallu, Mukkali, Kakkupadi, Abanoor, Anakkalu, Veetiyoor, Koravan padi, Ommala, Kallamala, Kottamala, Chittoor, Chandakalam, Kotengadi, Ummathupadika, Moolakampu and Karara(Fig. 12).

They believe that they had originated from Attappady hills. Their myths and legends generally revolve around the physical features of the valley itself; they do not have any history of migration (Menon & Sasikumar, 1996). Originally, they considered the Attappady valley as their *Ulakam* (World) and Nilgiris as a neighbourhood. They consider themselves equal to the Kurumbars with whom they enter into intermarriage. Mudugars have contacts with Irulars, but they never allow the Irulars to enter their huts. Mudugars feel themselves as one of the superior caste among three tribal groups. They also do not dine with the Irulars even during ceremonial occasions, hence, it is evident that they practice inter -untouchability attitude. The traditional dress of men includes a loin cloth and women wear a piece of cloth, *Chela* round their waist, allowing one end to drape their chest up to the armpit, covering the breasts. The women wear a wide variety of ornaments made up of plants, metals, glass or plastics. Their language is a mixture of Tamil, Kannada and Malayalam. Mudugars live in 22 hamlets. They have a population of 4752 individuals, which include 2370 males and 2382 females (GOI Census, 2001).

5. 7. 2. Socio cultural and Anthropological aspects

5. 7. 2. 1. Hut and hamlet

The house is known as *kura*. In order to withstand the adverse climatic conditions and strong wind the huts has small doors, supported by bamboo

splinters and thatched with grass. The floors are plastered with cow dung and soil. The *Kura* consists of two small rooms one in the front and the other in the back. They call these rooms as *Ullara* and *Veettara,* respectively. *Ullara* is used as the kitchen, over the cooking place *Girassi,* a platform is suspended over it on which grains are stored and preserved. Smoke from the fireplace repels the insects and avoid fungal attack. The *Veettara* is used for the storage of household items and agricultural products. Each *Kura* has an adjoining varandah in front, called as *Dinne.* All Muduga families have a mortar and pestle for husking or pulverising the grains. They use different varieties of bamboo for collecting and storing their food items. The Mudugar hamlet usually consists of about ten to forty house holds (*Uru*) constructed in two rows facing each other. The hamlets are generally constructed in a suitable area where there is protection from wind; water, traditional food *etc.* are available (Plate 20. a-g).

5. 7. 2. 2. Social system

The Mudugars are a part of patrilocal and patrilineal society (Mathur, 1977); the joint family system is not found among them. When boys grow up and get married, they prefer to live with their wives in a separate hut. The aged parents live with one of their sons or with each son by rotation. Most of the families are monogamous. Polygamy is a very rare phenomenon among them. Mudugar family consist of 4-5 people, which includes husband, wife and unmarried children.

The Mudugars have exogamous dual organisation. Their traditional moieties *Thamayam-Thampi* and *Maman-Macha* are subdivided into four classes each, which are exogamous. The *Thamayom-Thampi* is split up into four classes, *viz., Vellaka, Arar, Champaka* and *Uppili. Maman-Macha* is also subdivided into four classes such as *Karungags, Devanar, Peradara* and *Karthika.* Each of the four exogamous class of *Thamayam-Thampi* moiety gets their wives from the other four classes of *Maman-Macha* exogamous moieties.

The Mudugars have their own socio-political leader of the hamlet (*Ooru*) known as *Moopan.* The *Moopan* presides over all the socio-cultural and

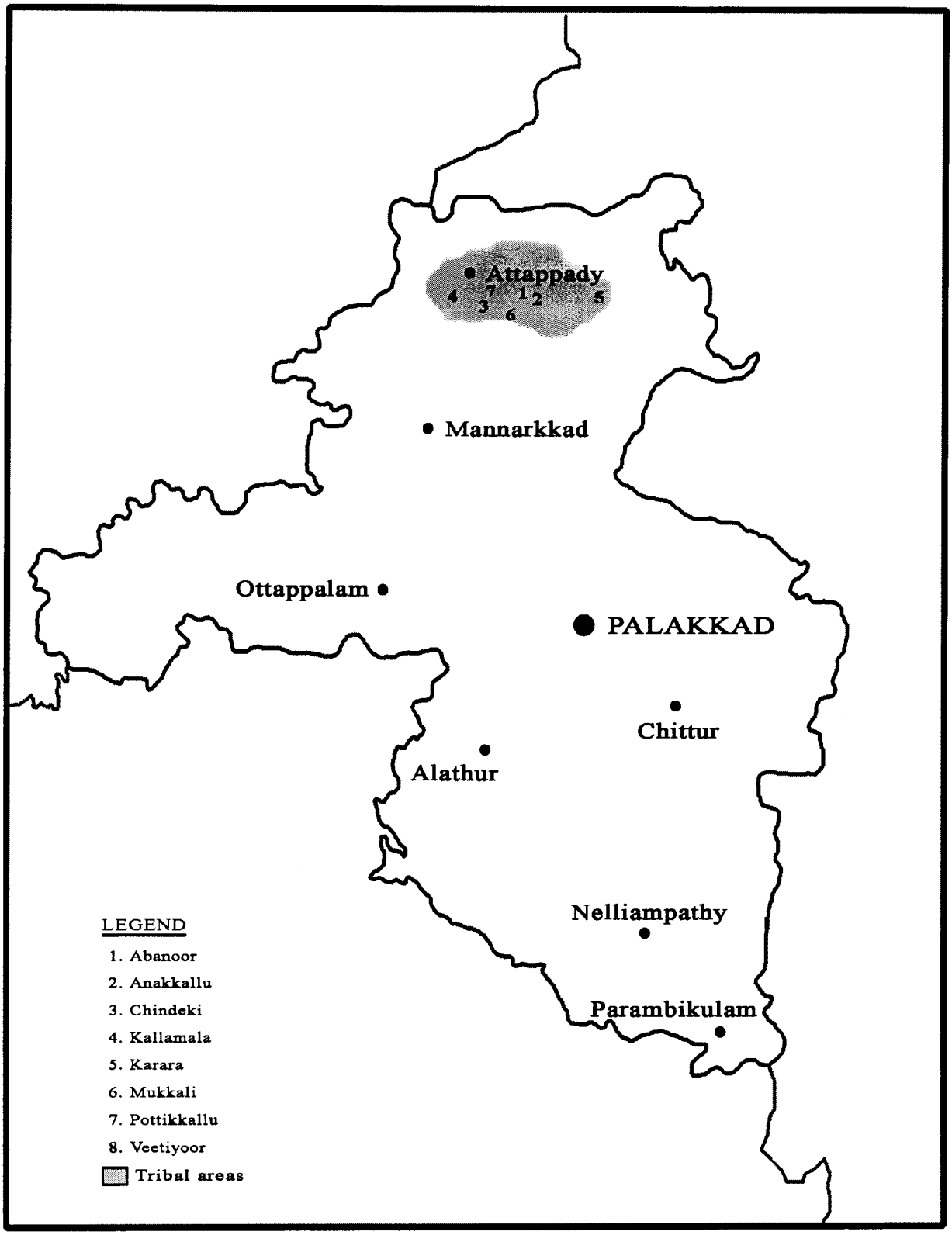


Fig. 12 Map showing the distribution of Mudugars

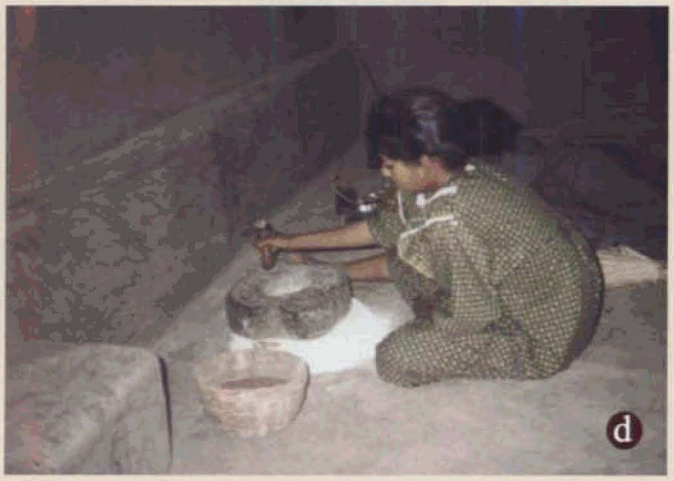


Plate 20. MUDUGARS. **a.** Hamlet; **b.** Ladies infront of the hut; **c.** Mudugar family; **d.** Mudugar lady grinding ragi; **e.** Lady collecting *Cycas* leaves; **f.** Head man; **g.** Elder woman; **h & i.** Basketries.

religious ceremonies He is expected to tackle all the common problems of the community, as and when they arise. The position of the *Moopan* is hereditary. *Moopan* is assisted by two officials such as *Kuruthalai* (peon) and *Bhandari* (cashier). *Mannukkaran* is another important member of the traditional tribal council. The *Mannukaran* is responsible for the agricultural practices of the Ooru and have adequate knowledge of the fertility of the soil and the seeds that are to be sown during a particular season.

5. 7. 2. 3. Life and Subsistence Economy

5. 7. 2. 3. 1. Traditional Agricultural practices

The Mudugars are traditionally shifting cultivators and food gatherers, which they continue even now. Their economy revolves chiefly around shifting cultivation and every Mudugar household has a piece of land known as *Kothukadu* on which they grow food grains for self-consumption as well as for barter. They require very few agricultural implements and manure, irrigation and crop rotation. The Mudugars prefer to choose their *Kothukadu* near his hamlet. Ragi (*Eleusine coracana*), Chama (*Panicum millaceum*), Thuvarai (*Cajanus cajan*), Kirai (*Amaranthus caudatus*), paddy (*Oryza sativa*), red gram (*Vigna ungiculata*), mustard (Brassica juncea), black gram (*Vigna mungo*) and chillies (*Capsicum annuum*) are all sown together (Plate 21. a - d).

5. 7. 2. 3. 2. NTFP Collection

The Non Timber Forest Produces (NTFP) Chinikkay (*Acasia consina*), Kunkiliyan (*Cannarium strictum*), Nellikay (*Phyllanthus emblica*), Urinchikkay (*Sapindus laurifolius*), Kattelam (*Elettoria cardamomum*), Padaveru (*Cyclea peltata*), Kurumthotti (*Sida rhombifolia*), Thippali (*Piper longum*), Orila (*Desmodium gangeticum*) honey, wax *etc* are the major natural resources for their subsistance.

5. 7. 2. 3. 3. Hunting and fishing

Fishing and hunting are the other subsidiary occupation. Roots and tubers are collected especially when there is scarcity of grains. Edible tubers

Plate 21. MUDUGAR'S SHIFTING CULTIVATION. **a & b.** Preparing land for cultivation; **c.** Karanellu - A variety of *Oryza sativa* suitable for dry land cultivation; **d.** General veiw of the traditional agricultural land.

and roots are eaten throughout the year. They also make baskets, go for hunting and fishing. They trap small animals like rat, squirrels and porcupine by using different types of snares, which is made up of bamboo culms.

5. 7. 2. 3. 4. Other income sources

Animal husbandry also plays an important role in their life and subsistence economy. It has been observed that some of the younger tribesmen work as labourers in forest plantations.

5. 7. 2. 4. Tradition and Culture

5. 7. 2. 4. 1. Ceremonies associated with birth

Within three months of the first pregnancy, the headman should be informed. On the subsequent Monday, the girl's parents visit her with sweets and bring her back to their home accompanied by her husband and relatives. A feast is hosted after which they return.

There used to be isolation sheds for parturition in the past, but now days, it is done in a portion of the varandah itself. The mother of either or both the spouses attend the delivery. The period of pollution is for six to seven days. The mother is not allowed to eat non-vegetarian food and she is given ragi gruel with turmeric juice, salt and pepper. A chian made from plantain fibres is tide to the child's waist by the grandmother and the father announces the name of the new born. For the first six months the child is breast-fed and after that the child is also given boiled rice.

5. 7. 2. 4. 2. Puberty

Attaining menarche is reported to the Mooppan. The girl is shifted to a seclusion hut for 14 days. On the 14th day a ceremonial bath is given to her with the help of elderly women and her sisters in law. A wooden mortar containing turmeric and flowers along with pestle is placed in front of the hut. On the way to bathing area the girl holds the pestle by the centre while the others hold the upper and lower ends. They pound turmeric on the mortar three times and smear it on the girl. They proceed immediately to the house

without looking backwards. Males are allowed to see her only after her ceremonial bath and return.

5. 7. 2. 4. 3. Marriage

Arranged marriages are most common. At first the parents of the boy find out a suitable girl and inform their son. Fellow tribes men and officials like *Mooppan*, *Kuruthalai* and *Bandri* along with groom visit the bride's house. The marriage is fixed after getting the willingness of the boy and the girl is proposed for marriage. The marriage is conducted at the boy's residence on any Monday morning. The bride and the groom are invited to the *pandal* and are seated on a mat. The right hand of the boy and the girl are put together by the *Kuruthala* and his wife, respectively. After the function a feast is served to the gathering. Once the feast is over, the bridegroom's father gives an amount as the bride money to the girl's parents. The amount ranges from 300 to 1000 Rupees.

The Mudugars inter marry Kurumbars. It has been observed that the Muduga male can marry a Kurumbar girl. But the Mudugar girls are not allowed to marry any Kurumbar boys. The son after the marriage stays separate from his parents and establishes a new household. Polygamy is rarely observed.

5. 7. 2. 4. 4. Ceremonies associated with death

The dead body is buried only on the 3rd day and for all the 3 days, traditional songs are sung by the members and some of them dance around the corpse. As a token of mourning, no food is cooked during these three days. The dead body is washed and dressed in new clothes and is carried on green bamboo culms by the son-in-law and brothers–in-law of the deceased to the burial pit which is dug about 5 to 6 feet in depth. On placing the dead body in the pit, the eldest son performs the ceremony by throwing three handfuls each of grain and soil to the dead body. The corpse is placed in a sitting posture by stretching the legs towards the south. All the personal belongings of the deceased are also buried along with him. All the people present there throw soil into the pit. The son then brings *Dharbha* grass loudly utterring the name

of the deceased. After taking a bath, he returns to the Kura. The relatives observe 40 days as taboo from the date of death. A memorial stone is erected in the name of the departed. The chief mourner is generally the eldest son. About a year later, the jawbone is collected and deposited in an ossuary. There is a small celebration when the jawbone is collected, known as *chir.* It is generally celebrated once in twelve years, or when the hamlet is prosperous enough to afford, the ossuary is cleared, the bones deposited are worshiped and a grand feast is arranged for the entire tribe.

5. 7. 2. 4. 5. Worships

The chief diety whom they worshipped is *Malleeswaran.* They are also worship *Mariammal* the mother Goddess and *Karadaivam* (Forest God). They also worship in the Hindu Gods like *Subramanian, Ayyappan* and *Ganapathy.*

5. 7. 2. 4. 6. Festivals

Their important festival is *Sivarathri,* which is celebrated in the month of February. On this day, they offer a part of harvested crops to the God *Malleeswara* situated in a temple at Chemmannur, at the foot of Malleswaran mudi. It is observed that recently, they have started celebrating other Hindu festivals like *Onam, Vishu* and *Deppavali.* Besides these, they celebrate agricultural festivals like *Rayithodu, Chamathodu, Sapputhodu* and *Kambalam* similar to the other tribal groups such as, Irulars and Kurumbars of Attappady.The agricultural festivals are celebrated among all the tribal groups of Attappady.

5. 7. 3. Ethnobotanical aspects

5. 7. 3. 1. Plants in Food

A. Roots

Dioscorea hispida Dennst. (DIOSCOREACEAE)

Vernacular name : Mazhavukilangu
Habit : Herbaceous climber
Mode of use : The root tubers are cooked in water or roasted in fire (CR 1).
Occurrence : Occasional, in the semi evergreen forests around the hamlets (MR 24936).

Dioscorea intermedia Thw. (DIOSCOREACEAE)

Vernacular name : Riya

Habit : Herbaceous climber

Mode of use : The root tubers are cooked in water along with salt or roasted in fire (CR 1).

Occurrence : Occasional, in the semi evergreen and evergreen forest near the hamlet (MR 24818).

Dioscorea oppositifolia L. (DIOSCOREACEAE)

Vernacular name : Karimkodi, Kattukilangu

Habit : Herbaceous climber

Mode of use : The root tubers are cooked in water or roasted in fire (CR 1).

Occurrence : Common, in the semi evergreen forests (MR 24819).

Dioscorea pentaphylla L. (DIOSCOREACEAE)

Vernacular name : Nooran

Habit : Herbaceous climber

Mode of use : The root tubers are cooked in water along with salt or roasted in fire (CR 1).

Occurrence : Common, in the near by forest area of the hamlets (MR 24821).

Dioscorea spicata Roth (DIOSCOREACEAE)

Vernacular name : Kavala

Habit : Herbaceous climber

Mode of use : The root tubers are cooked in water or roasted as raw in fire (CR 1).

Occurrence : Occasional, in the semi evergreen forests near the hamlet (MR 24822).

Dioscorea sp. (DIOSCOREACEAE)

Vernacular name : Joddykizhangu

Habit : Herbaceous climber

Mode of use : The root tubers are cooked in water or roasted as raw in fire (CR 1).

Occurrence : Occasional, in the moist deciduous forests around the hamlets (24935).

Dioscorea wallichii Hook. f. (DIOSCOREACEAE)

Vernacular name : Nara kilangu

Habit : Herbaceous climber

Mode of use : The root tubers are cooked in water along with salt or roasted in fire (CR 1).

Occurrence : Occasional, in the evergreen and moist deciduous forests adjoining to the hamlets (MR 24824).

Protasparagus racemosus (Willd.) Oberm. (LILIACEAE)

Vernacular name : Thennaibiri

Habit : Climbing shrub

Mode of use : The root tubers eaten as raw or roasted in fire (CR 1)

Occurrence : Occasional, around the hamlets (MR 24833).

B. Rhizomes

Colocasia esculenta (L.) Schott. (ARACEAE)

Vernacular name : Chembu kilangu

Habit : Rhizomatous herb

Mode of use : The rhizome tubers are cut into small pieces, cooked along with, tamarind, salt, chillies and finally roasted in oil (CR 1).

Occurrence : Common, around the hamlets (MR 24854).

C. Tender Shoots

Bambusa bambos (L.) Voss. (POACEAE)

Vernacular name : Moongkuruthu

Habit : Tree grass

Mode of use : The tender shoots around 15 centimetres long is removed from rhizome, cleaned by removing sheaths and cut into small pieces, cooked in water with salt and drained off water and cooked again the same process repeated and finally roasted in oil along with chillies and onion (CR 1).

Occurrence : Common, in the moist deciduous forests around the hamlets (MR 24867).

Dendrocalamus strictus (Roxb.) Nees (POACEAE)

Vernacular name : Koravanmoongkuruthu

Habit : Tree grass

Mode of use : The tender shoots around 15 centimetres long is removed from rhizome, cleaned by removing sheaths and cut into small pieces, cooked in water with salt and drained off water and cooked again the same process is repeated and finally roasted in oil along with chillies and onion (CR 1).

Occurrence : Common, in the moist deciduous forests and dry forests around the hamlets (MR 24873). (Plate 34. e)

Phoenix loureirii Kunth var. ***humilis*** (Royle *ex* Becc.) Barrow (ARECACEAE)

Vernacular name : Easa

Habit : Shrub

Mode of use : The tender shoots eaten as raw (CR 1).

Occurrence : Occasional, in the grasslands (MR 24845).

D. Stem pith

Caryota urens L. (ARECACEAE)

Vernacular name : Koontha panai

Habit : Tree

Mode of use : The starchy stem pith is crushed well and starchy matter is dissolved in water taken in large pots and allowed to sediment, excess water is drained off, kept for some time. The starchy matter is cooked and used for preparing puddings and various food items (CR 1).

Occurrence : Common, around the hamlets (MR 24844).

Ensete superbum (Roxb.) Cheesman (MUSACEAE)

Vernacular name : Kalluvazha thandu

Habit : Tall rhizomatous herb with pseudo stem

Mode of use : The tender pith is cooked as vegetable (CR 1).

Occurrence : Rare, found in the neighbouring forests around the hamlets (MR 24812).

E. Leaves

Acacia pennata (L.) Willd.(FABACEAE)

Vernacular name : Seenkey dag

Habit : Scandent shrub

Mode of use : The tender leaves are cooked along with salt, onion, chillies and finally roasted in oil (CR 1).

Occurrence : Occasional, in the moist deciduous forests near streams (MR 24490).

Allmania nodiflora (L.) R.Br. ex Wight (AMARANTHACEAE)

Vernacular name : Kallu keerai dag

Habit : Herb

Mode of use : The tender leaves are cooked along with dhal (*Cajanus cajan*), chillies, onion, salt and finally roasted in oil (CR 2).

Occurrence : Common, in the paddy fields and plains around the hamlets (MR 24978).

Alternanthera sessilis (L.) R.Br. ex. DC. (AMARANTHACEAE)

Vernacular name : Meenankanni dag

Habit : Herb

Mode of use : The tender leaves are cooked along with dhal (*Cajanus cajan*), chillies, onion, salt and finally roasted in oil (CR 2).

Occurrence : Common, in the paddy fields and plains around the hamlets (MR 24710).

Amranthus spinosus L. (AMARANTHACEAE)

Vernacular name : Mullukeerai dag

Habit : Herb

Mode of use : The tender leaves are roasted in coconut oil along with onion, chillies and salt or cooked in water along with dhal (*Cajanus cajan*), chillies, salt and finally roasted in oil (CR 1)

Occurrence : Common (MR 24711).

Amaranthus viridis L. (AMARANTHACEAE)

Vernacular name : Pattikerai dag

Habit : Herb

Mode of use : The tender leaves are roasted in coconut oil along with onion, chillies and salt or cooked in water along with dhal (*Cajanus cajan*), chillies, salt and finally roasted in coconut oil (CR 1).

Occurrence : Common, around the hamlets (MR 24712).

Amorphophallus paeoniifolius (Dennst.) Nicols. Var. ***paeoniifolius*** (ARACEAE)

Vernacular name : Kattuchenadag

Habit : Tuberous herb

Mode of use : The tender leaves are roasted in oil along with leaves of *Colocasia esculenta* and *Vigna ungiculata* (CR 2).

Occurrence : Occasional, around the hamlets (MR 24851).

Angiopteris evecta (G. Forst.) Hoffm. (MARATTIACEAE)

Vernacular name : Perumchuruli

Habit : Herb

Mode of use : Tender stem and leaves are cooked in water; excess water is drained off, roasted in coconut oil along with salt and chillies (CR 1).

Occurrence : Common, in the evergreen forests around the hamlets (MR 24894).

Boerhavia diffusa L. (NYCTAGINACEAE)

Vernacular name : Peruserandae dag

Habit : Herb

Mode of use : Tender stem and leaves are cooked in water along with dhal (*Cajanus cajan*), chillies, salt and finally roasted in oil (CR 1).

Occurrence : Common around the hamlets (MR 24707).

Cycas circinalis L. (CYCADACEAE)

Vernacular name : Eathan dag

Habit : Tree

Mode of use : The tender leaves are cooked in excess of water along with salt; excess of water is drained off and roasted along with chillies, dhal in coconut oil (CR 1).

Occurrence : Common, in the moist deciduous forests around the hamlets (MR 24887).

Celosia argentea L. (AMARANTHACEAE)

Vernacular name : Pannai dag

Habit : Herb

Mode of use : The tender leaves are roasted in coconut oil along with onion, chillies and salt or cooked in water along with dhal (*Cajanus cajan*), chillies, salt and finally roasted in coconut oil (CR 1).

Occurrence : Common, around the hamlets (MR 24713).

Colocasia esculenta (L.) Schott (ARACEAE)

Vernacular name : Chembu dag

Habit : Rhizomatous herb

Mode of use : The tender leaves are roasted in oil along with leaves of *Amorphophallus paeonifolius* and *Vigna ungiculata*. The leaves are also cooked along with Tamarind, Chilli, onion and salt (CR 1).

Occurrence : Common, around the hamlets (MR 24854).

Commelina benghalensis L.(COMMELINACEAE)

Vernacular name : Koynay dag

Habit : Herb

Mode of use : The tender leaves are cooked along with salt, chillies and roasted in oil (CR 1).

Occurrence : Common, in the moist shady places around the hamlets during rainy season (MR 24835).

Corchorus aestuans L. (TILIACEAE)

Vernacular name : Illipukai dag

Habit : Herb

Mode of use : The tender leaves are cooked along with salt, chillies, onion and roasted in oil (CR 1).

Occurrence : Common, in the moist shady places around the hamlets during rainy season (MR 24411).

Christella parasitica (L.) H.Lev. (THELYPTERIDACEAE)

Vernacular name : Pattusuruli

Habit : Herb

Mode of use : The tender leaves are cooked along with salt, chillies, onion and roasted in oil (CR 1).

Occurrence : Common, in the moist shady places around the hamlets during rainy season (MR 24894). (Plate 25. c)

Cucumis prophetarum L.(CURCURBITACEAE)

Vernacular name : Attan dag

Habit : Herbaceous climber

Mode of use : The tender leaves are cooked along with salt, chillies, onion and roasted in oil (CR 1).

Occurrence : Common, around the hamlets (MR 24572).

Diplazium esculentum (Retz.) Sw.(ATHYRIACEAE)

Vernacular name : Surulidag

Habit : Shrub

Mode of use : Tender leaves are roasted in coconut oil along with onion, chillies and salt (CR 1).

Occurrence : Common, in the banks of river and streams (MR 24896).

Gynandropsis gynandra (L.) Briq. (CAPPARACEAE)

Vernacular Name : Velai dag

Habit : Herb

Mode of use : The tender leaves are roasted in coconut oil along with onion, chillies and salt (CR 1).

Occurrence : Occasional, around the hamlets (MR 24520).

Holostemma ada-kodien Schult. (ASCLEPIADACEAE)

Vernacular name : Palai dag

Habit : Climber

Mode of use : The tender leaves are roasted in coconut oil along with onion, chillies and salt (CR 1).

Occurrence : Occasional, in the moist deciduous forests around the hamlet (MR 24652).

Marsilea minuta L. (MARSELIACEAE)

Vernacular name : Munnadag

Habit : Herb

Mode of use : Tender leaves are roasted in coconut oil along with onion, chillies and salt (CR 1).

Occurrence : Common, near the streams (MR 24907). (Plate 24. d)

Mollugo pentaphylla L. (MOLLUGINACEAE)

Vernacular name : Chalikkeraidag

Habit : Herb

Mode of use : Tender leaves are roasted in coconut oil along with onion, chillies and salt (CR 1).

Occurrence : Occasional, around the hamlets (MR 24979).

Momordica dioica Roxb. *ex* Willd.(CUCRBITACEAE)

Vernacular name : Pavalai dag

Habit : Herb

Mode of use : Tender leaves are roasted in coconut oil along with onion, chillies and salt (CR 1).

Occurrence : Occasional, around the hamlets (MR 24581).

Oxalis corniculata L. (OXALIDACEAE)

Vernacular name : Pulikerai dag

Habit : Herb

Mode of use : Tender leaves are cooked along with chillies, onion and salt (CR 2).

Occurrence : Common, around the hamlets (MR 24419).

Portulaca oleracea L. (PORTULACACEAE)

Vernacular name : Gonikey dag

Habit : Herb

Mode of use : Tender stem and leaves are cooked in water along with dhal (*Cajanus cajan*), chillies, salt and finally roasted in oil (CR 1).

Occurrence : Common around the hamlets (MR 24529).

Persicaria chinensis (L.) Gross. (POLYGONACEAE)

Vernacular name : Gonki dag

Habit : Herb

Mode of use : Tender stem and leaves are cooked in water along with dhal (*Cajanus cajan*), chillies, salt and finally roasted in oil (CR 1).

Occurrence : Common, around the hamlets (MR 24719).

Senna occidentalis (L.) Link (FABACEAE)

Vernacular name : Ponthakarai dag

Habit : Herb

Mode of use : The tender leaves are cooked in water along with salt, chillies; drained off excess of water and roasted in coconut oil (CR 1).

Occurrence : Common, around the hamlets (MR 24484).

Senna tora (L.) Roxb. (FABACEAE)

Vernacular name : Sattitagarai

Habit : Herb

Mode of use : The tender leaves are roasted in coconut oil along with salt and chillies (CR 1).

Occurrence : Common, around the hamlets (MR 24483).

Solanum americanum Mill. (SOLANACEAE)

Vernacular name : Sukkuti dag, Kakai dag

Habit : Herb

Mode of use : The tender leaves are roasted in coconut oil along with salt and chillies (CR 1).

Occurrence : Common, around the hamlets (MR 24672).

Trianthema portulacastrum L (AIZOACEAE)

Vernacular name : Serandai dag

Habit : Herb

Mode of use : Tender leaves are cooked in water along with dhal (*Cajanus cajan*), chillies, salt and finally roasted in oil (CR 1).

Occurrence : Common, around the hamlets (MR 24589).

Vernonia cinerea (L.) Less. (ASTERACEAE)

Vernacular name : Kathanku dag

Habit : Herb

Mode of use : The tender leaves are cooked along with chillies salt and finally roasted in oil (CR 2).

Occurrence: Common, around the hamlets (MR 24620).

Zehneria scabra (L. f.) Sond.

Vernacular name : Silappiri dag

Habit : Climbing herb

Mode of use : The tender leaves are cooked along with chillies salt, and finally roasted in oil (CR 2).

Occurrence : Occasional, around the hamlets (MR 24585).

F. Fruits

Antidesma acidum Retz (EUPHORBIACEAE)

Vernacular name : Adukodantha paka

Habit : Shrub

Mode of use : The ripened fruits eaten as raw (CR 1).

Occurrence : Common, around the hamlets (MR 24746). (Plate 22. a)

Antidesma ghaesembilla Gaertn., Fruct. (EUPHORBIACEAE)

Vernacular name : Kambilithoori paka

Habit : Tree

Mode of use : The ripened fruits eaten as raw (CR 1).

Occurrence : Occasional, in the adjoining forests around the hamlets (MR 24747).

Antidesma ghaesembilla Gaertn. (EUPHORBIACEAE)

Vernacular name : Perum kodantha

Habit : Tree

Mode of use : The ripened fruits eaten as raw (CR 1).

Occurrence : Occasional, in the adjoining forests around the hamlets (MR 24748).

Argyreia nervosa (N. Burm.) Bojer (CONVOLVULACEAE)

Vernacular name : Onkattai paka

Habit : Climber

Mode of use : The ripened fruits eaten as raw (CR 1).

Occurrence : Common, around the hamlets (MR 24660).

Artocarpus heterophyllus Lam. (MORACEAE)

Vernacular name : Sakkai paka

Habit : Tree

Mode of use : The tender fruits are cooked as vegetable and ripened fruits eaten as raw (CR 1).

Occurrence : Common, around the hamlets and occasional in forests (MR 24777).

Artocarpus hirsutus Lam. (MORACEAE)

Vernacular name : Ayani sakkai paka

Habit : Tree

Mode of use : The ripened fruits eaten as raw (CR 1).

Occurrence : Occassional, in the moist deciduous forests adjoining to the hamlet (MR 24778).

Baccaurea courtalensis (Wight) Muell. (EUPHORBIACEAE)

Vernacular name : Moottipaka, Onapaka

Habit : Tree

Mode of use : The ripened fruits eaten as raw (CR 1).

Occurrence : Common, around the hamlets and the neighbouring forest areas (MR 24939).

Briedelia retusa (L.) Spreng (EUPHORBIACEAE)

Vernacular name : Mulluvengai paka

Habit : Tree

Mode of use : The ripened fruits eaten as raw (CR 1).

Occurrence : Common, around the hamlets and the neighbouring forest areas (MR 24750). (Plate 22. h)

Pithecellobium dulce (Roxb.) Benth. (FABACEAE)

Vernacular name : Puli paka

Habit : Tree

Mode of use : The ripened fruits eaten as raw (CR 1).

Occurrence :Common, around the hamlets and the neighbouring forest areas (MR 24496).

Calamus gamblei Becc.(ARECACEAE)

Vernacular name : Choorapaka
Habit : Climbing palm
Mode of use : The ripened fruits are eaten raw (CR 1).
Occurrence : Occasional, in forests (MR 24840).

Colocasia esculenta (L.) Schott (ARACEAE)

Vernacular name : Chembu paka
Habit : Rhizomatus herb
Mode of use : The ripened fruits are eaten as raw (CR 1).
Occurrence : Common, around the hamlets (MR 24854).

Cordia obliqua Willd.(BORAGINACEAE)

Vernacular name : Cheruviri paka
Habit : Tree.
Mode of use : The ripened fruits are eaten as raw (CR 1).
Occurrence : Occassional, around the hamlets(MR 24656).

Cordia wallichii G. Don (BORAGINACEAE)

Vernacular name: Viri paka
Habit: Tree.
Mode of use: The ripened fruits eaten as raw (CR 1).
Occurrence: Common, around the hamlets (MR 24655).

Cucumella silentvalleyii Manilal *et al*(CUCURBITACEAE)

Vernacular name : Pillankovai
Habit : Climber
Mode of use : The tender fruits eaten as raw (CR 1).
Occurrence : Rare, in the neighbouring forests around the hamlets (MR 24574).

Eugenia indica (Wight) Chithra

Vernacular name : Neerapaka
Habit : Tree.
Mode of use : The ripened fruits eaten as raw (CR 1).
Occurrence : Occasional, in neighbouring forests (MR 24555).

Ensete superbum (Roxb.) Cheesman. (MUSACEAE)

Vernacular name : Kalluvazhai paka

Habit : Tall rhizomatous herb with pseudostem.

Mode of use : The ripened fruits eaten as raw (CR 1).

Occurrence : Rare, found in the neighbouring forest around the hamlets (MR 24812).

Ficus racemosa L. (MORACEAE)

Vernacular name : Athipaka

Habit : Tree

Mode of use : The ripened fruits eaten as raw (CR 1).

Occurrence : Occasional, around the hamlets and in the moist deciduous forests around the hamlets (MR 24783).

Flacourtia montana Graham (FLACOURTIACEAE)

Vernacular name : Chaliru

Habit : Tree

Mode of use : The ripened fruits eaten as raw (CR 1).

Occurrence : Occasional, in the evergreen and the semi evergreen forests neighbouring to the hamlets (MR 24522).

Grewia tiliifolia Vahl. (TILIACEAE)

Vernacular name : Lummay paka

Habit : Tree

Mode of use : The ripened fruits eaten as raw (CR 1).

Occurrence : Common around the hamlets and the moist deciduous forest areas of the adjoining forests (MR 24937).

Glycosmis pentaphylla (Retz.) DC. (RUTACEAE)

Vernacular name : Melakulukki paka

Habit : Shrub

Mode of use : The ripened fruits eaten as raw (CR 1).

Occurrence : common, around the hamlets and plains (MR 24421).

Lantana camara L. var. ***aculeata*** (L.) Moldenke (ASTERACEAE)

Vernacular name : Unnipaka

Habit : Shrub

Mode of use : The ripened fruits eaten as raw (CR 1).

Occurrence : Common, around the hamlets and waste lands (MR 24694).

Madhuca indica J. Gmelin (SAPOTACEAE)

Vernacular name : Ilupei paka

Habit : Tree

Mode of use : The ripened fruits eaten as raw (CR 1).

Occurrence : Occasional, in the moist deciduous forests around the hamlets (MR 24630).

Mangifera indica L. (ANACARDIACEAE)

Vernacular name : Kattumangai palam, Jeeraka mangai paka

Habit : Tree

Mode of use : The tender fruits are cooked as vegetable, used in pickles and ripened fruits eaten as raw (CR 1).

Occurrence : Occasionally found as wild, in the semi evergreen forests neighbouring to the hamlets and widely cultivated around the hamlets (MR 24931).

Momordica dioica Roxb. *ex* Willd. (CUCRBITACEAE)

Vernacular name : Kattupavarai

Habit : Herb

Mode of use : The fruits are cooked as vegetables (CR 1).

Occurrence : Occasional, around the hamlets (MR 24581).

Mimusops elengi L. (SAPOTACAEAE)

Vernacular name : Elengi paka

Habit : Tree

Mode of use : The ripened fruits eaten as raw (CR 1).

Occurrence : Occasional, in the neighbouring forest areas of the hamlets (MR 24629).

Nicandra physalodes (L.) Gaertn. (SOLANACEAE)

Vernacular Name : Doramottai

Habit : Herb

Mode of use : The ripened fruits eaten as raw (CR 1).

Occurrence : Occasional, around the hamlets (MR 24668).

Opuntia stricta Haw. var. ***dillenii*** (Ker-Gawl.) L.(CACTACEAE)

Vernacular name : Mullu kallipaka

Habit : Succulent shrubs

Mode of use : The ripened fruits eaten as raw (CR 1).

Occurrence : Occasional in dry areas, around the hamlets (MR 24588).

Palaquium ellipticum (Dalz.) Baill.(SAPOTACEAE)

Vernacular name : Palipaka

Habit : Tree

Mode of use : The ripened fruits are eaten as raw (CR 1).

Occurrence : Common, in the evergreen forests adjoining to the hamlets (MR 24631).

Phoenix loureirii Kunth var. ***humilis*** (Royle *ex* Becc.) Barrow (ARECACEAE)

Vernacular name : Easapaka

Habit : Shrub

Mode of use : The ripened fruits eaten as raw (CR 1).

Occurrence : Occasional, in the grasslands around the hamlets (MR 24845).

Phyllanthus emblica L. (EUPHORBIACEAE)

Vernacular name : Nellipaka

Habit : Tree

Mode of use : Mature fruits are eaten as raw and also used for the preparation of pickles (CR 1).

Occurrence : Common, around the hamlets and the moist deciduous forests of the neighbouring forest areas (MR 24763).

Physalis angulata L (SOLANACEAE)

Vernacular name : Sunda paka

Habit : Herb

Mode of use : The ripened fruit eaten as raw (CR 1).

Occurrence : common, around the hamlets especially in rainy season (MR 24670).

Physalis peruviana L. (SOLANACEAE)

Vernacular name : Perum pottari paka

Habit : Herb

Mode of use : The ripened fruits are eaten raw (CR 1).

Occurrence : Common, around the hamlets especially in the rainy season (MR 24671).

Rubus glomeratus Blume (FABACEAE)

Vernacular name : Mullupalam

Habit : Shrub

Mode of use : The ripened fruits eaten as raw (CR 1).

Occurrence : Common, around the hamlets and neighbouring forest areas (MR 24499).

Rubus indicus Thunb. (FABACEAE)

Vernacular name : Mullumunthiripalam

Habit : Shrub

Mode of use : The ripened fruits eaten as raw (CR 1).

Occurrence : Common, around the hamlets and neighbouring forest areas (MR 24500).

Semecarpus anacardium L. f. (ANACARDIACEAE)

Vernacular name : Cherumpaka

Habit : Herb

Mode of use : The ripened fruits eaten as raw (CR 1).

Occurrence : Common, around the hamlets especially in rainy season (MR 24444).

Solanum americanum Mill. (SOLANACEAE)

Vernacular name : Sukkuttipalam

Habit : Herb

Mode of use : The ripened fruits eaten as raw (CR 1).

Occurrence : Common, around the hamlets (MR 24672).

Solanum torvum Sw. (SOLANACEAE)

Vernacular name : Sundai

Habit : Herb

Mode of use : The tender fruits are cooked as vegetables. The fruits are kept in salt for some time and dried in sun light and used for preparing curries when required (CR 1).

Occurrence : Common, around the hamlets (MR 24673).

Syzygium cumini (L.) Skeels (MYRTACEAE)

Vernacular name : Neera paka

Habit : Tree

Mode of use : The ripened fruits eaten as raw (CR 1).

Occurrence : Common, around the hamlets and neighbouring forest areas (MR 24557).

Syzygium densiflorum Wall. *ex* Wight & Arn.(MYRTACEAE)

Vernacular name : Mundineera paka

Habit : Tree

Mode of use : The ripened fruits eaten as raw (CR 1).

Occurrence : Common, around the hamlets and neighbouring forest areas (MR 24559).

Syzygium mundagam (Bourd.) Chithra (MYRTACEAE)

Vernacular name : Kuruvineera paka

Habit : Tree

Mode of use : The ripened fruits eaten as raw (CR 1).

Occurrence : Common, around the hamlets and neighbouring forest areas (MR 24560).

Tamarindus indica L. (FABACEAE)

Vernacular name : Puli palam

Habit : Tree

Mode of use : Tender as well as ripened fruits are eaten as raw (CR 1).

Occurrence : Common, around the hamlets and occasionally found running wild in neighbouring forest areas (MR 24486).

Zizyphus oenoplia (L.) Mill. (RHAMNACEAE)

Vernacular name : Sooripaka

Habit : Climber

Mode of use : The ripened fruits eaten as raw (CR 1).

Occurrence : Common, around the hamlets and neighbouring areas of the forests (MR 24430).

Zizyphus mauritiana Lam. (RHAMNACEAE)

Vernacular name : Peumsoori palam

Habit : Tree

Mode of use : The ripened fruits eaten as raw (CR 1).

Occurrence : Common, around the hamlets and neighbouring areas of the forests (MR 24431).

Zizyphus rugosa Lam. (RHAMNACEAE)

Vernacular name : Kottalai paka

Habit : Straggler

Mode of use : The ripened fruits eaten as raw (CR 1).

Occurrence : Occasional, found in forest margins (MR 24432).

G. Seeds

Artocarpus heterophyllus Lam. (MORACEAE)

Vernacular name : Sakkai kuru

Habit : Tree

Mode of use : The mature seeds are cooked as vegetables and dried seeds are roasted and eaten (CR 1).

Occurrence : Common, around the hamlets and occasional in forests (MR 24777).

Artocarpus hirsutus Lam. (MORACEAE)

Vernacular name : Ayani sakkai Kuru

Habit : Tree

Mode of use : The roasted seeds are eaten (CR 1).

Occurrence : Occassional, in the moist deciduous forests adjoining to the hamlet (MR 24778).

Bambusa bambos (L.) Voss. (POACAEAE)

Vernacular name : Munga nellu

Habit : Tree grass

Mode of use : The seeds are roasted and eaten. The powdered seeds are used for the preparation of different items and seeds are also used for the preparation of gruel (CR 1).

Occurrence : Common, around the hamlets and the neighbouring forest areas (MR 24867).

Cycas circinalis L. (CYCADACEAE)

Vernacular name : Eathankay

Habit : Tree

Mode of use : The seeds are boiled in water and the water is drained off and dried, powdered. The flour is used to prepare various items (CR 1).

Occurrence : Common, in the moist deciduous forests around the hamlets (MR 24887).

Dendrocalamus strictus (Roxb.) Nees (POACEAE)

Vernacular name : Koravanmoonga nellu

Habit : Tree grass

Mode of use : The seeds are roasted and eaten. The powdered seeds are used for the preparation of different items and seeds are also used for the preparation of gruel (CR 1).

Occurrence : Common, in the moist deciduous forests and dry forests around the hamlets (MR 24873).

Entada rheedei Spreng. (FABACEAE)

Vernacular name : Onthotti kay

Habit : Lianas

Mode of use : The cotyledons of the dried seeds are cooked; excess water is drained off and eaten (CR 1).

Occurrence : Common, in the moist deciduous forests around the hamlets (MR 24494).

Tamarindus indica L. (FABACEAE)

Vernacular name : Pulinchi kuuru

Habit : Tree

Mode of use : Seeds are roasted and eaten

Occurrence : Common, around the hamlets (MR 24486).

Terminalia bellarica (Graeuter.) Roxb. (COMBRETACEAE)

Vernacular name : Thannimaram
Habit : Trees
Mode of use : The seeds are eaten raw (CR 1).
Occurrence : Common, around the hamlets (MR 24473).

Xylia xylocarpa (Roxb.) Taub.(FABACEAE)

Vernacular name : Irumullu
Habit : Tree
Mode of use : The dried seeds eaten as raw (CR 1).
Occurrence : Common, in the moist deciduous forests around the hamlets (MR 24497).

H. Mushrooms

Auricularia sp. (AURICULARICEAE)

Vernacular name : Kathu kumman
Habit : Saprophytic fungus on rotten wood
Mode of use : The fruiting body is washed in water and boiled with condiments or fried in oil or roasted in a hearth (CR 2).
Occurrence : Very rare, in the neighbouring forest (MR 24910).

Peziza sp. (PEZIZACEAE)

Vernacular name : Ennakumman
Habit : Saprophytic fungus on dung
Mode of use : The fruiting body is washed in water and boiled with condiments or fried in oil or hearth roasted (CR 2).
Occurrence : Occasionally found growing in dung (MR 24911).

Lycoperdon sp. (LYCOPERDACEAE)

Vernacular name : Panthra kumman
Habit : Fruiting body of a saprophytic fungus growing in soil.
Mode of use : The fruiting body is washed in water and boiled with condiments or fried in oil or hearth roasted (CR 1).
Occurrence : Occasional, in soil around the hamlets soon after rain fall (24913).

Plurotus sp. (LENTINACEAE)

Vernacular name : Munga kumman

Habit : Fruiting body of saprophytic fungus

Mode of use : The pileus and stipes washed in water and boiled with condiments or fried in oil or hearth roasted (CR 1).

Occurrence : Occasional, in dried bamboo culms of the neighbouring forest during rainy season (MR 24916).

Plurotus sp. (LENTINACEAE)

Vernacular name : Jalir kumman

Habit : Fruiting body of saprophytic fungus

Mode of use : The pileus and stipes are washed in water and boiled with condiments or fried in oil or hearth roasted (CR 1).

Occurrence : Occasional, on dried bamboo culms of the neighbouring forest during rainy season (MR 24940).

Plurotus sp. (LENTINACEAE)

Vernacular name : Parippukumman

Habit : Fruiting body of saprophytic fungus

Mode of use : The pileus and stipes are washed in water and boiled with condiments or fried in oil or hearth roasted (CR 1).

Occurrence : Occasional, on dried bamboo culms of the neighbouring forest during rainy season (MR 24940).

Pluerotus tuber regium (Fr.) Singer (LENTINACEAE)

Vernacular name : Karavandu

Habit : Fruiting body of saprophytic fungus

Mode of use : The pileus and stipes are washed in water and boiled with condiments or fried in oil or hearth roasted (CR 2).

Occurrence : Occasional, in dried woods, in the neighbouring forest during rainy season (MR 24917).

Termitomyces clypeatus Heim. (PLUTEACEAE)

Vernacular name : Choondu Kumman

Habit : Fruiting body of saprophytic fungus

Mode of use : The pileus and stipes are washed in water and boiled with condiments or fried in oil or hearth roasted (CR 1).

Occurrence : Occasional, around the hamlets (MR 24919).

Termitomyces eurhizus (Berk)Heim (PLUTEACEAE)

Vernacular name : Puttukkumman
Habit : Fruiting body of saprophytic fungus
Mode of use : The pileus and stipes are washed in water and boiled with condiments or fried in oil or hearth roasted (CR 1).
Occurrence : Occasional, around the hamlets during rainy season (MR 24920).

Termitomyces microcarpus (Berk and Br.)Heim. (PLUTEACEAE)

Vernacular name : Arikumman
Habit : Saprophytic fungi on soil
Mode of use : The pileus and stipes are washed in water and boiled with condiments or fried in oil or hearth roasted (CR 1).
Occurrence : Occasional, around the hamlets during rainy season (MR 24921).

Volvariella volvacea (Bull. Fr.) Singer (PLUTEACEAE)

Vernacular name : Vaika kumman
Habit : Saprophytic fungus on paddy straw.
Mode of use : The pileus and stipes are washed in water and boiled with condiments or fried in oil or hearth roasted(CR 1).
Occurrence : Occasional, in found growing in paddy straw in rainy season (24922).

I. Spices and Condiments

Garcinia gummi-gutta (L.) Robs.(CLUSIACEAE)

Vernacular name : Kodam puli
Habit : Tree
Mode of use : The fruits are used as a condiment (CR 1).
Occurrence : Common, around the hamlets (MR 24532).

Oxalis corniculata L. (OXALIDACEAE)

Vernacular name : Puliadagu
Habit : Herb
Part used : Leaves
Mode of use : Tender leaves are used as a condiment (CR 2).
Occurrence : Common, around the hamlets (MR 24419).

Piper nigrum L., Sp. Pl. (PIPERACEAE)

Vernacular name : Kurumulakay

Habit : Climber

Part used : Seeds

Mode of use : The seeds are used as a condiment and spice, during the preparation of food items.

Occurance : Occassional, in the adjoining forest areas of the hamlets (MR 24729).

Zingiber neesanum (Graham) Ramam. (ZINGIBERACEAE)

Vernacular name : Malyinchi, Kattingi

Habit : Rhizomatous herb

Part used : Rhizome

Mode of use : The rhizome is ground into a paste and used as a condiment and spice during the fish preparations (CR 2).

Occurrence : Occasional, in adjoining forest areas of the hamlets (MR 24807).

J. Oil

Kottenna- Castor oil (*Ricinus communis*) used for cooking.

K. Food from cultivated Plants

Roots

Mulluvalli kilangu (*Dioscorea alata*) and Poola kilangu (*Manihot esculenta*).

Leaves

Agathi keeraidag (*Sesbania grandiflora*), Porikeeray dag (*Amaranthus caudatus*), Peekin kerai dag (*Luffa acutangula* var. *amara*) Poosanithalai dag (*Benincasa hispida*), Sakkarai dag (*Cucurbita maxima*), Muringai dag (*Moringa pterigosperma*), Vasalai dag (*Basella alba*) Thanangani dag (*Vigna ungiculata*).

Flowers

Agathi poo (*Sesbania grandiflora*).

Fruits

Thakkali (*Lycopersicum esculentum*), Mulakai (*Capsicum annuum*), Cheenimulakay (*Capsicum frutescence*), Sorai dag (*Lagenaria siceraria*) Vellari

(*Cucumis sativus*) Vendai (*Abelmoschus esculentus*), Vazha paka (*Musa paradasiaca*), Koyapaka (*Psidium guajava*) and Papali paka (*Carica papaya*).

Pulses

Thanngani (*Vigna ungiculata*), Avarai (*Lab lab purpureus*) and Thuvarai (*Cajanus cajan*).

Cereals and millets

Kara nellu (*Oryza sativa* variety) cultivated in dryland, chamai (*Panicum sumatrense*), Corai (*Eleusine coracana*), Makka cholam (Zea maize), Poricholam (*Sorghum bicolor*), Thena (*Setaria italica*) and Porikkerai (*Amaranthus caudatus*).

Condiments and Spices

Inchi (*Zingiber officinale*), Manjal (*Cucuma longa*), Kurumulakay (Piper nigrum), Kothamalli (*Coriandrum sativum*) and Venkayam (*Allium cepa*).

Oil

Thenkayennai (*Cocose nucifera*).

5. 2. 3. 2. Plants as fodders

Artocarpus heterophyllus Lam. (MORACEAE)

Vernacular name	: Pila
Habit	: Tree
Part Used	: Leaves and fruits
Mode of use	: The twig with leaves are given to livestock and the ripened fruits are also given (CR 1).
Occurrence	: Common, around the hamlets and occasional in forests (MR 24777).

Bauhinia racemosa Lam. (FABACEAE)

Vernacular name	: Aram puli
Habit	: Tree
Part Used	: Leaves and fruits
Mode of use	: The twigs with leaves are given to livestock (CR 1).
Occurrence	: Common, around the hamlets and neighbouring areas (MR 24477).

Bambusa bambos (L.) Voss (POACEAE)

Vernacular name : Moonga thalai
Habit : Tree grass
Part used : Leaves
Mode of use : The leafy twigs are given (CR 1)
Occurrence : Common, around the hamlets (MR 24867).

Dendrocalamus strictus (Roxb.) Nees (POACEAE)

Vernacular name : Karuvan Mula
Habit : Tree
Part used : Leaves
Mode of use : The leaves are given (CR 1).
Occurrence : Common, around the hamlets and the neighbouring forest areas (MR 24873).

Erythrina stricta Roxb (FABACEAE)

Vernacular name : Mullu Murukku
Habit : Tree
Part used : Leaves
Mode of use : The leaves are given (CR 1).
Occurrence : Common, around the hamlets and the neighbouring forest areas (MR 24461).

Erythrina variegata L(FABACEAE)

Vernacular name : Kattu Murukku
Habit : Tree
Part used : Leaves
Mode of use : The leaves are given (CR 1).
Occurrence : Common, around the hamlets and the neighbouring forest areas (MR 24462).

Ficus hispida L. f. (MORACEAE)

Vernacular name : Thunali
Habit : Tree
Part used : Leaves
Mode of use : The leaves are given (CR 1).
Occurrence : Common, around the hamlets and the neighbouring forest areas (MR 24782).

Ficus racemosa L. (MORACEAE)

Vernacular name : Athi maram
Habit : Tree
Part used : Leaves
Mode of use : The leaves are given (CR 1).
Occurrence : Common, around the hamlets and the neighbouring forest areas (MR 24783).

Gliricidia sepium (Jacq.) Kunth *ex* Walp. (FABACEAE)

Vernacular name : Seema konna
Habit : Tree
Part Used : Leaves
Mode of use : The leaves are given raw (CR 1).
Occurrence : Common, around the hamlets and also ruining in wild in neighbouring forest (MR 24464).

Merremia umbellata (L.) Hall. f. (CONVOLVULACEAE)

Vernacular name : Vakara valli
Habit : Climber
Part Used : Leaves and twining stem
Mode of use : The whole plant with leaves is given (CR 1).
Occurrence : Common, around the hamlets and the neighbouring forests (MR 24663).

Trema orientalis (L.) Blume (ULMACEAE)

Vernacular name : Amai thalai
Habit : Tree
Part used : Leaves
Mode of use : The leaves given (CR 1).
Occurrence : Occasional, in the neighbouring forest areas (MR 24773). (Plate 33. d)

5. 7. 3. 3. Plants in medicine

5. 7. 3. 3. 1. Human Medicine

Acalypha fruticosa Forssk.(EUPHOBIACEAE)

Vernacular name : Chemma thalai

Habit : Herb
Part used : Leaves
Used for : Wound healing
Mode of application: The leaves are ground in to a paste and smeared over the affected area (CR 1).
Occurrence : Common around the hamlets (MR 24745).

Achyranthes aspera L. (AMARANTHACEAE)
Vernacular name : Irumooli
Habit : Herb
Part used : Roots
Used for : Stomachache
Mode of application: Roots along with roots of Sattai kodi (*Thunbergia frgrance*) are crushed and Juice taken as an infusion for stomach ache (CR 1).
Occurrence : Common, around the hamlets (MR 24708).

Adiantum philippense L. (ADIANTACEAE)
Vernacular name : Poonai vanangi
Habit : Herb
Part used : Whole plant
Used for : Wound healing
Mode of application: The whole plant is ground into a paste and smeared over the wounds (CR 2).
Occurrence : Common, around the hamlets (MR 24890). (Plate 25. d)

Aeginetia indica L. (OROBRANCHACEAE)
Vernacular name : Mannupoo
Habit : Herb
Part used : Flowers and peduncles
Used for : Psoriasis and itches
Mode of application: The Flowers along with salt, coconut oil are ground into a paste and smeared over the affected area (CR 2).
Occurrence : Occasional, found in the evergreen forests adjoining to the hamlets (MR 24679). (Plate 23. i)

Ageratum conizoides L. (ASTERACEAE)
Vernacular name : Appa sappa

Habit : Herb
Part used : Tender branches with leaf
Used for : Cough and cold
Mode of application: The tender branches are crushed and the juice along with honey is given to children for curing cough and cold (CR 2).
Occurrence : Common, around the hamlets (MR 24610).

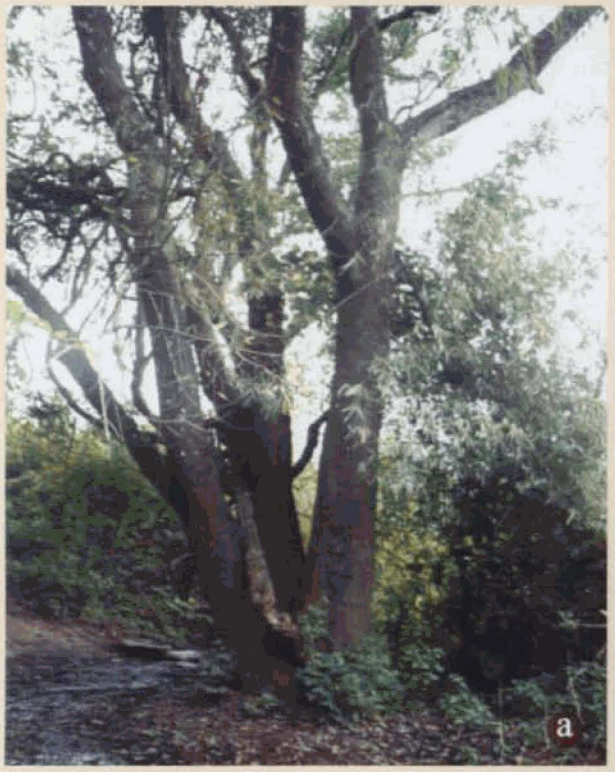
Allium sativum L. (LILIACEAE)
Vernacular name : Velluli, Venvengaium
Habit : Herb
Part used : Bulb (Tuberous stem)
Used for : Head ache
Mode of application: The bulb is ground into a paste and smeared over the temple (CR 2).
Occurrence : Cultivated (MR 24932).

Albizia lebbeck (L.) Willd
Vernacular name : Karuvaka
Habit : Tree
Part used : Bark
Used for : Itches and skin diseases
Mode of application: The inner bark is ground into a paste along with salt and smeared over the affected area (CR 3).
Occurrence : Occasional, around the hamlets (MR 24492).

Albizia odoratissima (L. f.) Benth.
Vernacular name : Vaka
Habit : Tree
Part used : Bark
Used for : Contraception
Mode of application: The inner bark is crushed and the juice is administered orally for preventing pregnany (CR 3).
Occurrence : Occasional, around the hamlets (MR 24493).

Amaranthus spinosa L. (AMARANTHACEAE)
Vernacular Name : Mullukkeerai
Habit : Herb

Plate 22. MUDUGAR'S MEDICINAL PLANTS I. **a.** *Antidesma menasu*; **b.** *Cardiospermum halicacabum*; **c.** *Costus speciosus*; **d.** *Desmodium laxiflorum*; **e.** *Ludwigia peruviana*; **f.** *Ganoderma lucidum*; **g.** *Sterculia urens*; **h.** Mudugar medicine man extracting the bark of *Briedelia retusa*.



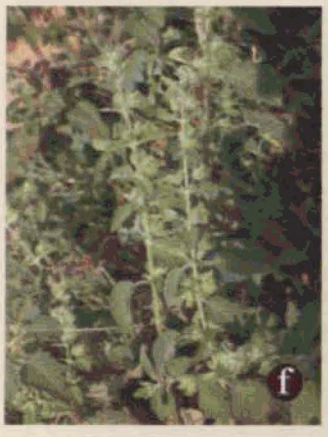


Plate 23. MUDUGAR'S MEDICINAL PLANTS II. **a.** ***Salix tetrasperma***; **b.** ***Pseudarthria viscida***; **c.** ***Mussaenda belilla***; **d.** Mudugar medicine man with ***Curcuma neilgherrensis***; **e.** ***Spirogyra sp.***; **f.** ***Hyptis suaveolens***; **g.** ***Cipadessa baccifera***; **h.** ***Pueraria tuberosa***; **i.** ***Aeginetia indica.***

Part used : Leaves

Used for : Urinary troubles, Indigestion

Mode of application: 1). The tender leaves and stem are cooked along with Curcuma (*Curcuma longa*) and salt, is used as vegetable and this dish is given to a person suffering from urinary trouble (CR 2).

2). The roots are crushed along with Pattikkera (*Amaranthus viridis*), mustard seeds, salt and ash. This medicine is taken in small quantities for indigestion.

Occurrence : Common, around the hamlets (MR 24711).

Amaranthus viridis L. (AMRANTHACEAE)

Vernacular Name : Pattikkerai

Habit : Herb

Part used : Root, Leaves

Used for : Urinary troubles

Mode of application: The roots are crushed along with Mullukkera (*Amaranthus spinosus*), mustard seeds, salt and ash. This medicine is taken in small quantities for indigestion (CR 2).

Occurrence : Common, around the hamlets (MR 24712).

Anacardium occidentale L. (ANACARDIACEAE)

Vernacular Name : Parankima

Habit : Tree

Part used : Bark

Used for : Toothache, Tooth carries, inflammation in gum.

Mode of application: The bark is boiled in water and the steam is applied to the affected tooth and gums (CR 2).

Occurrence : Cultivated (MR 24941).

Antidesma acidum Retz. (EUPHORBICEAE)

Vernacular name : Adu-kodantha

Habit : Herb

Part used : Roots

Used for : Respiratory trouble

Mode of application: The roots of this plant along with roots of Thenaimbiri (*Protasparagus recemosus*) are ground into a paste and dissolved in hot water and administered orally (CR 2).

Occurrence : Common, around the hamlets (MR 24746).

Arisaema leschenaultii Blume (ARACEAE)

Vernacular name : Kodai chalukan

Part used : Rhizomes

Used for : Snake bite

Mode of application: The tubers are crushed and juice is applied for a snake bite (CR 2).

Occurrence : Occassional, around the hamlets (MR 24853).

Artemisia nilagirica (Clark.) Pamp (ASTERACEAE)

Vernacular Name : Michey, Nathachedi

Habit : Herb

Part used : Leaves

Used for : Hair lies, itching, stomach ache.

Mode of application: 1). The leaves are ground into paste and cooked in coconut oil then applied over the hair for hair lies.

2). The leaf paste is applied over the body for curing itching.

3). The leaf juice is given for stomachache (Mudugar).

Occurrence : Common, around the hamlets and occasional, in the forests (MR 24942).

Aristolochia indica L. (ARISTOLOCHIACEAE)

Vernacular name : Urivalli, Karlakam

Habit : Climber

Part used : Roots and leaves

Used for : Snake bite and wound healing

Mode of application: 1). The roots are ground into a paste and smeared over the wound due to cobra bite, a thorough washing with the solution of plant ash in hot water and half of it dissolved in hot water is administered orally (CR 2).

2). The leaves are ground into a paste smeared over the wound (CR 1).

Occurrence : Rare, found in the adjoining areas of the hamlets (MR 24722).

Baliospermum montanum (Willd.) Muell. (EUPHOBIACEAE)

Vernacular name : Sitha thondai

Habit : Herb

Part used : Roots

Used for : Indigestion stomach problem

Mode of application: The roots of this plant along with the roots of Kolu Kattai (Thespesia lampas) are crushed and the juice is given for the treatment of indigestion and stomach problems (CR 2).

Occurrence : Occasional, around the hamlets (MR 24943).

Bambusa bambos (L.) Voss (POACEAE)

Vernacular Name : Mula, Mungil

Habit : Tree grass

Part used : Peeling from culm surface, bamboo manna (the siliceous secretion of stem pith)

Used for : Wound healing, Stomach problem

Mode of application: 1). The culm peelings are ground into a paste and mixed with coconut oil or honey and applied over the fresh or old wounds. (Irular, Mudugar, Kurumbar).

2). The bamboo manna with the grains of Thinyari (*Panicum milaceum*) is given for expelling undigested matter in the intestine (CR 2).

Occurrence : Common, around the hamlets (MR 24867).

Begonia malabarica Lam.(BEGONIACEAE)

Vernacular name : Raktha kanthi

Habit : Herb

Part used : Stem

Used for : Inflammation in joints and purification of blood

Mode of application: 1). The crushed stem, roasted in Veppennai (*Azadirachta indica*) and the oil is applied over the joints with inflammation (CR 2).

2). The stem ground into a paste and applied over the body for purifying the blood (CR 2).

Occurrence : Occasional, around the hamlets (MR 24586).

Boerhavia diffusa L. (NYCTAGINACEAE)

Vernacular Name : Peruserande, Thaluthema

Habit : Herb

Part used : Tender leaves and stem

Used for : Stomach ache, indigestion and diarrhoea

Mode of application: 1). The tender part of this plant with leaves is cooked with Manjal (*Curcuma longum*) and salt and given for indigestion and stomachache (Kurumbar).

2). The fresh leaves are crushed and juice is administered orally, for indigestion and diarrhoea (CR 2).

Occurrence : Common, around the hamlets (MR 24707).

Bridelia retusa (L.) Spreng (EUPHOBIACEAE)

Vernacular name : Gonchay maram

Habit : Trees

Part used : Bark

Used for : Stomach ache and diarrhoea.

Mode of application: The bark is ground into a paste and is eaten for curing stomach ache and the paste dissolved in hot water is administered orally for diarrhoea (CR 2).

Occurrence : Common, around the hamlets (MR 24751).

Butea monosperma (Lam.) Taub. (FABACEAE)

Vernacular Name : Kola sank

Habit : Tree

Part used : Bark

Used for : Epilepsy with shivering

Mode of application: The bark is crushed and the paste is applied over the forehead and braches are given to the patient's hand to hold during the shivering (CR 2).

Occurrence : Common around the hamlets (MR 24448).

Cajanus cajan L. (FABACEAE)

Vernacular name : Thuvari

Habit : Shrub

Part used : Tender leaves

Used for : Diabetics and burns

Mode of application: 1). The tender leaf juice is given for diabetics.
2). Dried leaves are ground into a paste and coconut oil is added and smeared (CR 2).
Occurrence : Common, around the hamlets and occasional in the forests (MR 24449).

Callicarpa tomentosa (L.) Murr. (VERBINACEAE)
Vernacular name : Nay velai
Habit : Large shrub
Part used : Tender leaves
Used for : Wound healing
Mode of application: The tender leaves are crushed and the salve applied over the wounds from dog bite (CR 2).
Occurrence : Occasional, around the hamlets (MR 24690).

Calotropis gigantea (L.) R. Br. (ASCLEPIADACEAE)
Vernacular Name : Erukku
Habit : Shrub
Part used : Leaves, Roots
Used for : Carries tooth, snake bite
Mode of application: 1). The leaves of this plant are ground along with salt to a paste and placed in the cavity (Kurumbar)
2). The root paste is smeared on the wound caused by cobra as an antidote (CR 2).
Occurrence : Common, around the hamlets (MR 24643).

Cannabis sativa L. (CANNABINACEAE)
Vernacular Name : Kanja
Habit : Herb
Part used : Leaves
Used for : Fever and Headache
Mode of application: The leaves and roots of this plant are ground into a paste and smeared all over the body for recovering fevers and head ache (CR 2)
Occurrence : Illegally cultivated around the hamlet (MR 24774).

Canoparmelia pustulensces (Kurok) Elix. (PAMELIACEAE)
Vernacular name : Vellapulli

Habit : Foliose lichen on rock surface

Part used : Whole plant

Used for : Scurf, scabies and itches

Mode of Application: The scarp of the thallus along with the thallus of Karimpulli (*Coccocarpia erythroxyli*) are ground into a paste and roasted in coconut oil and applied over scurf, infectious diseases of the skin such as scabies and itches (CR 2).

Occurrence : Common, around the hamlets (MR 24923).

Coccocarpia erythroxyli (Spreng.) Swinsc. (COCCOCARPIACEAE)

Vernacular name : Karimpulli

Habit : Foliose lichen on rock surface

Part used : Whole plant

Used for : Scurf, skin diseases

Mode of Application: The scarp of the thallus along with the thallus of Vella pulli (*Canoparmelia pustulensces*) are ground into a paste and roasted in coconut oil and applied over scurf, infectious diseases of the skin such as scabies and itches (CR 2).

Occurrence : Common, around the hamlets (MR 24924). (Plate 31. a)

Cuminum cyminum L. (APIACEAE)

Vernacular name : Jeerakam

Habit : Herb

Part used : Seeds

Used for : Chest pain

Mode of application: The seeds are roasted, powdered, boiled in water and administerd orally for chest pain (CR 2).

Occurrence : Cultivated (MR 24985).

Dioscorea bulbifera L. (DIOSCOREACEAE)

Vernacular name : Pannipidukkakodi

Habit : Herbaceous climber

Part used : Aerial root tubers

Used for : Inflammation in scrotal sac

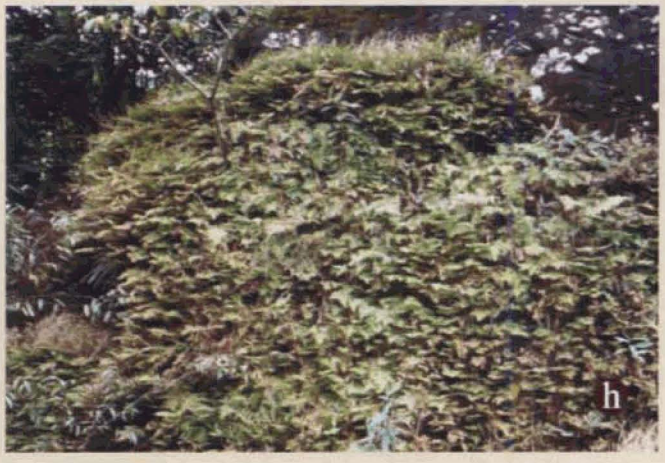


Plate 24. MEDICINAL PTERIDOPHYTES. **a.** ***Adiantum caudatum***; **b.** ***Asplenium phyllitidis***; **c.** ***Drynaria quercifolia***; **d.** Marsilia ***minuta***; **e.** ***Parahemionitis cordata***; **f.** ***Pteris pellucida***; **g.** ***Selaginella delicatula***; **h.** ***Selaginella involvens.***

Plate 25. MEDICINAL PTERIDOPHYTES. **a.** ***Actiniopteris radiata***; **b.** ***Angiopteris evecta***; **c.** ***Christella parasitica***; **d.** ***Adiantum philippense***; **e.** ***Huperzia phlegmaria***; **f.** ***Pyrrosia lanceolata***; **g.** ***Tectaria coadunata.***

Mode of application: The aerial root tubers are ground into a paste and smeared over the affected area (CR 2).

Occurrence : Common, around the hamlets (MR 24815).

Cassia fistula L. (FABACEAE)

Vernacular Name : Konnai

Habit : Tree

Part used : Roots

Used for : Stomachache

Mode of application: The roots of this plant along with the roots of Peethaimaram (*Clerodendrum viscosum*), Dharbai (*Imperta cylindrica*) are ground into paste and dissolved in water and administered orally for stomach ache (CR 2).

Occurrence : Common, around the hamlets (MR 24480).

Cardiospermum halicacabum L. (SAPINDACEAE)

Vernacular Name : Pettisappa

Habit : Herbaceous climber

Part used : Leaves

Used for : Wound healing

Mode of application: The leaves are ground into a paste and applied over the wounds (CR 2).

Occurrence : Common, around the hamlets (MR 24439). (Plate 22. b)

Careya arborea Roxb. (LECYTHIDACEAE)

Vernacular name : Pekumaram

Habit : Medium tree

Part used : Bark

Used for : Headache, Madness

Mode of application: The bark is crushed and the mucilaginous extract is smeared over the forehead for headache. The mucilaginous extract is applied over the head for a cooling effect and relief from unconsciousness and giddiness (CR 2).

Occurrence : Occasional, around the hamlets (MR 24561).

Centella asiatica (L.) Urban (APIACEAE)

Vernacular name : Muthil

Habit : Prostrate herb
Part used : Whole plant
Used for : Wound healing
Mode of application: The whole plant is ground into a paste and applied over the wounds (CR 2).
Occurrence : Common, around the hamlets (MR 24590).

Chromolaena odorata (L.) King & Robins. (ASTERACEAE)
Vernacular name : Pachai, Ayama pachai
Habit : Herb
Part used : Laeves
Used for : Wound healing
Mode of application: The leaves are ground into a paste and applied over the wounds (CR 2).
Occurrence : Common, around the hamlets (MR 24612).

Coelogyne nervosa A. Rich. (ORCHIDACEAE)
Vernacular name : Kodikkay
Habit : Epiphytic herb
Part used : Whole plant
Used for : Inflammation on scrotum
Mode of application: The whole plant is grounds into a paste and applied over the surface of the scrotal sac for abnormal swelling of the scrotum (CR 2).
Occurrence : Occasional, on tree trunks (MR 24791).

Costus speciosus (Koenig) J.E. Smith (ZINGIBERACEAE)
Vernacular name : Chulli kizhengu
Habit : Herb
Part used : Whole plant
Used for : Epilepsy
Mode of application: The whole plant is crushed and the juice along with the laef juice of Parisa Kanchi (*Dalbergia lanceolaria*), the bark paste of Pasavu (Sterculia urens) are applied over the body of the person who suffering Kakkavali (a type of epilepsy) in children (CR 2).
Occurrence : Common, around the hamlets (MR 24800). (Plate 22. c)

Celastrus paniculatus Willd. (CELASTRACEAE)

Vernacular Name : Ampu kana

Habit : Climbing shrub

Part used : Leaves, Roots

Used for : Dysentery, Stomachache

Mode of application: 1. The leaf juice is administered orally to cure dysentery (CR 2).

2. Roots are ground well and dissolved in water and are suggested for severe and acute stomach ache.

3. The mashed leaves of this plant is mixed with lime and given to administered orally.

Occurrence : Common, around the hamlets (MR 24429).

Ceropegia candelabrum L. (ASCLEPIADACEAE)

Vernacular name : Viscal kishengu

Habit : Climbers

Part used : Root tubers

Used for : Stomachache

Mode of application: The tubers are eaten with onion (*Allium cepa*) to clean the bowels and cure stomach ache (CR 2).

Occurrence : Occasional, around the hamlets (MR 24644).

Chenopodium ambrosiodes L. (CHENOPODIACEAE)

Vernacular name : Sooru chedi

Habit : Herbs

Part used : Whole plant

Used for : Skin diseases

Mode of application: The whole plant is ground into a paste and applied over the body of children for scabies and itches and as a remedy for other skin diseases (CR 2).

Occurrence : Common, around the hamlets (MR 24717).

Clematis gouriana Roxb. *ex* DC. (RANUNCULACEAE)

Vernacular Name : Chinne nikadikkodi, Thalai sithari

Habit : Climbing herb

Part used : Tender leaves, stem and roots

Used for : Head ache and cold

Mode of application: 1. Fresh roots, leaves and stem are crushed and inhaled thrice daily.
2. The juice of tender stem and leaves pored in the nasal cavity for cold (CR 2).

Occurrence : Common, around the hamlets (MR 24501).

Cleome monophylla L. (CAPPARACEAE)

Vernacular Name : Velaiveru

Habit : Herb

Part used : Tender leaves and stem

Used for : Ear ache

Mode of application: The tender stem with leaves are roasted in coconut oil and pored into the ear as an eardrop (CR 2).

Occurrence : Common, around the hamlets (MR 24518).

Clerodendrum viscosum Vent. (VERBENACEAE)

Vernacular Name : Peethaimaram

Habit : Shrubs or Tree let

Part used : Roots

Used for : Stomachache

Mode of application: The roots of this plant along with the roots of Konnai (*Cassia fistula*), Dharbai (*Imperta cylindrica*) are ground into paste and dissolved in water and administered orally for stomach ache (CR 2).

Occurrence : Common, around the hamlets (MR 24691).

Colocasia esculenta (L.) schott (ARACEAE)

Vernacular Name : Chembu

Habit : Herb

Part used : Tender leaves

Used for : Ulcers, indigestion.

Mode of application: The tender leaves are cooked along with Pulicheerai (*Oxalis corniculata*) and suggested as a remedy for stomach problem especially ulcers and indigestion (CR 2).

Occurrence : Common, around the hamlets (MR 24854).

Commelina benghalensis L. (COMMELINACEAE)

Vernacular Name : Koyne

Habit : Herb
Part used : Tender leaves
Used for : Stomachache, indigestion.
Mode of application: The young plants are taken as vegetables and suggested for stomachache (CR 2).
Occurrence : Common, around the hamlets (MR 24835).

Cordia wallichii G. Don (BORAGINACEAE)
Vernacular name : Virimaram
Habit : Median trees
Part used : Bark
Used for : Mother care
Mode of application: Few pieces of bark is boiled in water and used for bathing by ladies after delivery for relieving body pain (CR 2).
Occurrence : Common, around the hamlets (MR 24655).

Cucumis prophetarum L.(CURCURBITACEAE)
Vernacular name : Attanga.
Habit : Herbaceous climber
Part used : Fruit
Used for : Scabies
Mode of Application: The fruit along with fruit pulp of Kanchiram (*Strychnos nux-vomica*) are ground into a paste and smeared over the affected area (CR 2).
Occurrence : Common, around the hamlets (MR 24572).

Cryptolepis buchananii Roem. & Schult. (ASCLEPIADACEAE)
Vernacular name : Palvirandi chedi
Habit : Climbers
Part used : Roots
Used for : Milk production in mothers
Mode of application: The roots are ground into a paste and applied over the breast of ladies after delivery (CR 2).
Occurrence : Common, around the hamlets (MR 24649).

Curculigo orchioides Gaertn. (HYPOXIDACEAE)
Vernacular name : Nilam pannai, Sikkennai.

Habit : Herb

Part used : Tubers of root

Used for : Snake bite, Jaundice with Albuminura

Mode of Application: 1) The root tubers along with the rhizome tuber of shikya (*Curcuma neilagirica*) are ground into a paste and applied over the wounds due to snake bite (Viper).

2) The raw roots are eaten for Jaundice with Albuminuria (CR 2).

Occurrence : Common, around the hamlets (MR 24829).

Curcuma neilgherrensis Wight (ZINGIBERACEAE)

Vernacular Name : Sike

Habit : Rhizomatous Herb

Part used : Tubers

Used for : Snake bite

Mode of application: The rhizome of this plant is ground along with Shikennai (*Curculigo orchoides*) and applied over the wound from snake bite especially for viper poison (CR 2).

Occurrence : Occasional, around the hamlets (MR 24802). (Plate 23. d)

Cyclea peltata (Lam.) Hook. f. & Thoms. (MENISPERMACEAE)

Vernacular Name : Pada, Didukke

Habit : Climbing herb

Part used : Leaves tubers

Used for : Fever, cold

Mode of application: 1. For fever and cold of children a few leaves of this plant is squeezed for juice and little water is added. The solution gets solidified after some time and applied as a thick coating over the head and tied with a headband.

2. The leaves are ground into a paste and dissolved in water and the solidified mixture is applied over the head as a cooling agent (CR 2).

Occurrence : Common, around the hamlets (MR 24510).

Dalbergia lanceolaria L.f. (FABACEAE)

Vernacular name : Parisakanchi

Habit : Trees

Part used : Tender leaves

Used for : Skin diseases, epilepsy

Mode of application: 1. The tender leaves are ground into a paste and applied over the body of the children for itches (CR 2).

2. The leaf juice of Parisa Kanchi (*Dalbergia lanceolaria*), along with the juice of whole plant of shulli kizhanku (*Costus speciosus*) and the bark paste of Pasavu (*Sterculia urens*) are applied over the body for Kakkavali (a type of epilepsy in children).

Occurrence : Common, around the hamlets (MR 24454).

Dalbergia latifolia Roxb. (FABACEAE)

Vernacular Name : Veeti

Habit : Tree

Part used : Bark of wood

Used for : Stomachache, dysentery

Mode of application: Few pieces of bark ground into paste and dissolved in water and administered orally (CR 2).

Occurrence : Common, around the hamlets (MR 24455).

Dalbergia volubilis Roxb. (FABACEAE)

Vernacular Name : Kodiveeti

Habit : Small tree

Part used : Leaves, bark of wood

Used for : Stomachache, worm trouble

Mode of application: 1. The leaf juice is given to children for worm trouble.

2. The bark is boiled in water and the decoction is administered orally for stomachache (CR 2).

Occurrence : Common, around the hamlets (MR 24457).

Datura metel L. (SOLANACEAE)

Vernacular name : Ummathu

Habit : Herb

Part used : Roots, fruits.

Used for : Wound healing

Mode of application: The roots are ground into paste and applied on furuncle and wounds(CR 2).

Occurrence : Common, around the hamlets (MR 24666).

Desmodium gangeticum (L.) DC. (FABACEAE)

Vernacular name : Ottalai
Habit : Herb
Part used : Roots
Used for : Stomach ache
Mode of application: Two roots ground into a paste and dissolve in water is administerd orally (CR 2).
Occurrence : Common, around the hamlets (MR 24458).

Desmodium laxiflorum DC. (FABACEAE)

Vernacular name : Elumbu
Habit : Under shrub
Part used : Roots
Used for : Toothache
Mode of application: Two or three roots are crushed with hands and applied on teeth against toothache (CR 2).
Occurrence : Common, around the hamlets (MR 24948). (Plate 22. d)

Didymocarpus tomentosa Wight (GESNERIACEAE)

Vernacular name : Kallu sinnai
Habit : Scapigerous herbs
Part used : Leaves
Used for : Wound healing
Mode of application: The crushed leaves with onion (*Allium cepa*) and salve is applied on the wounds (CR 2).
Occurrence : Common, around the hamlets (MR 24681).

Drynaria quercifolia (L.) J. Sm. (POLYPODIACEAE)

Vernacular name : Marachuralai
Habit : Epiphytic perennial herb
Part used : Rhizomes, Leaves
Used for : Wound healing, scabies, itches of children and ear ache
Mode of Application: 1. The rhizems are ground into a paste and applied twice a day over the body of the children suffering from scabies and itches and given a hot water bath.

2. Leaves are ground into a paste and applied for sacbies (CR 2).

3. The roasted rhizome in oil is used as an ear drop.

Occurrence : Common, around the hamlets (MR 24897).

Eleusine indica (Linn.) Gaertn. (POACEAE)

Vernacular name : Nairay, Nay ragi

Habit : Herb

Part used : Root, whole plant

Used for : Dog bite, skin diseases, fever

Mode of application: 1. The whole plant is ground into a paste with salt and Coconut oil and applied over the body of children for scabies and itches (CR 2).

2. The whole plant is ground into a paste and applied over the wound from dog bite and for rabies infection.

Occurrence : Cultivated (MR 24878).

Entada rheedei Spreng. (FABACEAE)

Vernacular Name : Onthottikay

Habit : Woody climber

Part used : Seed kernel

Used for : Vomiting, diarrhoea

Mode of application: 1. The kernel of the fruit is boiled with coffee powder and administered orally for curing vomiting.

2. The kernel is cooked along with rice and eaten for curing diarrhoea and stomach problem (CR 2).

Occurrence : Occasional, around the hamlets (MR 24494).

Ensete superbum (Roxb.) Cheesman. (MUSACEAE)

Vernacular name : Kallu vazhai

Habit : Erect tree like herbs

Part used : Seeds, tender stem pith, and tubers

Used for : Urinary troubles, stomach problems and blood purification

Mode of application: 1. The dried seeds of the plant is powdered well and dissolved in goat milk and consumed for urinary troubles and kidney stone.

2. The tender stem pith and tubers are eaten for blood purification and stomach disorders (CR 2).

Occurrence : Rare, found in the neighbouring forests around the hamlets (MR 24812).

Equistetum ramosissimum* subsp. *debile (Roxb.ex Vaucher) Hauke (EQUISETACEAE)

Vernacular name : Sooji sappa

Habit : Perenial herb

Part used : Whole plant

Used for : Cooling agent

Mode of Application: Whole plant is ground into a paste and applied over the head and body as a cooling agent (CR 2).

Occurrence : Rare, found in Bhavani Riverside (MR 24898).

Ficus benghalensis L. (MORACEAE)

Vernacular name : Alamaram

Habit : Trees

Part used : Tender Prop roots

Used for : Hair lies and nourishment of hair

Mode of Application: The tender aerial root along with thallus of Maraganchi (lichen- *Usnea subchalybaea*) ground into a paste and roasted in coconut oil and the smeared over the hairs and massaged thoroughly (CR 2).

Occurrence : Common, around the hamlets (MR 24779).

Ficus hispida L. f. (MORACEAE)

Vernacular name : Thunali

Habit : Trees

Part used : Bark peelings

Used for : Inducing lactation

Mode of application: The bark peelings (4 or 5) pieces are ground into a paste and dissolved in water and administered orally twice a day, for increasing the milk production in women (CR 2).

Occurrence : Common, around the hamlets (MR 24782).

Ficus racemosa L. (MORACEAE)

Vernacular name : Athi

Habit : Trees
Parts used : Bark
Used for : Stomachache
Mode of application: The bark is kept for 24 hours in water and the water is administered orally for stomach ache (CR 2)
Occurrence : Common, around the hamlets (MR 24783).

Frullania squarrasa (R.Bl.Nees.)Dum. (JUBULACEAE)
Vernacular name : Mara pasam
Habit : Leafy thallus
Part used : Whole plant
Used for : Hair lies and nourishment of hair
Mode of Application: The whole plant is made into a paste and cooked in coconut oil and applied over the hairs (CR 2).
Occurrence : Common, around the hamlets (MR 24908).

Ganoderma lucidum (Curt. Ex Fr.) Karst. (GANODERMATACEAE)
Vernacular name : Vandakumin
Habit : Bracket fungi
Part used : Lower surface of the thallus
Used for : Skin infection
Mode of application: The lower surface of the thallus of this fungus is ground into a paste and applied over the wounds, for the treatment of fungal and bacterial infection in children (CR 2).
Occurrence : Common, around the hamlets (MR 24912). (Plate 22. f)

Glycosmis pentaphylla (Retz.) DC. (RUTACEAE)
Vernacular name : Mele kulukki
Habit : Shrub
Part used : Roots
Used for : Stomachache
Mode of Application: The root growing towards the northern side is ground into a paste and dissolved in water and administered orally (CR 2).
Occurrence : Common, around the hamlets (MR 24421).

Helicanthes elastica (Desr.) Danser (LORANTHACEAE)

Vernacular name : Maraottu
Habit : Parasitic Shrub
Part used : Whole plant
Used for : Scabies and itches
Mode of Application: The whole plant is ground into a paste and smeared over the affected area (CR 2).
Occurrence : occasional in trees around the hamlets (MR 24734).

Helixanthera intermedia (Wight) Danser (LORANTHACEAE)

Vernacular name : Ottamaraottu
Habit : Parasitic Shrub
Part used : Whole plant
Used for : Scabies and itches
Mode of Application: The whole plant is ground into a paste and smeared over the affected area (CR 2).
Occurrence : Common, around the hamlets (MR 24739).

Hemidesmus indicus (L.) R. Br. (ASCLEPIADACEAE)

Vernacular Name : Kadambu kodi, Nammari
Habit : Climber
Part used : Roots
Used for : Head ache
Mode of application: The root paste is applied over the fore head for severe head ache (CR 2).
Occurrence : Common, around the hamlets (MR 24946).

Heracleum candolleanum (Wight & Arn.) Gamble (APIACEAE)

Vernacular name : Malaintheru
Habit : Herb
Part used : Fruits, seeds, and whole plant
Used for : Stomach problem
Mode of application: 1. The fruits and seeds are eaten for curing stomach problems such as indigestion, stomachache, etc.
2. The whole plant is crushed and the juice is consumed for fever and cold (CR 2).
Occurrence : Common, around the hamlets (MR 24592).

Huperzia phlegmaria (L.) Roth(LYCOPODIACEAE)

Vernacular name : Marajadai, Sivanjadai

Habit : Epiphytic herb

Part used : Whole plant

Used for : Pediculosis and nourishment of hair

Mode of application: The whole plant is crushed and roasted in coconut oil, applied over the hair for pediculosis and nourishment of hair (CR 2).

Occurrence : Common, around the hamlets (MR 24899). (Plate 25. e)

Hypotrachyna crenata (KuroK) Hale (PARMELIACEAE)

Vernacular name : Marapasam

Habit : Foliose lichen on tree bark

Part used : Whole plant

Used for : Skin infection, old wounds and boils

Mode of Application: The thallus of this plant along with thallus of Kaalpasam (*Parmotrema grayanum*), Turmeric(*Curcuma longa*)and salt are ground into paste , roasted in coconut oil and smeared over the wounds, boils and other infected part of skin (CR 2).

Occurrence : Occasional, around the hamlets (MR 24925). (Plate 31. b)

Hyptis suaveolens (L.) Poit. (LAMIACEAE)

Vernacular name : Natasappa

Habit : Herb

Part used : Leaves

Used for : Wound healing, head ache

Mode of application: 1. The leaves are ground into a paste and smeared over the wounds (CR 2).

2. The leaves crushed and the juice is applied over the nostrils (CR 2).

Occurrence : Common, around the hamlets (MR 24699). (Plate 23. f)

Ipomoea alba L.(CONVOLVULACEAE)

Vernacular name : Pakante

Habit : Climber

Part used : Whole plant

Used for : Cleaning agent, skin diseases

Mode of application: The whole plant is crushed and the mucilaginous extract is used as a shampoo. It is also applied over the body during itching sensations (CR 2).

Occurrence : Common, around the hamlets and occasional in forests (MR 24944).

Imperta cylindrica L. (POACEAE)

Vernacular Name : Dharbha

Habit : Herb

Part used : Roots

Used for : Stomachache

Mode of application: The roots of this plant along with the roots of Konnai (*Cassia fistula*), Peethaimaram (*Clerodendrum viscosum*) are ground into paste and dissolved in water and administered orally for stomach ache (CR 2).

Occurrence : Common, around the hamlets (MR 24864).

Jasminum multiflorum (Burm. f.) Andr. (OLEACEAE)

Vernacular name : Mullai

Habit : Shrubs

Part used : Leaves

Used for : Wound healing

Mode of application: Few leaves are crushed and the juice is smeared over the fresh wounds (CR 2).

Occurrence : Common, around the hamlets (MR 24635).

Jatropha curcus L. (EUPHORBIACEAE)

Vernacular Name : Kadalavanakku, Masai kotta

Habit : Small tree

Part used : Bark, Latex from stem, stem bark

Used for : Carries tooth, Wound healing, itches and scabies

Mode of Application: 1. The bark is crushed with salt and placed in the cavity for carries tooth.

2. The latex applied over the wounds and inflammation.

Huperzia phlegmaria (L.) Roth(LYCOPODIACEAE)

Vernacular name : Marajadai, Sivanjadai

Habit : Epiphytic herb

Part used : Whole plant

Used for : Pediculosis and nourishment of hair

Mode of application: The whole plant is crushed and roasted in coconut oil, applied over the hair for pediculosis and nourishment of hair (CR 2).

Occurrence : Common, around the hamlets (MR 24899). (Plate 25. e)

Hypotrachyna crenata (KuroK) Hale (PARMELIACEAE)

Vernacular name : Marapasam

Habit : Foliose lichen on tree bark

Part used : Whole plant

Used for : Skin infection, old wounds and boils

Mode of Application: The thallus of this plant along with thallus of Kaalpasam (*Parmotrema grayanum*), Turmeric(*Curcuma longa*)and salt are ground into paste , roasted in coconut oil and smeared over the wounds, boils and other infected part of skin (CR 2).

Occurrence : Occasional, around the hamlets (MR 24925). (Plate 31. b)

Hyptis suaveolens (L.) Poit. (LAMIACEAE)

Vernacular name : Natasappa

Habit : Herb

Part used : Leaves

Used for : Wound healing, head ache

Mode of application: 1. The leaves are ground into a paste and smeared over the wounds (CR 2).

2. The leaves crushed and the juice is applied over the nostrils (CR 2).

Occurrence : Common, around the hamlets (MR 24699). (Plate 23. f)

Ipomoea alba L.(CONVOLVULACEAE)

Vernacular name : Pakante

Habit : Climber

Part used : Whole plant

Used for : Cleaning agent, skin diseases

Mode of application: The whole plant is crushed and the mucilaginous extract is used as a shampoo. It is also applied over the body during itching sensations (CR 2).

Occurrence : Common, around the hamlets and occasional in forests (MR 24944).

Imperta cylindrica L. (POACEAE)

Vernacular Name : Dharbha

Habit : Herb

Part used : Roots

Used for : Stomachache

Mode of application: The roots of this plant along with the roots of Konnai (*Cassia fistula*), Peethaimaram (*Clerodendrum viscosum*) are ground into paste and dissolved in water and administered orally for stomach ache (CR 2).

Occurrence : Common, around the hamlets (MR 24864).

Jasminum multiflorum (Burm. f.) Andr. (OLEACEAE)

Vernacular name : Mullai

Habit : Shrubs

Part used : Leaves

Used for : Wound healing

Mode of application: Few leaves are crushed and the juice is smeared over the fresh wounds (CR 2).

Occurrence : Common, around the hamlets (MR 24635).

Jatropha curcus L. (EUPHORBIACEAE)

Vernacular Name : Kadalavanakku, Masai kotta

Habit : Small tree

Part used : Bark, Latex from stem, stem bark

Used for : Carries tooth, Wound healing, itches and scabies

Mode of Application: 1. The bark is crushed with salt and placed in the cavity for carries tooth.

2. The latex applied over the wounds and inflammation.

3. The bark is ground into a paste and mixed with salt and oil and smear over the body part suffering scabies and itches (CR 2).

Occurrence : Common, around the hamlets (MR 24759).

Lantana camara L. var. ***aculeata*** (L.) Moldenke (VERBENACEAE)

Vernacular Name : Unnipoochedi
Habit : shrub
Part used : Tender leaves
Used for : Wound healings, abscess
Mode of application: The tender leaves with salt are ground into a paste and smeared over the affected area (CR 2).
Occurrence : Common, around the hamlets (MR 24694).

Laportea interrupta (L.) Chew (URTICACEAE)

Vernacular Name : Thavai
Habit : Herb
Part used : Leaves
Used for : Worm trouble
Mode of application: The leaves are curled and tied into small bowls and cooked along with salt and oil and suggested for worm trouble (CR 2).
Occurrence : Common, around the hamlets (MR 24769). (Plate 18. g)

Leea indica (Burm. f.) Merr.(LEACEAE)

Vernacular name : Seerppanai
Habit : Shrub
Part used : Rhizome
Used for : Abscess
Mode of application: The rhizome is ground into a paste and applied over abscess (CR 2).
Occurrence : Common, around the hamlets (MR 24437).

Leptogium cyanescens (Rabenih) korber (COLLEMATACEAE)

Vernacular name : Karim pasam, marapasam
Habit : Foliose lichen on tree bark
Part used : Whole plant

Used for : Scurf, scabies and itches

Mode of application: 1. The thallus along with Vellulli (*Allium sativum*), Manjal (*Curcuma longum*) are ground into a paste and roasted in coconut oil and applied over the skin for scabies and itches (CR 2).

2. The thallus along with salt and coconut oil made into a salve and applied over scurf.

Occurrence : occasional, around the hamlets (MR 24926). (Plate 31. c)

Ludwigia peruviana (L.) H. Hara (ONAGRACEAE)

Vernacular name : Neer Kurussi

Habit : Annual herb

Part used : Spongy roots

Used for : Rheumatism

Mode of application: A fist (handful) of spongy roots of this plant is boiled with coconut oil and applied over the knees and ankle for curing rheumatism (CR 2).

Occurrence : Common, around the hamlets (MR 24567). (Plate 22. e)

Mallotus philippensis (Lam.) Muell.-Arg. (EUPHORBIACEAE)

Vernacular Name : Kathivettumaram

Habit : Tree

Part used : Bark

Used for : Wound healing and tooth ache with swelling

Mode of application: 1. The bark is ground into a paste and applied over the wound (CR 2)

2. The bark crushed along with the bark of Navalumaram (*Syzigium cumini*) and the salve applied over the aching tooth and swelling (CR 2).

Occurrence : Occasional, in the adjoining forest areas around the hamlets (MR 24760).

Mallotus tetracoccus (Roxb.) Kurz (EUPHORBIACEAE)

Vernacular Name : Pokkumaram

Habit : Tree

Part used : Tender leaves

Used for : Wounds, cooling

Mode of application: The leaves of this plant along with leaves of Peethemarem (*Clerodendrum viscosum*) and leaves of Shedikkasupu (*Cyclea peltata*) are ground into a paste and applied over the wounds (CR 2)

Occurrence : Common, around the hamlets and occasional in theforests (MR 24945).

Mimosa pudica L. (FABACEAE)

Vernacular name : Thottavadi

Habit : Herbs

Part used : Tender leaves

Used for : Head ache

Mode of application: The tender leaves are ground into a paste and smeared over the forehead (CR 2).

Occurrence : Common, around the hamlets (MR 24495).

Mitragyna parvifolia (Roxb.) Korth.(RUTACEAE)

Vernacular name : Neerthonku

Habit : Tree

Part used : Bark

Used for : Body pain

Mode of application: The bark is boiled in water and bathing in it relieves body pain (CR 2).

Occurrence : Occasional, around the hamlets (MR 24601).

Momordica dioica Roxb. *ex* Willd. (CUCURBITACEAE)

Vernacular Name : Kattu pavalai

Habit : Herbeous climber

Part used : Tender leaves

Used for : Worm trouble

Mode of application: The tender leaves of this plant is cooked along with curcuma, salt and coconut oil and eaten for curing worm trouble in children also for stomach problems and ulcers (CR 2).

Occurrence : Common, around the hamlets (MR 24581).

Mucuna pruriens (L.) DC.(FABACEAE)

Vernacular Name : Kookiri valli

Habit : Climber

Part used : Leaves

Used for : Wart, skin diseases

Mode of application: The leaves along with bark is made into a paste and applied for one week over the wart and also for other skin diseases like scabies and itches (CR 2).

Occurrence : Occasional, around the hamlets (MR 24466).

Mukia madraspatana (L.) Roem. (CUCURBITACEAE)

Vernacular name : Silappiri

Habit : Climber

Part used : Ripened fruits

Used for : Inflammation

Mode of application: The ripened fruits are crushed as a salve and applied over the body part having inflammation (CR 2).

Occurrence : Common, around the hamlets (MR 24583).

Murraya paniculata (L.) Jack (RUTACEAE)

Vernacular name : Kattukadampa

Habit : Shrubs

Part used : Tender leaves

Used for : Head ache

Mode of application: The tender leaves are crushed and the juice is smeared on the forehead for relieving headache (CR 2).

Occurrence : Common, around the hamlets (MR 24442).

Mussaenda bellila Buch. (RUBIACEAE)

Vernacular name : Vellila

Habit : Shrubs

Part used : Roots

Used for : Body pain

Mode of application: The roots are ground to a paste, dissolved in water and administered orally for one week (CR 2).

Occurrence : Common, around the hamlets (MR 24603). (Plate 23. c)

Myristica fragrans Houtt. (MYRISTICACEAE)

Vernacular Name : Jathikay

Habit : Tree

Part used : Fruits

Used for : Stomach ache

Mode of application: The fresh or dried epicarp of the fruit is ground into a paste, dissolved in water and administered orally (CR 2).

Occurrence : Cultivated (MR 24731).

Naravelia zeylanica (Linn.) DC. (RANUNCULACEAE)

Vernacular name : Nikadikkodi, Periya Nikadikkodi

Habit : Climbing herb

Part used : Tender leaves, stem, roots

Used for : Head ache and cold

Mode of application: 1. Fresh roots; leaves and stem are crushed and inhaled thrice daily.

2. The juice of tender stem and leaves is pored on the nasal cavity (CR 2).

Occurrence : Common around the hamlets (MR 24502).

Nervilia plicata (Andr.) Schltr.(ORCHIDACEAE)

Vernacular Name : Nila thamara

Habit : Rhizomatous herb

Part used : Rhizome

Used for : Itches

Mode of application: The fresh rhizomes are ground into a paste, and applied over the affected area (CR 2).

Occurrence : Occassional, found in the moist deciduos forests around the hamlets (MR 24792).

Nicandra physalodes (L.) Gaertn. (SOLANACEAE)

Vernacular Name : Doramottai

Habit : Herb

Part used : Roots

Used for : Blood purification after delivery

Mode of application: The roots are crushed and the decoction prepared from it is administered orally for purifying blood (CR 2).

Occurrence : Occasional, around the hamlets (MR 24668).

Ocimum basilicum Linn. (LAMIACEAE)

Vernacular Name : Ramathulasi

Habit : Herb

Part used : Leaves

Used for : Head ache during sunrise

Mode of application: The leaves of this plant are squeezed along with Malai thulasi (*Ocimum gratissimum*) and administered orally (CR 2).

Occurrence : Cultivated (MR 24702).

Ocimum gratissimum L. (LAMIACEAE)

Vernacular Name : Malai thulasi, Kattuthulasi

Habit : Herb

Part used : Leaves

Used for : Head ache during sunrise

Mode of application: The leaves of this plant are squeezed along with Rama thulasi (*Ocimum basilicum*) and administered orally (CR 2).

Occurrence : Common, around the hamlets (MR 24703).

Ocimum tenuiflorum L. (LAMIACEAE)

Vernacular Name : Thulasi

Habit : Herb

Part used : Leaves

Used for : Head ache

Mode of application: The leaves of thulasi plant along with the seeds of Kaduka (*Brassica campestris*) and Cora (*Elusine coracana*) are ground into a paste and applied over the temple (CR 2).

Occurrence : Common, around the hamlets (MR 24704).

Parahemionitis cordata (Roxb.*ex*Hook. & Grev.) Fraser-Jenk. (HEMIONITIDACEAE)

Vernacular name : Elikkathu, packi kathu

Habit : Herb

Part used : Whole plant

Used for : Ear infection, wouind healing and spider poison

Mode of Application: 1. The whole plant is roasted in coconut oil and used as an eardrop for earache (CR 2).

2. The whole plant is ground into a paste along with manchal (*Curcuma longum*) and applied over fresh wounds.

3. The whole plant is roasted in coconut oil along with Chuvannulli (*Allium cepa*) and smeared over the skin affected by spider poison.

Occurrence : Occasional, in shady places around the hamlets (MR 24901). (Plate 24. e)

Parmotrema grayanum (Hue) Hale (PAMELIACEACEAE)

Vernacular name : kalpasam

Habit : Foliose lichen on rock surface

Part used : Whole plant

Used for : Skin infection, old wounds and boils

Mode of Application: The thallus of this plant along with the thallus of Marapasam (*Hypotrachyna crenata*), Curcuma and salt are ground into paste and roasted in coconut oil and smeared over the wounds, boils and other infected part of the skin (CR 2).

Occurrence : Common, around the hamlets (MR 24927). (Plate 31. d)

Pavetta tomentosa Roxb. ex. J.E. Smith (RUBIACEAE)

Vernacular name : Malai kambala

Habit : Shrubs

Part used : Roots

Used for : Respiratory trouble

Mode of application: The roots are crushed and eaten for respiratory troubles and chest pain (CR 2).

Occurrence : Occasional around the hamlets (MR 24953).

Peperomia portulacoides (Lam.) Dietr.(PIPERACEAE)

Vernacular name : Kal thamarai

Habit : Epiphytic succulent herb

Part used : Whole plant

Used for : Scabies and itches

Mode of application: The whole plant is grounds into a paste and smeared over the body of the children suffering itches and scabies (CR 2).

Occurrence : Occasional, in the evergreen shoals adjoining to hamlets (MR 24726).

Plantago erosa Wall. in Roxb.(PLANTAGINACEAE)

Vernacular Name : Elikkathu cedi

Habit : Herb

Part used : Whole plant

Used for : Earache

Mode of application: The whole plant is crushed and the juice is used as an eardrop during earache (CR 2).

Occurrence : Occasional, around the hamlets (MR 24706).

Phyllanthus amarus Schum. & Thonn. (EUPHOBIACEAE)

Vernacular name : Sirunelli, Kikanelli

Habit : Herb

Part used : Whole plant

Used for : Jaundice

Mode of Application: The whole plant is ground into a paste and dissolved in 'Karad pal' (Milk of black goat) and administered orally for one weak (CR 2).

Occurrence : Common, around the hamlets (MR 24762).

Phyllanthus emblica L. (EUPHORBIACEAE)

Vernacular name : Nellimaram

Habit : Trees

Part used : Bark

Used for : Respiratory troubles

Mode of application: The bark along with the bark of Arum puli (*Bauhinia racemosa)* is dried in sunlight and the powder is dissolved in hot water and given for respiratory troubles (CR 2).

Occurrence : Common, around the hamlets (MR 24763).

Portulaca oleracea L. (PORTULACACEAE)

Vernacular Name : Gonigay

Habit : Herb

Part used : Tender plants, whole plants

Used for : Burns, Diarrhoea and indigestion

Mode of application: 1. The whole plant is ground into a paste along with salt and Turmeric and smeared over the burns (CR 2).

2. The fleshy stem and leaves are cooked along with dhal of Thuvarai (*Cajanus cajan*) and suggested for curing diarrhoea and indigestion.

Occurrence : Common, around the hamlets (MR 24529).

Protasparagus racemosus (Willd.) Oberm. (LILIACEAE)

Vernacular name : Thennaibiri

Habit : Climbing shrub

Part used : Roots

Used for : Respiratory trouble, alimentary

Mode of Application: The root tubers along with Adu kodantha (*Antidesma acidum*) are ground into a paste and dissolved in hot water and administered orally for respiratory problem (CR 2).

Occurrence : Occasional, around the hamlets (MR 24833).

Pseudarthria visida(FABACEAE)

Vernacular name : Elumbu

Habit : Herb

Part used : Roots

Used for : Tooth ache

Mode of Application: The roots are ground into a paste and smeared over the affected area (CR 2).

Occurrence : Common, around the hamlets (MR 24987). (Plate 23. b)

Pterocarpus marsupium Roxb. (FABACEAE)

Vernacular name : Vengi

Habit : Tree

Part used : Bark

Used for : Stomachache and burns

Mode of Application: The bark is crushed and the juice is administered orally for stomach ache (CR 2)

Occurrence : Common, around the hamlets (MR 24468).

Pueraria tuberosa (Roxb. *ex* Willd.) DC. (FABACEAE)

Vernacular name : Kilare kodi, Kalay kodi

Habit : Climber

Part used : Tuberous roots

Used for : Snake bite

Mode of application: The pith of the tuberous roots with deep yellow colour is ground into a paste and applied over the wound due to cobra bite (CR 2).

Occurrence : Common, around the hamlets; occasional, in the forests (MR 24470). (Plate 23. h)

Radermachera xylocarpa (Roxb.) K. Schum. (BIGNONIACEAE)

Vernacular name : Pasadai

Habit : Trees

Part used : Bark

Used for : Rheumatism

Mode of application: Inner bark is ground into a paste and applied on the knees for relieving the pain due to rheumatism (CR 2).

Occurrence : Common, around the hamlets (MR 24684).

Rubia cordifolia L. (RUBIACEAE)

Vernacular name : Sevalikkodi, Mattumanchi

Habit : Climber

Part used : Leaves

Used for : Wound healing

Mode of application: The fresh leaves are crushed and the juice is applied over wounds (CR 2).

Occurrence : Common, around the hamlet and adjoining forest (MR 24606).

Salix tetrasperma Roxb. (SALICACEAE)

Vernacular name : *Meenu vayyemaram*

Habit : Trees

Part used : Bark

Used for : Stomach ache

Mode of application: Few pieces of the bark are ground to a paste and dissolved in water and given for stomach ache (CR 2).

Occurrence : Occasional, around the hamlets (MR 24787). (Plate 23. a)

Selaginella involvens (Sw.) Spring (SELAGINELLACEAE)

Vernacular name : Kalthamarai

Habit : Lithophyte

Part used : Whole plant

Used for : Healthy hairs

Mode of application: The plant is dried in shade and powdered well, cooked in coconut oil and applied over the head for cooling effect, hair lies and nourishment of hair (CR 2).

Occurrence : Common around the hamlets (MR 24904). (Plate 24. h)

Scoparia dulcis L. (SCROPHULARIACEAE)

Vernacular Name : Rakthasuthi

Habit : Herb

Part used : Whole plant

Used for : Skin diseases and blood purification

Mode of application: The whole plant is ground into a paste and mixed with oil and applied over the body for curing various skin diseases like scabies, itches, abscess etc., The tribals believe that the application of the paste, over the external part of the body, would purify their blood and cure the skin diseases (CR 2).

Occurrence : Common around the hamlets (MR 24677).

Senna occidentalis (L.) Link (FACBACEAE)

Vernacular name : Shendagaiai, Dagarai

Habit : Annual herb

Part used : Leaves

Used for : Worm trouble

Mode of application: The tender leaves of this plant along with kathank (*Vernonia ceneria*) Ilippuka (*Corchorus aestuans*) and Thakara (*Cassia tora*) are cooked and given to the children for worm trouble (CR 2).

Occurrence : Common, around the hamlets (MR 24484).

Senna tora (L.) Roxb.(FABACEAE)

Vernacular Name : Thakarai

Habit : Herb

Part used : Roots

Used for : Fever and headache, Anaemia

Mode of application: 1. A few pieces of roots along with roots of (*Mimosa pudica*) and Cetti (*Ixora coccinea*) ground in equal quantity by adding water is smeared over the temple.

2. Cooked leaves are given to pregnant ladies for recovering Anaemia (CR 2).

Occurrence : Common, around the hamlets and occasional in the forests (MR 24483).

Sida rhombifolia L. (MALVACEAE)

Vernacular Name : Kurumthotti

Habit : Herbs

Part used : Roots and leaves

Used for : Head ache

Mode of application: Mashed roots and leaves are applied over forehead before taking a bath. (CR 2)

Occurrence : Common, around the hamlets (MR 24547).

Solanum americanum Mill. (SOLANACEAE)

Vernacular name : Kakkai keerai, Sukkuthi keerai

Habit : Annual herb

Part used : Leaves

Used for : Fever, Worm trouble

Mode of application: 1. Leaf juice of this plant is administered orally for fever. (CR 2)

2. The leaves are cooked and the delicious kakkai dag is given against worm trouble.

Occurrence : Common, around the hamlets (MR 24672).

Spatholobus parviflorus (Roxb. *ex* DC.) O. Ktze.,(FABACEAE)

Vernacular Name : Muthanku Kodi

Habit : Lianas

Part used : The bark

Used for : Dysentery

Mode of application: The bark is ground into a paste and dissolved in water and administered orally for curing dysentery (CR 2).

Occurrence : Common, around the hamlets (MR 24472).

***Spirogyra* sp.** (ZYGNYMACEAE)

Vernacular name : Pachappasaru

Habit : Green algae

Part used : Thallus

Used for : Skin infection

Mode of application: The dried thallus is powdered, roasted in coconut oil and poultice applied over the affected area with skin infection in children (CR 2).

Occurrence : Common, in the streams of the hamlets (MR 24930). (Plate 23. e)

Sterculia guttata Roxb. ex. DC. (STERCULIACEAE)

Vernacular name : Achane

Habit : Trees

Part used : Roots

Used for : Gynaecological problems.

Mode of application: The roots are ground into a paste and given to ladies after childbirth to expel the placenta (CR 2).

Occurrence : Common, around the hamlets (MR 24408).

Sterculia urens Roxb. (STERCULIACEAE)

Vernacular name : Pasavu

Habit : Trees

Part used : Bark

Used for : Epilepsy

Mode of application: The bark is ground into a paste along with the leaf juice of Parisa Knchi (*Dalbergia lanceolaria*) and whole plant juice of shuloui kizhunku (*Costus speciosus*) applied over the body of children during bathing for curing 'Kakaivali' (a type of epilepsy CR 2).

Occurrence : Common, around the hamlets (MR 24410). (Plate 22. g)

Stereospermum colais (Buch.-Ham. *ex* Dillw.) Mabb. (BIGNONIACEAE)

Vernacular name : Pathiri

Habit : Trees
Part used : Tender leaves
Used for : Fever
Mode of application: Few tender leaves of this plant is ground into a paste and mixed with almost two tablespoon of breast milk, is suggested for relieving fever especially for children (CR 2).
Occurrence : Common, around the hamlets (MR 24683).

Syzygium cumini (L.) Skeels (MYRTACEAE)
Vernacular Name : Njaval, Nara
Habit : Tree
Part used : Bark
Used for : Toothache and swelling
Mode of application: The bark is crushed along with Kathivettu (*Mallotus philippense*) and the salve is applied over the aching tooth and swelling (CR 2).
Occurrence : Common, around the hamlets (MR 24557).

Tamarindus indica L. (FABACEAE)
Vernacular name : Pulinchi, Puli
Habit : Tree
Part used : Fruits and Leaves
Used for : Headache, abscess
Mode of Application: 1. The paste of fruit pulp is smeared over the forehead for an hour for relieving headache.
2. The paste of tender leaves is smeared over the body part having abscess (CR 2).
Occurrence : Common, around the hamlets (MR 24486).

Tectaria coadunata (Js.Sm.) C.Chr.(DRYOPTERIDACEAE)
Vernacular name : Sorisuruli
Habit : Herb
Part used : Whole plant
Used for : Scabies and ithches
Mode of Application: The whole plant is ground into a paste and smeared over the affected raea (CR 2).
Occurrence : Common, around the hamlets (MR 24905). (Plate 25. g)

Tinospora cordifolia (Willd.) Hook.f. & Thoms. (MENISPERMACEAE)

Vernacular name : Chitathala

Habit : Climber

Part used : Leaves

Used for : Furuncle

Mode of Application: The leaves are roasted in coconut oil and ground into a paste, is applied over the affected area (CR 2).

Occurrence : Common, around the hamlets (MR 24512).

Tinospora sinensis (Lour.) Merr. (MENISPERMACEAE)

Vernacular name : Perum Chita

Habit : Climber

Part used : Arial roots

Used for : Hair growth

Mode of Application: The arial root cut in to small pieces, roasted in coconut oil along with thallus of *Usnea subchalybaea* and applied over the hair (CR 2).

Occurrence : Common, around the hamlets (MR 24512).

Terminalia bellarica (Graeuter.) Roxb. (COMBRETACEAE)

Vernacular name : Thannimaram

Habit : Trees

Part used : Inner bark

Used for : Jaundice, Allergy

Mode of application: 1. The inner bark of this tree along with roots of Kolukkatai (*Thespesia lampas)* are ground into a paste and dissolved in one glass full of Karadu milk (milk of black goat) and given in the early morning for the persons suffering from jaundice (CR 2).

2. The leaf paste is applied as an antidote over the blisters formed on the skin due to the contact of Cheru maram (*Semecarpus anacardium*) (CR 1).

Occurrence : Common, around the hamlets (MR 245550).

Thespesia lampas (Cav.) Dalz. & Gibs.(MALVACEAE)

Vernacular name : Kolukkattai

Habit : Shrubs

Part used : Whole plant

Used for : Jaundice, rheumatism

Mode of application: 1. The root of this plant along with inner bark of Thannitholi (*Terminalia bellarica*) is ground into a paste and dissolved in one glass full of Karadu milk (milk of black goat) and given in early morning for a person suffering from jaundice up to one week (CR 2).

2. The roots of this plant (2 or 3 pieces) ground into a paste and dissolved in hot water is administered orally for one week for rheumatism (CR 2).

Occurrence : Common, around the hamlets (MR 24401).

Thunbergia fragrans Roxb.(ACANTHACEAE)

Vernacular name : Sattai kodi

Habit : Herb

Part used : Roots

Used for : Stomachache

Mode of Application: Roots along with roots of Irumooli (*Achyranthes aspera*) are crushed and the juice is taken as an infusion for stomach ache (CR 1).

Occurrence : Common around the hamlets (MR 24689).

Tridax procumbens L.(ASTERACEAE)

Vernacular name : Vada Erukku

Habit : Herb

Part used : Whole plant

Used for : Wound healing, pain in legs

Mode of Application: 1. Leaf paste is smeared over fresh wounds.

2. The whole plant is crushed and the juice is smeared over painful joints in legs (CR 2).

Occurrence : Common, around the hamlets (MR 24618).

Trema orientalis (L.) Blume (ULMACEAE)

Vernacular name : Amai thalai

Habit : Tree

Part used : Bark

Used for : Respiratory trouble

Mode of use : The juice obtained by crushing of the bark is administered orally for respiratory troubles (CR 1).

Occurrence : Occasional, in neighbouring forest areas (MR 24773).

Triumfetta pilosa Roth(TILIACEAE)

Vernacular name : Virisi kodi

Habit : Herb

Part used : Roots

Used for : Diarrhea

Mode of use : The juice obtained by crushing the roots is administered orally (CR 2).

Occurrence : Occasional, in the neighbouring forest areas (MR 24413).

Triumfetta rhomboidea Jacq. (TILIACEAE)

Vernacular name : Cheruvirisi

Habit : Herb

Part used : Leaves

Used for : Furuncle, abcess

Mode of use : The leaves along with lime and salt is ground into a paste and applied over the affected area (CR 2)

Occurrence : Common, around the hamlets (MR 24414).

Usnea subchalybaea Zahlbr. (USNEACEAE)

Vernacular name : Maraganchi

Habit : Fruiticose lichen on trees

Part used : Whole plant

Used for : Hair lies and nourishment of hair

Mode of Application: The thallus of this lichen along with tender aerial roots of Alu (*Ficus benghalensis*) are ground into a paste and roasted in coconut oil and smeared over the hairs and massage thoroughly ,for good growth and healthy hairs (CR 2).

Occurrence : Occasional, around the hamlets (MR 24928).

Vernonia cinerea (L.) Less. (ASTERACEAE)

Vernacular name : Kathanku

Habit : Herb

Part used : Whole plant
Used for : worm trouble
Mode of Application: The juice of the whole plant is applied over the anus of children for killing hookworms (CR 2).
Occurrence : Common, around the hamlets (MR 24620).

Viscum orientale Willd (VISCACEAE)
Vernacular name : Murassu
Habit : Parasitic herb
Part used : Whole plant
Used for : Strengthening the bones
Mode of Application: The whole plant is ground into a paste and smeared over the leg of children with very slender legs and having mal formed bones (CR 2).
Occurrence : occasional, on trees around the hamlets (MR 24741).

Wattakaka volubilis (L. f.) Stapf.(ASCLEPIADACEAE)
Vernacular name : Vizhiri valli, Vippiri valli
Habit : Climber
Part used : Roots
Used for : Abscess
Mode of application: Roots are ground into a paste and applied over the swellings due to wounds (CR 2).
Occurrence : Common, around the hamlets (MR 24648).

Wrightia tinctoria (Roxb.)R.Br. (APOCYNACEAE)
Vernacular name : Palai
Habit : Medium tree
Part used : Leaves, bark, and milky latex
Used for : Psoriasis, Skin diseases and tooth carries.
Mode of application: 1. The peelings of bark are grounds into a paste and applied for skin infections such as Psoriasis, itches and scabies (CR 2).
2. The leaves are chewed for toothache (CR 2).
Occurrence : Common, around the hamlets (MR 24642).

Zizyphus rugosa Lam. (RHAMNACEAE)
Vernacular name : Thodali

Habit : Large shrubs
Part used : Tender leaves
Used for : Itching
Mode of application: The peelings of bark along with the bark of Palaimaram (*Wrightia tinctoria*) are ground into a paste and applied over the skin for itching sensations (CR 2)
Occurrence : Common, around the hamlets (MR 24432).

5. 7. 3. 3. 2. Veterinary Medicine

Allophylus cobbe (L.) Raeusch.,(SAPINDACEAE)
Vernacular name : Thavutta
Habit : Shrub
Part used : Roots
Uesd for : Paralysis due acute rheumatism
Mode of application: The roots are ground into a paste and applied over the paralysed part of the cattle due to acute rheumatism (CR 2).
Occurrence : Occasional, around the hamlets (MR 24438).

Cipadessa baccifera (Roth.) Miq. (MELIACEAE)
Vernacular name : Pookolli
Habit : Shrub or small trees
Part used : Twig with tender leaves
Uesd for : Wound healing
Mode of application: The twig grounds into a paste and applied over the wounds infested with worms especially the naval of the calves and vagina of the cows (CR 2).
Occurrence : Occasional, around the hamlets (MR 24947). (Plate 23. g)

Datura metel L. (SOLANACEAE)
Vernacular name : Ummathu
Habit : Herb
Part used : Roots and fruits
Used for : Wound healing
Mode of application: The roots are ground into paste and applied on furuncle and wounds.

The fruit pulp along with Pukalai (*Nicotiana tabacum*), lime and Koyyila (leaves of *Psidium guajava*) are ground into a paste and applied over the deep wound of livestock infested with worms especially naval of calves (CR 2).

Occurrence : Common, around the hamlets (MR 24666).

Desmodium triflorum (L.) DC. (FABACEAE)

Vernacular name : Nile pulichedi

Habit : Prostrate herbs

Part used : Whole plant

Used for : Wound healing

Mode of application: The whole plant is ground into a paste and smeared over the wounds of livestock (CR 2).

Occurrence : Common, around the hamlets (MR 24459).

Erythrina variegata L. (FABACEAE)

Vernacular Name : Murukku

Habit : Tree

Part used : Leaves

Used for : Acute infection in wounds of calves

Mode of application: The leaves of this plant along with bamboo shoot (*Bambusa bambos*) and Kattumavin tholi (Bark of wild *Mangifera indica*) are ground into paste and applied over the deep wounds of livestock infested with worms (CR 2).

Occurrence : Common, around the hamlets (MR 24462).

Fagraea ceylanica Thunb. (LOGANIACEAE)

Vernacular name : Kalmurali

Habit : Epiphytic Shrub or small tree

Part used : Leaves

Used for : Foot and mouth diseases of livestock.

Mode of application: The leaves are ground into a paste and smeared over the wounds after thorough wash with hot water and plant ash (CR 2).

Occurrence : Occasional, on trees of the evergreen forests adjoining to the hamlets (MR 24653).

Ficus hispida L. f. (MORACEAE)

Vernacular name : Thunali

Habit : Trees

Part used : Leaves and bark

Used for : Release of placenta and to induce lactation

Mode of application: 1. The leaves given are fed to cattles after delivery to expel the placenta, easily.

2. The bark peelings along with the bark of Pila (*Artocarpus heterophyllus*) and Athimaram (*Ficus racemosa*) are ground into a paste and dissolved in water and given for increasing the milk production in cattles (CR 2).

Occurrence : Common, around the hamlets (MR 24782).

Ficus racemosa L. (MORACEAE)

Vernacular name : Athi

Habit : Trees

Part used : Bark

Used for : Stomachache

Mode of application: The bark is kept for 24 hours in water and the water is administered orally for stomach ache (CR 2).

Occurrence : Common, around the hamlets (MR 24783).

Schefflera venulosa (Wight & Arn.) Harms (ARALIACEAE)

Vernacular name : Malaimaruli

Habit : Small tree

Part used : Tender leaves and bark

Used for : Ringworm

Mode of application: The paste of tender leaves and bark is applied over the body of goats and other livestock against ringworm infections (CR 2).

Occurrence : Occasional, in the evergreen shoals around the hamlets (MR 24594).

5. 7. 3. 4. Miscellaneous plants uses

5. 7. 3. 4. 1. Fibre yielding plants

Bauhinia racemosa Lam. (FABACEAE)

Vernacular name : Aram puli
Habit : Tree
Part used : the fibres obtained from bark
Mode of use : The fresh bark fibres are peeled from wood and kept for one or two days for long duration (CR 1).
Occurrence : Common, around the hamlets and neighbouring areas (MR 24477).

Caryota urens L. (ARECACEAE)

Vernacular name : Koontha panai naru
Habit : Tree
Part used : Fibres obtained from peduncle of leaves and infrutescence
Mode of use : 1. The fibres peeled from the peduncle is dried in sunlight and whenever needed it is kept in water for sometime.
2. The fresh fibres from the infrutescence branches are directly used as a fibre (CR 1).
Occurrence : Common, around the hamlets (MR 24844).

Ficus racemosa L. (MORACEAE)

Vernacular name : Athi naru
Habit : Tree
Part used : the fibres obtained from bark
Mode of use : The fresh bark fibres peeled from wood and kept for one or two days (CR 1).
Occurrence : Occasional, around the hamlets and in the moist deciduous forests around the hamlets (MR 24783).

Grewia tiliifolia Vahl. (TILIACEAE)

Vernacular name : Lummai naru
Habit : Tree
Part used : the fibres obtained from bark

Mode of use : The fresh bark fibres peeled from wood and kept for one or two days for getting long duration (CR 1).

Occurrence : Common, around the hamlets and the moist deciduous forests (MR 24937).

Helicteres isora L. (STERCULIACEAE)

Vernacular name : Kevri

Habit : Small tree

Part used : the fibres obtained from bark

Mode of use : The fresh bark fibres peeled from wood and kept in sunlight for one or two days for getting long duration (CR 1).

Occurrence : Occasional, in the neighbouring forest areas (MR 24406)

Sterculia villosa Roxb. *ex* DC. (STERCULIACEAE)

Vernacular name : Vakka naru

Habit : Tree

Part used : The fibres obtained from bark

Mode of use : The fresh bark fibres peeled from wood and kept in sunlight for one or two days for long duration (CR 1).

Occurrence : Occasional, in neighbouring forest areas (MR 24409).

Trema orientalis (L.) Blume (ULMACEAE)

Vernacular name : Amai naru

Habit : Tree

Part used : The fibres obtained from bark

Mode of use : The fresh bark fibres peeled from wood and kept in sunlight for one or two days for getting long duration (CR 1).

Occurrence : Occasional, in the neighbouring forest areas (MR 24773).

5. 7. 3. 4. 2. Plants for Fish stupefaction

Acacia torta (Roxb.) Craib (FABACEAE)

Vernacular name : Kattu Cheenikai

Habit : Climbing shrub

Part used : fruits

Mode of use : The fruits are crushed and dissolved in water of small streams or selected areas of river with fishes (CR 1).

Occurrence : Occasional, in the moist deciduous forests of the adjoining areas (MR 24489).

Bambusa bambos (L.) Voss. (POACEAE)

Vernacular name : Moongkuruthu

Habit : Tree grass

Part used : Tender shoots

Mode of use : The tender shoots are crushed and the juice is dissolved in the streams with fishes (CR 1).

Occurrence : Common, in the moist deciduous forests around the hamlets (MR 24867).

Cycas circinalis L. (CYCADACEAE)

Vernacular name : Eathapattai

Habit : Tree

Mode of use : The tender leaves are crushed and dissolved in streams (CR 1).

Occurrence : Common, in the moist deciduous forests around the hamlets (MR 24887).

Canthium rheedei DC. (RUBIACEAE)

Vernacular name : Karakkay

Habit : Small tree

Mode of use : The fruits are crushed and dissolved in water of small streams or selected areas of river with fishes (CR 2).

Occurrence : Occasional, in the neighbouring forest areas (MR 24597).

Catunaregam spinosa (Thunb.) Tirveng. (RUBIACEAE)

Vernacular name : Malankara

Habit : Small tree

Mode of use : The fruits are crushed and dissolved in water of small streams or selected areas of river with fishes (CR 2).

Occurrence : Occasional, in neighbouring forest areas (MR 24605).

Caryota urens L. (ARECACEAE)

Vernacular name : Eranpana, Koontha panai
Habit : Tree
Part used : Fruits
Mode of use : The fruits are crushed and dissolved in water of small streams or selected areas of river with fishes (CR 1).
Occurrence : Common around the hamlets (MR 24844).

Diospyros cordifolia Roxb. (DIOSPYRACEAE)
Vernacular name : Vakkanai maram
Habit : Tree
Part used : Leaves and branches
Mode of use : The leaves along with branches are crushed and the juice is dissolved in streams (CR 1).
Occurrence : Common, in the moist deciduous forests adjoining to the hamlet (MR 24632).

Dendrocalamus strictus (Roxb.) Nees (POACEAE)
Vernacular name : Koravanmoongkuruthu
Habit : Tree grass
Part used : Tender shoots
Mode of use : The tender shoots are crushed and the juice is dissolved in the streams with fishes (CR 1).
Occurrence : Common, in the moist deciduous forests and dry forests around the hamlets (MR 24873).

Sapindus trifoliata L. (SAPINDACEAE)
Vernacular name : Urunchi pattai
Habit : Tree
Part used : fruits
Mode of use : The fruits are crushed and dissolved in water of small streams or selected areas of river with fishes (CR 1).
Occurrence : Common, in the neighbouring forest areas of the hamlets (MR 24441).

Strychnos nux-vomica L. (LOGANIACEAE)
Vernacular name : Kanchiram
Habit : Tree

Part used : Fruits and leaves

Mode of use : The fruits or leaves are crushed and dissolved in water of small streams or selected areas of river with fishes (CR 1).

Occurrence : Occasional, in the neighbouring forest areas (MR 24654).

5. 7. 3. 4. 3. Plants as repellents

Azadirachta indica A. Juss. (MELIACEAE)

Vernacular name : Veepumaram

Habit : Tree

Part used : Oil, leaves

Used for : Leach and insect repellent

Mode of application: 1. The oil is mixed along with salt, powder of pukalai (*Nicotiana tabacum*) and smeared over the external parts of the body exposed to leaches (CR 1).

2. The leaves are mixed along with seeds before storing to free it from insects (CR 1).

Occurrence : Common, in the plains and adjoining areas of the hamlets (MR 24427).

Briedelia scandens (Roxb.) Willd. (EUPHORBIACEAE)

Vernacular name : Gonchay Kodi

Habit : Scandent shrubs

Part used : Bark

Used for : Leach repellents

Mode of use : The bark is crushed and the juice is applied over the external part of the body exposed to leaches (CR 1).

Occurrence : Common, around the hamlets (MR 24752).

Canarium strictum Roxb.(BURSERACEAE)

Vernacular name : Kunkillyam

Habit : Tree

Part used : Resin

Used for : Repellents of insects

Mode of use : The resin collected from the wood is put on fire during night hours for repelling the harmful insects (CR 1).

Occurrence : occasional, in the adjoining forest areas (MR 24426).

Capsicum annuum L. (SOLANACEAE)

Vernacular name : Malakay
Habit : Herb
Part used : Dried fruits
Used for : Repellents
Mode of use : The dried seeds are kept along with stored garins as a repellent for insects (CR 1).
Occurrence : Cultivated (MR 24664).

Capsicum frutescens Calark (SOLANACEAE)

Vernacular name : Cheenimalakay
Habit : Herb
Part used : Dried fruits
Used for : Repellents and insecticide
Mode of use : 1. The dried seeds are kept along with stored garins as a repellent for insect.
2. The fruit are crushed and dissolved in urine of cows or goats are sprayed in crops affected by diseases (CR 1).
Occurrence : Cultivated (MR 24665).

Cyclea peltata (Lam.) Hook. f. & Thoms. (MENISPEMACEAE)

Vernacular name : Padakilangu
Habit : Herb
Part used : Tuberous roots
Used for : Leach repellents
Mode of use : The tuberous roots are roasted in coconut oil along with salt smeared over the areas of the external parts of the body exposed to leaches (CR 1).
Occurrence : occasional, in the adjoining forest (MR 24510).

Davallia bullata Wall. *ex* Hook. (DAVALLIACEAE)

Vernacular name : Kal vasambu
Habit : Epiphytic herb
Part used : whole plant
Used for : Repellents of snakes and insects

Mode of use : The whole plant is crushed and the juice is sprinckled around the huts for repelling snakes and harmful insects (CR 1).

Occurrence : Ocasional, in the adjoining sholas (MR 24895).

Harpullia arborea (Blanco) Radlk. (SAPINDACEAE)

Vernacular name : Pookoli maram

Habit : Tree

Part used : bark

Used for : Leach repellents

Mode of use : The bark is crushed and the juice is smeared over the external parts of the body exposed to leaches (CR 1).

Occurrence : occasional, in the adjoining forest areas (MR 24440).

Piper nigram L (PIPERACEAE)

Vernacular name : Kurumalakay

Habit : Climber

Part used : Dried fruits

Used for : Repellents

Mode of use : The dried seeds are kept along with stored garins as a repellent for insects (CR 1).

Occurrence : Cultivated (MR 24729).

Rubia cordifolia L. (RUBIACEAE)

Vernacular name : Sevalikkodi, Mattumanchi

Habit : Climber

Part used : Roots

Used for : Insect repellents in stored grains

Mode of application : The pieces of dried roots are mixed with the seeds before storing to keep it free from insects (CR 1).

Occurrence : Common, around the hamlet and adjoining forest (MR 24606).

Solanum virginianum L. (SOLANACEAE)

Vernacular name : Mullukathrica

Habit : herb

Part used : fruits

Used for : Leach repellents

Mode of use : The fruits are crushed and the juice is smeared over the external parts of the body exposed to leaches (CR 1).

Occurrence : Occasional, in the plains and neighbouring forests (MR 24676).

Strychnos nux-vomica L. (LOGANIACEAE)

Vernacular name : Kanchiram

Habit : Tree

Part used : Fruits and leaves

Used for : Insect repellents

Mode of use : The leaves are mixed along with the seeds before storing to keep it free from insects (CR 1).

Occurrence : Occasional, in the neighbouring forest areas (MR 24654).

Vateria indica L.

Vernacular name : Vella Kunkillyam

Habit : Tree

Part used : Resin

Used for : Repellents of insects

Mode of use : The resin collected from the wood is put on fire during night hours for repelling harmful insects (CR 1).

Occurrence : occasional, in adjoining forest areas (MR 24537).

Zingiber officinale Rosc.

Vernacular name : Sukku

Habit : Climber

Part used : Dried rhizomes

Used for : Repellents

Mode of use : The dried seeds are kept along with the rhizomes as a repellent for insects (CR 1).

Occurrence : Cultivated (MR 24808).

5. 7. 3. 4. 4. Plants as soaps and shampoo

Acacia sinuata (Lour.) Merr. (FABACEAE)

Vernacular name : Cheenikai

Habit : Climbing shrub
Part used : Fruits and bark
Used for : Soap
Mode of use : The fruits or bark is crushed and the foam is applied over the dresses while washing (CR 1).
Occurrence : Occasional, in the moist deciduous forests of the adjoining areas(MR 24488).

Grewia tiliifolia Vahl. (TILIACEAE)
Vernacular name : Lummai maram
Habit : Tree
Part used : Bark
Used for : Shampoo
Mode of use : The juice obtained from the bark is used as a shampoo (CR 1).
Occurrence : Common, around the hamlets and the moist deciduous forests (MR 24937).

Hibiscus rosa-sinensis L. (MALVACEAE)
Vernacular name : Addukuchembarathi
Habit : Shrub
Part used : Leaves
Used for : Shampoo
Mode of use : The leaves are crushed along with water and mucilaginous extract is used as a shampoo (CR 1)
Occurrence : Common, around the hamlets, also cultivated as ornamental plant (MR 24541)
Occurrence : Common (MR 24541).

Kydia calycina Roxb. (MALVACEAE)
Vernacular name : Vekki maram
Habit : Tree
Part used : Bark
Used for : Shampoo
Mode of use : The juice obtained from the bark is used as a shampoo (CR 1).

Occurrence : Common, around the hamlets and the moist deciduous forests (MR 24543).

Sapindus trifoliata L. (SAPINDACEAE)

Vernacular name : Pooch kottai
Habit : Tree
Part used : fruits
Used for : Soap
Mode of use : The fruits or bark is crushed and the foam is applied over the dresses while washing (CR 1).
Occurrence : Common, in the neighbouring forest areas (MR 24441).

Sida rhombifolia L. (MALVACEAE)

Vernacular name : Kurunthotti
Habit : Herb
Part used : Leaves
Used for : Shampoo
Mode of use : The leaves are crushed along with water and mucilaginous extract is used as a shampoo (CR 1).
Occurrence : Common around the hamlets (MR 24597)

5. 7. 3. 4. 5. Plants for coagulating milk

The milk is generally consumed in the form of curd, by using coagulants of plant origin. The peelings of the bark of *Palai maram* (*Wrightia tinctoria*), fruit pulp of Puli (*Tamarindus indica*) and crushed fruit of Chundai (*Solanum torvum*) are generally used for coagulating milk. The coagulated milk is cut into small pieces and eaten as raw.

5. 7. 3. 4. 6. Plants in Beliefs

According to Mudugars, the trees like, Palai (*Alstonea scholaris*), Athimaram (*Ficus racemosa*), Alamaram (*Ficus benghalensis, Ficus religiosa*) are the domiciles of Peyi (evil spirits) and called as Peyimarams. The fresh green culm of the bamboo is considered as the symbol of purity and is used to carry the corpse to the burial ground. They believe that, the plant *Erangu seenkai* (*Dalbergia horrida*) is with ultimate power and also wards off evil spirits, snakes and other harmful organisms. The ripend fruits of Kookiri valli

(Mucuna pruriens) along with powdered seeds of jeenimulakay is placed in the path of enemies and it is believed that, the mythical power of these plants, keep away their enemies and harmful animals.The bunch of Vanchi (*Homonoia riparia*) is knotted in Thuvarai chedi (*Cajanus cajan*) is believed to increase the yield. It is belived that if the paste of the rhizome of Marachembu (*Remusatia vivipara*) or Naychembu (*Arisaema tortuosum*) (Plate 33. e & f) are applied over the teeth of dogs before going for hunting, it will increase the efficiency of the dog while hunting. The tuberous roots of Malaimukki (*Cissampelos pareira*) are crushed and the juice dissolved in water is spayed over Thuvarai (*Cajanus cajan*) is believed to increase the yield.

It is also believed that, if the twig of Netharu (*Breynia retusa*) touches a root tuber, it affects the cooking property, due to the mythical effect of the plant. Certain plant is attributed to supernatural beliefs among the Mudugars. The *Mukharasi* is such a drug which is believed to give powers to attract or direct any person when applied over the forehead, especially if, a man needs a women or viceversa. The mukharasi is a combination of several plants, such as bark of Sinnathi (*Ficus microcarpa*), Periathi (*Ficus drupacea*), Siral (*Ficus tinctoria*), Peral (*Ficus beghalensis*) and Anai vanaki (*Dendrosnide sinnuata*); whole plant of Sirunankai (*Striga angustifolia*), Perunankai (*Andrographis paniculata*), Poonaivanaki (*Adiantum philippense*), soochi sappa (*Equistetum ramosissimum sub sp. Debile*); bulbils of Thanai vananki (*Bolbitis subcrenata*) and velamen roots of Maravazha (*Aerides maculosum*). The above mentioned plant parts are ground into a paste and smeared over the forehead and spell manthras in the name of the person to be attracted.

5. 7. 3. 4. 7. Plants in worships and religious rituals

They worship the veppamaram (*Azadirachta indica*) as the domicile of Goddess Mariyatha and believe that their Goddesses live under the Alamaram (*Ficus benghalensis*), Pongamaram (*Pongamia pinnata*) and cutting of these trees are taboo.

The fresh green culms of bamboos are considered to ward off evils spirits. The leaves of Mangaimaram (*Mangifera indica*) and Cheruthala (*Aerva lanata*), Aviram poo (*Senna auriculata*) are placed in front of the huts during festivals and are considered as the agents for purification, protection from evil spirits and evil eyes.

5. 7. 3. 4. 8. Plants mentioned in traditional songs

There are few plants, Veppamaram (*Azadirachta indica*), Alamaram (*Ficus spp.)* and Mungamaram (*Bambusa bambos*) that are mentioned several times in some of their traditional songs.

5. 7. 3. 4. 9. Plants in proverbs

The plants like Vakamaram (*Albizia spp.),* Vanchi (*Homanoia riparia*), Edalamaram (*Olea dioica*) are mentioned in some of their proverbs.

Vakaikkoru Kalm, Vanchikkoru Kalam- For indicating good and bad occasions in life.

Edalamaram chudulukkum Akathu - The tree named Edala (*Olea dioica*) is not a useful tree even as firewood.

5. 7. 3. 4. 10. Plants with Ecological importance

The Attappady valleys are with sloppy terrain and soil erosion is maximum owing to slash and burn cultivation. It is also observed that Moongamaram (*Bambusa bambos*) and Pongu maram (*Pongamia pinnata*) are planted around the hamlets as a protection from wind.

5. 7. 3. 4. 11. Plants in material culture

A. Musical instruments

Dhavil

Used for : Making the sound of a drum during traditional occasions.

Material used : The wood of Vengaimaram (*Pterocarpus marsupium)* or Kummulumaram (*Gmelina arborea)* and skin of animals.

Mode of making : The cortex and pith of the wood is removed by carving, the open end is covered by the treated skin of animals such as ox, buffalos *etc.* and used as a drum like instruments.

Kuzhal

Used for : Making the sound like a bugle during traditional occasions.

Material used : The carved wood of Palai maram (*Wrightia tinctoria*) along with metal parts.

Mode of making : The cortex and pith of the wood is removed by carving, the cup like mouth is made from brass.

B. Basketries

Gummey

Used for : Collecting storing gains in large quantities

Material used : The culms of Mungai mram (*Bambusa bambos*)

Mode of making : The long culm is woven in the form of basket.

Girasi

Used for : Drying garins

Material used : The culms of Mungai maram (*Bambusa bambos*)

Mode of making : The culms are woven into a flat structure and placed above the furnace.

Koodai

Used for : Collecting storing seeds

Material used : The culms of Mungai maram (*Bambusa bambos*)

Mode of making : The long culms are woven in the form of basket.

Kullukke

Used for : Collecting storing gains in large quantities

Material used : The culms of Mungai maram (*Bambusa bambos*)

Mode of making : The long culms are woven in the form of basket.

Muram

Used for : Collecting storing seeds

Material used : The culms of Mungai maram (*Bambusa bambos*)

Mode of making : The culm fibres are woven in the form of basket.

Puttuthekku

Used for : Collecting and storing powdered grains

Material used : The culms of Mungai maram (*Bambusa bambos*)

Mode of making : The fibers of culm are woven in the form of basket

Rajikave

Used for : Removing the grass from the agricultural field

Material used : The culms of Mungai maram (*Bambusa bambos*)

Mode of preparation: The culm isused as a handle and at base it is woven in a manner to trap grasses.

Thukkuthekku

Used for : Sawing seeds

Material used : The culms of Mungai maram (*Bambusa bambos*)

Mode of making : The fibers of culm woven in the form of basket (Plate 20. h & i).

C. Ornaments

The leaves of Kattu thengu (*Arenga wightii*) and Kaithathalai (*Pandanus thwaitesii*) are rolled in a special manner like a disc, called *Oalai* inserted in the holes made in the posterior portion of the ear lobes that are sufficiently dilated to contain them. The seeds of Muthukaya (*Coix lacryma jobi*) are used for making chains.

D. Traditional marks

The exudates of Venga (*Pterocarpus marsupium*) and Unnam kodi (*Argyreia nervosa*) are used for making beauty spots. The milky latex is allowed to exude with the help of small wound in the stem and the sticky gum is placed at the centre of the forehead.

E. Tooth cleaner

The plants and parts used for cleaning of tooth are; stem of Veppai maram (*Azadirachta indica*), Petiole of the mature leaves of (*Mangifera indica*) and Charcoal obtained from burning of Munga maram (*Bambusa bambos*).

F. Cloths

According to the elder members of this community they wore flattened and cured bark of Aranjali (*Antiaris toxicaria*) as cloth fifty years ago.

G. Bathing brush

The fibrous fruit cover of Peaikin kay (*Luffa acutangula*), Perin peekin kay (*Luffa cylindrica*) are used as brush while bathing. The bark fiber of Kattu seenkai (*Acacia torta*) are also used as a bathing brush.

H. Traditional house construction

The traditional houses are generally made up of bamboo. Pillars and other poles are generally made up of Mungamaram (*Bambusa bambos*), Churuli maram (*Mesua ferrea*), Veetimaram (*Dalbergia latifolia*), Vakaimaram (*Albizia odoratisima*) *etc.* The walls of houses are made up of Munga maram (*Bambusa Bambusa*) splitted, flattened and plastered along with mud. Thatching is done

by Dharvai pullu (*Imperta cylindrica*) and Kavara pullu (*Pennisetum polystachyon*).

I. House hold article

Uralu

Used for : as a mortar

Material used : The wood of Vengai maram (*Pterocarpus marsupium*)

Mode of making : The cortex and pith of the wood is removed by carving.

Ulakkai

Used for : as pestle

Material used : The wood

Mode of making : The mature wood Churuli (*Mesua ferrea*) is carved in the form a pestle and the outer portion is smoothened by continuous rubbing.

Brooms

The dried twigs of Kurumthotti (*Sida rhombifolia*), Aliyan kurumthotti (*Sida cordifolia*) is tied and used as brooms. The leafy twigs of Esa (*Phoenix loureirii* var. *humilis*) is also used as a broom.

Cooking Utensils

The large culm of Mungamaram (*Bambusa bambos*) is used for preparing food. The rice with adequate amount of water is added through the small opening made in the internodes, and then the hole is covered and put in fire for some time. According to the tribals, the cooked rice in bamboo culms is one of the most delicious foods available to them.

Water bottles and storing bottles

The large culms of Munagamaram (*Bambusa bambos*) was used for collecting and storing water in olden days. The dried culms are also used for collecting and storing honey and food items.

Plates

Leaves of Muthangu (*Butea monosperma*), Kalluvazhai (*Ensete superbum*) and Thekku (*Tectona grandis*), Podukanni (*Macaranga peltata*) and Vazha(*Musa paradasiaca*) are used for serving food.

Vessel cleaning

The leaf of Therakam (*Ficus exasperata*) along with other plant ashes is used as cleaning agent for brass vessels.

J. Decoration

Kalluvazha (*Ensete superbum*), Kunnan Vazha (*Musa paradasiaca*) Enthusoppu (*Cycas circinalis*), Koontha pana (*Caryota urens*) are used for decorating pandals during marriage and other auspicious occasions.

K. Torches

Kerosine filled in the culms of Oda (*Ochlandra setigera*) (Plate 34. a). and caped with cloth or cotton and used as troche during night hours. The dried fruits of Thonda kotta (*Jatropha curcus*) are also used as the light energy source during special occasions in the night.

L. Traps

Various kinds of trap like *Elikkeni* (Rat trap), *Kooran keni* (Mouse deer trap), *Meenkuruthi* (Fish trap) are commonly available with them. All these traps are made up of *Bambusa bambos* and *Ochlandra setigera.*

M. Irrigation pipes

The irrigation pipes are made up of Munga maram (*Bambusa bambos*) for transporting water from the forest streams to the hamlets.

N. Weapons

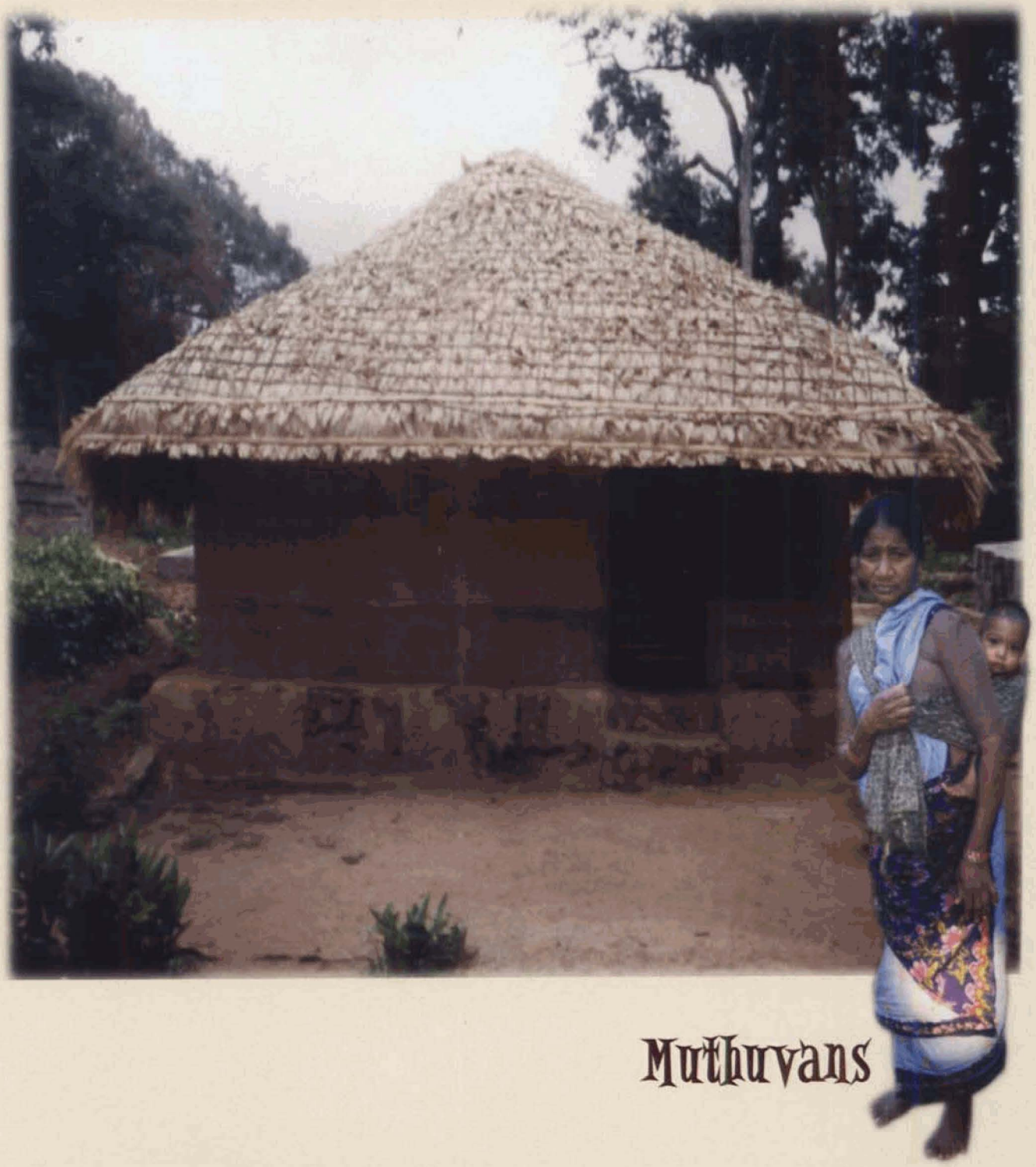
In olden days they used the culms of Munga maram (*Bambusa bambos*) for making bows and Odai (*Ochlandra setigera*) for arrows.

5. 7. 4. Conclusion

Mudugars are one of the hill tribes confined to the moist decidous and semi evergreen forests of the restoration zone of Nilgiri Biosphere Reserve. They are rich in traditional knowledge and practices, magico religious beliefs and customs. The study revealed that the kurumbars of Palakkad district directly depend on 305 plants belonging 247 genera, 106 families. Among this, 141 are food plants, 8 fodder plants 152 medicinal plants. Among the total plants documented there are one alga, 10 species of fungi, 13 species of pteridophytes, one Gymnosperm and 275 angiosperms. They cultivate 37 plant species around the hamlets. The dominant plant families are Fabaceae

(34 species) followed by Euphorbiaceae (17), Cucurbitaceae (13), Poaceae (11), Solanaceae (10) etc. The plants involved in the life and culture of Mudugars are *Bambusa bambos* (19 uses); *Curcuma longa* (7 uses); *Ochlandra travancorica* (9 uses); *Artocarpus heterophyllus, Ensete superbum, Mangifera indica* (6 uses).

Mudugars are very rich in ethnomedicinal knowledge. In the present study 59 new uses of alredy known medicinal plants are documented and medicinal use of lower groups of plants are new to science. The medicinal uses of plants *viz., Spirogyra sp., Canoparmelia pustulensces, Coccocarpia erythroxyli, Leptogium cyanescens, Hypotrachyna crenata, Parmotrema grayanum, Usnea subchaybaea Frullania squarrasa, Huperzia phlegmaria, Helixanthera intermedia, Heracleum candolleanum, Ipomoea alba, Ludwigia peruviana, Pueraria tuberose, Viscum orientale, Fagraea ceylanica* and *Schefflera venulos* are hither to unknown and reported here for the first time. Some of the plants characteristic to this tribe from angiosperms is *Aeginetia indica, Coelogyne nervosa, Curcuma neilgherrensis, Desmodium laxiflorum, Didymocarpus tomentosa, Equistetum ramosissimum* sub sp. *Debile.* The occurrence and distribution of some of the plants like *Dalbergia horrida, Ensete superbum, Aristolochia indica, Rauwolfia serpentina* are very meagre. The reduced number is due to the over exploitation and habitat destruction. An appropriate conservational measures need to be taken for the protection of such plants.



Muthuvans

"They were originally Vellalas, the tradition representing them as having accompanied some of the Madura Princes to the Travancore hills during the 14th century" (Mr. P. E. Conner)

5. 8. MUTHUVANS

5. 8.1. Introduction

The Muthuvans or Munduvans are a tribe of hill cultivators distributed in Coimbatore, Madurai, Malabar and Travancore. The name of the tribe usually spelt Munduvar in English, are pronounced as Muthuvans in Tamil and Malayalam. The name Muthuvan is derived from the word 'Muthuvu' (or Muthuku in Malayalam) which means, backside of the shoulder. The Muthuva ladies used to carry their babies on their back, during the working hours both in the forest and houses. The name probably was derived owing to this habit. According to another story, during their migration from Madurai to the Cardamom hills, they carried the idol of the Goddess Madurai Meenakshi, on their back and brought it to Neryamangalam (Menon & Sasikumar, 1996). The Muthuvans do not consider themselves to be indigenous to the hills.

They were originally Vellalas, the tradition representing them as having accompanied some of the Madurai Princes to the Travancore hills. According to Thurston (1909) the Muthuvans are possibly exodus from Madura during the 14th century, when the Pandyan Rajas entered the south or more probably when the Telugu Naickers took possession of Bodinayakanur. It has also been suggested, that the Muduvars were driven to the hills by the Muhammadan invasion during the latter part of the 18th century (Thurston, 1909). The Muthuvans consider themselves as superior to the other tribal communities. Their language is a mixture of Tamil and Malayalam. They are short in stature and dark brown in complexion. The hair is dark and wavy, head is dolichocephalic, the forehead receding.

The tribe is settled on the northern and western portion of the cardamom hills and the High ranges of Travancore, especially in Idukki district. One settlement is found in Palakkad district and two settlements in the Thrissur district. They live in hill areas at an elevation of 800-2200 m. Majority of hamlets are situated at 1200m above the sea level. In the study area, they are represented as a single hamlet, at Pooppara, in the Parambikkulam Wild life Sanctuary(Fig. 13.). In Palakkad, they have a population of 282 individuals, including 148 males and 134 are females (GOI Census, 2001).

5. 8. 2. Socio Cultural and anthropological aspects

5. 8. 2. 1. Hut and Hamlet

They are generally distributed in high altitude regions at elevations between 800-2000 metres and mostly near the evergreen forests. On the plateau of the High Range, their dwellings are small rectangular, rather flat roofed huts, made of Bamboo culms and grass or reed leaves and are pretty in appearance. They select the area where water is available and have their own system to collect it using bamboo pipes. The hamlet is known as *Kudi.* The number of houses varies from ten to forty. The typical hut is one roomed with veranda annexed in the front. The floor plan is rectangular. They use split culms of bamboo, fortified by mud for the construction of walls. The thatching is by the leaves of reed bamboo (*Ochlandra travancorica*). In some cases, the backside of the house has no wall; the roof slopes on to the hillside towards the backside and the other walls are generally made of split bamboo culms weaved in to a rough mat. There is a common shed called the *Chavadi,* where the men folk club together and the visitors are accommodated; another corresponding hut for women known as *Mulukkuveedu,* which is under the supervision of an elderly lady of the hamlet. A hut is reserved for worship and is called *Kovil* (Plate 26. a-k).

5. 8. 2. 2. Social system

Each hamlet has a headman called *Melvakan* or *Muppan* who is the oldest or the most influential man in the hamlet. If any dispute arises in the community, it is referred to him at first, who constitutes an informal Panchayat. Some times, there would be a sub headman *China Melvakan.* The position of both Muppan and Chinna Melvakan (sub headman) is hereditary and follow the custom of *Marumakkathayam, i.e.,* descend to the eldest son of the eldest sister. The Muppan can summon a council of elders, who settle most of the issues. The *Talayari, Kularan* and the *Sundarapandi* assist the Muppan. The meeting of the council takes place at *Chavadi.*

Six exogamous clans are observed among *Muthuvans,* such as *Melakkutom, Kanakkutom, Puthanikkutom, Thusanikkutom, Kanayattukkutom*

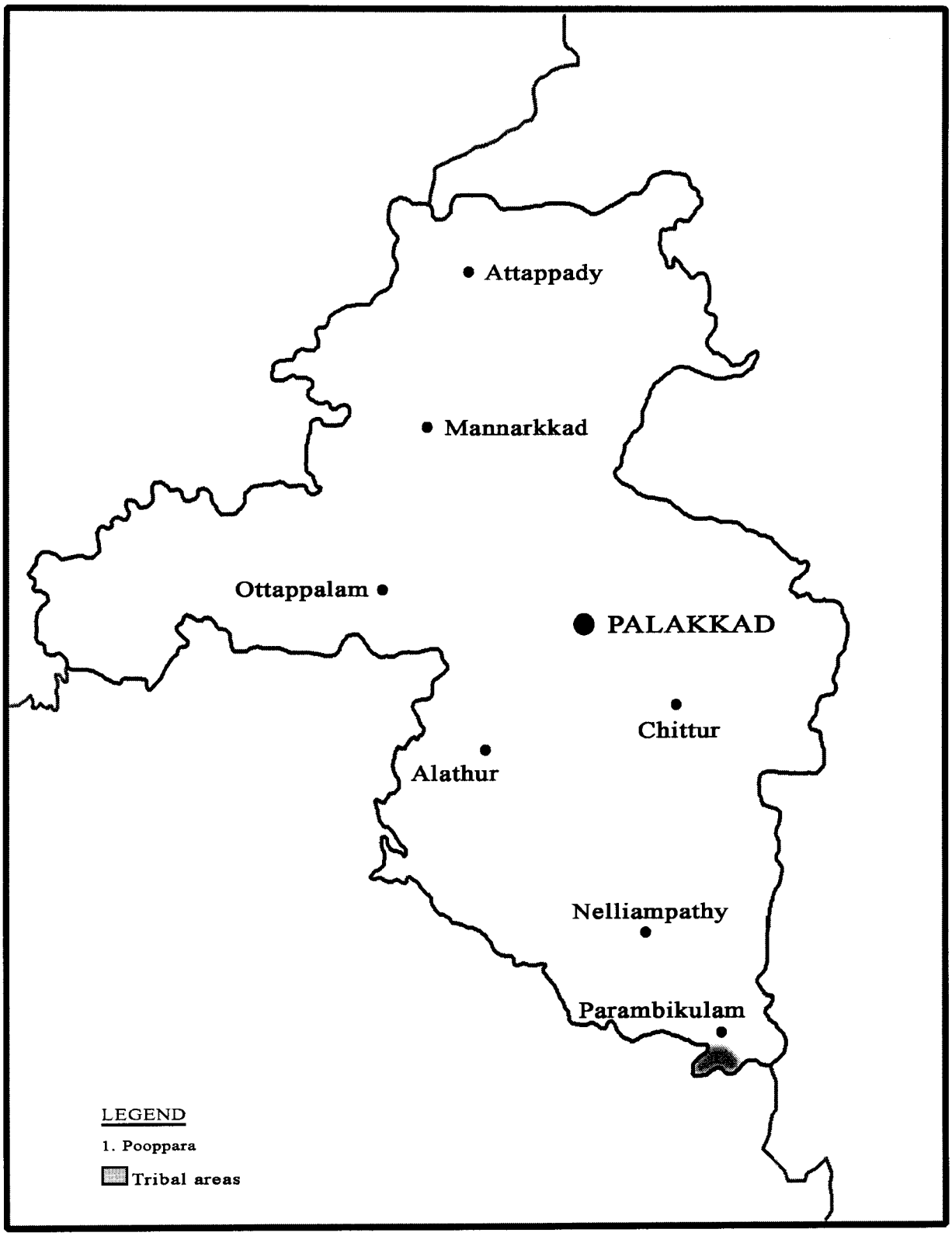


Fig. 13 Map showing the distribution of Muthuvans

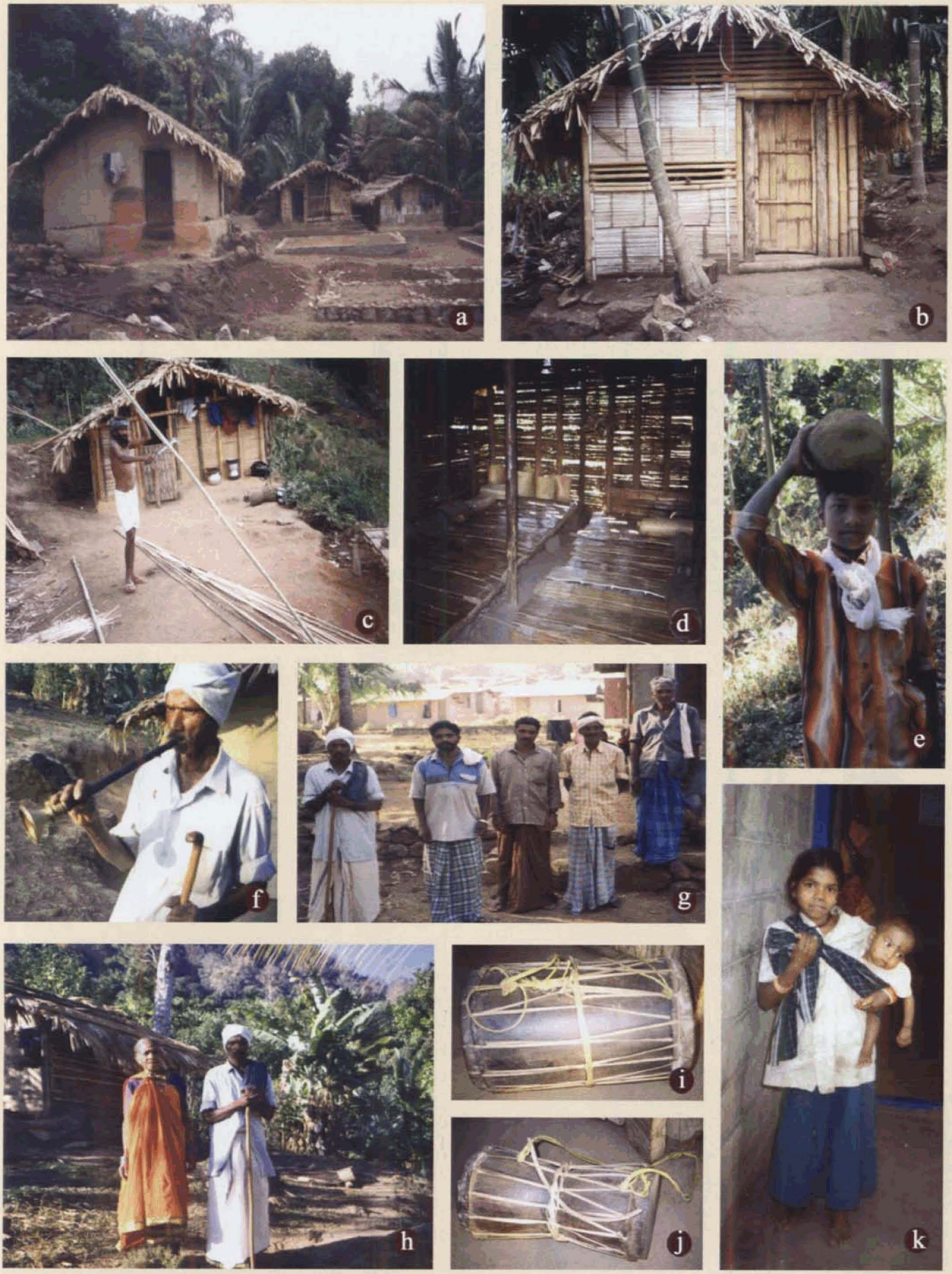


Plate 26. MUTHUVANS I. **a.** Hamlet; **b & c.** Hut; **d.** Chavady; **e.** Muthuva boy; **f.** Man performing music; **g.** Muthuva men; **h.** Muthuva couple; **i & j.** Musical instruments; **k.** Muthuva girl.

Plate 27. MUTHUVANS II. **a.** Water transport through bamboo culms; **b & d.** Agricultural land; **c.** Broom; **e.** Man holding bamboo bottle; **f.** Mortar, pestle and oars; **g.** Bamboo boats; **h & i.** Basket making; **j.** Fish trap; **k.** Mousetrap; **l, m & n.** Basketry; **o.** Man processing pepper.

and *Ellikkutom.* The first clan consider themselves as superior to the rest of the clan and do not inter marry with other clans. It is the nephew who inherits the property of a Muthuvan, if Muthuvan has a younger brother, the nephew would get this property only after his death. At present they follow party linear law of succession.

5. 8. 2. 3. Life and subsistence's Economy

5. 8. 2. 3. 1. Traditional agricultural practices

The Muthuvans are hill cultivators who grow cereals, millets and spices. They shift their sites of cultivation in every two-years, just after the *Tai Pongal,* during the months of January. The selection of the site is decided based on the characteristics of the locality and also, as per the oracular pronouncement, made by the priest during the *Tai Pongal.* The headman would allot the lands to each member. When a hut is constructed they make an offering to the ancestral spirit. Jungle clearing is done during the month of January to February with the help of a billhook and set fire by the March. The harvesting is performed in the month of August to September. Ragi, Paddy, Pumkin and other vegetables are their main crops. Weeding is done by the women and guarded by the men. Harvested food grains are stored in small temporary granaries constructed in the branches of large trees. It has been observed that now a days they pay less attention to food production and prefer to cultivate commercial crops like cardamom, Pepper, Areca nut Turmeric, Ginger, Cashew nuts, *etc.*

5. 8. 2. 3. 2. NTFP Collection

Collection of the non-wood forest produces is the most important activity of the forest dwelling settlements. They collect turmeric (*Curcuma longa*), Kunkilyum (*Canarium strictum*), Cheenika (*Acacia sinuata*), Mattipal (*Mastixia arborea*), honey and bee wax that acts as a source of income. Muthuvans are entitled to collect wild cardamom by the forest department. Wild cardamom gives maximum income to the family.

5. 8. 2. 3. 3. Hunting and fishing

Fishing and hunting are the other subsidiary occupations. The fishing trap is made of bamboo strips. Fishing by poisoning the water with various plant sources is also practised. The blowpipes are also used. December to March is the traditional hunting period and they use to hunt deer, Nilgiri Thar, monkeys, jungle fowl and squirrels. They trap small animals like rat, squirrels and porcupine with the help of different types of indigenous traps, made up of bamboo culms.

5. 8. 2. 3. 4. Livestock and other occupation

They keep buffaloes, goats, cows and fowls for their subsistence. Now a days some of the youths work as casual labourers in the forest departments and neighbouring cash crop plantations.

5. 8. 2. 4. Tradition and Culture

5. 8. 2. 4. 1. Ceremonies associated with birth

When the labour pain starts the woman is moved to an isolation shed known as *Thinnai veetu* which is about thirty meters away from the main hut. All the married women assemble there and extend their assistance. Pollution is observed for thirty days. The mother and child are brought home and this process is called *virunthu aleyappu.* Men are strictly prohibited approaching the pollution shed. Naming of the child is performed either on the thirty first day or after one year. The child is usually named after his maternal grandfather or maternal uncle.

5. 8. 2. 4. 2. Puberty

When a girl attains puberty she is kept in isolation hut for three to four days. This is to protect her from the eyes of the males. On the fourth day she is taken to a nearby stream by girls of her age and administered a bath. On return, hair is tied in a special manner, adorned with flowers known as *kondakettu.* She then visits her maternal uncle's huts, where she is fed and presented with new cloths. When a boy reaches adolescence a turban tying ceremony called *kokkira kayrumal* is celebrated. His maternal uncle administers a ceremonial bath to him and a new turban is tied round his neck.

5. 8. 2. 4. 3. Marriage

Father seeks an eligible partner for his son, when a desirable match is obtained he negotiates with the girl's father. The marriage function is conducted through a drama like situation. On a mutually agreed date, groom and bride accompanied by other members of the hamlet goes to the jungle. The groom's brothers command the bride to follow the groom's party. Bride's brother interferes, takes her to the groom and presents her bamboo comb, clothes, ornaments *etc.* The couple spend the next three days in the jungle and finally return to the groom's residence.

5. 8. 2. 4. 4. Ceremonies associated with death

On the death of a Muthuvan the news is conveyed to all the relatives and after their arrival, the body is washed and oil is applied. The body is covered with new cloths purchased by nephews or sons. The sons carry the body. After lowering the body into the pit, grains are offered to the pit. The Grave is filled with soil and a memorial stone is placed at the position of the feet and the head. The dead are buried, keeping the face upwards and with the head towards the north. All the ornaments except silver and gold, the implements used during his lifetime are also buried along with him. Oldest or the youngest son tonsure his head and shave off his moustache. A thatched shed without sidewalls is erected over the grave. After the burial, mourners and other people of the hamlets are assembled at the *Chavadi.* They cook rice and an equal quantity of it is put on plantain leaves. All the men folk stand for offering prayers. The rice is then served to all men assembled. A grand feast is hosted later in the evening. Similar ceremonies are also performed on the last day of pollution.

5. 8. 2. 5. Worships

They worship sylvan deities like Kootamala Swami and Vadaganatha Swami supposed to live on the peaks. The chief deity is Palani Andava, represented by a bundle of peacock feathers, canes and two-iron spikes panel in the ground. A head priest, after taking bath offers prayers to these deities every morning. The other deities are Madura Meenaskhi and Chandiyathu

Bagavathi. They worship the sun God usually by raising their hands to their forehead. They perform a ritual called *Kumbidal* for inviting rain.

5. 8. 2. 6. Festivals

The important festivals are Chithiriponagl and Karthikapongal. Among the festivals *Taiponagal* is the most important and is celebrated on the Tamil New Year day. They also celebrate Deepavali.

5. 8. 3. Ethnobotanical aspects

5. 8. 3. 1. Plants in food

A. Roots

Dioscorea hispida Dennst. (DIOSCOREACEAE)

Vernacular name : Thettai kilangu
Habit : Herbaceous climber
Mode of use : The root tubers are cooked in water with salt or roasted in fire (CR 1).
Occurrence : Occasional, in the semi evergreen forests around the hamlets (MR 24936).

Dioscorea intermedia Thw. (DIOSCOREACEAE)

Vernacular name : Pathyan Kilangu
Habit : Herbaceous climber
Mode of use : The root tubers are cooked in water with salt or roasted in fire (CR 1).
Occurrence : Occasional, in the semi evergreen and evergreen forests near the hamlet (MR 24818).

Dioscorea oppositifolia L. (DIOSCOREACEAE)

Vernacular name : Katchal kilangu
Habit : Herbaceous climber
Mode of use : The root tubers are cooked in water with salt or roasted in fire (CR 1).
Occurrence : Common, in the semi evergreen forests (MR 24819).

Dioscorea pentaphylla L. (DIOSCOREACEAE)

Vernacular name : Nutta Kilangu

Plate 28. EDIBLE FRUITS. **a.** *Argyreia nervosa*; **b.** *Artocarpus gomezianus*; **c.** *Baccaurea courtallensis*; **d.** *Cycas circinalis*; **e.** *Solanum torvum*; **f.** *Opuntia stricta var. dillenii*; **g.** *Semecarpus anacardium*; **h.** *Tamilnadia uligionosa.*

Habit : Herbaceous climber

Mode of use : the root tubers are cooked in water with salt or roasted in fire (CR 1).

Occurrence : Common, in the near by forest areas of the hamlets (MR 24821).

Dioscorea spicata Roth. (DIOSCOREACEAE)

Vernacular name : Thinnikilangu

Habit : Herbaceous climber

Mode of use : The root tubers are cooked in water with salt or roasted as raw in fire and used as a staple food (CR 1).

Occurrence : Occasional, in the semi evergreen forests near the hamlet (MR 24822).

Dioscorea wallichii Hook. f. (DIOSCOREACEAE)

Vernacular name : Nara

Habit : Herbaceous climber

Mode of use : The root tubers are cooked in water with salt or roasted as raw in fire (CR 1).

Occurrence : Occasional, in the evergreen and moist deciduous forests adjoining to the hamlets (MR 24824).

B. Rhizomes

Colocasia esculenta (L.) Schott. (ARACEAE)

Vernacular name : Chembu kilangu

Habit : Rhizomatous herb

Mode of use : The rhizome tubers are cut into small pieces, cooked along with, tamarind, salt, chillies and finally roasted in oil (CR 1).

Occurrence : Common, around the hamlets (MR 24854).

Curcuma zedoaria (Christm.) Rosc. (ZINGIBERACEAE)

Vernacular name : Manja Kuvai

Habit : Rhizomatous herb

Mode of use : The starchy rhizome is cut into small pieces; crushed and the starchy matter is allowed to dissolve in water and kept for sometime. The sediment starch is separated by sieving through cloths and dried on bamboo mats or on rocks. The powder is used for preparing pudding (CR 1).

Occurrence : Common, around the hamlets (MR 24804).

C. Tender shoots

Arenga wightii Griff (ARECACEAE)

Vernacular name : Eayanku

Habit : Tree

Mode of use : The tender shoots eaten as raw (CR 1)

Occurrence : Occasional, in the grasslands (MR 24838). (Plate 34. i)

Bambusa bambos (L.) Voss. (POACEAE)

Vernacular name : Moongkuruthadagu

Habit : Tree grass

Mode of use : The tender shoots around 15 centimetres long are removed from rhizome, cleaned by removing sheaths and cut into small pieces, cooked in water with salt and drained off water and cooked again and the same process repeated and roasted in oil along with salt, chillies and Onion (CR 1).

Occurrence : Common, in the moist deciduous forests around the hamlets (MR 24867).

Phoenix loureirii Kunth var. ***humilis*** (Royle *ex* Becc.) Barrow (ARECACEAE)

Vernacular name : Easa

Habit : Shrub

Mode of use : The tender shoots eaten as raw (CR 1).

Occurrence : Occasional, in the grasslands (MR 24845).

Pinanga dicksonii (Roxb.) Blume(ARECACEAE)

Vernacular name : Thevaru pakku

Habit : Srub

Mode of use : The tender shoots eaten as raw (CR 1).

Occurrence : Occasional, in the grasslands (MR 24846).

D. Stem

Caryota urens L. (ARECACEAE)

Vernacular name : Panai

Habit : Tree

Mode of use : The starchy stem pith is crushed well and dissolved in water taken in large pots and allowed the starch to sediment, excess water is drained off kept for some time and the starchy matter is cooked and used for preparing puddings and various indigenous items (CR 1).

Occurrence : Common, around the hamlets (MR 24844).

Ensete superbum (Roxb.) Cheesman (MUSACEAE)

Vernacular name : Kalluvazha thandu

Habit : Tall rhizomatous herb with pseudo stem.

Mode of use : The tender pith is cooked as vegetable (CR 1).

Occurrence : Rare, found in the neighbouring forests around the hamlets (MR 24812).

E. Leaves

Acacia pennata (L.) Willd.(FABACEAE)

Vernacular name : Seenkey dag

Habit : Scandent shrub

Mode of use : The tender leaves are cooked along with salt, onion and chillies and finally roasted in oil (CR 1).

Occurrence : Occasional, in the moist deciduous forests near the streams (MR 24490).

Adenia hondala (Gaertn.) de Wilde (PASSIFLORACEAE)

Vernacular name : Sennaladagu

Habit : Tuberous climber

Mode of use : tender leaves along with onion, salt chillies and roasted in coconut oil (CR 1).

Occurrence : Occasional, in the semi evergreen and evergreen forests around the hamlets (MR 24568).

Alternanthera sessilis (L.) R.Br. ex. DC. (AMARANTHACEAE)

Vernacular name : Ponnamkanni adagu

Habit : Herb

Mode of use : The tender leaves are cooked along with dhal (*Cajanus cajan*), chillies, Onion, and salt and finally roasted in oil (CR 1).

Occurrence : Common, in the paddy fields and plains around the hamlets (MR 24710).

Amaranthus spinosus L. (AMARANTHACEAE)

Vernacular name : Mullanadagu

Habit : Herb

Mode of use : The tender leaves are roasted in coconut oil along with Onion, chillies and salt or cooked in water and finally roasted in oil (CR 1).

Occurrence : Common around the hamlet (MR 24711).

Amaranthus viridis L. (AMARANTHACEAE)

Vernacular name : Sunnambadagu

Habit : Herb

Mode of use : The tender leaves are roasted in coconut oil along with Onion, chillies and salt or cooked in water along with dhal (*Cajanus cajan*), chillies, salt and finally roasted in coconut oil (CR 1).

Occurrence : Common, around the hamlets (MR 24712).

Amorphophallus paeoniifolius (Dennst.) Nicols. (ARACEAE)

Vernacular name : Kattuchenaadagu

Habit : Tuberous herb

Mode of use : The tender leaves are roasted in oil along with leaves of *Colocasia esculenta* (CR 2).

Occurrence : Occasional, around the hamlets (MR 24851).

Antidesma acidum Retz (EUPHORBIACEAE)

Vernacular name : Kambilithooriadagu

Habit : Herb

Mode of use : The tender leaves are eaten as raw or cooked as vegetables (CR 1).

Occurrence : Common, in and around the hamlets (MR 24746).

Boerhavia diffusa L. (NYCTAGINACEAE)

Vernacular name : Thaluthamadgu

Habit : Herb

Mode of use : Tender leaves are cooked in water along with dhal (*Cajanus cajan*), chillies, salt and finally roasted in oil (CR 1).

Occurrence : Common, in and around the hamlets (MR 24707).

Celosia argentea L. (AMARANTHACEAE)

Vernacular name : Pannaadagu

Habit : Herb

Mode of use : The tender leaves are roasted in coconut oil along with Onion, chillies, salt or cooked in water along with dhal (*Cajanus cajan*), chillies, salt and finally roasted in coconut oil (CR 1).

Occurrence : Common, in and around the hamlets (MR 24713).

Colocasia esculenta (L.) Schott (ARACEAE)

Vernacular name : Shembu adag

Habit : Rhizomatous herb

Mode of use : The tender leaves are roasted in oil along with leaves of *Amorphophallus paeonifolius* and *Vigna ungiculata*. The leaves are also cooked along with tamarind, chilli, onion and salt (CR 1).

Occurrence : Common, around the hamlets (MR 24854).

Commelina benghalensis L.(COMMELINACEAE)

Vernacular name : Koynayadagu

Habit : Herb

Mode of use : The tender leaves are cooked along with salt and chillies and roasted in oil (CR 1).

Occurrence : Common, in moist shady places around the hamlets during rainy season (MR 24835).

Diplazium esculentum (Retz.) Sw.(ATHYRIACEAE)

Vernacular name : Edavala koyradagu

Habit : Shrub

Mode of use : Tender leaves are roasted in coconut oil along with Onion, Chillies and salt (CR 1).

Occurrence : Common, in the banks of river and streams (MR 24896).

Holostemma ada-kodien Schult. (ASCLEPIADACEAE)

Vernacular name : Palai adag

Habit : Climber

Mode of use : The tender leaves are roasted in coconut oil along with Onion, chillies and salt (CR 1).

Occurrence : Occasional, in the moist deciduous forests around the hamlet (MR 24652).

Momordica dioica Roxb. *ex* Willd.(CUCRBITACEAE)

Vernacular name : Pavalai adag

Habit : Herb

Mode of use : Tender leaves are roasted in coconut oil along with Onion, Chillies and salt (CR 1).

Occurrence : Occasional, around the hamlets (MR 24581).

Oxalis corniculata L. (OXALIDACEAE)

Vernacular name : Pulikerai dag

Habit : Herb

Mode of use : Tender leaves are cooked along with Chillies, Onion and salt (CR 2).

Occurrence : Common, around the hamlets (MR 24419).

Persicaria chinensis (L.) Gross. (POLYGONACEAE)

Vernacular name : Odinja adagu

Habit : Herb

Mode of use : Tender stem and leaves are cooked in water along with dhal (*Cajanus cajan*), chillies, salt and finally roasted in oil (CR 1).

Occurrence : Common, in and around the hamlets (MR 24719).

Portulaca oleracea L. (PORTULACACEAE)

Vernacular name : Thalikala adagu

Habit : Herb

Mode of use : Tender stem and leaves are cooked in water along with dhal (*Cajanus cajan*), chillies, salt and finally roasted in oil (CR 1).

Occurrence : Common, in and around the hamlets (MR 24529).

Senna occidentalis (L.) Link (FABACEAE)

Vernacular name : Ponthakarai adagu

Habit : Herb

Mode of use : The tender leaves are cooked in water along with salt; Chillies etc. excess of water is drained off and roasted in coconut oil (CR 1).

Occurrence : Common, around the hamlets (MR 24484).

Senna tora (L.) Roxb. (FABACEAE)

Vernacular name : Sattitagarai

Habit : Herb

Mode of use : The tender leaves are roasted in coconut oil along with salt, chillies etc. (CR 1).

Occurrence : Common around the hamlets (MR 24483).

Solanum americanum Mill. (SOLANACEAE)

Vernacular name : Earppa adagu

Habit : Herb

Mode of use : The tender leaves are roasted in coconut oil along with salt, chillies etc. (CR 1).

Occurrence : Common, around the hamlets (MR 24672).

F. Flowers

Cullenia exarillata Robyns (CULLINIACEAE)

Vernacular name : Karani poo

Habit : Tree

Mode of use : Tender flowers are eaten as raw

Occurrence : Common, in the evergreen forests adjoining to the hamlets (MR 24405).

G. Fruits

Antidesma acidum Retz (EUPHORBIACEAE)

Vernacular name : Kambilithoori palam

Habit : Shrub

Mode of use : The ripened fruits are eaten as raw (CR 1).

Occurrence : Common, around the hamlets and occasional, in forests (MR 24746).

Argyreia nervosa (N. Burm.) Bojer (CONVOLVULACEAE)

Vernacular name : Palkodi palam

Habit : Climber

Mode of use : The tender fruits are cooked as vegetable and ripened fruits are eaten as raw (CR 1).

Occurrence : Common, around the hamlets (MR 24660). (Plate 28. a)

Artocarpus gomezianus Wall. *ex* Trecul ssp. ***zeylanicus*** Jarrett (MORACEAE)

Vernacular name : Theembilachi palam

Habit : Tree

Mode of use : The ripened fruits are eaten as raw (CR 1)

Occurrence : occasional, in the evergreen forests adjoining to the hamlets (MR 24776). (Plate 28. b)

Artocarpus heterophyllus Lam. (MORACEAE)

Vernacular name : Sakkai palam

Habit : Tree

Mode of use : The tender fruits are cooked as vegetable and ripened fruits are eaten as raw (CR 1).

Occurrence : Common, around the hamlets and occasional, in forests (MR 24777).

Artocarpus hirsutus Lam. (MORACEAE)

Vernacular name : Ayani sakkai palam

Habit : Tree

Mode of use : The ripened fruits are eaten as raw (CR 1).

Occurrence : Occasional, in the moist deciduous forests adjoining to the hamlet (MR 24778).

Baccaurea courtalensis (Wight) Muell. (EUPHORBIACEAE)

Vernacular name : Moottil palam
Habit : Tree
Mode of use : The ripened fruits are eaten as raw (CR 1).
Occurrence : Common, around the hamlets and neighbouring areas of the forests (MR 24939). (Plate 28. c)

Briedelia retusa (L.) Spreng (EUPHORBIACEAE)

Vernacular name : Mulluvengai palam
Habit : Tree
Mode of use : The ripened fruits are eaten as raw (CR 1).
Occurrence : Common, around the hamlets and neighbouring forest areas (MR 24751).

Calamus hookerianus Becc.(ARECACEAE)

Vernacular name : Choorapalam
Habit : Climbing palm
Mode of use : The ripened fruits are eaten as raw (CR 1).
Occurrence : Occasional, in forests (MR 24841).

Calamus thwaitesii Becc. & Hook.(ARECACEAE)

Vernacular name : Ponthan choorapalam
Habit : Climbing palm
Mode of use : The ripened fruits are eaten as raw (CR 1).
Occurrence : Occasional, in forests (MR 24843).

Colocasia esculenta (L.) Schott (ARACEAE)

Vernacular name : Shembu palam
Habit : Rhizomatus herb
Mode of use : The ripened fruits are eaten as raw (CR 1).
Occurrence : Common, around the hamlets (MR 24854).

Cordia wallichii G. Don (BORAGINACEAE)

Vernacular name : Viri palam
Habit : Tree.
Mode of use : The ripened fruits are eaten as raw (CR 1).
Occurrence : Rare, found in the neighbouring forests around the hamlets (MR 24655).

Ensete superbum (Roxb.) Cheesman. (MUSACEAE)

Vernacular name : Kalluvazhai palam
Habit : Tall rhizomatous herb with pseudostem.
Mode of use : The ripened fruits are eaten as raw (CR 1).
Occurrence : Rare, found in the neighbouring forests around the hamlets (MR 24812).

Ficus racemosa L. (MORACEAE)

Vernacular name : Athipalam
Habit : Tree
Mode of use : The ripened fruits are eaten as raw (CR 1).
Occurrence : Occasional, around the hamlets and in the moist deciduous forests around the hamlets (MR 24783).

Flacourtia montana Graham (FLACOURTIACEAE)

Vernacular name : Silamby palam
Habit : Tree
Mode of use : The ripened fruits are eaten as raw (CR 1).
Occurrence : Occasional, in the evergreen and the semi evergreen forests neighbouring to the hamlets (MR 24522).

Glycosmis pentaphylla (Retz.) DC. (RUTACEAE)

Vernacular name : Pana palam
Habit : Shrub
Mode of use : The ripened fruits are eaten as raw (CR 1).
Occurrence : common, around the hamlets and plains (MR 24421).

Grewia tiliifolia Vahl. (TILIACEAE)

Vernacular name : Unnam palam
Habit : Tree
Mode of use : The ripened fruits are eaten as raw (CR 1).
Occurrence : Common, around the hamlets and the moist deciduous forest areas of the adjoining forests (MR 24937).

Lantana camara L. var. ***aculeata*** (L.) Moldenke (VERBENACEAE)

Vernacular name : Unnipalam
Habit : Shrub

Mode of use : The ripened fruits are eaten as raw (CR 1).

Occurrence : Common, around the hamlets and waste lands (MR 24694).

Madhuca indica J. Gmelin (SAPOTACEAE)

Vernacular name : Ilupei palam

Habit : Tree

Mode of use : The tender fruits are cooked as vegetable, used in pickles and ripened fruits are eaten as raw (CR 1).

Occurrence : Occasional, in the moist deciduous forests around the hamlets (MR 24630).

Mangifera indica L. (ANACARDIACEAE)

Vernacular name : Kattumangai palam

Habit : Tree

Mode of use : The tender fruits are cooked as vegetable, used in pickles and ripened fruits are eaten as raw (CR 1).

Occurrence : Occasionally found as wild in the semi evergreen forests neighbouring to the hamlets and also widely cultivated in and around the hamlets (MR 24931).

Mesua ferrea L.(CLUSIACEAE)

Vernacular name : Eva palam

Habit : Tree

Mode of use : The ripened fruits are eaten as raw (CR 2).

Occurrence : Occasional, in the evergreen forests around the hamlets (MR 24533).

Mesua thwaitesii Planch. & Triana (CLUSIACEAE)

Vernacular name : Mullai palam

Habit : Tree

Mode of use : The ripened fruits are eaten as raw (CR 2)

Occurrence : Occasional, in the evergreen forests around the hamlets (MR 24534).

Mimusops elengi L. (SAPOTACAEAE)

Vernacular name : Elengi palam

Habit : Tree
Mode of use : The ripened fruits are eaten as raw (CR 1).
Occurrence : Occasional, in the neighbouring areas of the forest, cultivated in hamlets as shade tree (MR 24629).

Momordica dioica Roxb. *ex* Willd. (CUCRBITACEAE)
Vernacular name : Kattupavarai
Habit : Herb
Mode of use : The fruits are cooked as vegetables (CR 1).
Occurrence : Occasional, around the hamlets (MR 24581).

Murraya paniculata (L.) Jack. (RUTACEAE)
Vernacular name : Kattati palam
Habit : Small tree
Mode of use : The ripened fruits are eaten as raw (CR 1).
Occurrence : Occasional around the hamlets (MR 24422).

Opuntia stricta Haw. var. ***dillenii*** (Ker-Gawl.) L.(CACTACEAE)
Vernacular name : Mullu kallipalam
Habit : succulent shrubs
Mode of use : The ripened fruits are eaten as raw (CR 1).
Occurrence : Occasional, in dry areas around the hamlets (MR 24588).

Palaquium ellipticum (Dalz.) Baill.(SAPOTACEAE)
Vernacular name : Palipalam
Habit : Tree
Mode of use : The ripened fruits are eaten as raw (CR 1).
Occurrence : Common, in the evergreen forests adjoining to hamlets (MR 24631).

Persicaria chinensis (L.) Gross. (POLYGONACEAE)
Vernacular name : Odinja palam
Habit : shrub
Mode of use : The ripened fruits are eaten as raw (CR 2)
Occurrence : Common around the hamlets (MR 24719).

Phoenix loureirii Kunth var. ***humilis*** (Royle *ex* Becc.) Barrow (ARECACEAE)

Vernacular name : Easapalam
Habit : Shrub
Mode of use : The ripened fruits are eaten as raw (CR 1).
Occurrence : Occasional, in the grasslands around the hamlets (MR 24845).

Phyllanthus emblica L. (EUPHORBIACEAE)

Vernacular name : Nellipalam
Habit : Tree
Mode of use : Mature fruits are eaten as raw and also used for the preparation of pickles (CR 1).
Occurrence : Common, around the hamlets and the moist deciduous forests (MR 24763).

Physalis angulata L (SOLANACEAE)

Vernacular name : Chunda palam
Habit : Herb
Mode of use : The ripened fruit are eaten as raw (CR 1).
Occurrence : common, around the hamlets especially in rainy season (MR 24670).

Semecarpus anacardium L. f. (ANACARDIACEAE)

Vernacular name : Cherumpalam
Habit : Herb
Mode of use : The ripened fruits are eaten as raw (CR 1).
Occurrence : common, around the hamlets especially in rainy season (MR 24444).

Solanum americanum Mill. (SOLANACEAE)

Vernacular name : Earpapalam
Habit : Herb
Mode of use : The ripened fruits are eaten as raw (CR 1).
Occurrence : Common, around the hamlets (MR 24672).

Solanum torvum Sw. (SOLANACEAE)

Vernacular name : Sundai

Habit : Herb

Mode of use : The tender fruits are cooked as vegetables. The fruits are preserved in salt and dried in sun light and kept for preparing curries whenever required (CR 1).

Occurrence : Common, around the hamlets (MR 24673). (Plate 28. e)

Syzygium cumini (L.) Skeels (MYRTACEAE)

Vernacular name : Neera palam

Habit : Tree

Mode of use : The ripened fruits are eaten as raw (CR 1).

Occurrence : Common, around the hamlets and neighbouring forest areas (MR 24557).

Syzygium densiflorum Wall. *ex* Wight & Arn.(MYRTACEAE)

Vernacular name : Mundineera palam

Habit : Tree

Mode of use : The ripened fruits are eaten as raw (CR 1).

Occurrence : Common, around the hamlets and neighbouring forest areas (MR 24559).

Syzygium mundagam (Bourd.) Chithra (MYRTACEAE)

Vernacular name : Kuruvineera palam

Habit : Tree

Mode of use : The ripened fruits are eaten as raw (CR 1).

Occurrence : Common, around the hamlets and neighbouring forest areas (MR 24560).

Zizyphus oenoplia (L.) Mill. (RHAMNACEAE)

Vernacular name : Mullupalam

Habit : Climber

Mode of use : The ripened fruits are eaten as raw (CR 1).

Occurrence : Common, around the hamlets and neighbouring areas of the forests (MR 24430).

Zizyphus mauritiana Lam. (RHAMNACEAE)

Vernacular name : Peumsoori palam

Habit : Tree

Mode of use : The ripened fruits are eaten as raw (CR 1).

Occurrence : Common, around the hamlets and neighbouring areas of the forests (MR 24431).

Zizyphus rugosa Lam. (RHAMNACEAE)

Vernacular name : Kottalai palam

Habit : Straggler

Mode of use : The ripened fruits are eaten as raw (CR 1).

Occurrence : Occasional, found in the forest margins (MR 24432).

H. Seeds

Artocarpus heterophyllus Lam. (MORACEAE)

Vernacular name : Sakkai kuru

Habit : Tree

Mode of use : The mature seeds are cooked as vegetables and dried seeds are roasted and eaten (CR 1).

Occurrence : Common, around the hamlets and occasional in forests (MR 24777).

Artocarpus hirsutus Lam. (MORACEAE)

Vernacular name : Ayanisakkai Kuru

Habit : Tree

Mode of use : The roasted seeds are eaten (CR 1).

Occurrence : Occasional, in the moist deciduous forests adjoining to the hamlet (MR 24778).

Bambusa bambos (L.) Voss. (POACAEAE)

Vernacular name : Moonganellu, Mulanellu

Habit : Tree grass

Mode of use : The seeds are roasted and eaten. The powdered seeds are used for the preparation of different items and the seeds are also used for the preparation of gruel (CR 1).

Occurrence : Common, around the hamlets and neighbouring forest areas (MR 24867).

Cullenia exarillata Robyns (CULLINIACEAE)

Vernacular name : Karani kay

Habit : Tree

Mode of use : The dried seeds are roasted and eaten (CR 2)

Occurrence : Common in the evergreen forests adjoining to the hamlets (MR 24405).

Cycas circinalis L. (CYCADACEAE)

Vernacular name : Eathankay

Habit : Tree

Mode of use : The seeds are boiled in water and the water is drained off, dried and powdered. The flour is used to prepare various items (CR 1).

Occurrence : Common, in the moist deciduous forests around the hamlets (MR 24887). (Plate 28. d)

Entada rheedei Spreng. (FABACEAE)

Vernacular name : Thaylakay

Habit : Lianas

Mode of use : The cotyledons of the dried seeds are cooked; water is drained off and eaten (CR 1).

Occurrence : Common, in the moist deciduous forests around the hamlets (MR 24494).

Sterculia foetida L. (STERCULIACEAE)

Vernacular name : Kavala

Habit : Tree

Mode of use : The seeds are roasted and cotyledons are eaten (CR 1).

Occurrence : Common, in the moist deciduous forests around the hamlets (MR 24407).

Tamarindus indica L. (FABACEAE)

Vernacular name : Pulinchi kuru

Habit : Tree

Mode of use : The dried seeds are roasted and eaten (CR 1)

Occurrence : Common around the hamlets (MR 24486).

Terminalia bellarica (Graeuter.) Roxb. (COMBRETACEAE)

Vernacular name : Thannimaram

Habit : Trees
Mode of use : The seeds are eaten raw (CR 1).
Occurrence : Common, around the hamlets (MR 24473).

Xylia xylocarpa (Roxb.) Taub.(FABACEAE)
Vernacular name : Irumullu
Habit : Tree
Mode of use : The dried seeds are eaten as raw (CR 1).
Occurrence : Common, in the moist deciduous forests around the hamlets (MR 24497).

I. Plants as beverages

The toddy is taped from the inflorescence of Koonthapani (*Caryota urens*) (Plate 35. b) and Eyanku (*Arenga wightii*). The inflorescence axes of palms are cut at just half of its length, sap is collected in bamboo bottles and consumed as a beverage.

J. Spices and Condiments

Garcinia gummi-gutta (L.) Robs.(CLUSIACEAE)
Vernacular name : Korukka puli
Habit : Tree
Mode of use : The fruit are used as a condiment (CR 1).
Occurrence : Common, around the hamlets (MR 24532)

Oxalis corniculata L. (OXALIDACEAE)
Vernacular name : Muppili
Habit : Herb
Part used : Leaves
Mode of use : Tender leaves are used as a condiment (CR 2).
Occurrence : Common, around the hamlets (MR 24419).

Piper mullesua Buch.-Ham. *ex* D. Don (PIPERACEAE)
Vernacular name : Kattukurumulakay
Habit : climber
Part used : Seeds
Mode of use : The seeds are used as a condiment and spice during the preparation of food items(CR 2)

Occurrence : Occasional, in the adjoining forest areas of the hamlets (MR 24728).

Piper nigrum L., Sp. Pl.

Vernacular name : Kurumulakay
Habit : Climber
Part used : Seeds
Mode of use : The seeds are used as a condiment and spice during the preparation of food items (CR 1).
Occurrence : Occasional, in the adjoining forest areas of the hamlets (MR 24729).

Zingiber neesanum (Graham) Ramam. (ZINGIBERACEAE)

Vernacular name : Malyinchi, Kattingi
Habit : Rhizomatous herb
Part used : Rhizome
Mode of use : The rhizome is ground into a paste and used as a condiment and spice during the preparation of fish (CR 2).
Occurrence : Occasional, in the adjoining forest areas of the hamlets (MR 24807).

K. Mushrooms

***Auricularia* sp.** (AURICULARICEAE)

Vernacular name : Kathu Kumman
Habit : Saprophytic fungus on rotten wood
Mode of use : The pileus and stipes are washed in water and boiled with condiments or fried in oil or hearth roasted (CR 2).
Occurrence : Very rare, in neighbouring forest (MR 24910).

***Plurotus* sp.** (LENTINACEAE)

Vernacular name : Marakkumman
Habit : Fruiting body of saprophytic fungus
Mode of use : The pileus and stipes are washed in water and boiled with condiments or fried in oil or hearth roasted (CR 1).
Occurrence : Occasional, in dried bamboo culms of neighbouring forest during rainy season (MR 24916).

Pluerotus tuber reginum (Fr.) Singer (LENTINACEAE)

Vernacular name : Iruthilkumman

Habit : Fruiting body of saprophytic fungus

Mode of use : The pileus and stipes are washed in water and boiled with condiments or fried in oil or hearth roasted (CR 2).

Occurrence : Occasional, in dried woods in the neighbouring forest during rainy season (MR 24917).

Termitomyces microcarpus (Berk & Br.)Heim. (PLUTEACEAE)

Vernacular name : Arikumman

Habit : Saprophytic fungi on soil

Mode of use : The pileus and stipes are washed in water and boiled with condiments or fried in oil or hearth roasted (CR 1).

Occurrence : Occasional, in and around the hamlets during rainy season (MR 24921).

Termitomyces heimii Natarajan (PLUTEACEAE)

Vernacular name : Onakkumman

Habit : Fruiting body of a saprophytic fungus

Mode of use : The pileus and stipes are washed in water and boiled with condiments or fried in oil or hearth roasted (CR 1).

Occurrence : Occasional, in and around the hamlets during rainy season (MR 24919).

Termitomyces eurhizus (Berk)Heim (PLUTEACEAE)

Vernacular name : Todukumman

Habit : Fruiting body of a saprophytic fungus

Mode of use : The pileus and stipes are washed in water and boiled with condiments or fried in oil or hearth roasted (CR 1).

Occurrence : Occasional, in and around the hamlets during rainy season (MR 1).

L. Food from cultivated Plants

The source of food from the cultivated crops are considered as the common knowledge practices of tribals as well as non-tribals are listed here to know the diverse agricultural crops involved with vernacular names followed by botanical names.

Root tubers

Mulluvalli kilangu (*Dioscorea alata*) and Poola kilangu (*Manihot esculenta*).

Leaves

Agathi keerai adag (*Sesbania grandiflora*), Pavarai adag (*Momordica charantia var. charantia*), Thoppiadagu(*Amaranthus caudatus*), Thandanadagu(*Vigna anguiculata*), Peekin keerai adag (*Luffa cylindrica*), Poosanithalai adag (*Benincasa hispida*), Sakkarai adag (*Cucurbita maxima*), Vasalai dag (*Basella alba*) and Muringai adag (*Moringa pterygosperma*).

Flowers

Agathi poo (*Sesbania grandiflora*).

Fruits

Thakkali (*Lycopersicum esculentum*), Mulakai (*Capsicum annuum*), Cheenimulakay (*Capsicum frutescence*), Sorai (*Lagenaria siceraria*) Vellari (*Cucumis sativus*), Vendai (*Abelmoschus esculentus*), Koyapalam (*Psidium guajava*) and Papali palam (*Carica papaya*).

Pulses

Thanangani (*Vigna ungiculata*), Avarai (*Lab lab purpureus*) , Thuvarai (*Cajanus cajan*) and Kollu (*Dolichos unilobus*).

Cereals and millets

Kara nellu (a variety *Oryza sativa* cultivated in dry land), Chamai (*Panicum sumatrense*), Corai (*Eleusine coracana*), Makka cholam (*Zea mays*), Poricholam (*Sorghum bicolor)* and Thena (*Setaria italica*).

Condiments and Spices

Inchi (*Zingiber officinale*), Manjal (*Cucuma longa*), Kurumulakay (*Piper nigrum*), Milakay (*Capsicum annuum*), Cheeny milakay (*Capsicum frutescens*) and Venkayam (*Allium cepa*).

5. 8. 3. 2. Plants as fodders

Artocarpus heterophyllus Lam. (MORACEAE)

Vernacular name	:	Pila
Habit	:	Tree
Part Used	:	Leaves and fruits
Mode of use	:	The twigs with leaves are given to livestock and the ripened fruits are also given (CR 1).

Occurrence : Common, around the hamlets and occasional in forests (MR 24777).

Bauhinia racemosa Lam. (FABACEAE)

Vernacular name : Aram puli
Habit : Tree
Part Used : Leaves and fruits
Mode of use : The twigs with leaves are given to livestock (CR 1).
Occurrence : Common, around the hamlets and neighbouring areas (MR 24477).

Bambusa bambos (L.) Voss (POACEAE)

Vernacular name : Moonga thalai
Habit : Tree grass
Part used : Leaves
Mode of use : The leafy twigs are given (CR 1).
Occurrence : Common, around the hamlets (MR 24867).

Ficus hispida L. f. (MORACEAE)

Vernacular name : Thunali
Habit : Tree
Part used : Leaves
Mode of use : The leaves are given (CR 1).
Occurrence : Common, around the hamlets and neighbouring forest areas (MR 24782).

Ficus racemosa L. (MORACEAE)

Vernacular name : Athi maram
Habit : tree
Part used : Leaves
Mode of use : The leaves are given (CR 1).
Occurrence : Common, around the hamlets and neighbouring forest areas (MR 24783).

Gliricidia sepium (Jacq.) Kunth *ex* Walp. (FABACEAE)

Vernacular name : Seema konna
Habit : Tree

Part Used : Leaves
Mode of use : The leaves are given (CR 1).
Occurrence : Common, around the hamlets and in the neighbouring forests (MR 24464).

Merremia umbellata (L.) Hall. f. (CONVOLVULACEAE)
Vernacular name : Vakara valli
Habit : Climber
Part Used : Leaves and twining stem
Mode of use : The whole plant with leaves is given (CR 1).
Occurrence : Common, around the hamlets and neighbouring forests (MR 24663).

Trema orientalis (L.) Blume (ULMACEAE)
Vernacular name : Amai thalai
Habit : Tree
Part used : Leaves
Mode of use : The leaves are given (CR 1).
Occurrence : Occasional, in the neighbouring forest areas (MR 24773).

5. 8. 3. 3. Plants in medicine

5. 8. 3. 3. 1. Human Medicine

Acalypha fruticosa Forssk.(EUPHOBIACEAE)
Vernacular name : Murian thalai
Habit : Herb
Part used : Leaves
Used for : Wound healing
Mode of Application: The leaves are ground in to a paste and smeared over the affected area (CR 1).
Occurrence : Common around the hamlets (MR 24745)

Actiniopteris radiata (Sw.) Lin. (ACTINIOPTERIDACEAE)
Vernacular name : Kallupana
Habit : Xerophytic herb

Part used : Whole plant
Used for : Wound healing
Mode of application: The whole plant is ground into paste and applied over the wound (CR 2).
Occurrence : Rare, found in dry rocks around the hamlets (MR 24888). (Plate 25. a)

Alpinia malaccensis (Burm. f.) Rosc. (ZINGIBERACEAE)
Vernacular name : Oduchanna
Habit : Rhizomatous herb
Part used : Rhizome
Used for : Stomach ache
Mode of application: Rhizome growing towards the eastern side is crushed and the juice is administered orally for stomach ache (CR 2).
Occurrence : Occasional, around the hamlets (MR 24799).

Alstonia scholaris (L.) R. Br. (APOCYNACEAE)
Vernacular name : Peyepala
Habit : Tree
Part used : Latex, roots
Used for : Worm trouble in dogs, scabies and itches, stomach pain
Mode of application: 1. The milky latex is dissolved in water and administered orally for worm trouble.
2. The latex smeared over the body part having scabies and itches.
3. The roots along with Mulankkallu (Bamboo mauna of *Bambusa bamboos*), Vellaramkallu (white stones) boiled in water and the decoction administered orally for acute stomach ache(CR 2)
Occurrence : Occasional, around the hamlets (MR 24636).

Amaranthus spinosus L. (AMARANTHACEAE)
Vernacular name : Mullukeari
Habit : Herb
Part used : Leaves, stem
Used for : Foot disease, Urinary disorders

Mode of application: 1. The leaves along with the leaves of Amara (*Lab lab purpurea*), salt are boiled in water and the affected legs are dipped in it, for foot diseases(CR 2).
2. m boiled in water along with salt, the decoction is administered orally for urinary disorders (CR 2).

Occurrence : Common (MR 24711).

Aporosa lindleyana (Wight) Baill. (EUPHORBIACEAE)

Vernacular name : Chavattimaram

Habit : Small tree

Part used : Bark

Used for : Loose motion, pain infection in teeth

Mode of application: 1. The bark along with the bark of Venthekku (*Lagerstroemia microcarpa*) is ground into a paste, dissolved in water and administered orally.
2. stem is chewed for curing pain in infected tooth.

Occurrence : Common, around the hamlets (MR 24749). (Plate 30. a)

Areca catechu L. (ARECACEAE)

Vernacular name : Pakku

Habit : Tree

Part used : Tender fruits

Used for : Vomiting

Mode of application: The juice extracted from the tender fruits is given for reducing the tendency for vomiting (CR 2).

Occurrence : Cultivated (MR 24837).

Arenga wightii Griff. (ARECACEAE)

Vernacular name : Eayanku, Kattuthengu

Habit : Tree

Part used : The powdery tomentum from the peduncle of the compound of leaf

Used for : Wound healing

Mode of application: The powdery tomentum is peeled off and applied over the deep cut and wounds (CR 2).

Occurrence : Occasional, around the hamlets (MR 24838).

Argyreia nervosa Wight & Arn. (CONVOLVULACEAE)

Vernacular name : Palkodi
Habit : Climber
Part used : Roots
Used for : Stomach ache
Mode of application: Roots are ground into paste dissolved in water and administered orally (CR 2).
Occurrence : Common, around the hamlets (MR 24660).

Aristolochia tagala Cham. ARISTOLOCHIACEAE)

Vernacular name : Pullavalli kodi
Habit : Climber
Part used : Whole plant
Used for : Snake bite
Mode of application: The whole plant is ground into a paste and smeared over the wound due to cobra bite, the juice is administered orally (CR 2).
Occurrence : Occasional, in the adjoining forest areas around the hamlets (MR 24723). (Plate 30. b)

Balanophora fungosa J. R. & G. Forst (BELANOPHORACEAE)

Vernacular name : Manipoo
Habit : Parasitic herb
Part used : Flower
Used for : Rheumatism
Mode of application: The flowers are ground into a paste and smeared over the painful joints due to rheumatism (CR 2).
Occurrence : Occasional, in the roots of huge trees in the evergreen forests adjoining to hamlets (MR 24743). (Plate 30. c)

Bambusa bambos (L.) Voss. (POACEAE)

Vernacular name : Mungal, Mula
Habit : Tree grass
Part used : Peeling from the culm, bamboo manna
Used for : Wound healing, stomach ache, worm trouble and urinary infection

Mode of application: 1. The peelings obtained from the fresh culms along with lime (Calcium hydroxide) and salt is ground into a paste and smeared over the affected part (CR 2).

2. The Bamboo mauna along with roots of *Alstonia scholaris*, Vellaramkallu (White stones) are boiled in water and the decoction is administered orally, for acute stomach ache (CR 2).

3. Bamboo mauna along with Vellaramkallu are boiled in water and the decoction is administered orally for urinary infection and worm trouble (CR 2).

Occurrence : Common, in the moist deciduous forests around the hamlets (MR 24867).

Brassica juncea (L.) Czern. & Coss. (BRASSICACEAE)

Synonym : (BRASSICACEAE)

Vernacular name : Kadugu

Habit : Herb

Part used : Seeds

Used for : Headache

Mode of application: The seeds are ground into a paste and smeared over the forehead (CR 2).

Occurrence : Cultivated (MR 24516)

Caesalpinia mimosoides Lam. (FABACEAE)

Vernacular name : Kumullu

Habit : Shrub

Part used : roots

Used for : Stomach ache

Mode of application: The roots along with the rhizome of Kasturi manjal (*Curcuma aromatica*) are ground into paste and dissolved in a half glass of water and administered orally, twice a day (CR 2).

Occurrence : Common, around the hamlets (MR 24973). (Plate 30. d)

Callicarpa tomentosa (L.) Murr.(VERBENACEAE)

Vernacular name : Nedumperuku

Habit : Small tree

Part used : Roots, tomentum of tender stem

Used for : Releasing placenta, Wound healing

Mode of application: 1. The roots are crushed and the juice is administered orally for releasing placenta.

2. The tomentum obtained from the tender stem is ground into paste along with coconut oil and smeared over the wounds (CR 2).

Occurrence : Common, around the hamlets (MR 24690). (Plate 29. c)

Capsicum annuum L. (SOLANACEAE)

Vernacular name : Milakai

Habit : Herb

Part used : Dried fruits

Part used : Seeds

Used for : Earache

Mode of application: The seeds are roasted in coconut oil and used as an ear drop (CR 2).

Occurrence : Cultivated (MR 24664).

Caryota urens L. (ARECACEAE)

Vernacular name : Panai, Koonthapanai

Habit : Tree

Part used : The powdery tomentum found in the edge of the knee of peduncle of compound of leaf

Used for : Wound healing

Mode of application: The powdery tomentum is peeled off and applied over the deep cut and wounds (CR 2).

Occurrence : Common around the hamlets (MR 24844).

Cassia fistula L. (FABACEAE)

Vernacular Name : Konnai maram

Habit : Tree

Part used : Bark

Used for : Diarrhoea

Mode of application: Bark is ground into a paste, dissolved in water and administered orally (CR 2).

Occurrence : Common, around the hamlet (MR 24480).

Cinnamomum malabatrum (Burm. f.) Blume (LAURACEAE)

Vernacular name : Shanthamaram
Habit : Tree
Part used : Bark
Used for : Wound healing
Mode of application: Bark is ground into a paste and smeared over the wounds (CR 2).
Occurrence : Common, around the hamlets (MR 24732).

Clerodendrum viscosum Vent. (VERBENACEAE)

Vernacular name : Chediperuvu
Habit : shrub
Part used : Root
Used for : Releasing placenta
Mode of application: The root bark is ground into a paste and applied over the vaginal tracts after delivery for releasing placenta (CR 2).
Occurrence : Common around the hamlets (MR 24691).

Commelina erecta L. (COMMELINACEAE)

Vernacular name : Poina
Habit : Herb
Part used : Leaves
Used for : Itches
Mode of application: The leaf is ground into a paste and smeared over the affected area (CR 2).
Occurrence : Occasional around the hamlets (MR 24976).

Curculigo orchioides Gaertn.(HYPOXIDACEAE)

Vernacular name : Sirpana, Nilapana
Habit : Herb
Part used : Tuberous roots
Used for : Urinary trouble
Mode of application: The tuberous roots are ground into a paste, dissolved in goat's milk and administered orally (CR 2).
Occurrence : Occasional, around the hamlets (MR 24829).

Curcuma aromatica Salisb. (ZINGIBERACEAE)

Vernacular Name : Kasthuri manjal

Habit : Rhizomatous herb

Part used : Rhizome

Used for : Stomachache

Mode of application : The rhizome along with the roots of Koomullu (*Caesalpinia mimosoides*) are ground into a paste and dissolved in half a glass of water and administered orally, twice a day (CR 2).

Occurrence : Occasional, in the neighbouring forests around the hamlets (MR 24801).

Cyclea peltata (Lam.) Hook.f. Thomas (MENISPERMACEAE)

Vernacular name : Koramkodi

Habit : Climbing herb

Part used : Roots

Used for : Stomachache, snakebite

Mode of application : 1. The roots chewed for stomachache.

2. The root is ground into a paste and smeared over the wound from viper bite; the paste is also applied over the head, half of it is dissolved in water and administered orally (CR 2).

Occurrence : occasional, in the adjoining forest areas of the hamlets (MR 24510)

Cymbidium aloifolium (L.) Sw. (ORCHIDACEAE)

Vernacular name : Shadakkaya

Habit : Epiphytic herb

Part used : Flower and fruit

Used for : Determining the sex of child

Mode of application : Flowers by the married ladies before mating for getting a female child. Fruits of the same plant administered orally before mating for getting a male child (CR 3).

Occurrence : Common, on trees of the hamlets (MR 24975). (Plate 30. e)

Cymbopogon flexuosus (Nees *ex* Steud.) Wats.

Vernacular name : Thailapul

Habit : Herb

Part used : Oil

Used for : Body pain and cold

Mode of application: 1. The oil obtained from the distillation of whole plant is smeared over the affected area and by dissolving in hot water and bathing relieves body pain (CR 2).

2. The few drops of oil dissolved in hot water and the fumes inhaled after covering the head by a shawl is good for the treatment of cold (CR 2).

Occurrence : Common, in the evergreen forests adjoining to the hamlets (MR 24875).

Dendrocnide sinuata (Blume) Chew (URTICACEAE)

Vernacular name : Thattapila

Habit : Small tree

Part used : Bark, decayed leaves

Used for : For recovering the itching caused by the leaves

Mode of application: The bark or decayed leaves are ground into a paste along with humus soil, smeared over the affected area (CR 2).

Occurrence : Common, in the evergreen forests adjoining to the hamlets (MR 24770).

Drynaria quercifolia (L.) Js.Sm. (POLYPODIACEAE)

Vernacular name : Mudayattukodi

Habit : Epiphytic Herb

Part used : Rhizome

Used for : Leprosy and Earache

Mode of application: 1. The rhizomes along with the rhizome of Vellilithandu (*Raphidophora pertusa*), coconut oil and salt are ground into a paste and smeared over the body of the person having leprosy (CR 2).

2. The rhizome is roasted in fire and the juice is used as an ear drop for ear ache (CR 2).

Occurrence : Common, found as an epiphytic herb on trees of adjoining forest areas (MR 24897).

Elaeocarpus glandulosus Wall. *ex* Merr. (ELAEOCARPACEAE)

Vernacular name : Koduvashimaram
Habit : Tree
Part used : Bark
Used for : Throat infection
Mode of application: The bark is ground into a paste and smeared over the throat (CR 2).
Occurrence : Common, in the evergreen forests around the hamlets (MR 24416). (Plate 29. d)

Elettaria cardamomum (L.) Maton(ZINGIBERACEAE)

Vernacular name : Elam
Habit : Rhizomatous herb
Part used : Roots
Used for : Stomach ache
Mode of application: The roots are ground into a paste and dissolved in hot water and administered orally, for acute stomach ache (CR 2).
Occurrence : Common, around the hamlets either as cultivated or as wild (MR 24805).

Ensete superbum (Roxb.) Cheesman (MUSACEAE)

Vernacular name : Malavala, Kalluvala
Habit : Tall rhizomatous herb with pseudo stem.
Part used : Juice of the stem pith, seeds
Used for : Snake bite, Kidney stone
Mode of application: 1. The juice extracted from the stem pith given for snake bite (CR 2).
2. The seeds are boiled in water and administered orally, for dissolving kidney stone (CR 2).
Occurrence : Rare, found in the neighbouring forests around the hamlets (MR 24812).

Entada rheedei Spreng. (FABACEAE)

Vernacular name : Vetukay
Habit : Lianas
Part used : Cotyledon

Used for : Stomachache

Mode of application: The cotyledons of the seeds are cut into small pieces, cooked along with Uluvai (*Trigonella foenum graecum*) and rice (CR 2).

Occurrence : Common, around the hamlets (MR 24494).

Ficus benghalensis L. (MORACEAE)

Vernacular name : Alamaram

Habit : Tree

Part used : Bark

Used for : Wound healing

Mode of application: The bark is ground into a paste and smeared over the wounds (CR 2).

Occurrence : Common, around the hamlets (MR 24779)

Ficus exasperata Vahl (MORACEAE)

Vernacular name : Villuragi

Habit : Tree

Part used : Milky latex

Used for : Wound healing, stomach problem

Mode of application: 1. The milky exudates is applied over the wounds of livestock (CR 2)

2. The latex boiled along with water is given for various stomach problems such as indigestion, stomach pain etc (CR 2).

Occurrence : Common, around the hamlets (MR 24781).

Ficus tinctoria G. Forst. ssp. ***parasitica*** (Koen. *ex* Willd.) Corner (MORACEAE)

Vernacular name : Pullal

Habit : Tree

Part used : Bark and leaves

Used for : Cut and wounds

Mode of application: The bark and leaves are ground into a paste and applied over deep cut and wounds (CR 2).

Occurrence : Common, around the hamlets (MR 24785). (Plate 29. a & f)

Garcinia gummi-gutta (L.) Robs. (CLUSIACEAE)

Vernacular name : Kudukka puli
Habit : Tree
Part used : Dried fruits
Used for : Cold and fever
Mode of application: The decoction prepared by boiling the fruits along with ginger (*Zingiber officinale*), Kurumulagai (*Piper nigrum*) and sugar, is administered orally.
Occurrence : Common, around the hamlets (MR 24532)

Grewia tiliifolia Vahl. (TILIACEAE)

Vernacular name : Unnam,
Habit : Tree
Part used : Exudates from bark
Used for : Chest pain, cooling agent
Mode of application: 1. The extract obtained by crushing the bark is dissolved in water and given for chest pain. (CR 2)
2. The bark crushed along with water and applied over the body and head as a cooling agent. (CR 2)
Occurrence : Common, around the hamlets and moist deciduous forests (MR 24937).

Hedychium coronarium Koenig in Retz. (ZINGIBERACEAE)

Vernacular name : Kachora
Habit : Rhizomatous herb
Part used : Rhizome
Used for : Stomach ache
Mode of application: The rhizome is chewed and the juice is administered orally, for stomach ache (CR 2).
Occurrence : Occasional, around the hamlets (MR 24806)

Helicteres isora L. (STERCULIACEAE)

Vernacular name : Kaivan
Habit : Small tree
Part used : Seeds
Used for : Earache

Mode of application: Seeds are crushed and roasted in coconut oil and used as an ear drop (CR 2).

Occurrence : Occasional, in neighbouring forest areas (MR 24406).

Hibiscus rosa-sinensis L. (MALVACEAE)

Vernacular name : Chembarath

Habit : Shrub

Part used : Leaves

Used for : Cooling agent, shampoo

Mode of application: The leaves are crushed along with water and the mucilaginous extract is applied over the head as a shampoo, and smeared over the body for cooling (CR 2).

Occurrence : Commonly found as cultivated ornamental (MR 24541).

Hopea ponga (Dennst.) Mabber. (DYPTEOCARPACEAE)

Vernacular name : Karimpongu

Habit : Tree

Part used : Bark

Used for : Stomach ache with diarrhoea and burns

Mode of application: 1. The bark is cut into small pieces, boiled in water and continuously stirred with a twig of the same plant for one hour and administered orally, twice a day, for stomach ache with diarrhoea (CR 2)

2. The bark is crushed and the juice is smeared over the burns.

Occurrence : occasional, around the hamlets (MR 24536).

Hydnocarpus pentandra (Buch.-Ham.) Oken (FLACOURTIACEAE)

Vernacular name : Marotti kay

Habit : Tree

Part used : Seeds

Used for : Lice

Mode of application: The seeds are crushed and juice is applied over the head (CR 2).

Occurrence : Common, in adjoining forests of the hamlets (MR 24524).

Imperata cylindrica (L.) Raeusch. POACEAE)

Vernacular name : Eakapullu, Arakkanpullu
Habit : Herb
Part used : Roots
Used for : Itches and scurf
Mode of application: The roots are ground into a paste and applied over the affected part of the legs (CR 2).
Occurrence : Occasional, around the hamlets (MR 24864).

Lab lab purpureus (L.) Sweet (FABACAEA)

Vernacular name : Amara
Habit : Climber
Part used : Leaves
Used for : Foot diseases
Mode of application: The leaves along with the leaves of Mullu keerai (*Amaranthus spinosus*) and salt are boiled in water and the affected legs are dipped in it, for foot diseases (CR 2).
Occurrence : Cultivated (MR 24465).

Lagerstroemia microcarpa Wight (LYTHRACEAE)

Vernacular name : Venthekku
Habit : Tree
Part used : Bark
Used for : Loose motion
Mode of application: The bark along with the bark of Chavatti maram (*Aporosa lindleyana*) are ground into a paste dissolved in water and administered orally (CR 2).
Occurrence : Common, around the hamlets (MR 24564).

Lobelia nicotianifolia Roth *ex* Roem. & Schult. var. ***trichandra*** (Wight) Clarke (COMPANULACEAE)

Vernacular name : Kattupukalai
Habit : Herb
Part used : Leaves
Used for : Itches
Mode of application: The leaves along with salt are ground into a paste and applied over the affected area (CR 2).

Occurrence : Occasional, in the grasslands around the hamlets (MR 24622).

Kalanchoe laciniata (L.) Pers. (CRASSULACEAE)

Vernacular name : Murikkalli
Habit : Herb
Part used : Leaves
Used for : Wound healing
Mode of application: The leaves are ground into a paste and smeared over the wound (CR 2)
Occurrence : Occasional, in rocky areas around the hamlets (MR 24548).

Kaempferia galanga L.(ZINGIBERACEAE)

Vernacular name : Kacholam
Habit : Rhizomatous herb
Part used : Rhizomes
Used for : Acute stomach ache
Mode of application: The dried and powdered rhizome is dissolved in one glass of hot water and administered orally, for acute stomach ache (CR 2)
Occurrence : Cultivated (MR 24810).

Mesua ferrea L. (CLUSIACEAE)

Vernacular name : Evamaran
Habit : Tree
Part used : Fruits
Used for : itches
Mode of application: The fruits are roasted and the exudates is applied for itches (CR 2)
Occurrence : Occasional, in the evergreen forests around the hamlets (MR 24533). (Plate 29. b)

Mimosa pudica L.

Synonym : (FABACEAE)
Vernacular name : Thavadi, thottasurukki
Habit : Herb

Part used : Leaves
Used for : Wound healing, headache
Mode of application: 1. Leaves are crushed along with salt and the juice is applied over the wounds.
2. Leaves are ground into a paste and smeared over the forehead (CR 2)
Occurrence : Common, around the hamlets (MR 24495).

Mucuna pruriens (L.) DC. (FABACEA)
Vernacular name : Thuvaikodi
Habit : Climber
Part used : Tender stem
Used for : Wound healing, cut in joints of fingers of the leg
Mode of application: 1. The tender stem along with lime (Calcium hydroxide) is ground into a paste and smeared over the wound for easy healing (CR 2).
2. The stem is roasted in coconut oil and tightly knotted in the cut ends of joints of fingers of the leg (CR 2).
Occurrence : Occasional, around the hamlets (MR 24466)

Musa paradisiaca L. (MUSACEAE)
Vernacular name : Vazha
Habit : Rhizomatous herb with pseudo stem
Part used : Extract from stem
Used for : Snake bite
Mode of application: The juice obtained from the fleshy stem is administered orally, for snake bite (CR 2).
Occurrence : Cultivated (MR 24966).

Naravelia zeylanica (Linn.) DC. (RANUNCULACEAE)
Vernacular name : Koorkakodi
Habit : Climbing herb
Part used : Tender leaves, stem and roots
Used for : Reduce snorting, cough, fever and cold
Mode of application: 1. The tender leaves are ground into a paste and smeared over the forehead during night hours followed

by deep inhalation of the crushed roots for controlling snorting while sleeping (CR 2).

2. The crushed roots and leaves are boiled in water and the steam is inhaled by wrapping around the head, for curing cough, fever and cold (CR 2).

Occurrence : Common, around the hamlets (MR 24502).

Oryza meyeriana (Zoll. & Mor. Ex Steud.) subsp. ***granulate***(Nees & Arn. Ex. Watt) Tateoka (POACEAE)

Vernacular name : Kattunellu

Habit : Herb

Part used : Seeds

Used for : Smoothening delivery

Mode of application: Grains are given for the pregnant ladies before delivery (CR 2).

Occurrence : Occasional, in the marshlands around the hamlets (MR 24974).

Panicum sumatrensis Roth we Roem.& Schult. (POACEAE)

Vernacular name : Chama

Habit : Herb

Part used : Seeds

Used for : Realising placenta

Mode of application: The seeds are ground into a paste and dissolved in hot water and given for the ladies after delivery for immediate release of placenta (CR 2).

Occurrence : Cultivated (MR 24880).

Parahemionitis cordata(Roxb. *ex* Hook. & Grev.) Fraser.Jenk.(HEMIONITIDACEAE)

Vernacular name : Saruvily

Habit : Herb

Part used : Whole plant

Used for : Spider poison

Mode of application: The whole plant is crushed and roasted in coconut oil and smeared over the affected part (CR 2).

Occurrence : Occasional, in shady places around the hamlets (MR 24901).

Parmotrema reticulatum (Tayl.) M. Choisy

Vernacular name : Kannavettu panna
Habit : Corticolous foliose lichen
Part used : Thallus
Used for : Kannavettu a kind of acute skin infection affected by children
Mode of application: The whole thallus is ground into a paste and smeared over the affected area (CR 2).
Occurrence : Occasional, in the evergreen forest (MR 24958).

Parmotrema tinctorum (Nyl.) Hale

Vernacular name : Perum kannavettu panna
Habit : Corticolous foliose lichen
Part used : Thallus
Used for : Kannavettu a kind of acute skin infections in children
Mode of application: The whole thallus is ground into a paste and smeared over the affected area (CR 2).
Occurrence : Occasional, in the evergreen forests (MR 24959).

Persicaria chinensis (L.) Gross. (POLYGONACEAE)

Vernacular name : Odinja
Habit : shrub
Part used : Roots
Used for : Stomach ache
Mode of application: The roots are chewed for stomach ache(CR 2).
Occurrence : Common, around the hamlets (MR 24719)

Pogostemon paniculatus (Willd.) Benth. (LAMIACEAE)

Vernacular name : Malaithulasi
Habit : Herb
Part used : Roots
Used for : Diarrhoea
Mode of application: Roots are ground into a paste and dissolved in hot water and administered orally, for diarrhoea (CR 2).

Occurrence : Common around the hamlets (MR 24705).

Pouzolzia zeylanica (L.) Bennett (URTICACEAE)

Vernacular name : Kallotti
Habit : Herb
Part used : Roots
Used for : Urinary diseases
Mode of application: Roots are ground into a paste and dissolved in hot water and administered orally, for urinary problems (CR 2).
Occurrence : Common, around the hamlets (MR 247712).

Phyllanthus amarus Schum.& Thonn. (EUPHOBIACEAE)

Vernacular name : Sirunelli, Kikanelli
Habit : Herb
Part used : Whole plant
Used for : Jaundice
Mode of Application: The whole plant is ground into a paste and dissolved in black goat's milk and administered orally, for one weak (CR 2).
Occurrence : Common, around the hamlets (MR 24762)

Pholidota imbricata Hook. (ORCHIDACEAE)

Vernacular name : Kalili
Habit : Epiphytic herb
Part used : Flower and fruit
Used for : Determining the sex of child
Mode of application: The Flowers eaten by the married ladies before mating wish to for getting a female child. Fruits are administered orally before mating for getting male child (CR 3).
Occurrence : Common, on trees of the hamlets (MR 24794).

Pinanga dicksonnii(Roxb.)Blume (ARECACEAE)

Vernacular name : Tevarupaku, Kattupaku
Habit : Small tree
Part used : Tender seeds, roots
Used for : Wound healing and tooth ache

Mode of application: 1. Tender seeds are crushed and the juice is applied over the wounds.
2. The roots are chewed with the affected teeth for toothache (CR 2)

Occurrence : Occasional, in the evergreen forests adjoining to the hamlets (MR 24846).

Pimpinella heyneana (DC.)Kurz.

Vernacular name : Sirumalli

Habit : Herb

Part used : Whole plant

Used for : Foot infection

Mode of application: The whole plant is ground into a paste along with salt and smeared over the affected area (CR 2)

Occurrence : Occasional, in hill tops of the semi evergreen forests adjoining to the hamlets (MR 24593).

Phyllanthus emblica L. (EUPHORBIACEAE)

Vernacular name : Nelli

Habit : Tree

Part used : Bark

Used for : Stomachache with diarrhoea

Mode of application: Bark is crushed and the juice is given for stomach ache with diarrhoea (CR 2).

Occurrence : Common, around hamlets and the moist deciduous forests (MR 24763).

Prunus ceylanica (Wight) Miq. (ROSACEAE)

Vernacular name : Narakengamaram

Habit : Tree

Part used : Bark

Used for : Piles

Mode of application: The bark is ground into a paste and applied over the anus of the person having piles (CR 2).

Occurrence : Occasional, in the semi evergreen forests around the hamlets (MR 24498). (Plate 30. g)

Ramalina celastri (Spreng.) Krog *et* Swinsc.(RAMALINACEAE)

Vernacular name : Marapanna

Habit : Fruticose lichen

Part used : Thallus

Used for : Inflammation around the furuncle

Mode of application: The whole plant is ground into paste and applied around the furuncle for removing inflammation (CR 2).

Occurrence : Rare, occurring on the branches of evergreen trees around the hamlets (MR 24929). (Plate 31. f)

Rauvolfia serpentina (L.) Benth. *ex* Kurz (APOCYNACEAE)

Synonym : (APOCYNACEAE)

Vernacular name : Amalpodi

Habit : Herb

Part used : Roots Stem

Used for : Acute stomachache and swelling in bowels due to indigestion.

Mode of application: 1. The roots are ground into a paste and dissolved in one glass of water and administered orally, followed by smearing the paste around the belly (CR 2).

2. The stem is chewed for swelling in bowels (CR 2).

Occurrence : Rare, found in the moist deciduous forests around the hamlets (MR 24638).

Remusatia vivipara (Roxb.) Schott in Schott & Endl. (ARACEAE)

Vernacular name : Athakadagu

Habit : Epiphytic herb

Part used : Tubers

Used for : Cancerous growth in stomach and body part

Mode of application: The tubers are cooked and given for patients having cancerous tumours (CR 2).

Occurrence : Occasional, on trees of the evergreen forests around the hamlets (MR 24858).

Rhaphidophora pertusa (Roxb.) Schott (ARACEAE

Vernacular name : Vellelithandu

Habit : Climbing shrub

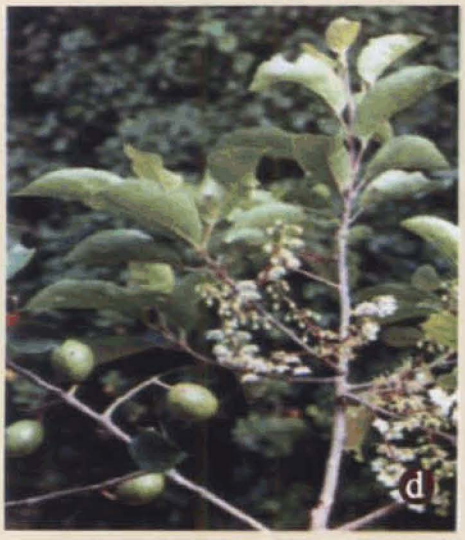


Plate 29. MUTHUVAN'S MEDICINAL PLANTS I. **a & f.** ***Ficus tinctoria***; **b.** ***Mesua ferrea***; **c.** ***Callicarpa tomentosa***; **d.** ***Elaeocarpus glandulosus***; **e.** Medicine man holding ***Schleichera oleosa***; **g.** ***Ficus exasperata***.

Plate 30. MUTHUVAN'S MEDICINAL PLANTS II. **a.** *Aporosa lindleyana*; **b.** *Aristolochia tagala*; **c.** *Balanophora fungosa*; **d.** *Caesalpinia mimosoides*; **e.** *Cymbidium aloifolium*; **f.** *Nicotiana tabacum*; **g.** *Prunus ceylanica*; **h.** *Schumannianthus virgatus*.

Part used : Roots and stem
Used for : Leprosy
Mode of application: The roots and stem are ground into a paste and smeared over the wounds due to leprosy (CR 2).
Occurrence : Occasional, in the semi evergreen and the evergreen forests adjoining to the hamlets (MR 24859).

Rubia cordifolia L. (RUBIACEAE)
Vernacular name : Urukku pullu
Habit : Climber
Part used : Whole plant
Used for : Wound healing
Mode of application: The whole plant is ground into a paste and applied over the wound (CR 2).
Occurrence : Common, around the hamlets (MR 24606).

Sapindus trifoliata L. (SAPINDACEAE)
Vernacular name : Shenkittamaram
Habit : Tree
Part used : Seeds obtained from the faecal matter of spotted deer
Used for : Throat infection
Mode of application: Seeds are ground into a paste and smeared over the throat (CR 2).
Occurrence : Common, in neighbouring forest areas of the hamlets (MR 24441).

Schleichera oleosa (Lour.) Oken (SAPINDACEAE)
Vernacular name : Cheruchudali
Habit : Tree
Part used : Roots
Used for : Curing magicoreligious effect, body pain
Mode of application: 1. The root paste is smeared over the body of person affected by illness due to magicoreligious effect. (CR 2)
2. The roots along with the roots of Neduperugu (*Callicarpa tomentosa*), Kumullu (*Caesalpinia mimosoides*) are boiled in water and bathing in it.

Occurrence : occasional, found in the adjoining forests around the hamlets (MR 24442). (Plate 29. e)

Schumannianthus virgatus (Roxb.) Rolfe. (MARANTACEAE)

Vernacular name : Vella koova
Habit : Shrub
Part used : Flower and fruit
Used for : Determining the sex of child
Mode of application: Flowers eaten by the married ladies before mating for getting a female child. Fruits of the same plant administered orally before mating for getting male child (CR 3).
Occurrence : Common around the hamlets (MR 24811). (Plate 30. h)

Sida rhombifolia L. (MALVACEAE)

Vernacular Name : Kurumthotti
Habit : Herbs
Part used : Root
Used for : Smoothening delivery
Mode of application: Roots are ground into a paste and given for a smooth delivery (CR 2).
Occurrence : Common around the hamlets (MR 24547)

Solanum americanum Mill. (SOLANACEAE)

Vernacular name : Earpa
Habit : Herb
Part used : Leaves
Used for : Stomach problem
Mode of application: Tender leaves are boiled along with salt, water is administered orally, for curing various stomach problems (CR 2)
Occurrence : Common, around the hamlets (MR 24672).

Spilanthes clava DC. (ATERACEAE)

Vernacular name : Uchipattapoovu
Habit : Herb
Part used : Flowers

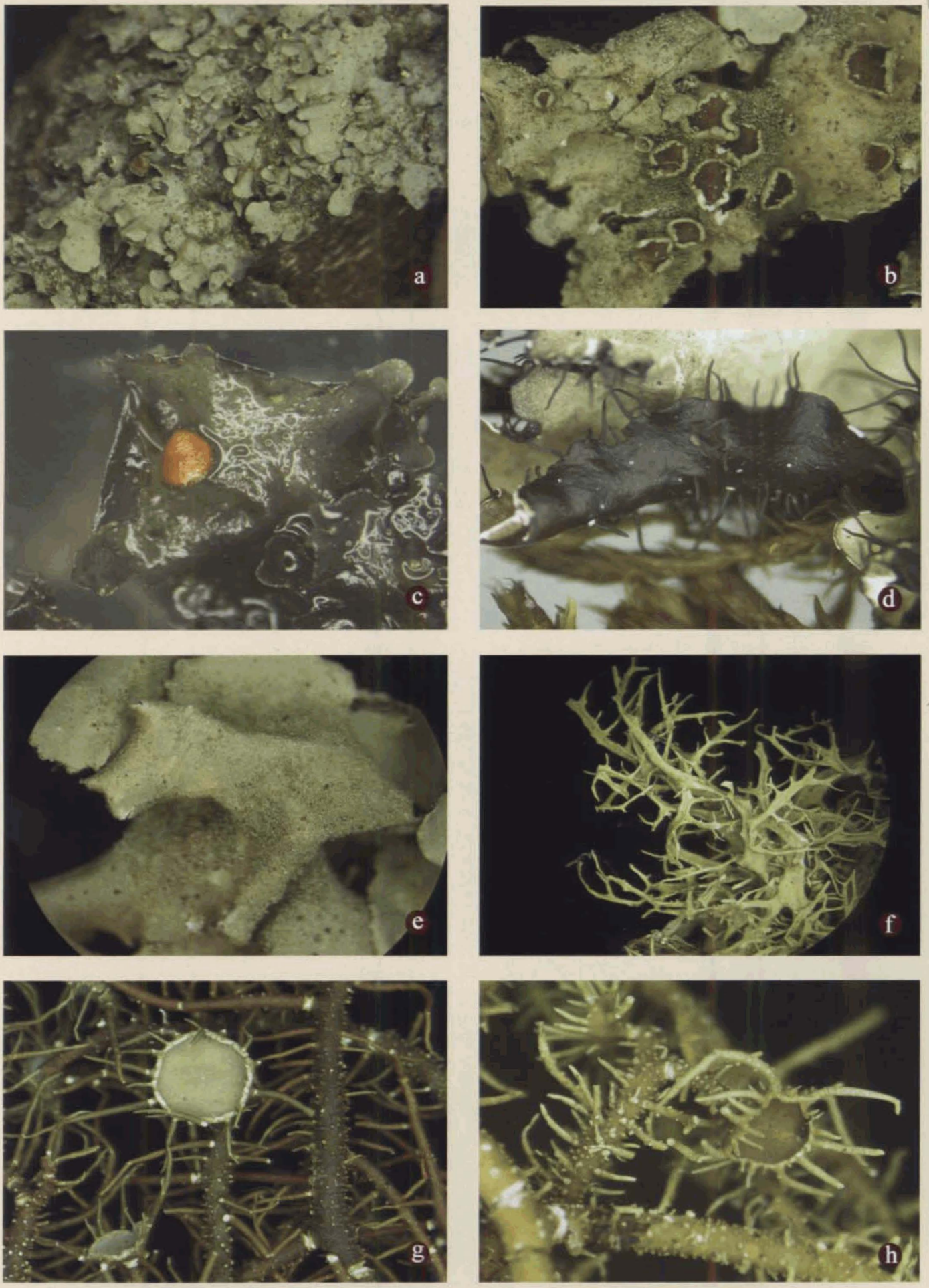


Plate 31. MEDICINAL LICHENS. **a.** *Coccocarpia erythroxyli*; **b.** *Hypotrachyna crenata*; **c.** *Leptogium cyanescens*; **d.** *Parmotrema grayanum*; **e.** *Parmotrema tinctorum*; **f.** *Ramalina celastri*; **g.** *Usnea nepalensis*; **h.** *Usnea picta.*

Used for : Toothache

Mode of application: Flowers are crushed and applied over the affected teeth.

Occurrence : occasional, around the hamlets (MR 24617).

Syzygium cumini (L.) Skeels (MYRTACEAE)

Vernacular Name : Njaval, Nara

Habit : Tree

Part used : Bark, seeds

Used for : Stomach ache and loose motion

Mode of application: 1. The bark is crushed and put in water for some time and administered orally for stomach ache (CR 2).

2. Seeds ground into a paste and dissolved in water are administered orally for loose motion (CR 2).

Occurrence : Common, around the hamlets (MR 24557).

Tectona grandis L. f. (VERBENACEAE)

Vernacular name : Thekkamaram

Habit : Trees

Part used : Tender leaves

Used for : wound healing

Mode of application: The leaves are crushed and the juice is applied over the wounds (CR 2).

Occurrence : Common, around the hamlets (MR 24695).

Terminalia bellarica (Graeuter.) Roxb. (COMBRETACEAE)

Vernacular name : Thannimaram

Habit : Trees

Part used : Inner bark

Used for : Stomachache

Mode of application: The bark is crushed and the juice is administered orally for stomach ache (CR 2).

Occurrence : Common, around the hamlets (MR 24473).

Trigonella foenumgraecum L.

Vernacular name : Uluvai

Habit : Herb

Part used : Seeds
Used for : Stomachache
Mode of application: The seeds are cooked along with cotyledons of Vettukay (*Entada rheedei*) and rice (CR 2).
Occurrence : Cultivated (MR 24494).

Usnea nepalensis Awasthi (USNEACEAE)
Vernacular name : Mara jada panna
Habit : Fruticose lichen
Part used : Whole thallus
Used for : Wound healing
Mode of application: The whole plant is ground into a paste and applied over the wound (CR 2).
Occurrence : Rare, on the branches of the evergreen trees around the hamlets (MR 24960). (Plate 31. g & h)

Usnea nilgirica G. Awasthi (USNEACEAE)
Vernacular name : Mara jada panna
Habit : Fruticose lichen
Part used : Whole thallus
Used for : Wound healing
Mode of application: The whole plant is ground into a paste and applied over the wound. (CR 2)
Occurrence : Rare, on the branches of evergreen trees around the hamlets (MR 24961).

Usnea picta (Stein.) Mot.(USNEACEAE)
Vernacular name : Mara jada panna
Habit : Fruiticose lichen
Part used : Whole thallus
Used for : Wound healing
Mode of application: The whole plant is ground into a paste and applied over the wound. (CR 2)
Occurrence : Rare, on the branches of evergreen trees around the hamlets (MR 24962).

Usnea subfloridana Stirt.(USNEACEAE)
Vernacular name : Mara jada panna

Habit : Fruiticose lichen

Part used : Whole thallus

Used for : Wound healing

Mode of application : The whole plant is ground into a paste and applied over the wound. (CR 2)

Occurrence : Rare, on the branches of evergreen trees around the hamlets (MR 24963).

Wrightia tinctoria (Roxb.)R.Br. (APOCYNACEAE)

Vernacular name : Palaimaram

Habit : Medium tree

Part used : Bark

Used for : Scabies and itches

Mode of application : The bark is ground into a paste along with salt and coconut oil and smeared over affected area (CR 2).

Occurrence : Common, in the plains and adjoining forest areas of the hamlets (MR 24642)

Zizyphus rugosa Lam. (RHAMANACEAE)

Vernacular name : Valiyootu, vallikoda

Habit : Straggler

Part used : Bark

Used for : Loose motion

Mode of application : Bark is ground into a paste, dissolved in water and administered orally (CR 2).

Occurrence : Common, in adjoining forest areas of the hamlets (MR 24432).

5. 8. 3. 3. 2. Veterinary Medicine

Capsicum frutescens L (SOLANACEAE)

Vernacular name : Kanthari

Habit : Herb

Part used : Dried fruits

Used for : Indigestion

Mode of application: The stem is crushed and the juice is mixed with salt and given for cattle for indigestion and various stomach problems (CR 2).

Occurrence : Common, around the hamlets (MR 24665)

Ficus exasperata Vahl (MORACEAE)

Vernacular name : Villuragi

Habit : Tree

Part used : Milky latex

Used for : Wound healing, stomach problem

Mode of application: 1. The milky exudates is applied over the wounds of livestock (CR 2)

2. The latex is boiled along with water and given for various stomach problems such as indigestion, stomach pain etc (CR 2).

Occurrence : Common, around the hamlets (MR 24781). (Plate 29. g)

Tectona grandis L. f. (VERBENACEAE)

Vernacular name : Thekkamaram

Habit : Tree

Part used : Oil

Used for : Foot and mouth disease, wound healing

Mode of application: The oil extracted by distillation of the mature wood is smeared over the affected area (CR 1).

Occurrence : Common, around the hamlets and adjoining forest areas (MR 24695).

Zingiber officinale Rosc. (ZIGIBERACEAE)

Vernacular name : Inchi

Habit : Rhizomatou herb

Part used : Fresh Rhizomes

Used for : Stomach problem in cattle, eye disease

Mode of application: 1. The fresh rhizomes are crushed and the juice is mixed with salt and given for stomach problem and indigestion (CR 2).

2. The rhizomes are chewed and spit over the affected eyes, twice daily(CR 2).

Occurrence : Cultivated (MR 24808).

5. 8. 3. 4. Miscellaneous plants uses

5. 8. 3. 4. 1. Fibre yielding plants

Bauhinia racemosa Lam. (FABACEAE)

Vernacular name : Aram puli
Habit : Tree
Part used : the fibres obtained from bark
Mode of use : The fresh bark fibres peeled from wood and kept for one or two days for getting long duration (CR 1).
Occurrence : Common, around the hamlets and neighbouring areas (MR 24477).

Caryota urens L. (ARECACEAE)

Vernacular name : Koontha panai naru
Habit : Tree
Part used : Fibres obtained from peduncle of leaves and infrutescence
Mode of use : The fibres peeled from peduncle are dried in sunlight and whenever needed is stored in water. The fresh infrutescence branches are directly used as a fibre. (CR 1).
Occurrence : Common, around the hamlets (MR 24844).

Ficus racemosa L. (MORACEAE)

Vernacular name : Athi naru
Habit : Tree
Part used : the fibres obtained from bark
Mode of use : The fresh bark fibres are peeled and kept in water for one or two days for getting long duration (CR 1).
Occurrence : Occasional, around the hamlets and in the moist deciduous forests around the hamlets (MR 24783).

Grewia tiliifolia Vahl. (TILIACEAE)

Vernacular name : Unnam
Habit : Tree
Part used : the fibres obtained from bark

Mode of use : The fresh bark fibres peeled and kept in water for one or two days for getting long duration (CR 1).

Occurrence : Common, around the hamlets and the moist deciduous forests (MR 24937).

Helicteres isora L. (STERCULIACEAE)

Vernacular name : Kaivan

Habit : Small tree

Part used : the fibres obtained from bark

Mode of use : The fresh bark fibres are peeled and kept in sunlight for one or two days for getting long duration (CR 1).

Occurrence : Occasional, in neighbouring forest areas (MR 24406).

Ochlandra travancorica (Bedd.) Benth. *ex* Gamble(POACEAE)

Vernacular name : Eatanaru

Habit : Reed bamboo

Part used : The fibres obtained from culm

Mode of use : The fibres are peeled from fresh culms (CR 1).

Occurrence : Occasional, in the neighbouring forest areas (MR 24869). (Plate 34. g).

Sterculia villosa Roxb. *ex* DC. (STERCULIACEAE)

Vernacular name : Vakka naru

Habit : Tree

Part used : The fibres obtained from bark

Mode of use : The fresh bark fibres are peeled and kept in sunlight for one or two days for long duration (CR 1).

Occurrence : Occasional, in the neighbouring forest areas (MR 24409).

Trema orientalis (L.) Blume (ULMACEAE)

Vernacular name : Amai naru

Habit : Tree

Part used : The fibres obtained from bark

Mode of use : The fresh bark fibres are peeled and kept in sunlight for one or two days for getting long duration (CR 1).

Occurrence : Occasional, in the neighbouring forest areas (MR 24773).

5. 8. 3. 4. 2. Plants for fish stupefaction

Acacia sinuata (Lour.) Merr. (FABACEAE)

Vernacular name : Cheenikai
Habit : Climbing shrub
Part used : fruits
Mode of use : The fruits are crushed and dissolved in the water of small streams or selected areas of river (CR 2).
Occurrence : Occasional, in the moist deciduous forests of the adjoining areas (MR 24488).

Acacia torta (Roxb.) Craib (FABACEAE)

Vernacular name : Incham pattai
Habit : Climbing shrub
Part used : fruits
Mode of use : The fruits are crushed and dissolved in the water of small streams or selected areas of river (CR 1).
Occurrence : Occasional, in the moist deciduous forests of the adjoining areas (MR 24489).

Anamirta cocculus (L.) Wight & Arn. (MENISPERMACEAE)

Vernacular name : Pollakay
Habit : Lianas
Part used : Fruits
Mode of use : The fruits are crushed and dissolved in the water of small streams or selected areas of river (CR 1).
Occurrence : Common, around the hamlets (MR 24507).

Bambusa bambos (L.) Voss. (POACEAE)

Vernacular name : Mulamkuruthu
Habit : Tree grass
Part used : Tender shoots
Mode of use : The tender shoots are crushed and the juice is dissolved in the streams (CR 1).

Occurrence : Common, in the moist deciduous forests around the hamlets (MR 24867). (Plate 34. f)

Cycas circinalis L. (CYCADACEAE)

Vernacular name : Eanth
Habit : Tree
Part used : Bark
Mode of use : The bark is crushed and dissolved in the streams (CR 1).
Occurrence : Common, in the moist deciduous forests around the hamlets (MR 24887).

Canthium rheedei DC. (RUBIACEAE)

Vernacular name : Karakkay
Habit : Small tree
Mode of use : The fruits are crushed and dissolved in the water of small streams or selected areas of river (CR 2).
Occurrence : Occasional, in the neighbouring forest areas (MR 24597).

Caryota urens L. (ARECACEAE)

Vernacular name : Koontha panai
Habit : Tree
Part used : Fruits
Mode of use : The fruits are crushed and dissolved in the water of small streams or selected areas (CR 1).
Occurrence : Common, around the hamlets (MR 24844).

Diospyros cordifolia Roxb. (DIOSPYRACEAE)

Vernacular name : Vakkanai maram
Habit : Tree
Part used : Leaves and branches
Mode of use : The leaves along with branches are crushed and juice is dissolved in streams (CR 1).
Occurrence : Common, in the moist deciduous forests adjoining to the hamlet (MR 24632).

Dillenia pentagyna Roxb (DILLENIACEAE)

Vernacular name : Vazham punna

Habit : Tree
Part used : Fruits
Mode of use : The fruits are crushed and dissolved in water of small streams or selected areas of river (CR 1)
Occurrence : Common, around the hamlets (MR 24503).

Sapindus trifoliata L. (SAPINDACEAE)
Vernacular name : Poochakotta, Urunchi
Habit : Tree
Part used : fruits
Mode of use : The fruits are crushed and dissolved in the water of small streams or selected areas of river with fishes (CR 1).
Occurrence : Common, in the neighbouring forest areas of the hamlets (MR 24441).

Strychnos nux-vomica L. (LOGANIACEAE)
Vernacular name : Kanchiram
Habit : Tree
Part used : Fruits and leaves
Mode of use : The fruits or leaves are crushed and dissolved in the water of small streams or selected areas of river (CR 1).
Occurrence : Occasional, in the neighbouring forests (MR 24654)

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5. 8. 3. 4. 3. Plants as Repellents

Azadirachta indica A. Juss. (MELIACEAE)
Vernacular name : Veepumaram
Habit : Tree
Part used : Oil, leaves
Used for : Leach and insect repellent
Mode of application: 1. The oil is mixed along with salt, powder of Pukalai (*Nicotiana tabacum*) and smeared over the external parts of the body exposed to leaches (CR 1).
2. The leaves are mixed along with the seeds before storing for a long time, to keep it free from insects (CR 1).

Occurrence : Common, in the plains and adjoining areas of the hamlets (MR 24427).

Cyclea peltata (Lam.) Hook. f. & Thoms. (MENISPEMACEAE)

Vernacular name : Padakilangu
Habit : Herb
Part used : Tuberous roots
Used for : Leach repellents
Mode of use : The tuberous roots are roasted in coconut oil along with salt and smeared over the external parts of the body exposed to leaches (CR 1).
Occurrence : occasional in adjoining forest areas (MR 24510).

Canarium strictum Roxb.(BURSERACEAE)

Vernacular name : Kunkillyam
Habit : Tree
Part used : Resin
Used for : Repellents of insects
Mode of use : The resin collected from wood is put on fire during night hours for repelling harmful insects (CR 1).
Occurrence : occasional, in the adjoining forest areas (MR 24426).

Harpullia arborea (Blanco) Radlk. (SAPINDACEAE)

Vernacular name : Pookoli maram
Habit : Tree
Part used : bark
Used for : Leach repellents
Mode of use : The bark is crushed and the juice is smeared over the external parts of the body exposed to leaches (CR 1).
Occurrence : occasional, in the adjoining forest areas (MR 24440)

Solanum virginianum L. (SOLANACEAE)

Vernacular name : Mullukathrica
Habit : herb
Part used : fruits
Used for : Leach repellents

Mode of use : The fruits are crushed and the juice is smeared over the external parts of the body exposed to leaches (CR 1).

Occurrence : Occasional, in the plains and the neighbouring forests (MR 24676).

Strychnos nux-vomica L. (LOGANIACEAE)

Vernacular name : Kanchiram

Habit : Tree

Part used : Fruits and leaves

Used for : Insect repellents

Mode of use : The leaves are mixed along with the seeds before storing for a long time to keep it free from insects (CR 1).

Occurrence : Occasional, in the neighbouring forest areas (MR 24654).

5. 8. 3. 4. 4. Plants as soaps and shampoo

Acacia sinuata (Lour.) Merr. (FABACEAE)

Vernacular name : Cheenikai

Habit : Climbing shrub

Part used : Fruits and bark

Used for : Soap

Mode of use : The fruits or bark is crushed and the foam is applied over the dresses while washing (CR 1).

Occurrence : Occasional, in the moist deciduous forests of the adjoining areas (MR 24488).

Grewia tiliifolia Vahl. (TILIACEAE)

Vernacular name : Unnam

Habit : Tree

Part used : Bark

Used for : Shampoo

Mode of use : The juice obtained from the bark is used as a shampoo (CR 1).

Occurrence : Common, around the hamlets and the moist deciduous forests (MR 24937).

Sapindus trifoliata L. (SAPINDACEAE)

Vernacular name : Pooch kottai
Habit : Tree
Part used : fruits
Used for : Soap
Mode of use : The fruits or bark is crushed and the foam is applied over the dresses while washing (CR 1).
Occurrence : Common, in the neighbouring forest areas (MR 24441).

Sida rhombifolia L. (MALVACEAE)

Vernacular name : Kurunthotti
Habit : Herb
Part used : Leaves
Used for : Shampoo
Mode of use : The leaves are crushed along with water and the mucilaginous extract is used as a shampoo (CR 1).
Occurrence : Common, around the hamlets (MR 24597).

5. 8. 3. 4. 5. Plant as masticator

Artocarpus gomezianus Wall. *ex* Trecul ssp. ***zeylanicus*** Jarrett.(MORACEAE).

Vernacular name : Theemplachi
Habit : Tree
Part used : Bark
Mode of application: The bark is cut in to small pieces, chewed with lime (Calcium hydroxide) and areca nut (*Areca catehu*) as a pan and tribals revealed that, it gave them a slight hallucinogenic effect (CR 2).
Occurrence : occasional, in the evergreen forests adjoining to the hamlets (MR 24776).

5. 8. 3. 4. 6. Plants in Beliefs

According to Muthuvans the huge trees like Palai (*Alstonea scholaris*), Athimaram (*Ficus racemosa*), Alamaram (*Ficus benghalensis, Ficus religiosa*) are the domiciles of Peyi (evil spirits) and called as Peyimarams. The fresh green culm of the bamboos is considered the symbol of purity and it is used to carry the corpse to the burial ground. They believe that the plant Edaniyodan

(*Angiopteris evecta*) (Plate 25. b) have power to keep away elephants and they used to place the tender soots in the path of the elephants near their hamlets. The spikes of Thuppola (*Lepianthes umbellatus*) are collected and put in the rice fields and they believe that it would increase the yield.

The bark of Uriyan (*Mallotus philippensis*), The M*ulanooru* (bamboomanna) of *Bambusa bambos*, The leaves of Peranchi (*Dorstenia indica*), Munthotti (*Elatostemma acuminata*) Ragi (*Eleusine coracana*), Nellu (*Oryza sativa*) are put in the bamboo bottle before tapping the toddy, would increase the yield and efficacy of toddy. The shoots of Karooram (*Planatgo erosa*) are put in the agriculture fields after the first crop to overcome the anger of God. The Njandupidiyan (*Bolbitis appendiculata*) are placed in rock caves and they believed that, more crabs would be collect due to the mythical effect of this plant.

5. 8. 3. 4. 7. Plants in worships and religious rituals

They worship Chamichooral (*Calamus vattayila*) (Plate 34. h). as a symbol of God Palaniandavar. The mature culms are offered to the shrine in their hamlets. They worship the Veppamaram (*Azadirachta indica*) as the domicile of Goddess Mariyatha and believing that their Gods are living under the Alamaram (*Ficus benghalensis*) and Athimaram (*Ficus racemosa*) and cutting of these trees are taboo.

The fresh green culms of bamboos are considered as ward off evils spirits. The dead bodies are carrying in fresh bamboo culms. The leaves of Mangamaram (*Mangifera indica*) are knotted on the fibers of reeds and placed in front of their hut to ward off evil spirits. The roots of Koomullu (*Cesalpinia mimosoides*), Kasturi manjal (*Curcuma aromatica*), Odinja (*Persicaria chinensis*) are knotted together and placed in the corner of huts to ward off evil spirits (Plate 32. b & c).

5. 8. 3. 4. 8. Plants mentioned in traditional songs

There are few plants like, Panai (*Caryota urens*), Alamaram (*Ficus sp.)*, Mula (*Bambusa bambos*) that are mentioned several times in their traditional songs.

5. 8. 3. 4. 9. Plants in material culture

A. Musical instruments

Kotti

Used for : Making the sound of a drum during traditional occasions.

Material used : The wood of Vengaimaram (*Pterocarpus marsupium)* or Kummulumaram (*Gmelina arborea)*or Pila (*Artocarpus heterophyllus*) and skin of animals.

Mode of making : The cortex and pith of the wood is removed by carving, the open end is covered by the treated skin of animals such as ox, buffalos etc. and used as a drum like instruments.

Urummichi

Used for : Making the sound of a drum during traditional occasions.

Material used : The wood of Kummulumaram (*Gmelina arborea)*or Pila (*Artocarpus heterophyllus*) and skin of animals

Mode of making : The cortex and pith of the wood is removed by carving, the open end is covered by the treated skin of animals such as ox, buffalos etc. and used as a drum like instruments.

Kuval

Used for : Making the sound like a bugle during traditional occasions.

Material used : The carved wood of Eatimaram(*Dalbergia sissoides*) along with metal parts.

Mode of making : The cortex and pith of the wood is removed by carving, the a cup like mouth is made using brass.

B. Basketries

Koodai

Used for : Collecting storing seeds

Material used : The culms of Mula (*Bambusa bambos*) or Eata (*Ochlandra travancorica*)

Mode of making : The long culm woven in the form of basket.

Plate 32. WORSHIPS AND FESTIVAL. **a.** Kurumbar's shrine; **b & c.** Muthuvan's shrine; **d.** Irular's shrine; **e.** Malamalasar's shrine; **f.** Dolls of animals offered to God Malleeswara; **g.** Shivarathri festival at Malleeswara temple; **h.** Eravallan's shrine.

Muram

Used for : Collecting storing seeds

Material used : The culms of Mula (*Bambusa bambos*) or Oda (*Ochlandra travancorica*)

Mode of making : The culm fibres woven in the form of basket.

Kannadi pay

Used for : Sleeping

Materials used : Culms of Etta (*Ochlandra travancorica*)

Mode of making : the culms fibres finally woven with designs and due to the perfect weaving it is highly reflective like a mirror.

Serapay

Used for : Drying grains

Materials used : Culms of Etta (*Ochlandra travancorica*) and Munka (*Bambusa bamboos*).

Mode of making : the culm fibres are finally woven.

Kannadivatti

Used for : Storing grains

Materials used : Culms of Etta (*Ochlandra travancorica*) and Munka (*Bambusa bamboos*).

Mode of making : the culm fibres are finally woven.

Easan kahirvatti

Used for : Storing grains

Materials used : Culms of Etta (*Ochlandra travancorica*) and Munka (*Bambusa bamboos*).

Mode of making: the culm fibres are finally woven with diagonal or criss cross designs.

Vettila vatti

Used for : Keeping betels and arecanut

Materials used : The culms of Noontra (*Teinostachyum wightii*)

Mode of making : The fine fibres from the culms are woven in the desired shape.

Piri

Used for : collecting and storing in large quantities.

Materials used : Munga marm (*Bambusa bambos*) and Etta (*Ochlandra travancorica*)

Mode of making: The culms are made into fine fibres and woven. (Plate 27. a-o)

C. Ornaments

The leaves of Eata (*Ochlandra travancorica*) and Kaithathalai (*Pandanus thwaitesii*) are rolled in a special manner like a disc, called *Oalai.* They are inserted in the holes made in the posterior portion of the ear lobes which are sufficiently dilated to contain them. The bamboo culms (*Ochlandra scriptoria*) are carved in the form of beads and beautiful chains are made. The stem of Thailapullu (*Cympogon flexuosus*) is used for making bangles. The seeds of Silanthipullu (*Coix lacryma jobi*) are also used for making chains.

D. Comb

The Muthuvan ladies used to wear a comb as a sign for their identification. Two types are made, one with four prongs and the other with numerous prongs. The combs are made by carving bamboo culms (*Bambusa bambos*).

E. marks

The exudates of Venga (*Pterocarpus marsupium*) are used for making beauty spots. The milky latex are allowed to exude with the help of small wound in the stem and the sticky gum is places at the centre of the forehead as a decorative mark. The bark of Ventheak (*Lagerstromia microcarpa*) is burned and the sooth is mixed with coconut oil for making traditional markings.

F. Tooth Cleaner

The plants and parts used for cleaning of tooth are; stem of Veppai maram (*Azadirachta indica*), Petiole of the mature leaves of (*Mangifera indica*) and Charcoal obtained from burning of Mula (*Bambusa bambos*).

G. Cloths

According to the elder members of this community, they used to wear flattened and cured bark of Aranjali (*Antiaris toxicaria*) as cloth, fifty years ago.

H. Bathing brush

The fibrous fruit cover of Peaikin kay (*Luffa acutangula*), Perin peekin kay (*Luffa cylindrica*) are used as a bathing brush. The bark fiber of Kattu seenkai (*Acacia torta*) is also used bathing brush.

I. House construction

The traditional houses are generally made up of bamboos. Pillars and other poles are generally made up of Mungamaram (*Bambusa bambos*), Churuli maram (*Mesua ferea*) (Plate 35. a), Veetimaram (*Dalbergia latifolia*) *etc.* The walls of houses are made up of Mula (*Bambusa bambos*) or Eata (*Ochlandra travancorica*) Thatching is done with the leaves of Eata thalai (*Ochlandra travancorica*).

J. House hold articles

Ural

Used for : as a mortar

Material used : The wood of Kummulumaram(*Gmelina arborea*) or Pila (Artocarpus hetrophyllus).

Mode of making : The wood is carved into a mortar

Muduthi

Used for : as pestle

Material used : The wood

Mode of making : The mature wood Churuli (*Mesua ferrea*) is carved in the form of a pestle and the outer portion is smoothened by continuous rubbing.

Brooms

Finely pealed fibres from the culms of Eata (*Ochlandar travancorica*) are woven in one end and used as a broom.

Vessel cleaning

The whole plant of 'Muthala minukki'(*Begonia malabarica*) is cut into small pieces and used for cleaning brass vessels.

Cooking Utensils

The large culms of *Bambusa bambos* are used for preparing food. The rice, with adequate amount of water is added through the small openings made in the internodes, after covering the hole it is put in fire for some time. According to the tribals, the cooked rice in bamboo culms is one of the most delicious foods available to them. The culms of *Eata* (*Ochlandra travancorica*) and *Noontra* (*Teinostachyum wightii*) are used to prepare coffee and tea.

Water Bottles

The large culms of Mungamaram (*Bambusa bambos*) are used to carry water from adjacent rivers or streams to the hamlets.

Plates

Leaves of Plasu (*Butea monosperma*), Kalluvazhai (*Ensete superbum*) and Thekku (*Tectona grandis*), Vazham punna (*Dillinia pentagyna*), Vellakoova(*Schumannianthus virgatus*) are used for serving food.

Torches

Kerosine filled in the culms of Oda (*Ochlandra travancorica*) and caped with cloth or cotton are used as a troche during night hours.

Knife handles

The wood of Kottamaram (*Ziziphus rugosa*) and uriyan(*Mallotus philippensis*) are used for making knife handles.

K. Decoration

Kalluvazha (*Ensete superbum*), Kunnan Vazha (*Musa paradasiaca*) Enthusoppu (*Cycas circinalis*) are used for decorating pandals during the marriage and other auspicious occasions.

L. Traps

Various kinds of traps, like *Elikkeni* (Rat trap), *Kooran keni* (Mouse deer trap), *Meenkuruthi* (Fish trap) are commonly available with them. All these traps, are made up of Mungamaram (*Bambusa bamboos*).

Plate 33. PLANTS WITH MISCELLANEOUS USES I. **a.** Malasar man holding bark fibers of *Bauhinia racemosa*; **b.** *Acacia torta*; **c.** *Sapindus trifoliata*; **d.** *Trema orientalis*; **e.** *Arisaema tortuosum*; **f.** *Bolbitis subcrenata*; **g.** *Bauhinia racemosa*; **h.** *Vetiveria zizanioides.*

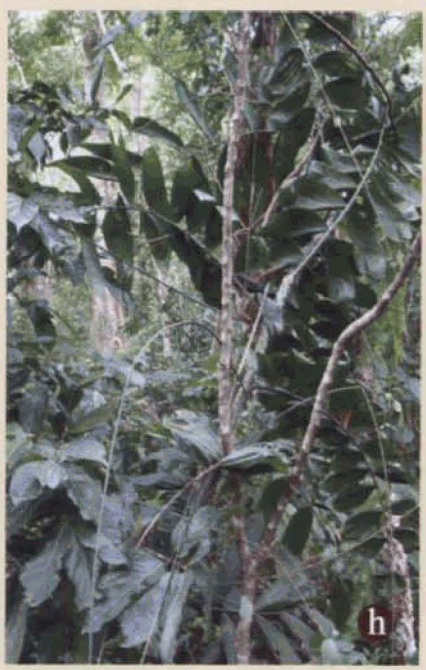


Plate 34. PLANTS WITH MISCELLANEOUS USES II. **a.** ***Ochlandra setigera***; **b.** ***Teinostachyum wightii***; **c.** ***Pinanga dicksonii***; **d.** ***Borassus flabellifer***; **e.** ***Dendrocalamus strictus***; **f.** ***Bambusa bambos***; **g.** ***Ochlandra travancorica***; **h.** ***Calamus vattayila***; **i.** ***Arenga wightii***.

Plate 35. PLANTS WITH MISCELLANEOUS USES III. **a.** *Mesua ferrea*; **b.** Toddy taping from *Caryota urens*; **c.** *Gmelina arborea*; **d.** *Strychnos nux-vomica*; **e.** *Crataeva magna*; **f.** *Tinospora sinensis*; **g.** *Aerva lanata*; **h.** *Lawsonia inermis*; **i.** Leaves of *Ochlandra travancorica* for thatching.

M. Irrigation pipes

They use split bamboo (*Bambusa bambos)* channels for irrigation and also for bringing water to the hamlets from the interior forests.

N. Boats

The Muthuvans reside near the Parambikkulam reservoir. The transportation to the neighbouring town is mainly by boats. The boats are made up of Mungamaram (*Bambusa bambos*) and oar is made up of Thekkamaram(*Tectona grandis*).

O. Weapons

According to the elderly person of the hamlets, in the olden days, they were using the culms of Munga maram (*Bambusa bambos*) as Bow and the finely pointed bamboo culms for arrows. The other weapons include *chavana* (catapult) and *Madava* (long knife). The blowpipes are made from Noontra (*Teinostachyum wightii*) and used for catching birds.

5. 8. 4. Conclusion

Muthuvans are the hill tribes mainly distributed in and around the evergreen forests and sholas. They have a tradition of rich ethnobotanical knowledge, believes and customs and are expert weavers of bamboo mats, basketry, trap and other artefacts. In the study area, they are represented by only one hamlet. During the present study ethnobotanical information of 238 plants belonging to 177 genera and 82 families have been gathered, which include 124 food plants, eight fodder plants, 87 medicinal plants and 65 plants for miscellaneous purposes. Among the different groups of plant species documented, six species belong to Fungi, six species to Pteridophytes, seven species are Lichens, one Gymnosperm and 218 species are Angiosperms. There are 34 plants that are being cultivated around the hamlets for their livelihood support. The dominant families are *Fabaceae* (24 species) followed by *Euphorbiaceae* (12), *Moraceae* (12), *Poaceae* (11) *etc.*

The plants involved in the life and culture of Muthuvans are *Bambusa bambos* (18 uses); *Ochlandra travancorica* (9 uses); *Curcuma longa* (7 uses); *Caryota urens, Curcuma aromatica* (6 uses); *Ensete superbum, Teinostachyum*

wightii (6 uses) *etc.* Muthuvans are rich in mythical beliefs on curative property of certain plants like *Pholidota imbricate*, *Schumannianthus virgatus*, *Cymbidium aloifolium* are attributed with special role for determining the sex of the child. Some of the characteristic medicinal plants used by this tribe are *Alpinia malaccensis*, *Aporosa lindleyana*, *Balanophora fungosa*, *Caesalpinia mimosoides*, *Elaeocarpus glandulosus*, *Hopea ponga*, *Pinanga dicksonii* (Plate 34 c). and *Prunus ceylanica.* Besides these, 39 medicinal uses of different angiosperm plants and medicinal lichens *viz.*, *Parmotrema reticulatum*, *Parmotrema tinctorum*, *Ramalina celastri*, *Usnea nepalensis*, *Usnea nilgirica*, *Usnea picta* and *Usnea subfloridana* are found to be hitherto unknown and reported for the first time. The plants such as *Ensete superbum*, *Rauvolfia serpentina*, *Pinanga dicksonii* and *Phoenix loureirii* var. *humilis* are found to be very rare in the locality and appropriate conservation and management strategies are required to preserve it for posterity.

Analysis and Discussion

6. ANALYSIS AND DISCUSSION

The ethnobotanical study requires a comprehensive approach that intermingles with several disciplines like anthropology, history, sociology, cultural studies, linguistics and taxonomy. The scientific documentation of indigenous knowledge of tribals is a special task as the tribals protected their valuable knowledge through tradition, culture and beliefs. The present study, was aimed at the exploration of the plant wealth in relation to the tribal way of life, such as plants used in food, fodder, medicines, miscellaneous aspects such as religious rituals and ceremonies. A detailed ethnobotanical survey over a period of six and half years culminated in the collection and enumeration of 560 plants, belonging to 423 genera and representing 148 families from the study area. Out of these, 188 plants were used in food, 342 in medicines, 11 as fodder plants and the remaining 122 having miscellaneous uses.

6. 1. Tribal groups of the study area and their ethnobotanical knowledge

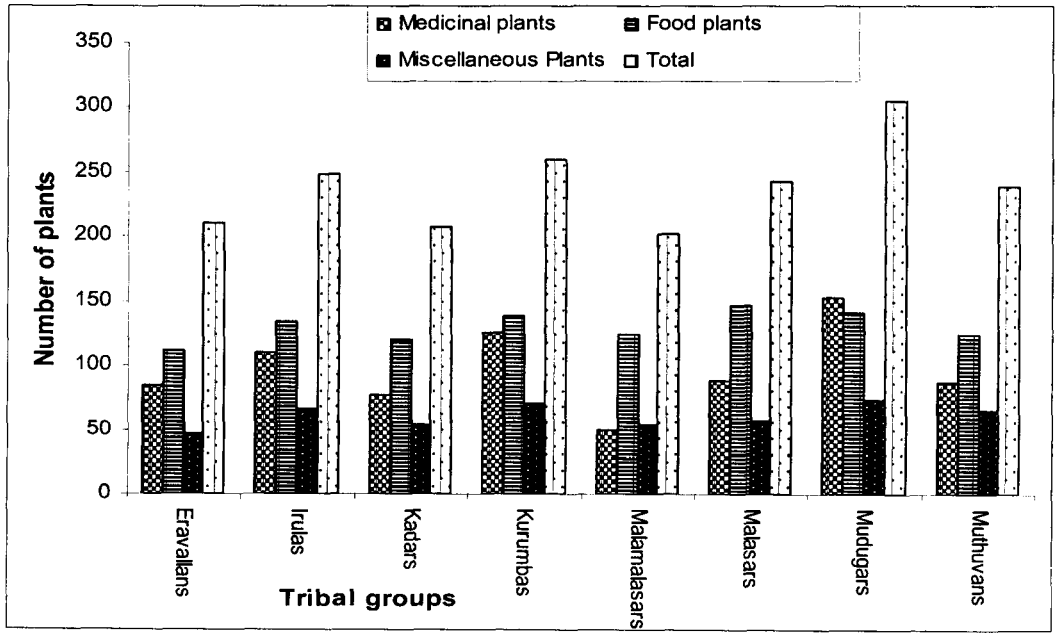
Palakkad district, is the largest among the fourteen districts in Kerala and ranked as the third in the diversity and population of tribals. There are eight tribal groups inhabiting different parts of the district *viz.*, Eravallans, Irulars, Kadars, Kurumbars, Malamalasars, Mudugars, Malasars, and Muthuvans. Among them, Irulars, Kurumbars, Mudugars, Malasars, and Muthuvans practice shifting cultivation and also collect Non Timber Forest Produces. The Eravallans were traditional nomadic cultivators but presently they are agricultural labourers. The Kadars and Malamalasars are considered as primitive tribal groups and continue their nomadic way of life. As regards to the ethnobotanical knowledge, the Mudugars are found to be the richest and use 305 plants in their daily life. This is followed by Kurumbars (260 plants), Irulars (248 plants), Malasars (243 plants), Muthuvans (238 plants), Kadars (207 plants) and Malamalasars (202 plants) (Table 2, Fig. 14). Ethnobotanical knowledge of each tribal group is unique in many aspects and distinct from the other groups.

Table 2. Ethnobotanical uses of plants among the different tribal groups

Tribal groups	Food	Fodder	Medicine	Miscellaneous aspects	Total plants used
Eravallans	112	8	84	47	210
Irulars	134	11	110	66	248
Kadars	120	0	77	53	207
Kurumbars	139	11	125	70	260
Malamalasars	124	0	50	53	202
Malasars	147	9	89	57	243
Mudugars	141	11	152	74	305
Muthuvans	124	8	87	65	238

The study revealed that most of the ethnobotanical knowledge is confined to elder members of the tribal groups. Maximum (40. 3 percent) of the information is obtained from the age group of 55 years and above, followed by 45-55 years (22.5 percent), 35-45 years (16. 2 percent), 25-35 years (12.6 percent) and 15-25(8.4 percent) (Fig. 15).

Fig. 14. Ethnobotanical knowledge among the different tribal groups



The knowledge pattern in relation to gender dimensions revealed that the knowledge on food plants are confined and was shared among the females (61.2 percent) than the males (38.8 percent). The knowledge on medicinal plants and plants for various miscellaneous purposes are with the males (67.2 percent; 52.1 percent) than the females (33.8 percent; 47.9 percent) (Fig. 16).

Fig. 15. Ethnobotanical knowledge based on the age classes among the tribals

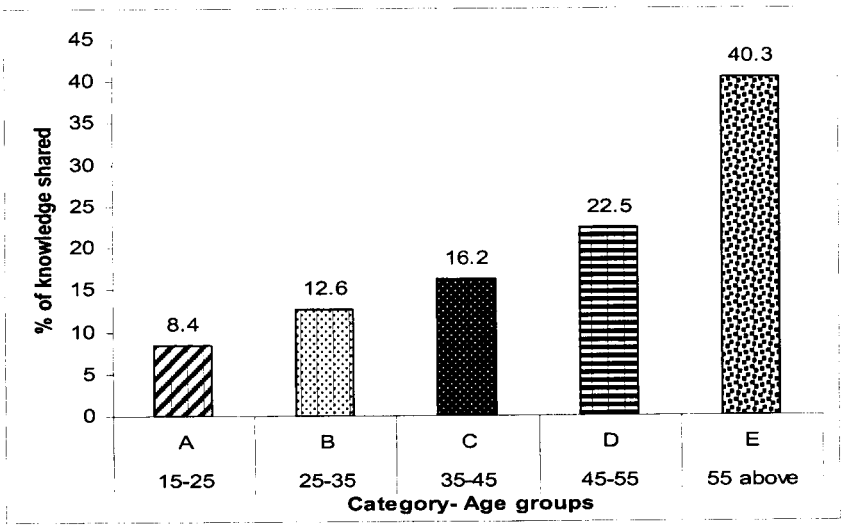
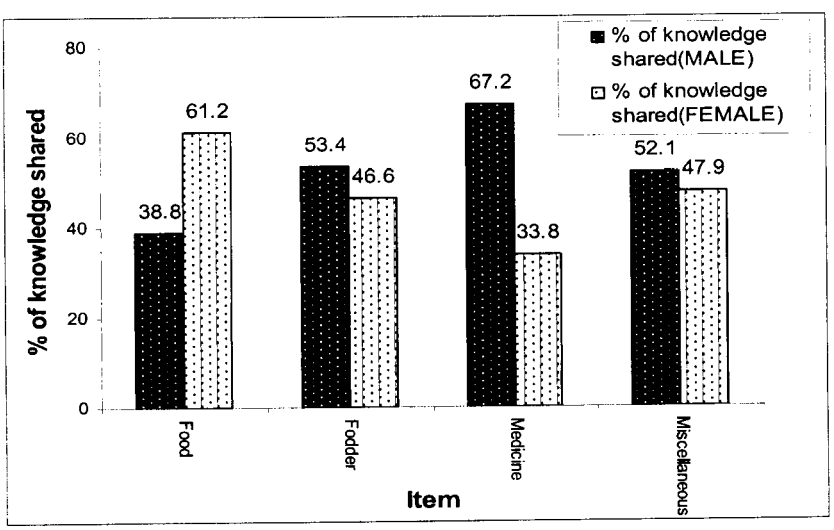


Fig. 16 Percentage of the Ethnobotanical knowledge based on gender dimensions

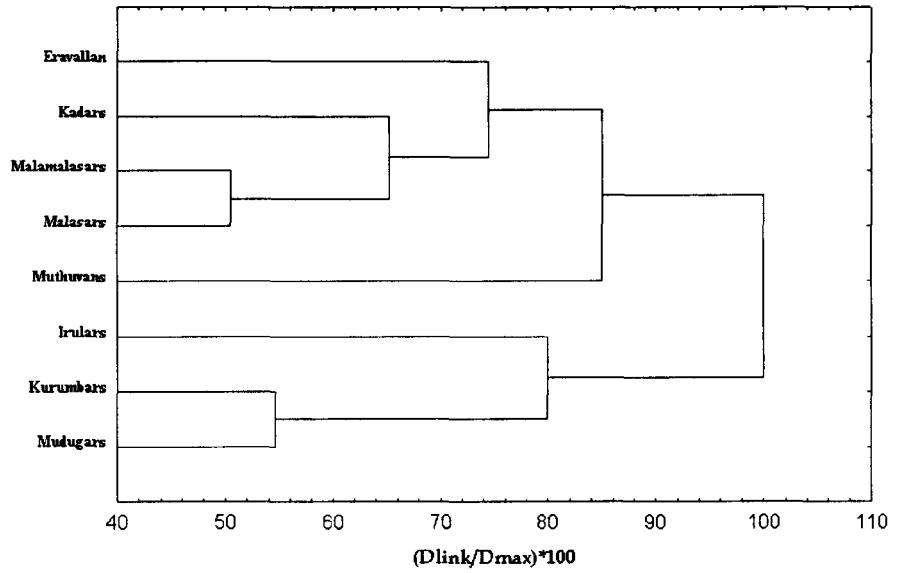


6. 1. 1. Knowledge on plants used for food

Out of the total of 560 plants, 188 species are used in food by the various tribal groups and among them 146 plants occur as wild (Appendix 5) in the area and 42 plants are under cultivation (Appendix 6). Among the various morphological parts of the plants consumed majority are fruit yielding plants (61 species) followed by leaves (40 species); mushrooms (16 species); root tubers (16 species); seeds (10 species); tender shoots (6 species); flowers (5 species); rhizomes (3 species); stem pith (2 species); sap of the inflorescence (2 species) and oil (2 species). Among the food plants, six species are spices and condiments. The food plants include, mostly Angiosperms, some belonging to Pteridophytes and Fungi. The present study revealed that the tribal groups still depend on the wild foods for supporting their lively hood. The yams, leafy vegetables and fruits formed the important food for all the tribal groups along with cereals. Among the different aspects studied, knowledge on food plants is generally open to all the members among the tribal groups. It has been found that 74 species of food plants are commonly known among all the tribal groups and could be termed as most widely used species (Appendix 7). The food being the primary need, the tribal groups of the adjoining areas exchange their knowledge on food plants as evidenced by their vernacular names, similar processing and mode of preparations. The affinity of the different tribal groups in a particular area, origin, cultural and linguistic relationships can be traced from the detailed analysis on the plants used by the tribal groups. Therefore, a quantitative ethnobotanical approach was undertaken to find out the tribal interrelationships based on the food plants used by them (Fig. 17).

The cluster analysis revealed two main clusters *viz.*, the first is formed of tribal groups Irulars, Kurumbars and Mudugars living in the northern part *i.e.* north of Palghat Gap and second cluster consisting of the tribal groups Eravallans, Kadars, Malamalasars, Malasars and Muthuvans inhabiting the southern part *i.e.* south of Palghat Gap. In the first cluster, Kurumbars and Mudugars use similar plants as food and Irulars have slightly different food habits. The second cluster shows two sub clusters one formed of Malasars and Malamalasars the other that of Kadars and Eravallans. Muthuvans form a distinct group.

Fig. 17. Cluster analysis of eight tribal groups based on their uses of food plants



The further analysis also showed that Malasars and Malamalasars are closely related tribe and they have a knowledge link with Kadars. The Eravallans seem to have different knowledge on food plants when compared to the other three, the difference could be attributed to their distinct habitat they live in. Muthuvans live in high altitude mountain region and their hamlets are isolated by geograp hical and cultural barriers. Thus, they use distinct food plants. The close resemblance between the Mudugars and Kurumbars of Attappady valleys may be due to the similar habitat and their intermarriage relations. The resemblance between Malasars and Malamalasars show a common origin or from a similar habitat conditions. The Kadars also share the habitat conditions of Malamalasars and Malasars.

6. 1. 2. Knowledge on plants used for fodder

The present study revealed that the knowledge on the fodder plants is less when compared to other plant uses. The tribals live inside the forest or close to it and have enough grasses for their livestock. Cattle rearing are common among the tribal groups like Irulars, Kurumbars, Mudugars, Muthuvans and Malasars. The two tribal groups Kadars and Malamalasars are primitive and

nomadic in nature and do not rear any cattle. The tribal groups in the study area use 11 plants as fodder for livestock (Appendix 8). Knowledge of the fodder plant is similar among all the tribal groups. The Irulars, Kurumbars and Mudugars of Attappady valleys use 11 species of plants as fodder; Malasars use 9 plants, Muthuvans and Eravallans use eight plants. Among the 11 plants recorded leguminous plants rank first (4 species) and the remaining belonged to *Moraceae* (3 species), *Poaceae* (2 species) and *Ulmaceae* (one species) and *Convolvulaceae* (one species).

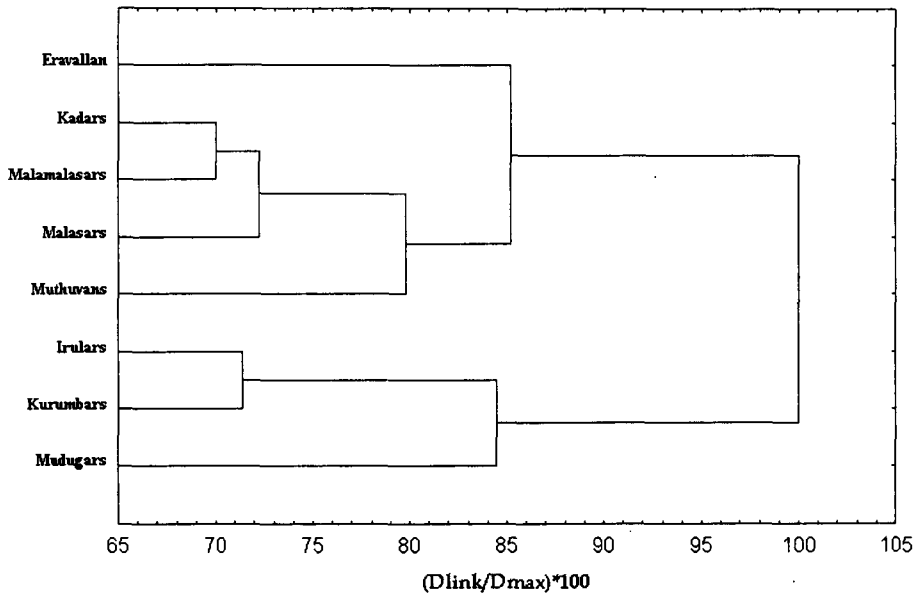
6. 1. 3. Medicinal plants involved in tribal life

The tribal people in general are followers of animism, they believe that certain spirits or supernatural powers are responsible for causing the diseases and eventually death. These beliefs have great influence in their attitude and psychology with regard to the ailments. Among the 342 medicinal plants recorded, 323 plants are used for treating 66 diseases in human beings. The study revealed that the knowledge on medicinal plants is very specific for each tribal group. Only 12 medicinal plants (Appendix 9) are commonly known to all the tribal groups, however, there are differences in the mode of application and utilization pattern. Some of the important diseases and the number of plants used for the treatment of ailments such as stomach ache (74 plants), wound healing (71 plants), scabies and itches (39 plants), head ache (38 plants), diarrhoea (33 plants) skin infection (30 plants), fever (29 plants), snake bite (27 plants), tooth ache (26 plants) etc (Appendix 10). The medicinal plants include diverse group of plants such as Algae (one species) Lichens (13 species), Fungi (3 species) Bryophytes (2 species) and Pteridophytes (17 species). The ethnobotanical information of the lower plants especially, Algae, Lichens and Bryophytes are recorded here for the first time.

During the present study, 40 plants have been recorded as a source for treating 8 livestock diseases *viz.,* foot and mouth disease, indigestion, inducing milk production, mumps, placenta release, rheumatism, ring worm and wound infested with worms (Appendix 11). The detailed study on the ethnoveterinary medicinal plants revealed that 27 curative properties and the medicinal uses of five plants *viz., Allophyllus cobbe, Cipadessa baccifera,*

Ochlandra scriptoria, Polygala persicarifolia and *Schefflera venulosa,* are hitherto unknown and is reported for the first time. Among the eight tribal group studied, the Kadars and Malamalasars do not have any knowledge of ethnoveterinary medicinal plants.

Fig. 18. Dendrogram of plants used for curing human diseases among the eight tribal groups



The cluster analysis on the medicinal plants used by the eight tribal groups for curing human diseases revealed two distinct clusters (Fig. 18). The first one consists of Irulars, Kurumbars and Mudugars, with Irular and Kurumbar forming a group and Mudugars are a distinct group. The similarity found on the medicinal knowledge among them could be attributed to their similar habitat conditions and due to their interactions. The Irulars and Kurumbars have the knowledge of 110 and 125 medicinal plants respectively. Mudugars with the knowledge of 152 medicinal plants are rich in the traditional knowledge. The Mudugars are found to have distinct knowledge, especially in veterinary medicine and lower plants, which seems to be the reason for remaining as a separate cluster. The Irulars and Kurumbars use some common plants that could be the reason for their grouping.

The second cluster has two components, *i.e.* one with Eravallans and the other with Muthuvas, Malasars, Malamalasars, Kadars. The detailed studies on the medicinal plants used by Eravallans, revealed that, they closely resemble to the folk medicinal plants used by the local people of Chittur taluk. This may be due to their similar habitat conditions and their interactions with the local communities. The second component clearly shows the interactions of the two primitive tribal groups, Malalmalasars and Kadars and also with Malasars. The medicinal plants of the Muthuvans are distinct from others, as most of the plants recorded belong to the evergreen forests.

6. 1. 3. 1. Doctrine of signatures and medicinal plants

The doctrine of signature or similitude elaborated in Europe during the sixteenth and seventeenth centuries claims that, plant displays characteristic signatures, such as colour, shape and common name that are indicative of the diseases that it would cure (Dyer, 1889; Folkard, 1892). The concept is still prevalent among the traditional healers all over the world. Dafni and Lev (2002) reported 14 folk medicinal plants of Israel attributed with doctrine of signatures. The tribal groups, like Kadars, Kurumbars, Mudugars, Malamalasars and Malasars believe that there are some indications in the appearance of the plants on its curative properties. The ethnobotanical information from the field as well as the discussions with the elder members among the different tribal groups, it has been observed that 50 plants matched with the concept of the doctrine of signature for the various diseases like, abscess, jaundice, skin diseases, snake bite etc. (Appendix 12).

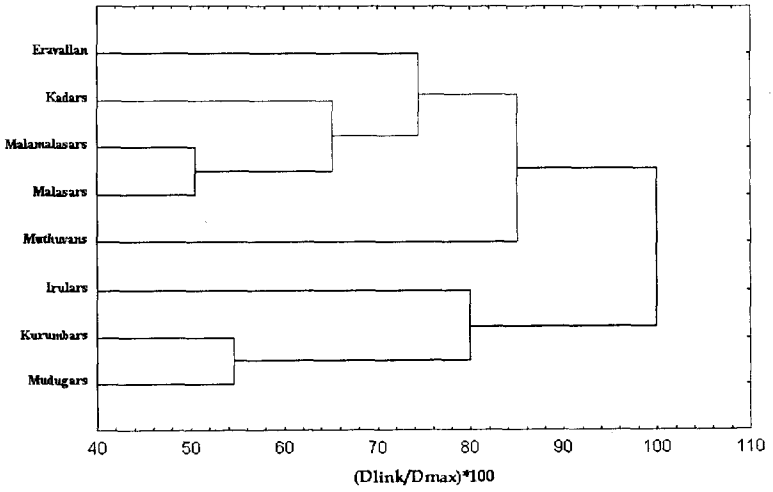
6. 1. 4. Plants in miscellaneous aspects of the tribal life and culture

The interactions between man and plants are expressed in the life and culture of the different tribal groups in the form of beliefs, religious rituals and material culture. The study revealed that 122 plants are used for 30 miscellaneous aspects (Appendix 13, 14). Due to the continuous interaction with the surrounding environment, the tribals consider that the plants have supernatural powers and they also associate it with several myths, songs and stories. Many of the plants with curative properties and great utilization

potential are included in their religious rituals and worships (*Coscinium fenestratum, Rauvolfia serpentina, Pittosporum neelgherrense etc*). Thirty three species of plants come under the plants in beliefs. Since they spend more time in the forests, 17 species are known to them as leeches and insects repellents. Fishing is their hobby as well as a subsidiary occupation. 16 plants are used for stupefying fishes. Fourteen plants are well known for natural fibres. The interactions with the surrounding environment directly indicate the spiritual and cultural aspects of plants. Among eight tribal groups of the study area, the Mudugars have the knowledge of 74 plants, followed by Kurumbas (70 plants) Irulas (66 plants),Muthuvans (65 plants), Malasars(57 plants), Kadars (53 plants), Malamalasars (53 plants) and Eravallans (47 plants). The cluster analysis on the plants used for the miscellaneous aspects revealed a pattern similar to that of food plants (Fig. 19).

Among the miscellaneous uses, Muthuvans are having more knowledge than any other tribes studied. They are expert weavers of baskets and mats, and the artifacts are of good quality. The Kurumbars and Mudugars were reported as experts in basket making by earlier workers (Thurston, 1908; Iyer, 1995) but during the present study, it has been observed that only a few elders do basket making. Due to the primitive nature, Kadars and Malasars were least aware of weaving baskets. Malasars, Irulars and Eravallans also have a moderate knowledge on making traditional artifacts.

Fig. 19. Dendrogram of miscellaneous uses of plants



The knowledge on plants used for stupefying fish, soaps and shampoos are found to be similar in all the tribal groups. Tribals are the keepers of magic and medicine. Among the eight tribal groups studied, the Mudugars have more beliefs on magico-religious effect of plants. One of the important habits noticed among all the tribal groups is the affinity of masticators like betel leaves, areca nut and tobacco leaves. It is also interesting to note that the tribals of this district are also fond of narcotic plants like Ganja and it is prominent among the tribal groups in Attappady. The Kadars of Parambikkulam make use of the hallucinogenic effect of the leaves of the Vettila vanchi (*Rotula aquatica*). The psychoactive property use of the stem of *Rotula aquatica* while smoking was earlier reported among the Kanikkars of Thiruvananthapuram by Nayar *et al* (1999). In the present study, the use of psychoactive property of the leaves of *Rotula aquatica* as masticator among the Kadars is recorded for the first time. The Muthuvans use the bark of Theempilachi (*Artocarpus gomezianus*) as masticator, which is known to possess psychoactive property, is recorded for the first time.

All the tribal groups are animists and possess several beliefs in plants. The beliefs are either based on the size of the tree or on its particular property. The trees, like Palai (*Alstonea scholaris*), Athimaram (*Ficus racemosa*), Alamaram (*Ficus benghalensis, Ficus religiosa*), Kumkillyam(*Canarium strictum*) *etc.* are considered domiciles of Peyi (evil spirits) and are called as Peyimarams. The fresh green culms of the bamboos are considered as the symbol of purity and are used to carry the corpse to the burial ground. Some of the important plants associated with magico-religious effects, are *Coscinium fenestratum, Dalbergia horrida, Pittosporum neelgherrense* and *Rauvolfia serpentina.*

The tribal groups living in similar habitats use similar plants for their material culture and other aspects as well. The knowledge on miscellaneous aspects is mostly shared among the tribals during their interactions, food gathering, hunting and also through direct observations.

6. 2. The plants involved in tribal life and their conservation status

The life, culture and traditions of the tribal groups are diverse. The study area represents diverse groups of the plants. Among the higher plants

representing 90 percent of the total plants collected 504 plants are Angiosperms and 2 plants are Gymnosperms (Fig. 20). Among the Angiosperms 389 plants belong to dicotyledons and 115 are monocotyledonous plants (Fig. 21).

Fig. 20. Percentage of lower and higher plants represented

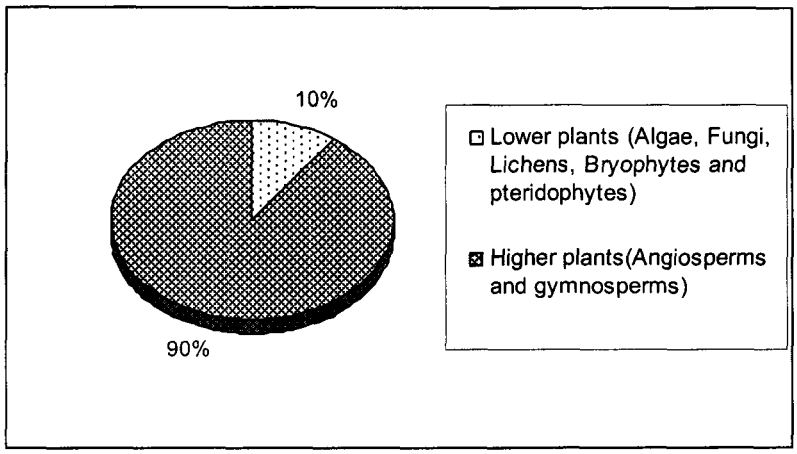
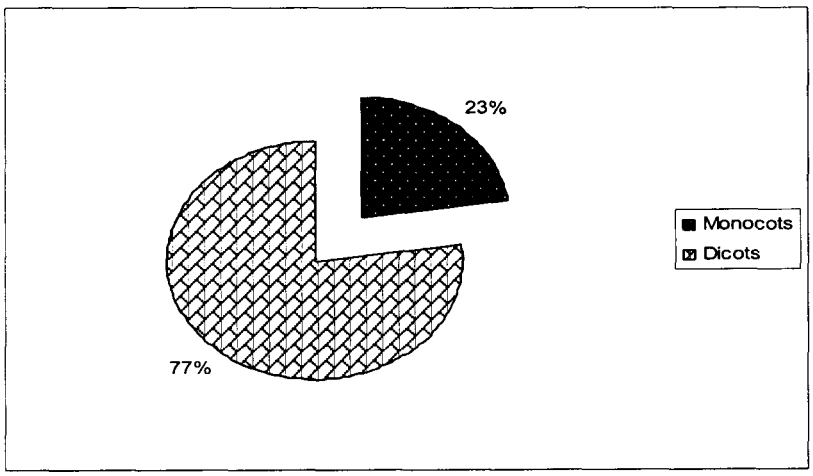


Fig. 21. Percentage of dicots and monocots represented



The dominant families in the study are Fabaceae (56 species), followed by *Euphorbiaceae* (29 species), *Poaceae* (25 species), *Cucurbitaceae* (15 species), *Asteraceae* (14 species), *Moraceae* (13 species) *Rubiaceae* (13 species) (Appendix 15) etc. The genus *Dioscorea* represented by 12 species is the dominant, which provide the staple food for all the tribal groups. The other

important genera, are *Ficus* (7 species); *Pleurotus* (6 species); *Dalbergia* (5 species); *Usnea* (5 species); *Acacia* (4 species); *Albizia* (4 species); *Calamus* (4 species); *Curcuma*(4 species); *Ipomoea* (4 species); *Piper* (4 species); *Solanum* (4 species); *Sterculia* (4 species); *Syzygium* (4 species); *Terminalia* (4 species) *etc.* (Appendix 16).

The lower plants are represented by Algae (one species), Fungi (18 species), Lichens (13 species) Bryophytes (2 species) and Pteridophytes (21 species) (Appendix 17). The ethnobotanical information of the lower plants like Algae, Lichens and Bryophytes are hitherto unknown to the science was recorded during the present study. The plants collected during the study are distributed in different habitat in the study area such as Dry Deciduous Forests (DDF), Moist Deciduous Forests (MDF), Semi-evergreen and Evergreen Forests. The Irulars mainly inhabit in the DDF and MDF; Kadars Mudugars, Malamalasars, Malasars inhabit in the MDF and semi-evergreen forests; Kurumbars and Muthuvans in semi evergreen and evergreen forests (Fig. 22). The microhabitat plants like epiphytes (31 plants), parasites (7 plants) and aquatic plants (8 species) also involved in tribal life and culture (Fig.23). Analyses of the habits of the plants used by the tribal groups showed that majority of them are herbs (212 plants) followed by trees (156), herbaceous climbers (71) shrubs (64) lianas (25) and 32 species of lower plants (Fig 24).

Fig. 22. General habitats of the plants used by the different tribal groups of study area

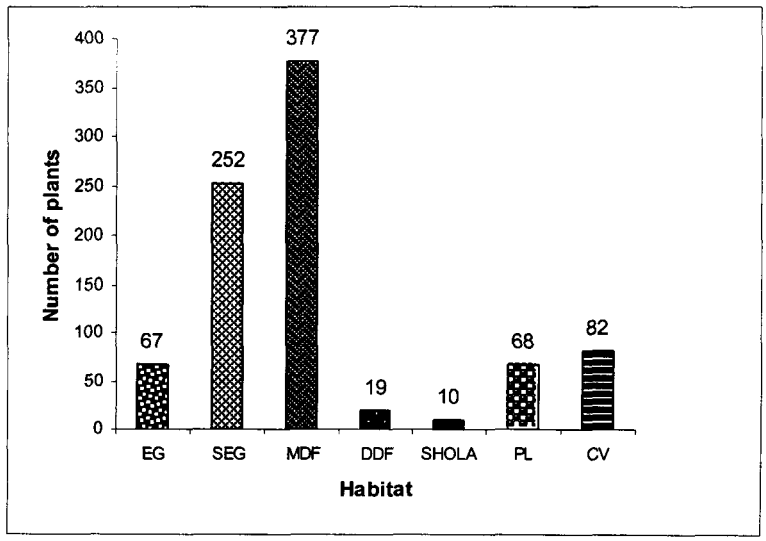


Fig. 23. The special habitats of the plants used by the different tribal groups of study area

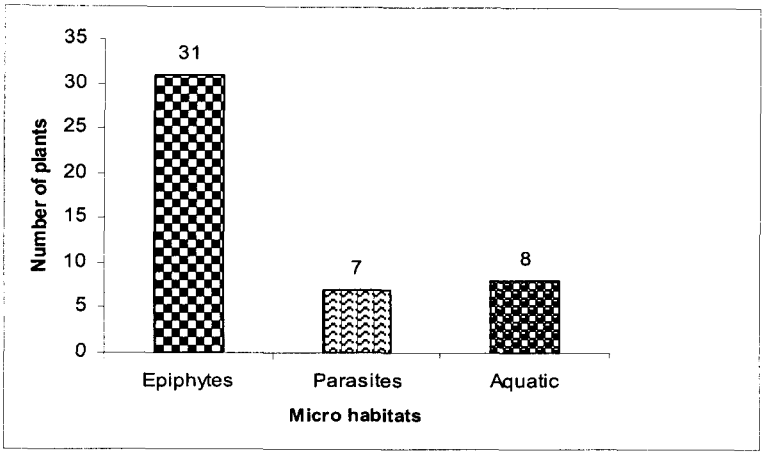
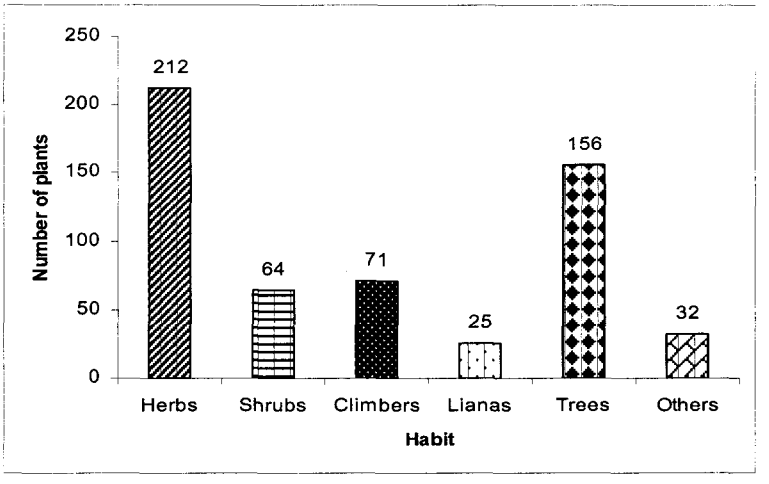


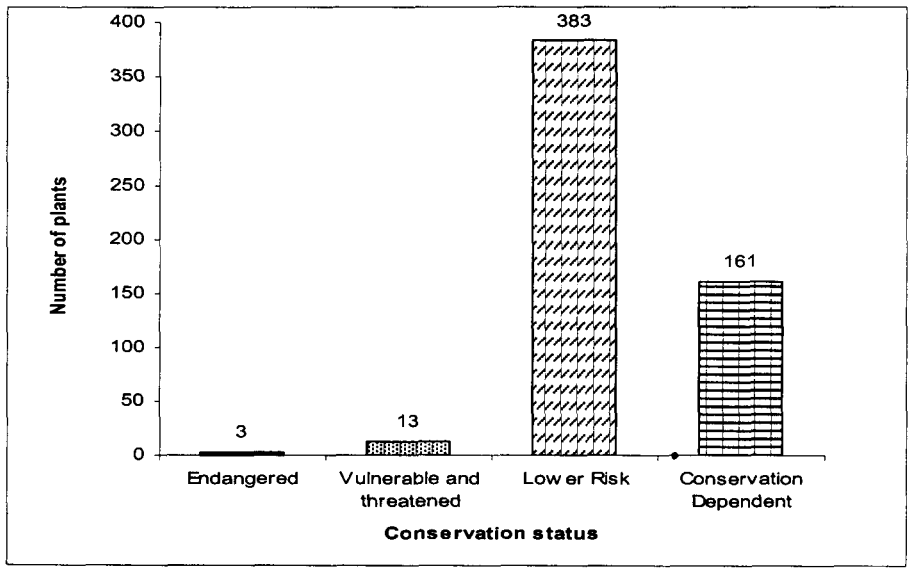
Fig. 24. The habits of the plants used by the different tribal groups of study area



The study on the distribution of the plants revealed that 38 plants are found to be endemic to Western Ghats. The conservation status of the plants as per the IUCN category, show that, the species, such as *Coscinium fenestratum*, *Rauvolfia serpentina* and *Ulteria salicilifolia* are found to be represented only by a few number of plants and therefore, included under endangered category, 13 species are vulnerable and under threat, 161 species are conservation dependant and 384 species belong to lower risk categories (Fig. 25, Appendix 18).

During the present study, it has been observed that the natural population of the plants coming under NTFPs are considerably reduced in number due to overexploitation from the study area. The plants used by the tribal groups *viz., Phoenix loureirii* var. *humilis, Ensete superbum, Lobelia dichotoma Corypha umbraculifera, Dalbergia horrida, Artocarpus gomezianus, Dioscorea spp.* are found in limited distribution probably due to the habitat destruction by anthropogenic activities like developing plantations of cash crops and spices, in the forest areas. The cause of threat of the plants *viz., Adenea hondala, Aristolochia indica, Aristolochia tagala, Coscinium fenestratum, Decalepis hamiltonii, Ensete superbum, Heracleum condoleanum, Oxytenanthera bourdillonii, Pinanga dicksonii, Rauvolfia serpentine* and *Ulteria salicilifolia* are found to be due to the over exploitation and over dependence of tribal groups as well as NTFP collectors from the local communities. Therefore, proper conservation measures should be undertaken for preserving the plants and their habitats through *in situ* and *ex situ* conservation methods.

Fig. 25. The status of the plants used by the different tribal groups of study area



6.4. Ethnobotanical knowledge and credibility rating (CR)

Ethnobotanical studies are the preliminary steps for recording the role of plants in human welfare. The collection of data was mainly through

participatory observation and personal interviews. Therefore, some tools have been selected for confirming the credibility of the knowledge that is documented. The rating was done as per the parameters selected by Balick, (1996)(Appendix 19). The category of CR 1 includes food plants, plants in material culture and other miscellaneous aspects. Under CR 2 the medicinal plants and plants used in religious rituals are included. The CR 3 is applicable for the medicinal plants and plants in beliefs. The already recorded and known uses, is treated under CR 4. Tribal groups had the knowledge of several plants and their cultivation practices; therefore, such information is included under CR 5. The information collected on 560 plants and their credibility ratings are given in Table 3.

Table 3. Credibility rating of the information collected

Category	Credibility Rating number	Percent of the CR values
Collector uses or directly observed use	CR 1	49.5
Informant uses or directly observed use	CR 2	40.9
Informant heard/knew from a different source	CR 3	6.1
Use recorde/known from the literature	CR 4	2.2
Common knowledge	CR 5	1.3

6. 5. Salient features of the ethnobotanical knowledge tribal groups

During the present study it has been observed that even if a similarity occurs among the ethnobotanical knowledge of the different tribal groups studied there are several unique features that make their knowledge distinct. Some of the findings documented during the course of work are hitherto unknown and are new to science.

The ethnobotanical information on Eravallans is previously not recorded and the present investigation is the first attempt. The tribalism and traditional knowledge status of Eravallans are nearing the verge of extinction, due to their close interactions with the local people. The potential plants involved in the life and culture of Eravallans are *Bambusa bambos* (17 uses); *Borassus flabellifer* (11 uses); *Curcuma longa* (7 uses); *Cocos nucifera* (6 uses); *Azadirachta indica*

(5 uses) *etc.* Their knowledge on medicinal plants resembles the folk medicinal plants of Chittur taluk and adjoining areas of Coimbatore district. However, there are 31 medicinal uses of various plants recorded for the first time during the present study. Among the medicinal plants, *Murdannia semiteres, Martynia annua, Polycarpaea corymbosa* are found to be hitherto unknown. The traditional knowledge on basket making from stems of *Phyllanthus reticulatus* is new information and this can be utilized for supporting the livelihood of Eravallans and other rural people.

The most depended plant species noted among Irulars are *Bambusa bambos* (18 uses); *Curcuma longa, Dendrocalamus strictus, Dalbergia horrida* (7 uses); *Ensete superbum, Mangifera indica* (6 uses) *etc.* During the present study it has been observed that the medicinal use of *Targionia hypophylla* is hitherto unknown and recorded for the first time. There are 56 ethnomedicinal uses of various medicinal plants used by them are recorded for the first time.

The most useful plant species involved in the life and culture of Kadar tribe observed during the present study are *Bambusa bambos* (18 uses); *Curcuma longa, Ochlandra travancorica* (9) etc. The characteristic plant among Kadars is Malaimanjal kodi (*Coscinium fenestratum*) and owing to its curative property it is also involved in their magico-religious beliefs. The medicinal plants like *Diploclisia glaucescens, Haldina cordifolia, Anaphyllum wightii, Asplenium phyllitidis* and *Pleurotus sp.* are exclusively used by them. Among the various ethnomedicinal uses 23 uses are found unrecorded and reported for the first time. They are the only tribal group in the study area, who know the psychoactive property of the leaves of *Rotula aquatica.*

The most important plants involved in the life and culture of Kurumbars are *Bambusa bambos* (18 uses); *Curcuma longa* (8 uses); *Ensete superbum, Azadirachta indica* (6 uses); *Cocos nucifera, Pterocarpus marsupium, Ficus racemosa, Artocarpus heterophyllus* (5 uses) *etc.* Some of characteristic medicinal plants used by the Kurumbars are *Aeschynanthus perrottetii, Arundinaria wightiana, Caesalpinia cucullata, Polypleurum dichotomum, Porpax reticulata etc.* Among the medicinal uses 44 are recorded for the first time. The medicinal uses of *Arundinaria wightiana, Oxytenanthera monadelpha* and *Polypleurum dichotomum* are hitherto unknown and documented for the first time.

The most useful species among the Malamalasars are *Bambusa bambos* (17 uses); *Curcuma longa* (11 uses); *Ochlandra* travancorica (7 uses); *Cocos nucifera* (6 uses); *Ensete superbum* (5 uses); *Pterocarpus marsupium* (5 uses) *etc.* Some of the medicinal uses of plants are confined to their knowledge systems. They are *Calophyllum polyanthum, Elephantopus scaber, Gloriosa superba, Pteris pellucida, Terminalia travancorensis, Tabernaemontana heyneana* and *Zeylanidium lichenoides.* Among these, the use of *Calophyllum polyanthum, Terminalia travancorensis* and *Zeylanidium lichenoides* are hither to unknown and reported for the first time. Besides these, there are 34 uses of various plants among Malamalasars, which had not been reported earlier.

The potential plants observed among Malasars are *Bambusa bambos* (18 uses); *Curcuma longa* (7 uses); *Borassus flabellifer* (6 uses); *Caryota urens, Curcuma aromatica* (6 uses); *Ensete superbum, Mangifera indica, Ochlandra travancorica, Sapindus trifoliata* (5 uses); *etc.* Some of distinct medicinal plants used by the Malasars are *Acanthospermum hispidum, Cayratia pedata, Curcuma zedoaria, Careya arborea, Ipomoea deccana, Lygodium flexuosum, Mecardonia procumbence, Melia dubia, Streblus asper* and *Utleria salicifolia.* Among the various medicinal uses, 36 uses are found to be unrecorded earlier. The medicinal value of *Ipomoea deccana, Drymaria cordata* and *Mecardonia procumbence* is hitherto unknown and are new to science.

The potential plants involved in the life and culture of Mudugars are *Bambusa bambos* (19 uses); *Curcuma longa* (7 uses); *Ochlandra travancorica* (9 uses); *Artocarpus heterophyllus* (6 uses), *Ensete superbum* (6 uses), *Mangifera indica* (6 uses) *etc.* Mudugars are very rich in ethnomedicinal knowledge. Among the medicinal uses recorded 59 are found to be new records. The medicinal uses especially from the members lower groups *viz., Spirogyra sp., Canoparmelia pustulescens, Coccocarpia erythroxyli, Leptogium cyanescens, Hypotrachyna crenata, Parmotrema grayanum, Usnea subchalybaea, Frullania squarrosa, Huperzia phlegmaria* are new to science. Some of the characteristic plants are *Aeginetia indica, Coelogyne nervosa, Curcuma neilgherrensis, Desmodium laxiflorum, Didymocarpus tomentosa, Equistetum ramosissimum* sub sp. *debile, Fagraea ceylanica, Helixanthera intermedia, Heracleum candolleanum, Ipomoea alba, Ludwigia peruviana, Pueraria tuberosa, Schefflera venulosa* and *Viscum orientale,* are hither to unknown and reported here for the first time.

The potential plants involved in the life and culture of Muthuvans are *Bambusa bambos* (18 uses); *Ochlandra travancorica* (9 uses); *Curcuma longa* (7 uses); *Caryota urens*, *Curcuma aromatica*(6 uses); *Ensete superbum*, *Teinostachyum wightii* (6 uses) *etc.* Muthuvans are rich in mythical beliefs on curative property of certain plants like *Pholidota imbricata*, *Schumannianthus virgatus*, *Cymbidium aloifolium* are attributed with special role for determining the sex of the child. Some of the characteristic medicinal plants used by this tribe are *Alpinia malaccensis*, *Aporosa lindleyana*, *Balanophora fungosa*, *Caesalpinia mimosoides*, *Elaeocarpus glandulosus*, *Hopea ponga*, *Pinanga dicksonii* and *Prunus ceylanica*. Besides these, 39 medicinal uses on various plants and *medicinal* Lichens *viz.*, *Parmotrema reticulatum*, *Parmotrema tinctorum*, *Ramalina celastri*, *Usnea nepalensis*, *Usnea nilgirica*, *Usnea picta* and *Usnea subfloridana* are found to be hitherto unknown and reported for the first time. The bark of *Artocarpus gomezianus* is used as masticator for its psychoactive property and also reported for the first time.

6. 6. Uniqueness of the ethnobotanical knowledge from the study area

Understanding of the plant wealth and its uses of the country have become important in the present day world. The use values of thousand of plants are hitherto unrecorded probably, due to the lack of interaction or documentation of traditional information. From Palakkad district, 2541 species of higher plants have been recorded (KFRI, 1999; Sasidharan, 2004) and during the present study, the ethnobotanical information of 560 species of higher plants were collected which represented 22.07 percent of the flora of the district. Among the 1062 species of lower plants documented from the district, the ethno botanical information on 54 species have been collected during the present study.

Out of 560 plants and their uses recorded from the study area, 114 plants are commonly used by all the tribal groups. Based on the utilization pattern by all the tribal groups, 15 plants viz., *Bambusa bambos*, *Curcuma longa*, *Ensete superbum*, *Cocos nucifera*, *Mangifera indica*, *Ficus racemosa*, *Caryota urens*, *Cycas circinalis*, *Artocarpus heterophyllus* and *Azadirachta indica*, *Pterocarpus marsupium*, *Sapindus trifoliata*, *Grewia tiliifolia*, *Naravelia*

zeylanica and *Tamarindus indica* are considered as the most useful plants and are selected as the vital ethnic plants of the district (Appendix 20). The study resulted in the documentation of 16 plants hitherto unknown for their food value (Appendix 21), 41 for their new medicinal value (Appendix 22). Among the curative properties of the various medicinal plants recorded 74 are found to be unreported earlier and all are found to be new to science. Nadanakunjidam (2003a, 2003b, 2003c) documented 47 ethnomedicinal and 59 food plants and also the traditional knowledge of 51 economically useful plant species used for the various purposes by the tribal groups of Attappady. The present study documented 335 plants from this area having various uses.

Anthropologists like Nair (1985) reported 42 medicinal plants used by Kurumbars and Mathur (1994) reported 47 medicinal plants used by Irulars. Manilal *et al* (2002) conducted ethnobotanical studies on the wild leafy vegetables used by the Irulars and Mudugars of Attappady and documented 23 plant species including Pteridophytes. Subsequently, Binu *et al* (2002) documented 40 ethnomedicinal plants used by the Irula tribal group of Palakkad district. During the present study, ethnobotanical information on 342 plants is recorded with additional medicinal uses along with several other uses. Udayan *et al* (2005) documented 40 plants used by the Kadars of Sholayar Forest, Thrissur district. The reports on the medicinal plants used by Kadars are very few and during the present study 74 medicinal plants have been reported. Kumar *et al* (2003) documented medicinal and their ethnic uses of 60 species of Pteridophytes. During the present study, medicinal uses three ferns and also many other uses hitherto unknown to science have been recorded. The ethnobotanical information on Algae, Fungi, Lichens and Bryophytes are little known. During the present study medicinal uses of one species of Algae, 13 species of Lichens and two Fungi and two Bryophytes have been reported and the information are found to be hitherto unrecorded and therefore, are new to science.

The Ethnobotanists generally concentrate on food and medicinal plants used by the tribals and it have been observed that the information on the miscellaneous aspects like, material culture, magico-religious beliefs, religious

rituals and ceremonies of the tribals are rarely recorded. During the present study 122 plants used in 30 aspects have been documented and among these, 56 plants are recorded for the first time. Nazarudeen (2003) documented seven plants used as leech repellents by the different tribal groups of Kerala. During the present study 17 plants for repelling leeches and insects were documented. The information on tribal artifacts of the Kerala is little known, as studies on these aspects are only a few. Radhakrishnan *et al* (2000) conducted a preliminary study on tribal artefacts of Kerala state in which he had reported 12 plants. The information on 46 plants used in the tribal artefacts is documented during the present investigation.

The present study has revealed that a comprehensive ethnobotanical study would result in the documentation of highly potential and unique ethnobotanical knowledge of useful plants. The tribals are the torch bearers of the ethnobotanical knowledge and a source of the most valuable traditional information on plants, acquired through the continuous interaction and experimentation which can be preserved through customs and beliefs for the posterity.

Summary and Conclusion

7. SUMMARY AND CONCLUSION

The term ethnobotany is used to denote the comprehensive approach towards the knowledge of the ethnic people and the plants of their surrounding environment. Tribals are the torch bearers of the ethnobotanical knowledge. All over the world, there has been an increasing interest in the scientific study of man-plant interaction. The Indian sub-continent is inhabited by over 53 million tribals belonging to over 550 communities under 227 ethnic groups as per the classification made by Anthropologists on linguistic basis. Anthropologists have identified 43 tribal groups in Kerala, the land of cultural and biological diversity, situated in the southwest corner of peninsular India. It has been observed that all the tribal groups in Kerala are food gathers or shifting cultivators, dwelling deep in the forest or in the fringes, including protected areas. Among the different tribal groups of Kerala the 'Kadars' of Cochin and 'Cholanaikkans' of Nilambur and 'Malamalasars' of Palakkad district are considered more primitive due to their backwardness in life, culture, socioeconomic conditions and ignorance of cultivation practices. Among the 43 tribal groups in Kerala the ethnobotanical information of 15 groups alone are so far known.

Palakkad, the largest district in Kerala is placed third in the diversity and population of tribals. The district has two major tribal zones, namely Attappady and Parambikkulam among the seven zones, identified for Kerala. There are eight tribal groups inhabiting different parts of the district *viz.* Eravallans, Irulars, Kadars, Kurumbars, Malamalasars, Mudugars, Malasars, and Muthuvans. Among them, Irulars, Kurumbars, Mudugars, Malasars, and Muthuvans are shifting cultivators and Non Timber Forest Produce collectors. The Eravallans were former nomadic cultivators and now have turned to mere agricultural labourers due to the various threats and changing situations.

Reconnaissance survey was conducted through out the district for locating the tribal groups, their distribution, status and traditional way of life, the degree of traditional knowledge practices, *etc.* Their anthropological and ethnological aspects were studied with the help of the relevant published literature. The selected hamlets were visited regularly and data pertaining to plants, their life and culture was gathered periodically.

Ethnobotanical information was gathered either by interviewing the informants or from the direct observation from the field itself on the uses of plants. Each of the information of a particular plant used among the tribal group was tested directly or indirectly. The reliability of the information of the plants used was assessed after repeated verification.

Among the eight tribal groups in the study area, the Irulars represented the most with maximum number of hamlets followed by Eravallans, Mudugars, Malasars, Kurumbars, Kadars, Malamalasars and Muthuvans represented by a single hamlet. The detailed ethnobotanical survey was conducted in different seasons of the year through out the study area for seven to fifteen days in a month. The study was conducted for a period of six and half years from March 1999 to August 2005. The information pertaining to the study area, the neighboring areas, similar tribal groups residing in other part of the state were also utilized for collating the data from the earlier published works to assess the present status. The ethnobotanical information on all the plants associated with the life, tradition and culture of different tribal groups have been documented with an emphasis on plants used for food, fodder, medicinal plants, plants with miscellaneous uses such as fiber yielding plants, fish stupefaction, repellents, soap and cosmetics, beliefs, worships, religious rituals and plants in material culture.

A detailed ethnobotanical survey for over a period of six and half years resulted in the collection of 560 plants belonging to 423 genera representing 148 families. Among the 560 plants 188 are food plants, 342 medicinal plants, 11 fodder plants, 122 plants for miscellaneous uses including religious rituals and ceremonies. 38 plants are found to be endemic to Western Ghats. Regarding the conservation status, three species belong to the endangered categories, 13 species are vulnerable and under threat, 161 species are conservation dependant and 384 belonged to the lower risk categories.

Among the food plants documented, 146 plants are occurring in the wild and 42 are cultivated plants. Among the 13 plant parts used, mostly the fruits are used (61 species), followed by leaves (40 species); mushrooms (16 species); root tubers (16 species); seeds (10 species); tender shoots (6 species); flowers (5 species); rhizomes (3 species); stem pith (2 species); sap of the inflorescence (2 species) and oil (3 species). Among the food plants, six species are spices and condiments.

Eleven plants used as fodder by the tribal groups have been recorded from the study area. The knowledge of fodder plants is similar among all the tribal groups. The Irulars, Kurumbars and Mudugars of Attappady valleys use 11 species of plants as fodder plants, Malasars use nine plants, Muthuvans and Eravallans use eight plants as fodder.

Among the 342 medicinal plants recorded, 323 plants are used for curing 66 human diseases and 34 plants are used for curing eight livestock diseases. The study revealed that the knowledge on medicinal plants is very specific in each tribal group. The important diseases observed and the number of plants used for the treatment are, for stomach ache (74 plants); wound healing (71 plants); scabies and itches (39 plants); head ache (38 plants); diarrhoea (33 plants); skin infection (30 plants); fever (29 plants); snake bite (27 plants); tooth ache (26 plants) *etc.* The medicinal plants include diverse group of plants such as Algae (one species); lichens (13 species); Fungi (3 species); Bryophytes (2 species) and Pteridophytes (17 species). As regard to the ethnobotanical information of the lower plants majority of them especially Algae, Lichens, Bryophytes are hither unknown to the science have been recorded for the first time. Among the 560 plants documented the use of 193 plants for specific purposes are confined to a particular tribal group and the detailed studies revealed that majority of uses are hitherto unknown to the science and were recorded for the first time during the present study.

The ethno medicinal knowledge of each tribal group is distinct and among the 342 medicinal plants only 12 plants are common to all the tribal groups. Seventy four food plants are commonly known to all the tribal groups and could be considered as widely used species. The study resulted in the documentation of 41 plants hitherto unknown for their medicinal value and 16 plants hitherto unknown for their food value. In general, out of 560 plants 114 plants are known to all the tribal groups. Based on the total utilization pattern of plants by all the tribal groups, 10 plants such as *Bambusa bambos*, *Curcuma longa*, *Ensete superbum*, *Cocos nucifera*, *Mangifera indica*, *Ficus racemosa*, *Caryota urens*, *Cycas circinalis*, *Artocarpus heterophyllus* and *Azadirachta indica* are known to have maximum uses and could be treated as vital ethnic plants of the district. Among the different tribal groups of the

study area the Mudugars are found to be the richest tribe in ethnobotanical knowledge who use 305 plants, followed Kurumbars (260 plants), Irulars (248 plants), Malasars (243 plants), Muthuvans (238 plants), Kadars (207 plants) and Malamalasars (202 plants).

The statistical study showed that the elder members of the tribal groups are the custodians of the knowledge. Maximum information (40. 3 percent) was collected from the age group of 55 years old and above, followed by 45-55 years (22.5 percent); 35-45 years (16. 2 percent); 25-35 years (12.6 percent) and 15-25 years (8.4 percent). An attempt was also made to collect the knowledge pattern in relation to gender dimensions and it revealed that the knowledge on food plants are more confined with and shared among the females (61.2 percent) than the males (38.8 percent). On the other hand the medicinal plants and plants for various miscellaneous uses are mostly known to males (67.2 percent; 52.1 percent) than the females (33.8 percent; 47.9 percent).

The ethnobotanical knowledge of the tribal groups is mainly dependent on their interactions with the surrounding environment. The tribalism is mainly influenced their knowledge; the tribals inhabiting deep forests are found to be more knowledgeable than the tribals living outside. Tribals are showing a tendency to imitate the local people and they are now aware of the modern education and technologies. Changing life style, by all means, may tend to loose their traditional knowledge. The majority of the tribal people especially youngsters think that their knowledge and traditional technologies are too old to lead such a life.

During the present ethnobotanical investigation a large number of wild plants used by the tribal groups for their multifarious requirements are documented. Applications of most of the plants recorded were either less known or previously unknown to science. Modernization, especially industrialization and urbanization has resulted in the dwindling of this rich heritage of knowledge, from among the tribal people of the traditional communities. Therefore, there is an urgent need for documentation of such fast disappearing knowledge, to study and authenticate, validate the various use value of biological resources for the use of future generation and to acquire intellectual property rights for the claim.

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Appendices

Appendix 1. Tribal population of Palakkad district

Sl No.	Tribal groups	Total population	Number of males	Number of females
1	Eravallans	6,528	3,246	3,282
2	Irulars	17,560	8,776	8,784
3	Kadars	792	354	338
4	Kurumbars	1,667	816	851
5	Malamalasars	268	136	132
6	Malasars	3,638	1,812	1,826
7	Mudugars	4,752	2,370	2,382
8	Muthuvans	282	148	134
9	Unidentified	4,178	2,092	2,086
	Total	**39,665**		

(Source: Government of India, Census, 2001)

Appendix 2. Tribal hamlets of the Palakkad district

Tribal groups	Name of the hamlets
Eravallans	Attempathy, Ayappanpara, Babucolony, Chathanpara, Chemmanampathy, Chukkampathi, Karadipara, Karadikunnu, Kattupathy, Kozhipara, Kundala kulambu, Kunjumenonpathy, Mallanpathy, Manalthodu, Moochankundu, Mundipathi, Naripparachalla, Nedumpara, Ottenchalla, Ozhalapathy, Plachimada, Sappakad, Sarkarpathy, Silampathy, Srampy and Thottichipathy
Irulars	Anaikatty, Aradikonam, Bhommiyampady, Bhoothuvazhi, Chalayoor, Chavadiyoor, Cheerakadavu, Chemmannur, Cholakkadu, Daniya, Dasanoor, Dhonigundu, Dhundoor, Dodukatty, Echupathy, Elachi vazhi, Gongiyoor, Guddayoor, Jellypara, Kallakara, Karathur, Karayur, Karivadum, Kathirampathy, Kavundikal, Kolapaadi, Kollamkadavu, Konakuthi, Koodapatti, Kottamedu, Kottathara, Kozhikoodam, Kulukkoor, Kunanjala, Mamana, Mandimala, Marakkapady, Mattathukadu, Mele Agali, Mele Chundapatty, Mele Goolikadavu, Mele Kandiyoor, Mele Manchkandi, Mele mully, Moolekangal, Muthalathara, Naduppathi, Nallasingha, Nakkupathy, Narasimukku, Nattakal, Chundapatti, Naykarpadi, Nellipathy, Ooradum, Oothukuzhi, Osathiyoor, Palur, Padavayal, Palakkayoor, Parappamthara, Pattanakkal, Pattimalam, Pothupadi, Koonam pala, , Pulimampathy, Mele Sambarkode, Sholayoor, Swarna kada, Thazhe agali, Thazhe mulli, Thazhe Sambarkode, Thekkupana, Thekkuvetta, Thekumukayoor, Thuva, Ummathupadi, Uriyanjala, Vadakkottathara, Vannanthara, Varadimala, Vattulukki, Vayaloor, Vellakulam, Vellamari, Vellavatty, and Venthapathy
Kadars	Cherunelli, Kalchadi, Kuriarkutty, Parambikkulam-Earthdam, Thalikakallu and Thekkady.

Tribal groups	Name of the hamlets
Kurumbars	Anavai, Bhoothayoor, Edavani, Ghalzi, Gottiarkandy, Kadukumannu, Kinattukara, Kurukathikallu, Mele thoduki, Moolakombu, Murukala, Pazhayoor, Thadikundu and Thazhe thoduki
Malamalasars	Ancham colony Parambikkulam, Thekkady and Vazhakkulam
Malasars	Chemmanpathy, Kachithode, Kadappara, Kallampara, Karadippara, Kinerpallam, Kottengadi, Oravanpadi, Ozhalapathy Mallampathy, Mamaruthukadu, Manalthodu, Pakidippalam, Pothumala, Ramaramman, Sungham,Thatanchalla, Thekkady Thottilichipathy and Valiyachallapathy
Mudugars	Anakkallu, Chandakkulam, Chindeki, Chitoor, Kakkupadi, Kalkandiyoor, Kallamala, Karara, Karuvara, Kattekadu, Kottamala, Kottiyoor, Mele Abanoor, Mele chavadiyoor, Mukkali Ommala, Pottikallu, Puthur, Singappara(Muthikkulam), Thazhe Abanoor, Thazhe Chindeki, Ummathupadi, Veeranoor and Veetiyoor
Muthuvans	Pooppara

Appendix 3. Proforma for field work

ETHNOBOTANICAL STUDIES ON TRIBAL GROUPS OF PALAKKAD DISTRICT

Name of the informer ..... Age ..... Sex .....

Name of the Hamlet ..... Tribe .....

A short life sketch of informer .....

.....

.....

.....

Sl. No. .....

Place .....

Date .....

Name of the plant ..... Vernacular name .....

Botanical name ..... Family .....

Habit ..... Habitat ..... Distribution ..... Alt. .....

Notes.....

.....

Part used .....Component of plants, if any.....

Mode of use: ❑ Food ❑ Fodder ❑ Medicine ❑ Miscellaneous

Detailed uses .....

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Quantification of data, if any .....

.....

.....

Any other relevant information .....

.....

Authenticity ❑ confirmed ❑ not confirmed

Recorded by

M. Remesh

Appendix 4. Citation and description of the plants used by the tribal groups of Palakkad district

Enumeration

Ethnobotanical information on 560 plants documented during the course of work from the study area are arranged here in an alphabetical order, followed by citations, brief description and family names (in brackets).

1. Abelmoschus esculentus (L.) Moench., Methodus 617. 1794; Paul in Sharma & Sanjappa, Fl. Ind. 3: 385. 1993; *Hibiscus longifolius* Willd., Sp. Pl. 3:827.1800.[MALVACEAE]

An erect, simple or branched, annual herb. Leaves transversely elliptic in out line, base cordate, 5-25 cm long and 5-30 cm wide, palmately lobed. Stipules subulate. Flowers axillary 5-8 cm across, yellow with crimson centre. Fruits capsule. Seeds many, rounded striate and hairy.

2. Abrus precatorius L., Syst. Nat. (ed. 12) 2: 472.1767; Hook. f., Fl. Brit. India 2:175.1876; Gamble, Fl. Pres. Madras 349(247). 1918; Vajravelu, Fl. Palghat Dist. 145. 1990; Sanjappa, Legumes Ind. 74. 1991.*Glycine abrus* L., Sp. Pl. 753. 1753.[FABACEAE]

Twining herbs, branchlets glabrous. Leaves to 10 cm long. Flowers crowded in short tubercles, on long axillary raceme; calyx cupular; petals to 1 cm long; ovary densely hairy. Pods to 7 x 1 cm, oblong, slightly curved, compressed, glabrous; seeds many, ca 6 x 4 mm, dark red with black top.

3. Acacia nilotica (L.) Willd. ex Del. Descr. Egypte, Hist. nat. Ill. 79. 1813, ssp. indica (Benth.) Brenan in Kew Bull. 12: 84. 1957;Vajravelu, Fl. Palghat 185. 1990. *Mimosa nilotica* L. Sp. Pl. 521. 1753.[FABACEAE]

Trees, stipular spines to 5 cm, white with grey spots, branchlets grey pubescent. Leaves 3-5 cm, pinnae 4-5 pairs; leaflets 10-20, 4 x 1 mm, elliptic, rachis with several glands. Head solitary or 2-5 together; flowers 1 mm across, golden yellow; involucel at or above the middle of the peduncle. Pod to 18 x 1.5 cm, constricted apex horned.

4. Acacia pennata (L.) Willd., Sp. Pl. 4: 1090. 1806; Hook. f., Fl. Brit. India 2: 297. 1878p.p.; Gamble, Fl. Pres. Madras 429(304). 1919; Manilal, Fl. Silent Valley 92. 1988; Vajravelu, Fl. Palghat Dist. 186. 1990. *Mimosa pennata* L., Sp. Pl. 522. 1753. [FABACEAE].

Lianas, bark brown, pinkish inside; branchlets slender, terete, prickles few, minute. Leaves to 20 cm long, pinnae 8-13 pairs, to 7 cm long; leaflets *ca.* 6 x 1 mm, oblong, apex obtuse, base cordate, inequilateral, overlapping. Heads to 10

mm across in to 15 cm long axillary racemes. Pods to 11 x 2.5 cm, oblong, obtuse, flat, yellowish.

5. Acacia sinuata (Lour.) Merr., Trans. Amer. Philos. Soc. n.s.24: 186. 1935; Vajravelu, Fl. Palghat Dist. 186. 1990; Chakrab. & Gangop., J. Econ. Tax. Bot. 20: 625. 1996. *Mimosa sinuata* Lour., Fl. Cochinch. 653. 1790. *Acacia concinna* (Willd.) DC., Prodr. 2: 464. 1825; Hook. f., Fl. Brit. India 2: 296. 1878; Gamble, Fl. Pres. Madras 429(304). 1919; Sanjappa, Legumes Ind. 38. 1991; Sasidh. & Sivar., Fl. Pl. Thrissur For. 167. 1996 [FABACEAE]

Lianas, bark brown, reddish inside; branchlets pubescent, black. Pinnae 8-10 pairs, to 5 cm long; leaflets to 6 x 1 mm, oblong, apex obtuse, base truncate. Heads to 1 cm across, solitary or paired in terminal or axillary racemes; peduncle to 3 cm long. Flowers numerous, 2 mm long; yellow in colour. Pods to 12 x 2 cm, dark-brown; seeds transverse.

6. Acacia torta (Roxb.) Craib, Bull. Misc. Inform. Kew 1915: 410. 1915; Gamble, Fl. Pres. Madras 428(304). 1919; Vajravelu, Fl. Palghat Dist. 186. 1990; Sanjappa, Legumes Ind. 44. 1991. *Mimosa torta* Roxb., Fl. Ind. 2: 566. 1832. *Acacia caesia* Wight & Arn., Prodr. 278. 1834, non Willd. 1806. [FABACEAE]

Lianas, branchlets puberulus, bark fibrous, reddish inside. Leaves to 24 cm long; pinnae 12 pairs; leaflets 8 x 3 mm, oblong, apex obtuse, base subcordate, slightly pubescent, 1-nerved from base. Heads to 1.5 cm across, in terminal panicles. Flowers many, 3 mm long; filaments 5.5 mm long, yellow. Pods 16 x 2.5 cm, flat, papery, yellowish-brown, densely glandular.

7. Acalypha fruticosa Forssk., Fl. Aeg.-Arab. 161. 1775; Hook. f., Fl. Brit. India 5: 415. 1887; Gamble, Fl. Pres. Madras 1331(931).1925; Vajravelu, Fl. Palghat Dist. 418.1990. [EUPHORBIACEAE]

Subshrubs, branchlets tomentose. Leaves 3-4 x 2 cm, ovate, apex acute to acuminate, base oblique, crenate, puberulus above, tawny pubescent and yellow glandular below; petiole 1.5 cm, tomentose. Spikes axillary, pubescent; sepals 4, 1.5 mm, tomentose; ovary 0.6 mm. Capsule 2 mm across.

8. Acalypha indica L., Sp. Pl. 1003. 1753; Hook. f., Fl. Brit. India 5: 416. 1887; Gamble, Fl. Pres. Madras 1330(930). 1925. [EUPHORBIACEAE]

Herbs. Leaves 3-5 x 3-4 cm, ovate, apex acute to acuminate, base cuneate, serrate, pubescent; petiole 4 cm. Spikes axillary, to 3.5 cm; female flowers below; bracts 3 x 5 mm, campanulate, folded, many nerved, pubescent; male flowers minute. Capsule 2 mm across, pubescent.

9. Acampe praemorsa (Roxb.) Blatt. & McCann, J. Bombay Nat. Hist. Soc. 35: 495. 1932; Vajravelu, Fl. Palghat Dist. 465. 1990. *Epidendrum praemorsum* Roxb., Pl. Corom. 34, t.43. 1795. *Saccolabium praemorsum* (Roxb.) Hook. f., Fl. Brit. India 6: 62. 1890. [ORCHIDACEAE]

Epiphytic herbs. Leaves 14-20 x 2-3 cm, linear, thick, coriaceous; midrib impressed above. Corymbs leaf-opposed, to 6 cm long. Flowers 1 cm across; sepals and petals creamy yellow with reddish-brown transverse bands; lip creamy white with narrow red streaks; midlobe ovate-obtuse, margins crispate, lateral lobes small, entire, spur short.

10. Acanthospermum hispidum DC. Prodr. 5 : 522.1836; Gamble, Fl. Pres. Madr. 704. 1921, Repro. Ed. 2: 495.1957; Vajravelu, Fl. Palghat Dist. 247. 1990; Chowdhery in Hajra *et al.*, Fl. Ind. 12: 361. 1995. [ASTERACEAE]

Erect, branched, hispid, hairy herbs. Leaves obovate, spathulate, palmately veined. Heads solitary, sessile, yellow. Involucral bracts ciliate, Achenes with many lateral spinules and two strait apical spines.

11. Achyranthes aspera L., Sp. Pl. 204. 1753; Hook. f., Fl. Brit. India 4: 730. 1885; Gamble, Fl. Pres. Madras 1176(823). 1925; Vajravelu, Fl. Palghat Dist. 385. 1990; Sasidh. & Sivar., Fl. Pl. Thrissur For. 367. 1996.[AMARANTHACEAE]

Stem tomentose. Leaves 6-10 x 3-6 cm, broadly elliptic to obovate, apex abruptly acuminate, tomentose, nerves 6 pairs; petiole 5 mm long. Spike to 20 cm long, hispid. Flowers deflexed; tepals 7.5 x 2 mm, elliptic, acute, glabrous, equal; ovary truncate at apex. Achenes 3 mm long, ovoid, brown.

12. Acorus calamus L., Sp. Pl. 324. 1753; Manilal & Sivar., Fl. Calicut 306. 1982; Suresh et al., Taxon 32: 130. 1983; Nicols. in Dassan., Rev. Handb. Fl. Ceylon 6: 28. 1988 ("1987"). *Acorus verus* (L.) J. Burm., Fl. Malab. 10.1769 [ARACEAE]

A strongly aromatic, semi aquatic perennial herb. Rhizomes creping, jointed, some what compressed. 1.3-2.5 cm thick. Leaves narrow up to 80 cm long. Flowers pale green, fragrant, arranged compactly on a sessile cylindrical stumpy spadix. Fruits brreis, green, anglar, 3 celled, fleshy containing 1-3 oblong seeds.

13. Actiniopteris radiata (Sw.) Link, Fil. Sp. Horto. Res. Bot. Ber. Cult. 80. 1841; Bedd., Ferns South. India 43. t. 124. 1863; Manickam & Irud., Pterid. Fl. W. Ghats 81. t. 58. 1992; Nayar & Geev., Fern Fl. Malabar 97. 1993; Subh.Chandra, Ferns India 28. 2000.[ACTINOIPTERIDACEAE]

Terrestrial herbs. Rhizome erect or suberect, densely scaly. Scales 2-4 x 0.1-0.5 mm, linear-lanceolate, dark brown in the middle, paler along margin, entire. Fronds 3-4 x 3-4.5 cm, simple, flabellate; stipe 8-10 cm long; Sori linear,

marginal, covered by the reflexed margins of the pinnae lobes. Spores trilete, tetrahedral, rugulose to verrucate.

14. Adenia hondala (Gaertn.) de Wilde, Blumea 15: 265. 1967; Rao *et al.*, J. Econ. Tax. Bot. 11: 243. 1987; Vajravelu, Fl. Palghat Dist. 210. 1990; *Granadilla hondala* Gaertn., Fruct. 2: 480. t.180. f.10. 1791. *Adenia palmata* (Lam.) Engl., Bot. Jahrb. Syst. 14: 375. 1892; Gamble, Fl. Pres. Madras 525(371). 1919. *Modecca palmata* Lam., Encycl. 4: 209. 1797. [PASSIFLORACEAE]

Climbing herbs, root tuberous, tendrils simple. Leaves, palmately lobed, lobes 10-16 x 4-6 cm, oblong. Flowers monoceous, in axillary cymes, 10 mm across; 13 mm long, lobes 5, ovate; petals linear-oblong, stamens 5, free, staminodes in female flowers 5, free; ovary stipitate, globular; ovules many, parietal, style 1, 3-fid at apex. Capsule to 5 cm across, globose, 3-valved.

15. Adenanthera pavonina L., Sp. Pl. 384. 1753; Hook. f., Fl. Brit. India 2: 287. 1878; Sanjappa, legumes of Ind. 54.1991.[FABACEAE]

A decidous, spreading unarmed tree, usually 6-15 m tall, with dark brown to grayish brown bark. Leaves bipinnate, 20-30 cm long. Flowers pale yellow, scented, in short peduncled racemes, 5-15 cm long. Fruits (pod) narrow, 15-23 cm long and 1.6-2 cm wide. Seeds 8-15 in a pod, hard, shiny, globose, usually bright scarlet, 8 mm in diameter.

16. Adiantum caudatum L., Mant. Pl. Act. 308. 1771; Dixit, Cens. Ind. Pterid. 74. 1984; Manickam & Irud., Pterid. Fl. W. Ghats 96. t. 71. 1992; Nayar & Geev., Fern Fl. Malabar 144. 1993; Subh.Chandra, Ferns India 67. 2000. [ADIANTACEAE]

Rhizome erect. Scales 4-5 x 1-0.5 mm, linear, dark brown in the middle, paler along the margins. Fronds 30-45 x 2.5-3 cm, simply pinnate, cirrhose, bulbiferous apex; stipe 5-10 cm long, pinnae 1.5 x 0.5 cm, dimidiate, oblong, lobed, brown hispid. Sori 0.5 x 0.4 mm, dark brown, reniform; indusia dark brown, hispid. Spores dark brown, tetrahedral and tuberculate.

17. Adiantum philippense L., Sp. Pl. 1004. 1753; Dixit, Cens. Ind. Pterid. 75. 1984. *Adiantum lunulatum* Burm.f., Fl. Ind. 235. 1768; Bedd., Ferns South. India 1. t. 1. 1863 Manickam & Irud., Pterid. Fl. W. Ghats 98. t. 73. 1992; Nayar & Geev., Fern Fl. Malabar 142. 1993; Subh.Chandra, Ferns India 71. 2000. [ADIANTACEAE]

Rhizome erect. Scales 2-3 x 0.1 mm, linear or lanceolate, dark brown, clathrate, entire. Fronds 40-47 x 8-10 cm, simply pinnate; stipe 17-23 cm long,lamina 30 x 8-10 cm, lanceolate; pinnae 2-2.5 x 4-4.5 cm, semicircular, acroscopic margin shallowly lobed. Sori linear 0.6-2 cm. Spores yellowish-brown, planoconvex, thinly granulose.

18. Aeginetia indica L., Sp. Pl. 632. 1753; Hook. f., Fl. Brit. India 4: 320. 1884; Gamble, Fl. Pres. Madras 974(685). 1924; Manilal, Fl. Silent Valley 198. 1988; Vajravelu, Fl. Palghat Dist. 328. 1990. [OROBRANCHACEAE]

Root stock short, horizontal. Scapes many, erect, unbranched, glabrous, deep pink or brown. Flowers solitary; bracts and bracteoles absent; calyx 2 cm long, glabrous, reddish; corolla 3 cm long, dark purple, tube broad, lobes equal, rounded, glabrous; upper stamens with one anther lobe; lower stamen with one sterile and one fertile lobes. Capsule 2 cm long, dehisce apically; seeds many, white, rugose.

19. Aerides maculosum Lindl., Bot. Reg. t. 58, 1845; Hook. f., Fl. Brit. India 6: 45. 1890; Fischer in Gamble, Fl. Pres. Madras 1442. 1928; Manilal, Fl. Silent Valley 268. 1988. [ORCHIDACEAE]

Leaves 7-8 x 1-1.5 cm, oblong, keeled, obliquely obtuse with a short mucro. Flowers pinkish violet, 1 x 1 cm, in about 10 cm long, axillary racemes; sepals subsimilar, 10 x 10 mm, ovate, obtuse; petals 10 x 5 mm, oblong, obtuse; lip 15 x 15 mm, midlobe ovate, emarginate, spur 10 x 2 mm, cylindrical.

20. Aerva lanata (L.) Juss. *ex* Schult., Ann. Mus. Natl. Hist. Nat. Paris 11: 131. 1808; Hook. f., Fl. Brit. India 4: 728. 1885; Gamble, Fl. Pres. Madras 1178(825). 1925; Vajravelu, Fl. Palghat Dist. 385. 1990; Sasidh. & Sivar., Fl. Pl. Thrissur For. 368. 1996. *Achyranthes lanata* L., Sp. Pl. 204. 1753.[AMARANTHACEAE]

Herbs, white woolly. Leaves 3-4 x 3 cm, orbicular to ovate, apex obtuse, mucronate, pubescent above, densely woolly below, membranous; petiole 1 cm. Spikes axillary, to 1 cm, densely tomentose; bracts and bracteoles 1 mm, ovate; tepals 1.5 mm, oblong, woolly mucronate; filaments basally connate, 0.5 mm, staminodes subulate; ovary 0.4 mm, stigma 2 fid.

21. Aeschynanthus perrottetii A.DC. in DC., Prodr. 9: 261. 1845; Hook. f., Fl. Brit. India 4: 339. 1884; Gamble, Fl. Pres. Madras 985(692). 1924; Manilal, Fl. Silent Valley 199. 1988; Vajravelu, Fl. Palghat Dist. 332. 1990. *Aeschynanthus ceylanica* sensu Wight, Ic. t.1347. 1846, non Gard. 1846. *Aeschynanthus planiculmis* (Clarke) Gamble, Fl. Pres. Madras 985(692). 1924. [GESNERIACEAE]

Epiphytic subshrubs, stem terete, scandent. Leaves succulent, 5-8 x 1.5 cm, elliptic. Flowers axillary, solitary or rarely paired; stamens 4 ; ovary long-stipitate; linear, 1-celled, ovules many; style slender, stigma terminal. Capsule to 15 cm long, linear; seeds linear.

22. Agave americana L., Sp. Pl. 323. 1753; Gamble, Fl. Pres. Madras 1505(1052).1931. Vajravelu, Fl. Palghat Dist. 507. 1990 *Agave cantula* Roxb., Fl. Ind. 2: 167. 1832. [AGAVACEAE]

Large, perennial shrub with rhizomatous stem. Leaves dark green 45-70 cm long and 12-28 cm wide. Flowers on large peduncle, light green. Fruits viviparous.

23. Agave sisalana Perrine *ex* Engl., Trans. Acad. Sci. St. Louis 3: 314. tt. 2-4. 1875;Gamble, Fl. Pres. Madras 1505(1052).1931. Vajravelu, Fl. Palghat Dist. 507. 1990. [AGAVACEAE]

Large, perennial shrub with rhizomatous stem. Leaves light green with white powdery tinge, 45-70 cm long and 12-28 cm wide. Flowers on large peduncle, light green. Fruits viviparous.

24. Ageratum conyzoides L., Sp. Pl. 839. 1753; Clarke, Comp. Ind. 30. 1876; Hook. f., Fl. Brit. India 3: 243. 1881; Gamble, Fl. Pres. Madras 677(476). 1921; Manilal, Fl. Silent Valley 147. 1988; Vajravelu, Fl. Palghat Dist. 248. 1990.[ASTERACEAE]

Herbs, viscid hairy. Leaves 5-7 x 3-5 cm, ovate,.Heads white, to 7 mm across, in terminal corymbose panicle. Flowers all similar, bisexual; corolla 2.5 mm long, tubular, white, glabrous, 5-lobed at apex; stamens 5, anthers linear. Achenes 2 mm long, linear, 5-angled, hirsute along the angles; pappus 3-4 mm long, many, setaceous.

25. Alangium salvifolium (L. f.) Wang. in Engl., Pflanzenr. IV 220b(41): 9. 1910, ssp. **salvifolium**; Gamble, Fl. Pres. Madras 572(404). 1919; *Alangium lamarckii* Thw., Enum. Pl. Zeyl. 133. 1859; Hook. f., Fl. Brit. India 2: 741. 1879. [ALANGIACEAE]

Small trees. Leaves 10-15 x 3-4 cm, oblong, ovate or elliptic. Flowers in axillary cymes or clusters; calyx *ca* 3 mm, cupular, adnate to the ovary, tomentose, lobes 10, triangular-ovate; petals to 2.5 x 5 cm,; stamens to 20; filaments to 1 cm, base fleshy, villous; ovary to 2 mm, turbinate, 1-celled; style to 2 cm, stigma capitate. Berry 3 x 1 cm, globose, crowned with calyx lobes.

26. Albizia amara (Roxb.) Boivin. in Encycl. 19(2): 34. 1838; Bedd., Fl. Sylv. t. 61. 1870; Baker in Hook.f. Fl. Brit. India 2: 301. 1878; Gamble, Fl. Pres. Madras 432. 1919; *Mimosa amara* Roxb., Pl. Cor. t. 122. 1799. [FABACEAE]

Trees, branchlets dark grey. Leaves bipinnate, pinnae 5-10 pairs, 4-6 cm; leaflets 15-30 pairs, to 8 x 2 mm, oblong, pubescent; petiole to 3 cm, glandular. Heads in axillary clusters, 2-3 together, 2 cm across, flowers 1 mm across, white; peduncle 2-4 cm, pubescent. Pod 10-20 x 3-4 cm, flat, thin.

27. Albizia lebbeck (L.) Willd., Sp. Pl. 4: 1066. 1806; Hook. f., Fl. Brit. India 2: 298. 1878; Gamble, Fl. Pres. Madras 432(306). 1919; Sanjappa, Legumes Ind. 56. 1991; Sasidh. & Sivar., Fl. Pl. Thrissur For. 168. 1996. *Mimosa lebbeck* L., Sp.Pl.516. 1753. *Mimosa sirissa* Roxb., Fl. Ind. 2: 544. 1832. [FABACEAE]

Tall trees; bark rough, dark brown. Leaves 20-30 cm long; pinnae 2 pairs; leaflets 3-4.5 x 2.5 cm, oblong. Peduncles to 10 cm long, axillary, paired; heads to 4 cm across, dull yellow. Flowers pedicelled, 10 mm long; calyx tube 5 mm long, glabrous; corolla glabrous, lobes ovate, acute; filaments 3.5 cm long. Pods to 20 x 3.5 cm, smooth with thick margin, yellow.

28. Albizia odoratissima (L. f.) Benth. in Hook.'s London J. Bot. 3: 88. 1844; Hook. f., Fl. Brit. India 2: 299. 1878; Gamble, Fl. Pres. Madras 431(306). 1919; Manilal, Fl. Silent Valley 93. 1988; Vajravelu, Fl. Palghat Dist. 187. 1990. *Mimosa odoratissima* L. f., Suppl. Pl. 437. 1781. *Acacia odoratissima* (L.f.) Willd., Sp. Pl. 4: 1063. 1806. [FABACEAE]

Medium trees, bark dark brown, rough. Leaves to 25 cm long; pinnae to 15 cm long. Panicle to 15 cm across, axillary or terminal; heads to 3 cm across, 15-25 flowered. Flowers 5 mm, across, sessile; calyx 0.5 mm long, cupular; corolla 5-fid to half way down; staminal filaments 10 mm long. Pods to 21 x 3 cm, flat, brown, shining.

29. Albizia procera (Roxb.) Benth. In Hooker's London J. Bot. 3: 88.1844; Barker in Hook. F. Fl. Brit. Ind. 2: 299. 1878; Gamble, Fl. Pres. Madras 431(306). 1919; Manilal, Fl. Silent Valley 93. 1988. *Mimosa procera* Roxb., Pl. Corom. T. 121. 1798. [FABACEAE]

Medium trees, bark yellowish brown. Leaves to 25 cm long; pinnae to 15 cm long. Panicle to 15 cm across, axillary or terminal; heads to 3 cm across, 12-20 flowered. Flowers 5 mm, across, sessile; calyx 2.5 mm long, cupular; corolla 5-fid to half way down; lobes acute, hispid; staminal filaments 10 mm long. Pods to 20 x 2.3 cm, thin, flexible, reddish brown, shining.

30. Allium cepa L. sp. Pl. 300, 1753; Hook. f., Fl. Brit. India 6: 337. 1893.[LILIACEAE]

Bulbs large. Leaves subdistichous, fistular, radical and bifarious. Flowers many, greenish white in dense umbels subtended by 2 or 3 reflexed bracts. Pedicls shorter than flower. Stamen exerted inner often 2-toothed at the base.

31. Allium sativum L. sp. Pl. 296, 1753; Hook. f., Fl. Brit. India 6: 337. 1893.[LILIACEAE]

Bulbs short compressed with bulblets enclosed in a white or pink envelop. Leaves flat. Flowers often displaced by bulbils, white or pinkish in umbels on a terete scape. Sepals laceolate to acuminate. Stamen exerted, inner filaments often 3-toothed at apex.

32. Allmania nodiflora (L.) R.BR. ex Wight in Hook., J.Bot. 1: 226.t. 128. 1834. Gamble, Fl. Pres Madr. 1168. 1925, Repr. Ed. 2 : 818. 1957; Sasidh. &

Sivar., Fl. Pl. Thrissur For. 368. 1996; Vajravelu, Fl. Palghat Dist. 386. 1990. *Celosia nodiflora* L., Sp. Pl. 205. 1753. [AMARANTHACEAE]

Erect herbs. Leaves elliptic or ovate, apiculate, glabrous. Flowers pale reddish in sessile, globose heads. Perianth lobes red, oblong, lanceolate. Stamen five. Fruit a subglobose or ovoid membraneous urticle.seeds subglobose.

33. Allophylus cobbe (L.) Raeusch., Nomencl. Bot. (ed. 3) 108. 1797; Hook. f., Fl. Brit. India 1: 673. 1875p.p; Manilal, Fl. Silent Valley 62. 1988; Vajravelu, Fl. Palghat Dist. 129. 1990. *Rhus cobbe* L., Sp. Pl. 267. 1753. *Allophylus rheedei* (Wight) Radlk. in Engl. & Prantl, Nat. Pflanzenf. 3(5): 313. 1895; Gamble, Fl. Pres. Madras 246(176). 1918. [SAPINDACEAE]

Erect shrubs, branchlets tomentose. Leaflets 7-11 x 3-5.5 cm, obovate, apex abruptly acuminate, base acute, pale white-tomentose beneath, nerves 9 pairs; petiole 4-7.5 cm long. Raceme to 20 cm long, slender, hispid, 1-3 branched. Flowers 2 mm across, 1-3 together, sessile; sepals orbicular, glabrous; ovary densely hairy. Drupe 3 x 2 mm, densely hairy.

34. Aloe vera (L.) Burm. f., Fl. India 83. 1768; Fischer in Gamble, Fl. Pres. Madras 1520. 1928; Matthew & Britto in Matthew, Fl. TN. Carnatic 1639. 1983 & Ill. Fl. TN. Carnatic t. 740. 1982. *A. perfoliata* var. *vera* L., Sp. Pl. 320. 1753. [LILIACEAE]

Herbs. Leaves radical, aggregated, ensiform, fleshy, spinous on margins. Racemes terminal; peduncles to 1 cm long; bracts to 1.5 cm, ovate, scarious; flowers reddish; pedicels to 1 cm; perianth tube, to 3 cm, lobes free at apex; staminal tube 3 cm; ovary 8 mm, ovoid.

35. Alpinia malaccensis (Burm. f.) Rosc., Trans. Linn. Soc. London 8: 345. 1807; Burm. f., Fl. 6: 255. 1820; Fischer in Gamble, Fl. Pres. Madras 1493. 1928. *Maranta malaccensis* Burm. f., Fl. Ind. 2. 1768.*Costus malaccensis* (Burm.f) Koenig in Retz., Obs. Bot. 3: 71. 1783.[ZINGIBERACEAE]

Large herbs, 2-3 m. leaves up to 65x 14 cm, oblong to oblong lanceolate, acuminate, pubescent beneath. Buds enclosed in large membraneous bracteoles. Flowers white, in racemes, corolla oblong, lips ovate, emarginated, yellow, variegated with red. Capsule globose, stalked, pubescent.

36. Alstonia scholaris (L.) R. Br., Mem. Wern. Nat. Hist. Soc. 1: 76. 1811; Hook. f., Fl. Brit. India 3: 642. 1882; Gamble, Fl. Pres. Madras 810(569). 1923; Vajravelu, Fl. Palghat Dist. 278. 1990. *Echites scholaris* L., Mant. Pl. 53.1767. [APOCYNACEAE]

Large trees, bark grey, corky. Leaves 12-18 x 4-6 cm, oblanceolate. Cymes globose, in panicled umbels, pedicels short, puberulus; sepals ovate, obtuse, puberulus; corolla tube broad, lobes 4 mm across, creamy yellow. Follicle terete; seeds elliptic-oblong.

37. Alternanthera sessilis (L.) R. Br. *ex.* DC., Cat. Hort. 4: 77. 1813; Vajravelu, Fl. Palghat Dist. 386. 1990. *Gomphrena sessilis* L., Sp. Pl. 225. 1753. *Alternanthera triandra* Lam., Encycl. 1: 95. 1785; Gamble, Fl. Pres. Madras 1179(825). 1925. [AMARANTHACEAE]

Decumbent herbs, stem glabrous. Leaves 3-4 x 1 cm. Spike 7-12 x 5 mm, sessile, solitary or 2-3 together, 1 mm long, broadly ovate. Flowers yellowish red; tepals equal, 2.5 x 1.5 mm, ovate, acute, glabrous, 3-nerved at base; stamens 3. Achenes 2 x 2 mm, obovoid, emarginate at apex; seed orbicular, compressed, brown.

38. Amaranthus cruentus L., Syst. Nat. (ed. 10) 1269. 1759; FCN 377.
Amaranthus hybridus L. ssp. *cruentus* (L.) Thell. var. *paniculatus* (L.) Thell. in Asch. & Gray, Syn. 5: 247. 1914. *Amaranthus paniculatus* L., Sp. Pl. (ed. 2) 1406. 1763; Hook. f., Fl. Brit. India 4: 718. 1885; Gamble, Fl. Pres. Madras 1170(819). 1925. [AMARANTHACEAE]

Herbs, stem reddish, glabrous. Leaves alternate, 5-10 x 2-5 cm, ovate. Spikes 20-35 cm long, terminal. Flowers unisexual, acuminate; tepals 3, 1.5 mm long; stamens 3, free; ovary obovoid, styles 2, free. Achenes 2 x 1 mm, ovoid, acute, membranous; seeds biconvex, dark brown.

39. Amaranthus caudatus L., Sp. Pl. 990. 1753; Hook. f., Fl. Brit. India 4: 719. 1885; Gamble, Fl. Pres. Madras 1170(819). 1925. [AMARANTHACEAE]

Herbs, stem reddish, glabrous. Leaves alternate, 5-10 x 2-5 cm, ovate. Spikes 30-60 cm long, terminal. Flowers unisexual, mixed, densely arranged; tepals 3, 1.5 mm long, obovate, obtuse; stamens 3, free; ovary obovoid, styles 2, free. Achenes 2 x 1 mm, ovoid, acute, membranous; seeds biconvex, black.

40. Amaranthus spinosus L., Sp. Pl. 991. 1753; Hook. f., Fl. Brit. India 4: 718. 1885; Gamble, Fl. Pres. Madras 1170(819). 1925; Manilal, Fl. Silent Valley 226. 1988; Vajravelu, Fl. Palghat Dist. 387. 1990; Sasidh. & Sivar., Fl. Pl. Thrissur For. 369. 1996. [AMARANTHACEAE]

Subshrubs, armed, spines axillary. Leaves 5-7 x 3 cm, ovate-oblong. Spikes axillary and terminal, dense, to 15 cm; bracts and bracteoles 1.5 mm, curved; male flowers-tepals 1.5 and 2 mm, lanceolate; stamens 5, female flowers-tepals 1.5 mm, oblong, subequal; ovary 0.6 mm, styles 2.

41. Amaranthus viridis L., Sp. Pl. (ed. 2) 1405. 1763; Hook. f., Fl. Brit. India 4: 720. 1885; Gamble, Fl. Pres. Madras 1171(820). 1925; Vajravelu, Fl. Palghat Dist. 387. 1990. *Euxolus caudatus* (Jacq.) Moq. in DC., Prodr. 13: 274. 1849. *Amaranthus gracilis* Desf., Tabl. Ecole Bot. 43. 1804. [AMARANTHACEAE]

Herbs, stem green or sometimes reddish, glabrous. Leaves alternate, 5-10 x 2-5 cm, ovate. Spikes terminal and axillary, interrupted. Flowers unisexual;

tepals 3, 1.5 mm long, obovate, obtuse; stamens 3, free; ovary obovoid, styles 2, free. Achenes 2 x 1 mm, ovoid; seeds biconvex, dark brown, shining with hexagonal epidermal cells.

42. Ammannia baccifera L., Sp. Pl. (ed.2) 175. 1762, ssp. **baccifera** Koehne in Engl., Bot. Jahrb. Syst. 1: 260. 1880; Hook. f., Fl. Brit. India 2: 569. 1879; Gamble, Fl. Pres. Madras 510(360). 1919; Vajravelu, Fl. Palghat Dist. 204. 1990. *Ammannia vesicatoria* Roxb., Fl. Ind. 1: 426. 1832. [LYTHRACEAE]

Herbs. Leaves 4-6 x 1 mm, oblong-elliptic, apex acute, base cuneate. Cymes axillary, dichasial, sub-sessile. Flowers *ca* 3 mm; calyx tube *ca* 1 mm, campanulate, lobes 4; petals absent; stamens 4, *ca* 1 mm long; ovary 4-celled. Capsule *ca* 2 mm across; seed globose, turgid.

43. Amorphophallus paeoniifolius (Dennst.) Nicols., Taxon 26: 338. 1977, var. **paeoniifolius**: Sivad., Taxon 32: 128. 1983; Sasidh. & Sivar., Fl. Pl. Thrissur For. 484. 1996. *Dracontium paeoniifolium* Dennst., Schluss. Hort. Malab. 38. 1818. *Amorphophallus dubius* Blume, Rumphia 1: 142. 1837; Hook. f., Fl. Brit. India 6: 514. 1893; Gamble, Fl. Pres. Madras 1587(1107). 1931.[ARACEAE]

Corm to 20 cm across, tubercled, pale pink inside. Petiole to 50 cm long, 3-4 cm thick, green with brown patches; lamina 70-120 cm across;, ovate, acuminate, decurrent at base into a wing to the petiole. Spathe 38 cm across, campanulate, undulate; spadix as long as spathe. Flowers on the lower half of the spadix. Berry 15 x 10 mm, oblong, obovoid, orange-red, glabrous.

44. Ampelocissus tomentosa (Heyne ex Roth) Planch. in J. Vigne Amer. Eur. 8. 375. 1884; Gamble, Fl. Pres. Madras 230. 1918. Vajravelu, Fl. Palghat Dist. 122. 1990. *Vitis tomentosa* Heyne ex Roxb, nov. Pl. sp. 157. 1821; Lawson in Fl Brit Ind. 1: 650. 1875.[VITACEAE]

Large, climbing vines. Leaves orbicular, cordate, 3-7 lobed, tomentose beneath. Flowers scarlet, in thick branched wooly cymes. Berries black.

45. Anacardium occidentale L., Sp. Pl. 583. 1753; Manilal & Sivar., Fl. Calicut 73. 1982; Meijer in Dassan., Rev. Handb. Fl. Ceylon 4: 8. 1983; Sasidh., Fl. Thrissur 125. 1996; Sivar. & Philip, Fl. Nilambur 167. 1997 [ANACARDIACEAE].

Trees with spreading branches, 7-10 m. leaves simple, coriaceous, elliptic, obovate, emarginated glabrous. Flowers white turning red in panicles, calyx hairy, petals deflexed, pedicel and disc enlarged, fleshy, red or yellow. Nuts reniform.

46. Anamirta cocculus (L.) Wight & Arn., Prodr. 446. 1834; Hook. f., Fl. Brit. India 1: 93. 1872; Gamble, Fl. Pres. Madras 28(19). 1915; Vajravelu, Fl. Palghat

Dist. 50. 1990; Menispermum cocculus L., Sp. Pl. 340. 1753. Anamirta paniculata Colebr., Trans. Linn. Soc. London 13: 66. 1822.[MENISPERMACEAE]

Woody climbers. Leaves alternate, 20-25 x 15-19 cm, broadly ovate, apex acute. Flowers unisexual, many, in large drooping panicles on old branches; sepals 6 in 2 rows, 3 x 2 mm, ovate, yellow; petals absent; stamens 9; staminodes 9 in female flowers, 3, free; style absent; stigma recurved. Fruit of 1-3 drupes, 1 cm across; seeds 1, black, glabrous.

47. Anaphyllum wightii Schott, Bonplandia 5: 127. 1857 & Gen. Aroid. t. 83. 1858; Hook. f., Fl. Brit. India 6: 551. 1893; Gamble, Fl. Pres. Madras 1589(1108). 1931; Manilal, Fl. Silent Valley 330. 1988; Vajravelu, Fl. Palghat Dist. 531. 1990. [ARACEAE]

Tall herbs, rhizome creeping. Leaves pinnatisect or pinnatipartite, sessile or petiolulate; petiole 60-150 cm long, erect, 5-10 cm thick. Spadix 15-30 cm long, 5-8 cm broad; spathe open, deep brown; spikes 4.5 cm long, 8-10 mm thick. Flowers bisexual, densely arranged, 3-6 mm across; perianth lobes 4; stamens 6, free, filaments broad; ovary 1-celled, ovule solitary, style short, stigma discoid. Fruit a globose achene.

48. Andrographis paniculata (Burm. f.) Wall. ex Nees in Wall., Pl. Asiat. Rar. 3: 116. 1832; Wight, Ic. t. 518. 1842; Gamble, Fl. Pres. Madras 1048. 1924; Manilal, Fl. Silent Valley 202. 1988. *Justicia paniculata* Burm. f., Fl. Ind. 9. 1768.[ACANTHACEAE]

Slender woody herbs; branches glabrous. Leaves to 9 x 1.5 cm, elliptic. Panicle terminal and upper axillary, glandular-hairy. Flowers many, distant; calyx lobes 3 mm long, linea; corolla 14 mm long, tube ventricose, hairy; ovary puberulus, style hairy. Capsule 20-30 x 3 mm, oblong, acute, hairy; retinacula spoon shaped; seeds 8, glabrous.

49. Angiopteris evecta (G. Forst.) Hoffm., Comm. Soc. Reg. Sc. Gott. 12: 29. t. 5. 1796; Bedd., Ferns South. India 27. t. 78. 1863; Manickam & Irud., Pterid. Fl. W. Ghats 56. t. 34. 1992; Nayar & Geev., Fern Fl. Malabar 78. 1993. *Polypodium evectum* G. Forst., Prod. 81. 1786. [MARATTIACEAE]

Terrestrial shrubs. Rhizome erect, massive, densely brown hairy. Fronds 3-3.5 x 1-1.5 m, bipinnate; stipe 150-180 cm long, hairy; pinnae 60-70 x 30-40 cm, oblong-lanceolate, apex acute; pinnules 12-15 x 1.5-2 cm, oblong, acuminate, serrulate to entire. Sporangia separate in double rows along the margin. Spores black, globose, rugulose.

50. Anisochilus scaber Benth. in DC., Prodr. 12: 81.1848; Hook. f., Fl. Brit. India 4:629. 1885; Gamble, Fl. Pres. Madras 1127(788).1924; Vajravelu, Fl. Palghat Dist. 373.1990. [LAMIACEAE]

Herbs. Leaves 4-6 x 2-4 cm, ovate, apex acute, base attenuate, margin crenate, puberulus; petiole to 2 mm. Spikes terminal to 2 cm; calyx tube *ca* 2 mm, bilipped, pubescent, lobes acute, lower lip reduced; corolla 5 mm, white-pinkish, bilipped, pubescent; filaments *ca* 3 mm in pair; ovary globose, style *ca* 6 mm.

51. Anisomeles indica (L.) O. Ktze., Rev. Gen. Pl. 2: 512. 1891; Gamble, Fl. Pres. Madras 1140(797). 1924; Manilal, Fl. Silent Valley 216. 1988; Vajravelu, Fl. Palghat Dist. 373. 1990. *Nepeta indica* L., Sp. Pl. 571. 1753. *Anisomeles ovata* R. Br. in Ait.f., Hort. Kew. (ed. 2) 3: 364. 1811; Hook. f., Fl. Brit. India 4: 672. 1885.[LAMIACEAE]

Shrubs, stem densely woolly. Leaves 9-13 x 4-7 cm, broadly ovate. Racemes 5-12 x 3 cm, terminal. Flowers closely packed in globose thyrse; calyx 10 mm long, lobes equal, acuminate, hispid; corolla violet or purple, 1.4 cm long; stamens 4, filaments erect, hairy; stigma 2-lobed. Nutlets 2 x 1.5 mm, plano-convex, light brown.

52. Annona squamosa L., Sp. Pl. 537. 1753; Hook. f. & Thoms. in Hook. f., Fl. Brit. India 1: 78. 1872; Gamble, Fl. Pres. Madras 20(14). 1915; Debika in Sharma *et al.*, Fl. Ind. 1: 270. 1993; Sasidh. & Sivar., Fl. Pl. Thrissur For. 34. 1996.[ANNONACEAE]

A large decidous shrub or small tree 3-8 m tall with thin, dark brown to grayish bark. Leaves oblong, lanceolate, 5-15 x2-5.5 cm. Flowers fragrant, creamy yellow to greenish. Fruit globose or ovoid, 5-12 cm in diameter, yellowish green when ripe, embossed with prominent scales and filled with an edible, juicy, pulp surrounding the smooth, shining black seeds.

53. Antiaris toxicaria Lesch., Ann. Mus. Natl. Hist. Nat. Paris 16: 478, t.22. 1820; Hook. f., Fl. Brit. India 5: 537. 1888; Gamble, Fl. Pres. Madras 1367(957). 1928. *Antiaris innoxia* Blume, Rumphia 1: 172,t.54. 1835. *Antiaris saccidora* Dalz. in Hook.'s J. Bot. Kew Gard. Misc. 3: 232. 1851.[MORACEAE]

Very large trees with large buttresses, exudation sticky; bark greyish white, strongly fibrous. Leaves bifarious, 11-15 x 3-5 cm, elliptic-oblong. Male flowers 3-5; sepals 3 or 4, oblanceolate to spathulate; stamens 3-8. Female flowers solitary; sepals absent; ovary 1-celled, 1-ovuled. Drupes 1.5-2.5 x 1-2 cm, pyriform or obovoid, fleshy, scarlet.

54. Antidesma acidum Retz., Obs. Bot. 5: 30. 1788; Vajravelu, Fl. Palghat Dist. 420. 1990. *Stilago diandra* Roxb., Pl. Corom. 2: 35, t. 166. 1802 & Fl. Ind. 3: 759. 1832. *Antidesma diandrum* (Roxb.) Roth, Nov. Pl. Sp. 369. 1821; Gamble, Fl. Pres. Madras 1298(908). 1925. *Antidesma lanceolarium* (Roxb.) Wall. *ex* Wight, Ic. t. 766. 1844. [EUPHORBIACEAE]

Shrubs, branchlets glabrous. Leaves 2.5-6 x 2-4 cm, broadly elliptic.Male racemes simple or branched, 3-5 cm long; tepals 4, to 1.5 mm long, free; disk prominent; stamens 5. Flowers closely packed, sessile. Female racemes 2-4 cm long. Flowers many; pedicels 3 mm long; sepals 2 mm across, ovate, fimbriate, greenish yellow. Drupes 5 mm across, oblong, red, smooth.

55. Antidesma ghaesembilla Gaertn., Fruct. 1: 189. 1788; Hook. f., Fl. Brit. India 5: 357. 1887; Gamble, Fl. Pres. Madras 1298(908). 1925; Manilal, Fl. Silent Valley 245. 1988; *Antidesma pubescens* Roxb., Pl. Corom. 2: 35, t.167. 1802. *Antidesma paniculatum* Roxb. *ex* Willd., Sp. Pl. 4: 764. 1806. [EUPHORBIACEAE]

Small trees, branchlets pubescent. Leaves 4-8 x 4-6 cm, rotund to ovate. Male spike terminal to 7 cm, woolly. Flowers 2 mm across; female spike terminal and upper axillary, flowers 1.5 mm across; tepals 5 or 6 *ca* 4 mm, ovate-lanceolate; stamens 4, filaments 1 mm, inserted within disc, pistillode 1 mm, linear; ovary globose *ca* 2 mm. Drupe 4 mm across, globose.

56. Antidesma montanum Blume, Bijdr. 1124. 1826; Chakrab. & Gangop., J. Econ. Tax. Bot. 24: 26. 2000. *Antidesma menasu* (Tul.) Miq. *ex* Muell.-Arg. in DC., Prodr. 15:257. 1866p.p.; Gamble, Fl. Pres. Madras 1297(908). 1925; Manilal, Fl. Silent Valley 245. 1988; Vajravelu, Fl. Palghat Dist. 420. 1990. *Antidesma menasu* (Tul.) Miq. *ex* Muell.-Arg. var. *linearifolia* Hook. f., Fl. Brit. India 5: 364. 1887. [EUPHORBIACEAE]

Small trees. Leaves 12-17 x 4-8 cm, ovate-oblong. Female racemes 7-12 cm long, terminal, usually branched, minutely hispid; flowers 2 mm across; sepals ovate, free, concave, hispid. Male racemes shorter, axillary or terminal; flowers sub-sessile; stamens 3. Drupes 5 x 3 mm, glabrous, reddish.

57. Aporosa lindleyana (Wight) Baill., Etud. Gen. Euphorb. 645. 1858; Hook. f., Fl. Brit. India 5: 349. 1887; Gamble, Fl. Pres. Madras 1309(916). 1925; Vajravelu, Fl. Palghat Dist. 421. 1990. *Scepa lindleyana* Wight, Ic. t. 361. 1840. [EUPHORBIACEAE]

Small to medium trees. Leaves 12-18 x 4-8 cm, ovate-oblong. Male spike solitary or fascicled; bracts ovate, ciliate. Flowers 1-3 in each bract; sepals 4, ovate, ciliate; stamens 2. Female flowers 3-15, in small racemes, densely tomentose, pedicellate; sepals ovate, ciliate; ovary thinly hispid. Capsule 10 mm across, aril orange-yellow.

58. Ardisia solanacea Roxb., Pl. Corom. t. 27. 1795 & Fl. Ind. 1:580.1832; Gamble, Fl. Pres. Madras 756(531).1921; Vajravelu, Fl. Palghat Dist. 263. 1990. *Ardisia humilis* sensu Wight, Ic.t.1212. 1848, non Vahl 1794; Hook. f., Fl. Brit. India 3: 529. 1882.[MYRSINACEAE]

Shrubs to small trees. Leaves 14-18 x 4-6 cm, broadly lanceolate or obovate, apex acuminate, base cuneate, coriaceous, punctate, lateral nerves 15-20 pairs, slender; petiole to 1 cm long. Peduncles axillary, to 5 cm long; bracts concave, 1.5-2 mm long, deciduous; calyx lobes broadly ovate, obtuse, 3 mm long; corolla pink, punctate. Berry 8 mm across, globose.

59. Areca catechu L., Sp. Pl. 1189. 1753 ("*cathecu*"); Moore & Dransfield, Taxon 28: 67.1979; Manilal & Sivar., Fl. Calicut 300. 1982; Sasidh., Fl. Thrissur 481. 1996; Sivar. & Philip, Fl. Nilambur 747. 1997. -*Areca faufel* Gaertn., Fruct.1: 19.1788 [ARECACEAE].

Slender erect trees ; stem annulate. Leaves pinnate; leaflets linear, glabrous. Crowm shaft prominent, tubular. Spadices branched. Spathes boat shaped. Male flower small; petals obliquely lanceolate, fragrant. Female flower large, sepals three triangular. Stamens six. Fruits ovoid and orange in colour.

60. Arenga wightii Griff., Calcutta J. Nat. Hist. 5: 475.1845; Hook. f., Fl. Brit. India 6:422.1892; Gamble, Fl. Pres. Madras 1588(1087). 1931; Vajravelu, Fl. Palghat Dist. 526. 1990. [ARECACEAE]

Monoecious palms; trunk to 6 m tall, covered with persistent leafsheaths. Leaves pinnatisect, to 8 m long; leaflets to 100 x 5 cm, linear. Spadices to 1 m long, basipetal. Male flowers: tepals 6, biseriate, outer 3 mm long, orbicular; stamens many, free. Female flowers: tepals 6, biseriate, similar, accrescent; ovary 3-celled. Fruit globose.

61. Argemone mexicana L., Sp. Pl. 508. 1753; Hook. f. & Thoms. in Hook. f., Fl. Brit. India 1: 117. 1872; Gamble, Fl. Pres. Madras 35(25). 1915; Vajravelu, Fl. Palghat Dist. 54. 1990.[PAPAVERACEAE]

Prickly herbs with yellow juice. Leaves pinnatified, sessile, semi-amplexicaule, spiny on the margins. Flowers yellow. Bract leafy. Stamens many. Capsule prickly, glaucous. Seeds black and resembles mustard.

62. Argyreia nervosa (N. Burm.) Bojer, Hort. Maurit. 224. 1837; Austin in Dassan., Rev. Handb. Fl. Ceylon 1: 287.1980; Manilal, Fl. Silent Valley 187. 1988. *Convolvulus nervosus* N. Burm., Fl. Ind. 48, t. 20, f. 1. 1768. *Ipomoea speciosa* (L.f.) Pers., Syn. Pl. 1: 183. 1805.*Argyreia speciosa* (L.f.) Sweet, Hort. Brit. 289.1827 [CONVOLVULACEAE].

Large climbers. Leaves ovate, densely strigose above , tomentose beneath, abruptly acuminate, cordate at the base. Bracts linear oblong, stalked, persistent. Flowers pale purple, in cymes. Berries yellow when ripe.

63. Arisaema leschenaultii Blume, Rumphia 1: 93. 1836; Hook. f., Fl. Brit. India 6: 504. 1893; Gamble, Fl. Pres. Madras 1585(1105). 1931; Manilal, Fl.

Silent Valley 332. 1988; Vajravelu, Fl. Palghat Dist. 532. 1990. *Arisaema pulchrum* N. E. Br., J. Linn. Soc. Bot. 18: 252, t. 6. 1880; Hook. f., Fl. Brit. India 6:505.1893; Gamble, Fl. Pres. Madras 1585(1105). 1931. [ARACEAE]

Corm 1-6 cm across. Leaflets 7-12, 15-25 x 5-7 cm, lanceolate, apex acuminate. Peduncle thick, smaller than the petiole; spathe 10-22 cm long, tube 5-15 cm long, 1-3.5 cm broad, with thick greenish brown streaks; limb ovate, apex curved down, finely acuminate, green with brown streaks. Spadix 11-15 cm long, clavate at apex, female flowers many in lower 1-3 cm long; neuter flowers filiform, simple or bifurcate, to 1 cm long.

64. Arisaema tortuosum (Wall.) Schott in Schott & Endl., Melet. Bot. 1: 17. 1832; Hook. f., Fl. Brit. India 6: 502. 1893; Gamble, Fl. Pres. Madras 1584(1105). 1931; Manilal, Fl. Silent Valley 332. 1988; 755. *Arum tortuosum* Wall., Pl. Asiat. Rar. 2: 10, t. 114. 1830. *Arisaema tortuosum* (Wall.) Schott var. *neglectum* (Schott) Fischer in Gamble, Fl. Pres. Madras 1585(1105). 1931. [ARACEAE]

Corms 2-3 cm across. Leaflets 8-10, 8-12 x 3-4 cm, oblanceolate. Peduncle usually shorter than the petiole; spathe 8-12 cm long, green; limb ovate, acuminate, with white and purple streaks; tube 4-6 cm long. Spadix 12-18 cm long, sigmoidally curved, appendage narrow.

65. Aristolochia indica L., Sp. Pl. 960. 1753; Hook. f., Fl. Brit. India 5:75.1886; Gamble, Fl. Pres. Madras 1202(841). 1925; Vajravelu, Fl. Palghat Dist. 394. 1990. *Aristolochia lanceolata* Wight, Ic. t. 1858. 1852. [ARISTOLOCHIACEAE]

Twiners, stem glabrous. Leaves 9-13 x 4-6 cm, ovate-oblong. Flowers to 4.5 cm long, 3-5 together in axillary cymes; stamens 6, filaments short, anthers adnate to the columnar style; ovary 6-celled. Capsule obovoid, glabrous; seeds to 10 x 7 mm, brown, samaroid.

66. Aristolochia tagala Cham., Linnaea 7: 207. t. 5. f. 3. 1832; Gamble, Fl. Pres. Madras 1202(841). 1925; Manilal, Fl. Silent Valley 229. 1988; Vajravelu, Fl. Palghat Dist. 394. 1990. *Aristolochia acuminata* Roxb., Fl. Ind. 3: 489. 1832, non Lam. 1783. [ARISTOLOCHIACEAE]

Twiners, stem glabrous. Leaves 13-18 x 8-10 cm, ovate. Flowers 6.5 cm long, in axillary raceme; bracts 5 mm long, ovate; perianth tube 1 cm long, hairy inside, glabrous outside; limb 4.5 cm long, 1 cm broad, brown, tomentose; stamens 12, biseriate; anthers oblong; style 6-7-fid, short. Capsule obovoid, stalked, 6-celled.

67. Artemisia nilagirica(Clarke) Pamp. in Nuov. Giorn. Bot. Ital. 33:452. 1926; Vajravelu, Fl. Palghat Dist. 248. 1990. *Artemisia vulgaris* L. var. *nilagirica* Clarke comp. Ind. 162. 1876. *Artemisia vulgaris* auct. Non l. 1753; hook f. Fl. Brit. Ind. 3: 325. 1881; Gamble, Fl. Pres. Madras 713. 1921.[ASTERACEAE]

Erect, aromatic branched, perennial under shrubs. Leaves deeply lobed, cuneate at base, densely hairy; lobes lanceolate, oblong, entire. Involucral bracts ovate, oblong. Ligules glandular. Flowers white in small heads. Achenes glabrous.

68. Artocarpus gomezianus Wall. *ex* Trecul ssp. **zeylanicus** Jarrett, J. Arnold Arbor. 41: 90. 1960; Vajravelu, Fl. Palghat Dist. 443. 1990. *Artocarpus lakoocha* sensu Fischer in Gamble, Fl. Pres. Madras 1369(958). 1928, non Roxb. 1832.[MORACEAE]

Medium to large trees, bark brownish black, pinkish inside, branchlets grey adpressed tomentose. Leaves 11-16 x 5-8 cm, elliptic-oblong, apex acuminate, base truncate or subcordate, subscabrous below, lateral nerves 9-15 pairs, petiole 1-2.5 cm long. Male spike globose, 8 mm across, peduncles 1 cm long. Syncarp subglobose, uneven, fleshy, greenish yellow.

69. Artocarpus heterophyllus Lam., Encycl. 3: 209. 1789; Manilal, Fl. Silent Valley 258. 1988; Vajravelu, Fl. Palghat Dist. 443. 1990. *Artocarpus integrifolius* Wight, Ic. t. 678. 1840; Hook. f., Fl. Brit. India 5: 541. 1888, non L.f. 1781; Gamble, Fl. Pres. Madras 1369(957). 1928. [MORACEAE]

Large trees, bark dark greyish-brown, trunk with warty tubercles, branchlets glabrous. Leaves 10-15 x 5-7 cm, obovate or oblong-obovate, petiole 1-2 cm long; stipules 3-5 cm long. Spikes enclosed by spathe-like bracts; male from young branches; female from the trunk and mature branches. Perianth fleshy in fruit. Sorosis to 30 x 25 cm; seeds oblong, smooth.

70. Artocarpus hirsutus Lam., Encycl. 3: 210. 1789; Hook. f., Fl. Brit. India 5: 541. 1888; Gamble, Fl. Pres. Madras 1369(957). 1928; Vajravelu, Fl. Palghat Dist. 443. 1990; Sasidh. & Sivar., Fl. Pl. Thrissur For. 426. 1996. [MORACEAE]

Very large trees, bark brownish-black. Leaves 13-18 x 6-12 cm, broadly ovate or elliptic; petiole 1-2.5 cm long; stipule 3-5 cm long, lanceolate, densely hirsute. Male spikes linear-oblong, to 15 cm long, cylindrical; peduncle to 4 cm long. Syncarp echinate, tomentose, to 12 x 8 cm, yellow when ripe.

71. Arundinaria wightiana Nees, Linnaea 9: 182. 1834; Munro, Trans. Linn. Soc. London 26: 19. 1868; Gamble, Ann. Roy. Bot. Gard. Calcutta 7: 4, t. 2. 1896 & in Hook. f., Fl. Brit. India 7: 377. 1897; Bourd., For. Trees Travancore 397. 1908; Rama Rao, For. Pl. Travancore 446. 1914. [POACEAE]

A gregarious shrubby bamboo with sympodial rhizome. Leaves, linear-lanceolate, glabrous on both sides. Spikelets 2-3 flowered, rarely 4, lemma ovate-acuminate, mucronate; palea ovate, bifid at apex, two keeled, stamens 3; filaments free; ovary glabrous, style short, stigmas two. Fruit a caryopsis.

72. Asplenium phyllitidis D.Don, Prodr. Fl. Nepal. 7. 1825; Nayar & Geev., Fern Fl. Malabar 284. 1993; Azeez *et al.*, J. Econ. Tax. Bot. 20: 447. 1996. *Thamnopteris phyllitidis* D. Don sensu Bedd., Ferns South. India 42. t. 123. 1863. *Asplenium nidus* sensu Manickam & Irud., Pterid. Fl. W. Ghats 206. t. 153. 1992, non L., 1753.[ASPLENIACEAE]

Epiphytes. Rhizome erect. Scales 8-12 x 2-4 mm, lanceolate, acuminate, fimbriate. Fronds 50-60 x 6-8 cm, simple; stipe 4-5 cm, stout; lamina dark green, Sori 2-2.5 cm long, on alternative veinlets. Sporangial capsule subglobose. Spores black, planoconvex, monolete, with thickly folded laciniate perispore.

73. Atalantia wightii Tanaka, Bull. Soc. Bot. France 75: 714. 1928; Manilal, Fl. Silent Valley 43.1988; Vajravelu, Fl. Palghat Dist. 103.1990. *Atalantia ceylanica* (Arn.) Oliver, J. Linn. Soc. Bot. 5. Suppl. 2:25.1861,p.p. excl. basionym, quoad tantum specim. Nilgiri; Hook. f., Fl. Brit. India 1:512. 1875; Gamble, Fl. Pres. Madras 160(114). 1915.[RUTACEAE]

Shrubs, branchlets minutely hispid. Leaves 8-11 x 3-5 cm, ovate. Raceme to 1 cm long, axillary, pedicels 5 mm long, hispid. Flowers to 12 mm across; sepals 2 mm long, ovate, acute, ciliate; petals white, to 9 x 2 mm, oblong, obtuse; stamens 8, filaments 4 mm long, inner ones smaller; style 5 mm long.

74. Auricularia sp. [AURICULARIACEAE]

Sporophores growing solitary or gregarious on wood, sessile, occasionally rubbery, gelatinous and ear shaped. Margins slightly curved, 8 distinct hyphal zones in transverse section of sporophores, basidia cylindic and basidiospores allantaoid.

75. Azadirachta indica A.Juss., Mem. Mus. Hist. Nat. Paris 19: 221. 1830; Gamble, Fl. Pres. Madras 177(127). 1915; Vajravelu, Fl. Palghat Dist. 113. 1990. *Melia azadirachta* L., Sp. Pl. 385. 1753; Hook. f., Fl. Brit. India 1: 544. 1875. *Melia indica* Brandis, For. Fl. 67. 1874. [MELIACEAE]

Small trees. Leaves to 14-foliolate, leaflets subopposite or opposite, 5-8 x 2-2.5 cm Panicle axillary, to 17 cm, pedicels 0.5 cm; flowers bisexual; calyx lobes 5, ovate, ciliate; petals 5 x 1.5 mm, oblong, narrowed at base, staminal tube 10-lobed, to 4 mm, glabrous; anthers slightly exserted; ovary 3-celled, cell 2-ovuled, stigma 3-lobed. Drupe to 1.5 x 0.5 cm, oblong.

76. Baccaurea courtallensis (Wight) Muell.-Arg. in DC., Prodr. 15: 459. 1866; Hook. f., Fl. Brit. India 5: 367. 1887; Gamble, Fl. Pres. Madras 1310(916). 1925; Vajravelu, Fl. Palghat Dist. 421. 1990. *Pierardia courtallensis* Wight, Ic. t. 1912. 1852. *Baccaurea sapida* Bedd., Fl. Sylv. t. 280. 1872.[EUPHORBIACEAE]

Trees, bole uneven with tubercles. Leaves alternate, often clustered towards the branch apex, 12-17 x 5-7 cm. Flowers dioecious, in densely clustered. Male

flowers 2 mm across; sepals 5, ovate, stamens 5, free. Female flowers larger, sepals oblong, tomentose; ovary 3-celled, style absent, stigmas stout. Capsule 2.5-4 cm across, globose, 3-valved, tomentose, red; seeds 3, oblong, arillate.

77. Balanophora fungosa J. R. & G. Forst., Char. Gen. Pl. 100. t. 50. 1776, ssp. **indica** (Arn.) Hansen, Dansk. Bot. Ark 28: 100. ff. 20 & 21. 1972; Manilal, Fl. Silent Valley 242. 1988; Vajravelu, Fl. Palghat Dist. 414. 1990.*Balanophora indica* (Arn.) Wall. *ex* Griff., Trans. Linn. Soc. London 20: 95. 1846; Hook. f., Fl. Brit. India 5: 237. 1886; Gamble, Fl. Pres. Madras 1263(885). 1925.[BALANOPHORACEAE]

Parasitic herbs, fleshy, root stock globular; peduncle stout, to 15 cm long, 2 cm thick, yellowish inside; covered by sheathing leaves. Flowers dioecious, in globose or oblong, heads; male perianth lobes 5, valvate, erect, yellowish; stamens 5, filaments united into a column, anthers horse-shoe-shaped; female perianth absent; ovary 1-celled, style long, slender, ovules solitary. Capsule one seeded.

78. Baliospermum montanum (Willd.) Müll.-Arg. in DC., Prodr. 15(2): 1125.1866; Gamble, Fl. Pres. Madras 1342. 1925; Manilal, Fl. Silent Valley 245. 1988. Vajravelu, Fl. Palghat Dist. 421. 1990. *Baliospermum solanifolium* (J. Burm.) Suresh in Nicolson *et al*, Interp. Rheede's Hort. Malab. 106. 1988. *Baliospermum axillare* Bl., Bijdr. 604. 1825. [EUPHORBIACEAE].

Stout under shrubs. Leaves alternate, 10-15x 5-7 cm, ovate, oblong to lanceoalte; petioles long with a pair of stipular glands at base. Flowers pale yellow in racemes. Perianth lobes orbicular, erose; stamens 15-20; style stout, Capsules obovoid, crustaceous.

79. Bambusa bambos (L.) Voss in Vilmorin, Blumengartn. 1:1189.1896; Sasidh. & Sivar., Fl. Pl. Thrissur For. 505. 1996. *Arundo bambos* L., Sp. Pl. 81. 1753. *Bambusa arundinacea* (Retz.) Willd., Sp. Pl. 2: 245. 1799; Hook. f., Fl. Brit. India 7: 395. 1896; Gamble, Fl. Pres. Madras 1859(1286). 1934; Vajravelu, Fl. Palghat Dist. 566. 1990. [POACEAE]

Tufted tree grass; branches from each node thorny. Leaves to 20 cm long, oblong-lanceolate. Panicle to 35 cm long, terminal and axillary. Spikelets 10-18 mm long, crowded, glabrous. Glumes 2, florets many; lower lemmas ovate, acute, empty; bisexual; palea coriaceous, 2 keeled; stamens 4-6, free; stigma 3. Fruit caryopsis.

80. Basella alba L., Sp. Pl. 272. 1753; Van Steenis, Fl. Males. I, 5: 300. 1957; Manilal & Sivar., Fl. Calicut 247. 1982. *Basella rubra* L., Sp. Pl. 272. 1753. *Basella cordifolia* Lam., Encycl. 1: 382. 1785 [BASELLACEAE].

A glaborous much branched fleashy perennial climbing herb. Leaves alternate entire, broad ovate, cordate. Flowers pinkish or pale purple, sessile,

in lax, axillary peduncled spike. Perianth fleshy 5 lobed. Fruit enclosed in the perianth.

81. Bauhinia racemosa Lam., Encycl. 1: 390. 1785; Hook. f., Fl. Brit. India 2: 276. 1878; Gamble, Fl. Pres. Madras 406(288). 1919; Manilal, Fl. Silent Valley 90. 1988; Vajravelu, Fl. Palghat Dist. 179. 1990[FABACEAE]

Small to medium trees, bark pale brown, reddish inside. Leaves 5-6 x 6-8 cm, ovate oblong, bilobed above, lobes rounded. Flowers to 2 cm long, few; calyx oblong, puberulous; petals 5, linear-oblong, creamy-yellow; stamens 10, filamens villous at base; ovary oblong, many-ovuled. Pods 18 x 2 cm, compressed; seeds many, oblong.

82. Begonia malabarica Lam., Encycl. 1: 393. 1785; Gamble, Fl. Pres. Madras 546(386). 1919; Ansari *et al.*, J. Econ. Tax. Bot. 5: 126. 1985; Manilal, Fl. Silent Valley 124. 1988; Vajravelu, Fl. Palghat Dist. 219. 1990. *Diploclinium dipetala* Wight, Ic. t. 1813. 1852.[BEGONIACEAE]

Erect herbs, stem terete, glabrous. Leaves 10-15 x 5-8 cm, ovate. Cymes 5-10 cm across, dichotomous; peduncles to 3 cm, axillary. Flowers many; male sepals 2, 15 mm across, orbicular, pink; anthers 2 mm long, connective produced into a orbicular appendage; female sepals 7 x 13 mm, reniform. Capsule 2 x 1.5 cm, wings obtuse.

83. Benincasa hispida (Thunb.) Cogn. in DC., Monogr. Phan. 3: 513. 1881; Chakr., Rec. Bot. Surv. India 17: 84. 1959; Manilal & Sivar., Fl. Calicut 121. 1982. *Cucurbita hispida* Thunb., Fl. Jap. 322. 1784. *Benincasa cerifera* Savi, Bibliot. Ital. (Milan) 9: 158. 1818 [CUCURBITACEAE].

A stout hispid hairy climbing annual. Leaves circular lobed. Flowers yellow. Peduncle short; corolla lobes traingular. The fruiting peduncle striated, round and smooth oblong. Fruit, ovate, pubescent when young, turned to white when matured due to the presence of wax like substance. Seeds ovoid or oblong.

84. Bidens pilosa L., Sp. Pl. 832. 1753, var. **minor** (Blume) Sherff, Bot. Gaz. 80: 387. 1925; Vajravelu, Fl. Palghat Dist. 248. 1990. *Bidens sundaica* var. *minor* Blume, Bijdr. 914. 1826. *Bidens pilosa* sensu Hook. f., Fl. Brit. India 3: 309. 1881; Gamble, Fl. Pres. Madras 709(499). 1921, p.p. non L. 1753.[ASTERACEAE]

Herbs, stem quadrangular. Leaves opposite, 12-18 cm, pinnate; lobes to 6 x 3 cm, ovate-lanceolate. Heads to 1 cm across; peduncles to 8 cm, flexuous involucral bracts biseriate, outer *ca* 3 x 1 mm, linear, spathulate, inner to 5 x 2 mm, ovate, obtuse; rays 2-5, corolla bilobed, yellow; disc many. Achenes *ca* 2.5 mm, setae 2-4, *ca* 3 mm long.

85. Biophytum reinwardtii (Zucc.) Klotzsch. in Peters Reise Mossamb. Bot. 1: 85. 1861; Hook. f., Fl. Brit. India 1: 437. 1874; Gamble, Fl. Pres. Madras 133(95). 1915; Vajravelu, Fl. Palghat Dist. 98. 1990. *Oxalis reinwardtii* Zucc., Abh. Math.-Phys. Cl. Koenigl. Bayer. Akad. Wiss. 1: 274. 1829-1830. [OXALIDACEAE]

Unbranched herbs. Leaves 9-12 cm long, rachis glabrescent, leaflets 10-15 pairs, oblong, slightly oblique. Peduncle to 15 cm long, glandular-hispid. Flowers to 8 per umbel; sepals 4 x 1 mm, ovate-lanceolate, acute, brown; petals yellow, 7 x 2 mm, oblanceolate, with a red line in the middle. Seeds ovoid.

86. Boerhavia diffusa L., Sp. Pl. 3. 1753; Gamble, Fl. Pres. Madras 1162(814). 1925; Vajravelu, Fl. Palghat Dist. 383. 1990. *Boerhavia repens* L., Sp. Pl. 3. 1753; Hook. f., Fl. Brit. India 4: 709. 1885. *Boerhavia procumbens* Banks *ex* Roxb., Fl. Ind. 1:148. 1820. [NYCTAGINACEAE]

Diffuse herbs with long trailing branches, stem reddish, tomentose. Leaves unequal, 4-6 x 3-4 cm, ovate. Flowers 4 mm long, 4-10 together, in axillary or terminal, peduncled umbels; bracts 5, ovate, glandular; perianth pink, stamens 3. Capsule 3 x 1 mm, clavate, 5-ribbed, glandular.

87. Bolbitis appendiculata (Willd.) K.Iwats., Acta Phytotax. Geobot. 18: 48. 1959; Manickam & Irud., Pterid. Fl. W. Ghats 291. t. 224. 1992; Nayar & Geev., Fern Fl. Malabar 233. t. 95, 99. 1993; Subh.Chandra, Ferns India 231. 2000. *Egenolfia appendiculata* (Willd.) Js.Sm., Ferns Br. For. 111. 1866. [LOMARIOPSIDACEAE]

Lithophytes. Rhizome erect. Scales 2-3.5 x 0.6-1 mm, linear to ovate, fimbriate. Fronds dimorphic; sterile lamina dark green, 20-30 x 6-7 cm, simply pinnate; fertile lamina narrower. Sori acrostichoid. Sporangial capsule subglobose. Spores dark brown to black with broad and laciniate perispore.

88. Bolbitis subcrenata (Hook. & Grev.) Ching in C. Chr., Ind. Filic. Suppl. 3: 50 1934; Hennipman, Leiden Bot. Ser. 2: 176. 1977; Datta, Bull. Bot. Surv. India 27: 135.1987. *Acrostichum subcrenataum* Hook. & Grev., Ic. Filic. t 110.1829 [LOMARIOPSIDACEAE]

Lithophytes. Rhizome erect. Scales 3-4.5 x 0.8-2 mm, linear to ovate, fimbriate. Fronds dimorphic; sterile lamina dark green, 30-50 x 15-25 cm, simply pinnate, margine entire to subcrenate; fertile pinnae 6-20 cm long. Sori acrostichoid. Sporangial capsule subglobose. Spores dark brown to black with perine wrinkled in to sparse flap like folds.

89. Bombax insigne Wall., Pl. Asiat. Rar. 1: 71. 1830; Hook. f., Fl. Brit. India 1: 349. 1784; Gamble, Fl. Pres. Madras 100(71). 1915; Vajravelu, Fl. Palghat Dist. 87. 1990. *Salmalia insignis* (Wall.) Schott & Endl., Melet. Bot. 35. 1832.[BOMBACACEAE]

Leaflets 14-17 x 3-4 cm, oblong or obovate. Flowers few together; calyx 2-lobed, campanulate, densely silky within; petals 8-12 x 2.5 cm oblong, acute, tomentose. Capsule 5-angled, to 18 x 4.5 cm, tomentose

90. Borassus flabellifer L., Sp. Pl. 1187. 1753; Moore & Dransfield, Taxon 28: 60.1979; Manilal & Sivar., Fl. Calicut 299. 1982. Vajravelu, Fl. Palghat Dist. 526.1990; *Lontarus domestica* Gaertn., Fruct. 1: 21.1788 [ARECACEAE].

Palm with unbranched trunk, 25-35 m long. Leaves 60-150 cm in diameter, palmately fan shaped, margins split in to 60-80 segments. Male spadices branched, female simple. Fruit one celled subglobose drupe.

91. Brassica juncea (L.) Czern. & Coss. in Czern., Consp. Pl. Chark. 8. n. 5. 1859; Hook. f., Fl. Brit. India 1: 157. 1872; Gamble, Fl. Pres. Madras 38(28). 1915; Manilal, Fl. Silent Valley 7. 1988; Vajravelu, Fl. Palghat Dist. 54. 1990. *Sinapis juncea* L., Sp. Pl. 668. 1753. [BRASSICACEAE]

Herbs, stem glabrous. Leaves alternate 11-15 x 5-7 cm, glabrous. Flowers many, ca 8 mm across, in terminal racemes; sepals 4, oblong, glabrous; petals 4, yellow; stamens 6, free; ovary stipitate, ovules 10-20, style short, stigma capitate. Fruit a subterete siliqua.

92. Breynia retusa (Dennst.) Alston, Ann. Roy. Bot. Gard. (Peradeniya) 11: 204. 1929; Manilal, Fl. Silent Valley 246. 1988; Vajravelu, Fl. Palghat Dist. 422. 1990. *Breynia patens* (Roxb.) Rolfe, J. Bot. 11: 359. 1882; Hook. f., Fl. Brit. India 5: 329. 1887; Gamble, Fl. Pres. Madras 1304(912). 1925. [EUPHORBIACEAE]

Glabrous shrubs. Leaves ovate, base rounded, glaucous below. Female flowers 3 mm across, solitary; pedicels 5 mm long; sepals 6, obovate; styles united at base, stigma bifid. Male flowers solitary, axillary; sepals 6, retuse or bilobed at apex; stamens 3. Capsule globose, pink; seeds 6, 5 x 3 mm, trigonous, white.

93. Briedelia retusa (L.) Spreng., Syst. Veg. 3: 48. 1826, non A. Juss. 1824; Gamble, Fl. Pres. Madras 1280(896). 1925; Vajravelu, Fl. Palghat Dist. 423. 1990. *Briedelia spinosa* (Roxb.) Willd., Sp. Pl. 4(1):979.1805. *Briedelia airy-shawii* P. T. Li, Acta Phyt. Sin. 20: 117. 1982. [EUPHORBIACEAE]

Medium trees, branchlets thinly hairy. Leaves 13-22 x 7-11 cm, elliptic-oblong. Flowers grouped in terminal branched spikes, monoecious, 6 mm across; sepals 5, reddish brown, 3 x 1.5 mm, hispid outside; petals small, yellow, obovate; styles 3, dichotomous. Capsule 8 mm across, glabrous, black.

94. Briedelia scandens (Roxb.) Willd., Sp. Pl. 4: 979. 1805; Gamble, Fl. Pres. Madras 1281(896). 1925; Manilal, Fl. Silent Valley 247. 1988; Vajravelu, Fl. Palghat Dist. 424. 1990. *Briedelia stipularis* (L.) Blume, Bijdr. 597.1826; Hook. f.,

Fl. Brit. India 5: 270. 1887,p.p.; Gamble, Fl. Pres. Madras 1281(896). 1925. [EUPHORBIACEAE]

Scandent shrubs, branchlets hispid. Leaves 7-12 x 4-7 cm, ovate-oblong. Flowers 8 mm across, in axillary sessile clusters; sepals 5, triangular; petals obovate to orbicular; staminal column, slender; stamens 3-5; ovary depressed globose, styles 3, bifid at apex. Capsule 7 x 6 mm, obovoid; seeds 2, with a large depression on one side and a deep furrow on the other side.

95. Bulbophyllum sterile (Lam.) Suresh in Nicols. *et al.*, Interpr. Hort. Malab. 298. 1988; Sathish & Manilal, Orchid Memories 171. 2004. *Bulbophyllum neilgherrense* Wight, Ic. t. 1650. 1851; Hook. f., Fl. Brit. India 5: 761. 1890; Gamble, Fl. Pres. Madras 1418(992). 1928; Manilal, Fl. Silent Valley 271. 1988; Vajravelu, Fl. Palghat Dist. 468. 1990 [Fig. 36d]. [**ORCHIDACEAE**]

Pseudobulb ovoid, ridged, 3-3.5 x 2 cm. Leaves solitary, to 16 x 4 cm, oblong. Flowers brownish-yellow to brown, 12 x 8 mm, in 18-20 cm long dense raceme; dorsal sepal 5 x 1.1 mm, ovate, acute-apiculate; lateral sepals falcately elliptic-acuminate, 5-veined; petals ovate, acute, apiculate, 1-veined, glandular; lip 4 x 1-2 mm, acute, side lobes falcate.

96. Butea monosperma (Lam.) Taub. in Engl. & Prantl, Nat. Pflanzenf. 3(3): 366. 1894; Manilal, Fl. Silent Valley 70. 1988; Vajravelu, Fl. Palghat Dist. 147. 1990. *Butea frondosa* Koenig *ex* Roxb., Asiat. Res. 3: 369. 1792 & Pl. Corom. t. 21. 1795; Hook. f., Fl. Brit. India 2: 194. 1876; Gamble, Fl. Pres. Madras 357(252). 1918.[FABACEAE]

Small trees, branchlets tomentose. Leaves trifoliolate, terminal leaflet 10-14 x 12-15 cm, rhomboid-obovate. Racemes axillary, terminal and on old wood. Flowers clustered at the node of the rachis, bright red; calyx tube to 1 cm, teeth 3 mm; standard petal to 5 x 2.5 cm; wings falcate, to 4.5 x 1.5 cm; keel united to 4.5 x 3 cm; staminal tube to 6 cm; ovary to 2.5 cm, style to 4.5 cm, pubescent. Pods to 16 x 5 cm, flat, tomentose

97. Caesalpinia bonduc (L.) Roxb., Fl. Ind. 2: 362. 1832; Sanjappa, Legumes Ind. 9. 1991; Sasidh. & Sivar., Fl. Pl. Thrissur For. 161. 1996. *Guilandina bonduc* L., Sp. Pl. 381. 1753. *Caesalpinia bonducella* (L.) Flem., Asiat. Res. 11: 159. 1810; Hook. f., Fl. Brit. India 2: 254. 1878. [FABACEAE]

Climbing shrubs, branchlets glabrous. Leaves to 50 long, pinnules 6 pairs, leaflets 5-8 pairs. Flowers yellow, to 1.8 cm across; sepals oblong, obtuse; petals 10 mm long, obovate with wavy margins. Pods 12 x 5 cm, obovate-oblong, densely spiny; seeds 2 or 3.

98. Caesalpinia cucullata Roxb., Fl. Ind. 2: 358. 1832; Manilal, Fl. Silent Valley 90. 1988; Sanjappa, Legumes Ind. 10. 1991. *Mezoneurum cucullatum*

(Roxb.) Wight & Arn., Prodr. 283. 1834; Hook. f., Fl. Brit. India 2: 258. 1878; Gamble, Fl. Pres. Madras 395(279). 1919; Vajravelu, Fl. Palghat Dist. 182. 1990.[FABACEAE]

Woody climbers, old stem covered with strong prickles with thick clavate base. Leaves to 45 cm long; pinnules 5 or 6 pairs. Racemes to 25 cm long, clustered. Flowers to 2 cm across, irregular, cucullate; sepals unequal, lobes obtuse, glabrous; petals unequal, orbicular; filaments glabrate. Pods to 10 x 2.5 cm, flattened, oblong, obtuse, glabrous.

99. Caesalpinia mimosoides Lam., Encycl. 1: 452.1785; Hook. f., Fl. Brit. India 2:256.1878; Gamble, Fl. Pres. Madras 394(279). 1919; Manilal, Fl. Silent Valley 90. 1988; Sanjappa, Legumes Ind. 12. 1991.[FABACEAE]

Rambling shrubs, densely prickly. Leaves 30-40 x 25 cm; pinnules 10-14 pairs. Flowers to 3 cm across; sepals 8 x 4 mm, oblong, obtuse; petals yellow, to 1.5 cm long, orbicular, wavy along the margins. Pods to 5 x 2.5 cm, compressed, brown; seeds 1 or 2.

100. Cajanus cajan (L.) Millsp., Publ. Field Columbian Mus. Bot. ser. Chicago 2: 53. 1900; Sanjappa, Legumes Ind. 100. 1991.*Cytisus cajan* L., Sp. Pl. 739. 1753.*Cajanus indicus* Spreng., Syst. Veg. 3: 248. 1826. [FABACEAE]

An erect shrub with many sulcate silky branches. Leaflets three, oblong lanceolate. Flowers in loose corymbose racemes or forming a terminal panicles;calyx pubescent; corolla yellow veined with red. Pods narrowed at the ends, torulose. Seeds varying in colour.

101. Calamus gamblei Becc. *ex* Becc. & Hook. f. in Hook. f., Fl. Brit. India 6: 493. 1893; Gamble, Fl. Pres. Madras 1568(1093). 1931; Sasidh. & Sivar., Fl. Pl. Thrissur For. 479. 1996.[ARECACEAE]

Clustering moderate sized cane; stem to 20 m or more long, with sheaths ca 2.5 cm dia, sheaths green, armed with spines, spines bulbous based, knee present. Leaves to 1.2 m long. Inflorescence flagellate, arising well above the mouth of the sheath. Partial inflorescence 5-6, to 90 cm long. Fruit 2 cm across, spherical; scales deeply channelled, pale yellow, shining.

102. Calamus hookerianus Becc., Ann. Roy. Bot. Gard. (Calcutta) 11: 83, 226. t. 70. 1908; Gamble, Fl. Pres. Madras 1568(1094). 1931; Sasidh. & Sivar., Fl. Pl. Thrissur For. 479. 1996. *Calamus borneensis* Becc., Rec. Bot. Surv. Ind. 2: 205. 1926, non Miq. 1868. . [ARECACEAE]

Clustering moderate sized canes; stem to 10 m or more long, with sheaths to 4 cm diameter. Sheaths armed with spines; spines triangular; mouth of the sheath provided with long papery spines to 18 cm long. Leaves 2 m long; leaflets regular. Fruits *ca.* 1 x 0.8 cm, subglobose; scales yellowish-brown with a dark brown boarder.

103. Calamus thwaitesii Becc. & Hook. f., Fl. Brit. India 6: 441. 1892; Sasidh. & Sivar., Fl. Pl. Thrissur For. 480. 1996. *Calamus thwaitesii* Becc. & Hook. f. var. *canaranus* Becc., Ann. Roy. Bot. Gard. (Calcutta) 11: 138. 1908; Gamble, Fl. Pres. Madras 1567(1093). 1931; Vajravelu, Fl. Palghat Dist. 528. 1990. [ARECACEAE]

Clustering and high climbing canes; stem to 20 m or more in length, with sheath to 6 cm in diam; sheath armed with spines; knee and ocrea absent; flagellum, petiole, rachis and sheath armed with stout spines in oblique whorls. Leaves 2 m long; leaflets grouped. Fruit ca. 2 x 1.3 cm, ovoid, scales in 12 vertical rows, with median grooves, yellow with brown margins.

104. Calamus vattayila Renuka, Curr. Sci. 56: 1012. 1987; Renuka & Sasidh., RIC Bulletin 9: 5. 1990; Sasidh. & Sivar., Fl. Pl. Thrissur For. 480. 1996. . [ARECACEAE]

Solitary, climbing canes; stem to 30 m long, with sheaths to 2.5 cm in diam; sheath dark green, sparingly spiny; knee conspicuous. Leaf to 1 m long; petiole to 25 cm long; spines erect, to 1 cm long; flagellum to 4 m long, with grouped recurved spines. Female inflorescence in heavy branches, to 1 m long. Fruit *ca.* 2.5 x 0.8 cm, oblong, scales in 25-30 rows, longer than broad, chest nut brown.

105. Callicarpa tomentosa (L.) Murr., Syst. Veg. (ed. 13) 130. 1774; Manilal, Fl. Silent Valley 213. 1988; Vajravelu, Fl. Palghat Dist. 364. 1990. *Callicarpa arborea* Miq. *ex* Clarke in Hook. f., Fl. Brit. India 4: 507. 1885, non Roxb. 1832. *Callicarpa lanata* L., Mant. Pl. 2: 331. 1771; Gamble, Fl. Pres. Madras 1092(764). 1924. *Callicarpa wallichiana* Walp., Rep. 4: 125. 1845.[VERBENACEAE]

Small trees, branchlets densely grey-pubescent. Leaves 18-25 x 10-15 cm, broadly ovate. Flowers in axillary corymbose cymes, branched, densely tomentose; pedicels absent; calyx 2 mm long, campanulate, lobes 5, obtuse; corolla 4 mm long, tube short, lobes 4, spreading; stamens 4, filaments glandular, anthers sagittate; ovary pubescent, style slender, stigma capitate. Berry 3 mm across, globose, glabrous.

106. Calophyllum polyanthum Wall. *ex* Choisy, Descr. Guttif. Ind. 43. 1849; Manilal, Fl. Silent Valley 19. 1988. *Calophyllum elatum* Bedd., Fl. Sylv. t. 2. 1869; Gamble, Fl. Pres. Madras 76(54). 1915. *Calophyllum tomentosum* sensu Hook. f., Fl. Brit. India 1: 274. 1874, non Wight 1839.[CLUSIACEAE]

Tall trees, bark pink inside, branchlets subquadrangular. Leaves 8-12 x 4-5 cm, elliptic. Flowers to 1.2 cm across, in axillary racemes; peduncle puberulus; pedicel to 1.5 cm long; sepals 3 mm across, orbicular; petals 5 mm across, orbicular, white; stamens polyadelphous. Drupe 10 x 6 mm, ellipsoid, smooth.

107. Calotropis gigantea (L.) R. Br. in Ait.f., Hort. Kew (ed. 2) 2: 78. 1811; Hook. f., Fl. Brit. India 4: 17. 1883; Gamble, Fl. Pres. Madras 832(585). 1923; Manilal, Fl. Silent Valley 176. 1988; Vajravelu, Fl. Palghat Dist. 285. 1990. *Asclepias gigantea* L., Sp. Pl. 214. 1753.[ASCLEPIADACEAE]

Shrubs, stem rounded. Leaves 10-16 x 8-10 cm, smaller in branchlets; elliptic-ovate to obovate. Flowers pale purple, 3 cm across; pedicels to 3 cm long, stout; calyx lobes to 3 mm long; corolla campanulate, tube short, lobes ovate to oblong, recurved; staminal corona of 5 vertical lobes, 1 cm long. Fruit saccate, to 6 x 3 cm, ovoid; seeds many.

108. Calycopteris floribunda Lam., Tabl. Encycl. 2:485. t. 357.1793; Hook. f., Fl. Brit. India 2:449.1878; Gamble, Fl. Pres. Madras 467(331).1919; Vajravelu, Fl. Palghat Dist. 195. 1990.*Getonia floribunda* (Lam.) Roxb., Fl. Corom. t.87. 1795.[COMBRETACEAE]

Woody climbers, bark pale brown, branchlets tomentose. Leaves opposite, 6-10 x 4-6 cm, ovate. Flowers sessile; calyx tube 5 mm long, campanulate, enlarging in fruit, lobes oblong; stamens 10, filaments glabrous; ovary 5-ribbed, densely hispid, 1-celled, ovules 1-3, pendulous. Drupe to 10 x 2.5 cm, ellipsoid; fruiting sepals 18 x 6 mm, yellowish, persistent.

109. Canarium strictum Roxb., Fl. Ind. 3: 138. 1832; Hook. f., Fl. Brit. India 1: 534. 1875; Gamble, Fl. Pres. Madras 172(123). 1915; Manilal, Fl. Silent Valley 47. 1988; Vajravelu, Fl. Palghat Dist. 107. 1990. *Canarium sikkimense* King, J. Asiat. Soc. Bengal 62: 187, t.11,12. 1894. *Canarium resiniferum* Brace *ex* King, J. Asiat. Soc. Bengal 62: 188. 1894. [BURSERACEAE]

Large trees, bark white, peeling, exudate resinous. Leaves to 60 cm long, alternate. Flowers in large terminal panicles, 3-6 together; calyx cupular, 5-lobed, densely tomentose; petals 3, white, to 1 cm long, oblong; stamens 6, filaments connate at base; ovary 2 or 3-celled, cell 2-ovuled, styles stout, stigma capitate. Drupe to 3.5 x 1.5 cm, ellipsoid, dark blue, 1-3-celled; seeds 1-3.

110. Canavalia africana Dunn, Bull. Misc. Inform. Kew 1922: 135. 1922; Sanjappa, Legumes Ind. 107. 1991. *Dolichos virosus* Roxb., Fl. Ind. 3: 301. 1832.*Canavalia ensiformis* DC. var. *virosa* (Roxb.) Baker in Hook.f., FBI 2: 196. 1876.[FABACEAE]

Climbing shrubs, branchlets glbrous. Leaves 10-20 cm, leaflets ovate oblong, glabrous above 6-13.5x 3-3.8 cm. Racemes 10-20 cm. Flowers 2.5 cm across; calyx tube 1.5x1cm; corolla purple to lilac; anthers 2mm, pubescent, ovary 2 cm, ovules numerous. Pod 1.5x2cm, pubescent. Seeds 10-12, to 1.5x1 cm.

111. Cannabis sativa L., Sp. Pl. 1027; 1753; Hook. f., Fl. Brit. India 5: 487. 1888; Fischer in Gamble, Fl. Pres. Madras 1350. 1928; Rani & Matthew in Matthew, Fl. Tamil Nadu Carnatic 3(2): 1506. 1983. [CANNABINACEAE]

Erect aromatic shrubs. Leaves opposite, palmately 3-9-foliolate. Flowers dioecious, in short axillary cymes of panicles; male flowers 5 mm across; tepals 5, free; stamens 5; anthers glandular. Female flowers enclosed in spathaceous bracts; perianth absent; ovary globose, 1-celled; ovules solitary; styles 2, filiform. Fruit an achene, 4 x 3 mm, compressed; seed shiny, brown.

112. Canoparmelia pustulescens (Kurok.) Elix *et* Hale in Elix *et al*, Mycotaxon, 27: 277. 1986.*Parmelia pustulescens* Kurok., in Hale and Kurok., Contrib. U.S. Nat. Herb. 36: 156. 1964; Hale, Smithson. Contrib. Bot. 31: 42. 1976. [PARMELIACEAE]

Thallus foliose, closely adnate, up to 5 cm in diam., whitish mineral gray; lobes sublinear, up to 2 mm wide; upper surface plane, isidiate; isidia short, cylindrical to irregularly inflated, pustulate; lower surface black, sparsely rhizinate; apothecia adnate, 1-2 mm in diam., amphithecium pustulate; spores simple, 4-5 x 7-9 μm in size.

113. Canthium rheedei DC., Prodr. 4: 474. 1830, 'rheedii'; Hook. f., Fl. Brit. India 3: 134. 1880; Vajravelu, Fl. Palghat Dist. 229. 1990. *Plectronia rheedei* (DC.) Bedd., For. Man. Bot. 134/5. 1872; Gamble, Fl. Pres. Madras 625(441). 1921.[RUBIACEAE]

Scandent shrubs, stem strigose, thorn 1-2 cm long, stout. Leaves 3-5 x 3-4 cm, broadly ovate. Flowers 12 mm long, in axillary fascicles; calyx obconical, teeth minute; corolla tube 4 mm long, globose, with a row of hairs inside; lobes 7 x 3 mm, lanceolate, acuminate, spreading; anthers with a hispid beak; style 5 mm long, densely bearded at middle. Drupe 15 x 12 mm, obovoid, black; seeds rugose, hard.

114. Capsicum annuum L., Sp. Pl. 188. 1753; Heiser & Pickersgill, Taxon 18: 282.1969; Hepper in Dassan., Rev. Handb. Fl. Ceylon 6: 395.1988 ("1987"); Sivar. & Philip, Fl. Nilambur 466. 1997 [SOLANACEAE].

Erect glabrous herbs. Leaves ovate, lanceolate. Flowers white, solitary or in pairs drooping; calyx lobe triangular; corolla ovate triangular. Fruit, berries long, 5-11 cm, pungent.

115. Capsicum frutescens L., Sp. Pl. 189. 1753; Fingerhuth, Monogr. Gen. Capsicum 17, t. 4, f. c. 1832; Hepper in Dassan., Rev. Handb. Fl. Ceylon 6: 395. 1988 ; Manilal & Sivar., Fl. Calicut 191. 1982; Sivar. & Philip, Fl. Nilambur 466. 1997 [SOLANACEAE].

Erect glabrous herbs. Leaves ovate, lanceolate. Flowers white, solitary or in pairs drooping; calyx lobe triangular; corolla ovate triangular. Fruit, berries short, 1.5-2.5 cm, pungent.

116. Cardiospermum halicacabum L., Sp. Pl. 366. 1753; Hook. f., Fl. Brit. India 1: 670. 1875; Gamble, Fl. Pres. Madras 244(175). 1918; Vajravelu, Fl. Palghat Dist. 130. 1990; Sasidh. & Sivar., Fl. Pl. Thrissur For. 116. 1996. [SAPINDACEAE]

Herbaceous climbers. Leaves 7-10 cm across, 3-7 foliolate. Flowers 3 mm across, 3-7 together, polygamodioecious; sepals 4, ovate, acute, free; petals 4, white, oblanceolate, obtuse, hooded; stamens 8, one-sided; disk one-sided, lobed; ovary obovoid, 3-celled, cell1-ovuled; stigma 3-fid. Capsule 1.5 x 2 cm, membranous; seeds 3, 3 mm across globose.

117. Careya arborea Roxb., Pl. Corom. t. 218. 1811; Hook. f., Fl. Brit. India 2: 511. 1879; Gamble, Fl. Pres. Madras 488(345). 1919; Manilal, Fl. Silent Valley 108. 1988; Vajravelu, Fl. Palghat Dist. 201. 1990; Sasidh. & Sivar., Fl. Pl. Thrissur For. 186. 1996.[LECYTHADACEAE]

Small trees. Leaves alternate, 15-20 x 8-13 cm, obovate. Flowers 6-7 cm across, in axillary small racemes on old branches; sepals 4, orbicular, 2 cm across; petals 4, white, 3 cm across, orbicular; stamens many, filaments long; ovary 4-5-celled inferior, ovule; numerous on axils placentation; style 4 cm long. Berry 5-7 cm across, globose, crowned by sepals.

118. Carica papaya L., Sp. Pl. 1036. 1753; Manilal & Sivar., Fl. Calicut 118. 1982; Manilal, Fl. Silent Valley 115. 1988. *Papaya carica* Gaertn., Fruct. 2:191. 1791. [CARICACEAE]

A soft wooded almost branchless tree with succulent trunk and milky sap. Leaves palmatified, glabrous, lobed on long hollow petioles. Flowers fragrant dioecious, greenish white or creamy yellow; sepals and petals in alternating whorls; male flowers in long drooping panicles; stamens 10; ovary free one or five celled. Fruit succulent, oblong.

119. Caryota urens L., Sp. Pl. 1189. 1753; Becc. & Hook. f. in Hook. f., Fl. Brit. India 6: 422. 1892; Gamble, Fl. Pres. Madras 1560(1089). 1931; Vajravelu, Fl. Palghat Dist. 529. 1990.[ARECACEAE]

Large palms; stem thick, annular; caudex lax. Leaves to 6 x 4 m, spiral, bipinnate. Spadix 3-4 m long, axillary, branches many, narrow, pendent. Male flowers 1.5 cm long; sepals 3, 4 x 5 mm, orbicular; petals 3, 15 x 5 mm, oblong, calycine; stamens many, filaments united at base. Fruit globose, 1-2-seeded; seeds planoconvex; endosperm ruminate.

120. Cassia fistula L., Sp. Pl. 377. 1753; Hook. f., Fl. Brit. India 2: 201. 1878; Gamble, Fl. Pres. Madras 400(283). 1919; Manilal, Fl. Silent Valley 91. 1988; Vajravelu, Fl. Palghat Dist. 181. 1990. *Cassia rhombifolia* Roxb., Fl. Ind. 3: 334. 1832.[FABACEAE]

Small trees. Leaves to 30 m long, paripinnate. Racemes to 40 cm long, axillary, drooping, bracteate; pedicels to 4 cm long. Flowers to 4 cm across; sepals 5, ovate; petals to 2 x 2 cm, orbicular, concave, yellow, subequal; stamens 10, filaments dimorphic, to 3.5 cm long; ovary curved-oblong, many-ovuled, style incurved. Pods to 50 cm long, terete, septate, glabrous; seeds many transverse, orbicular.

121. Catunaregam spinosa (Thunb.) Tirveng., Adansonia 35: 13. 1978; Manilal, Fl. Silent Valley 130. 1988; Vajravelu, Fl. Palghat Dist. 230. 1990; *Gardenia spinosa* Thunb., Diss. Gard. 7: 16. t.2. f.4. 1780.. *Randia spinosa* (Thunb.) Poir. in Lam., Encycl. Suppl. 2:329.1811; Hook. f., Fl. Brit. India 3:110.1880. [RUBIACEAE]

Small trees, spines short, straight, axillary. Leaves 3-4.5 x 2 cm, obovate. Flowers solitary, terminal on lateral branches; calyx tube 5 mm long, lobes obovate, hispid; corolla tube 6 mm long, broad ; lobes 5, 12 mm long, obovate, twisted, white; stamens 5; ovary 2-6-celled, ovules many. Fruit an obovoid berry, 4 x 3 cm, glabrous; seeds many, embedded in pulp.

122. Cayratia pedata (Lam.) A. Juss. *ex* Gagnep. in Lecomte, Notul. Syst. (Paris) 1: 346. 1911 var. **pedata**; Gamble, Fl. Pres. Madras 236(169). 1915; Manilal, Fl. Silent Valley 58. 1988; Vajravelu, Fl. Palghat Dist. 123. 1990. *Cissus pedata* Lam., Encycl. 1: 31. 1783. *Vitis pedata* (Lam.) Wall. *ex* Wight & Arn., Prodr. 128. 1834; Hook. f., Fl. Brit. India 1: 661. 1875. [VITACEAE]

Climbers, stem minutely hispid. Leaflets 7-15 x 3-6 cm, ovate. Cymes to 7 x 8 cm, hispid; peduncle to 3 cm long. Flowers 6 mm across, greenish; petals 3 x 2 mm, ovate, acute; disk a fleshy rim. Berry 1 cm across, 2-4 lobed, rusty tomentose; seed 6 x 6 mm, rugose.

123. Cayratia trifolia (L.) Domin, Biblioth. Bot. 89: 370. 1927; Vajr., Fl. Palghat Dist. 124. 1990. Vitis trifolia L., Sp. Pl. 203. 1753. *Vitis carnosa* (Lam.) Wall. ex Wight & Arn., Prodr. 127. 1834; Hook. f., Fl. Brit. India 1: 654. 1875. *Cissus carnosa* Lam., Encycl. 1: 31. 1789. [VITACEAE]

Slender herbaceous climbers with wiry branched tendrils. Leaves 3 foliate on long petioles; leaflets ovate serrate. Flowers pale yellow in umbellate cymes. Fruits turbinate, fleshy 2-4 seeded

124. Celastrus paniculatus Willd., Sp. Pl. 1: 1125. 1797; Hook. f., Fl. Brit. India 1: 617. 1875; Gamble, Fl. Pres. Madras 208(150). 1918; Vajravelu, Fl. Palghat

Dist. 117. 1990; Sasidh. & Sivar., Fl. Pl. Thrissur For. 105. 1996 [CELASTRACEAE]

Climbing shrubs; stem lenticellate. Leaves alternate, 7-12 x 4-7 cm, broadly ovate. Flowers many, 6 mm across; sepals 5, small, imbricate, ciliate; petals 2.5 x 2 mm, white, ovate, obtuse; stamens 5, erect, anthers sagitate at base; ovary 3-celled, cell 2-ovuled, stigma 3, recurved. Capsule to 1 cm across, loculicidal, yellow; seeds 3, aril reddish.

125. Celosia argentea L., Sp. Pl. 205. 1753; Hook. f., Fl. Brit. India 4: 714. 1885; Gamble, Fl. Pres. Madras. 1166(816). 1925; Vajr., Fl. Palghat Dist. 387. 1990.[AMARANTHACEAE]

Erect glabrous herb. Stem angular; Leaves linear or lanceolate, 1 nerved. Flowers white pink in dense cylindric spikes. Perianth lobes 5, obovate lanceolate, free. Urticles thin. Seed black.

126. Centella asiatica (L.) Urban in Mart., Fl. Bras. 11:287. t.78. f. 1879; Gamble, Fl. Pres. Madras 556(392). 1919; Manilal, Fl. Silent Valley 124. 1988; Vajravelu, Fl. Palghat Dist. 222. 1990. *Hydrocotyle asiatica* L., Sp. Pl. 234. 1753.[APIACEAE]

Herbs, rooting at nodes. Leaves orbicular-reniform, 3-5 cm across, crenate or sub-entire. Flowers sessile, pink, in 2-5 flowered umbels; peduncles 1-2 cm long, axillary; calyx tube 1 mm long; petals 4, 1 mm long, oblong, recurved at apex, pink; stamens 5, filaments erect; ovary 2-celled, cell 1-ovuled, style erect, bilobed at apex. Fruit ovoid, 3-4 mm long, reticulate-rugose, 7-9-ribbed.

127. Cereus pterogonus Lam., Cact. Gen. 59.1839; Curtis, bot. Mag. T. 5360. 1863; Burkill Rec. Bot. Surv. India 4: 294. 1911; Mathew mat. Fl. Tamilnadu Carnatic 224. 1981; Vajravelu, Fl. Palghat Dist. 219.1990. [CACTACEAE]

Shrubs up to 6 m tall. Stem columnar, 3-9 winged; wings to 4 cm across; spines unequal. Leaves absent. Flowers lateral, sessile, funnel shaped; tepals numerous; stamens numerous; ovary subterete angular. Fruits fleshy.

128. Ceropegia candelabrum L., Sp. Pl. 211. 1753; Hook. f., Fl. Brit. India 4: 70. 1883; Gamble, Fl. Pres. Madras 857(603). 1923; Manilal, Fl. Silent Valley 176. 1988; Vajravelu, Fl. Palghat Dist. 286. 1990; Sasidh. & Sivar., Fl. Pl. Thrissur For. 286. 1996.[ASCLEPIADACEAE]

Twiners. Leaves 4-7 x 3-5 cm, linear-elliptic to ovate-orbicular. Cymes few to many flowered; peduncles longer than the petiole; pedicels 11 mm long; sepals 3 x 0.5 mm, lanceolate; corolla 26 mm long, tube, greenish-white with purple streaks, hispid, lobes 6 x3 mm, yellow, hairy within, beak purplish; outer corona 3 x 1.5 mm, of 5 entire or truncate hairy lobes; inner corona erect, linear-spathulate, glabrous.

129. Chamaecrista absus (L.) Irwin & Barneby, Mem. New York Bot. Gard. 35: 664. 1982. *Cassia absus* L., Sp. Pl. 376. 1753; Hook. f., Fl. Brit. India 2: 255. 1878; Gamble, Fl. Pres. Madras 403(285). 1919; Sanjappa, Legumes Ind. 14. 1991.[FABACEAE]

Scabrid herbs. Leaves to 6 cm long; leaflets 3-3.5 x 1.6 cm, ovate. Flowers in terminal racemes, 6 mm across, shortly pedicelled; sepals oblong, obtuse; petals yellow, obovate, obtuse; stamens unequal; anthers dimorphic. Pods to 4.5 x 0.7 cm, oblong, flat, hispid, oblique at base; seeds 6, biconvex.

130. Chenopodium ambrosioides L., Sp. Pl. 219. 1753; Hook. f., Fl. Brit. India 5: 4. 1886; Gamble, Fl. Pres. Madras 1181(827). 1925; Vajravelu, Fl. Palghat Dist. 389. 1990.[CHENOPODIACEAE]

Erect herbs, pungent smelling, profusely branching. Leaves alternate, 5-8 x 2-3 cm, elliptic to lanceolate. Flowers bisexual, minute, sessile, clustered in terminal and axillary cymes; perianth 5-lobed, herbaceous, green; stamens 5, free; ovary 1-celled, with solitary ovule, styles 3, stigmas 3. Fruit a utricle enclosed by the persistent perianth

131. Chlorophytum nimmonii (Graham) Dalz. in Hook.'s J. Bot. Kew Gard. Misc. 2: 142. 1850; Sasidh. & Sivar., Fl. Pl. Thrissur For. 471. 1996. *Anthericum nimmonii* Graham, Cat. Pl. Bombay 220. 1839. *Chlorophytum orchidastrum* sensu Hook. f., Fl. Brit. India 6: 336. 1892p.p., non Lindl. 1824; Gamble, Fl. Pres. Madras 1526(1066). 1928. [LILIACEAE]

Roots tuberous. Leaves 23-35 x 3-5 cm, lanceolate, apex acute, glabrous. Scape to 60 cm long; bracts ovate-lanceolate, 8 mm long; flowers often paired; pedicels 1 cm long. Flowers white, 1.5 cm across; perianth lobes oblong, obtuse, 8 mm long. Capsule 2-lobed, 3rd lobe aborted.

132. Chloroxylon swietenia DC., Prodr. 1: 625. 1824; Wight. & Arn., Prodr. Fl. Ind. 123. 1834; Bedd., Fl. Sylv. t. 11. 1869; Hook.f. Fl. Brit. India 1: 569. 1875; Gamble, Fl. Pres. Madras 152. 1915; Nair & Nayar in Hajra *et al*, Fl. Ind. 4: 355. 1997.[FLINDERSIACEAE]

Medium sized trees, bark fissured. Leaves pinnate; leaflets alternate, 2 x 0.7 cm, oblong. Flowers white; calyx 5-lobed, 1-1.5 mm; petals 5, 4 x 2 mm; stamens 10,inserted between the lobes; ovary 3-celled, 3-lobed, ovules 4-8 per cell. Capsules 2.5 x 1 cm, oblong, loculicidal. Seeds winged .

133. Christella parasitica (L.) H.Lev., Fl. Kovy-Tcheou 475. 1915; R.D.Dixit, Cens. Indian Pterid. 106. 1984; Manickam & Irud., Pterid. Fl. W. Ghats 195. pl. 147. 1992; B.K.Nayar & Geev., Fern Fl. Malabar 307. 1993. [THELYPTERIDACEAE]

Terrestrials. Rhizome 15-20 x 0.5 mm, creeping. Scales 8-10 x 1-2 mm, lanceolate. Fronds 80-90 x 25-30 cm, simply pinnate; stipe 3-35 cm long, scaly at the very base grooved, glabrous; lamina triangular-ovate in outline; pinnae 14-18 x 2-2.5 cm, oblong, acuminate, truncate at base. Sori reniform, 1 mm in diameter, median, reddish brown, indusia 0.5 mm, dark brown, hairy above.

134. Chromolaena odorata (L.) King & Robins., Phytologia 20: 204. 1970; Manilal, Fl. Silent Valley 152. 1988; Vajravelu, Fl. Palghat Dist. 250. 1990. *Eupatorium odoratum* L., Syst. Nat. (ed. 10) 1205. 1759; Hook. f., Fl. Brit. India 3: 244. 1881; Uniyal in Hajra *et al.*, Fl. Ind. 12: 354.1995.[ASTERACEAE]

Shrubs, glandular hairy. Leaves 8-12 x 5-8 cm, ovate. Heads to 10 mm long, in terminal corymbose cymes. Flowers few to many, similar, bisexual; corolla 5 mm long, white, tubular, 5-lobed, pubescent at apex. Achenes 4 mm long, linear, 5-angled, scabrous, black; pappus many, 4-7 mm long, setaceous, yellowish

135. Cinnamomum malabatrum (Burm. f.) Blume, Bijdr. 568. 1826; Manilal, Fl. Silent Valley 234. 1988; Vajravelu, Fl. Palghat Dist. 403. 1990. *Laurus malabatrum* Burm. f., Fl. Ind. 92. 1768. *Cinnamomum iners* sensu Gamble, Fl. Pres. Madras 1224(857). 1925, non Reinw. *ex* Blume 1826.[LAURACEAE]

Medium trees, branchlets glabrous. Leaves 14-22 x 5-8 cm, oblong. Flowers 3-4 mm across; pedicels 3 mm long; tepals ovate, acute; stamens in first and forth whorls; filaments tomentose; staminodes in second and third whorls; ovary glabrous.

136. Cipadessa baccifera (Roth) Miq., Ann. Mus. Lugd.-Bat. 4: 6. 1868; Gamble, Fl. Pres. Madras 176(126). 1915; Manilal, Fl. Silent Valley 49. 1988; Vajravelu, Fl. Palghat Dist. 110. 1990. *Melia baccifera* Roth, Nov. Pl. Sp. 215. 1821.[MELIACEAE]

Shrubs. Leaves 7-9 foliolate, leaflets 6-10 x 3-5 cm, elliptic. Flowers 5 mm across; calyx cupular, 5-lobed; petals 3.5 x 1 mm, oblong; stamens 10, filaments adnate below; anthers oblong; ovary truncate, 5-celled, glabrous, 5-celled, cell 2-ovuled, style short, stigma clavate. Drupe 5 mm across, reddish, glabrous; seeds 1 or 2, angled.

137. Cissampelos pareira L. var. **hirsuta** (Ham. *ex* DC.) Forman, Kew Bull. 22: 356. 1968; Manilal, Fl. Silent Valley 4. 1988; Vajravelu, Fl. Palghat Dist. 50. 1990.*Cissampelos hirsuta* Ham. *ex* DC., Syst. Nat. 1: 535. 1817. *Cissampelos pareira* L., Sp. Pl. 1031. 1753 p.p.; Hook. f., Fl. Brit. India 1: 103. 1872; Gamble, Fl. Pres. Madras 30(21). 1915.[MENISPERMACEAE]

Slender climbers, stem pubescent. Leaves 4-5 x 6-7 cm, broadly ovate. Male flowers in axillary cymes, sessile, 3 mm across; sepals 4, orbicular, hairy inside;

petals 4 stamens 4, connate in a peltate head. Female flowers in bracteate racemes, bracts to 1 x 1 cm, orbicular, pubescent; sepals 2; petals absent; ovary densely hairy; styles 3. Drupe, 4 mm dia, globose, glabrous; seeds 1, black.

138. Cissus quadrangularis L., Mant. Pl. 39. 1767; Gamble, Fl. Pres. Madras 233. 1918. *Vitis quadrangularis* (L.) Wall. ex Wight, Cat. 26. 1833 & in Wight & Arn. Prodr. 125. 1834; Wight, Ic. t. 51. 1838; Lawson in Hook.f. Fl. Brit. India 1: 645. 1875. [VITACEAE]

Scandent shrubs, fleshy, stem 4-angled and winged, tendrils leaf opposed, mature branches leafless. Leaves to 4 x 3 cm, ovate. Corymbs leaf opposed, to 4 cm, peduncles to 2 cm, pedicels 5 mm; calyx truncate, 2 mm; petals 5, 4 mm, oblong, hooded at apex, disc 4-lobed; stamens 4, subsessile, included; ovary 1 mm, globose, style 0.5 mm. Berry 6 mm, globose, apiculate.

139. Citrus limon(L.) Burm. f., Fl. Ind. 173. 1768; Manilal & Sivar., Fl. Calicut 247. 1982; Sasidh. & Sivar., Fl. Pl. Thrissur For. 86. 1996. *Citrus medica* L. var. *limon* L. Sp. Pl. 782.1753.[RUTACEAE]

A small thorny tree. Leaves ovate; petiole marginate or winged. Flowers consipicous; petals tinged with red. Fruits medium sized, ovoid, yellow, rind thin; pulp abundant acid.

140. Cleistanthus collinus (Roxb.) Benth. *ex* Hook. f., Fl. Brit. India 5: 274. 1887; Gamble, Fl. Pres. Madras 1282(897). 1925; Vajravelu, Fl. Palghat Dist. 425. 1990; Sasidh. & Sivar., Fl. Pl. Thrissur For. 398. 1996. *Cluytia collina* Roxb., Pl. Corom. t.169. 1802 .[EUPHORBIACEAE]

Medium trees, bark dark brown, rough, flaking off in rounded thick scales, reddish inside. Leaves 4-6.5 x 3-4 cm, obovate or orbicular, apex obtuse or retuse, base rounded or obtuse, lateral nerves 5-8 pairs, slender; petiole 0.3 cm long; corolla lobes unequal, ovate lanceolate, 5 mm long, yellow. Capsule ovoid-oblong, 2 cm long; seeds globose, smooth.

141. Clematis gouriana Roxb. *ex* DC., Syst. Nat. 1: 138. 1817; Hook. f., Fl. Brit. India 1:4.1872; Gamble, Fl. Pres. Madras 3(2).1915; Manilal, Fl. Silent Valley 1. 1988; Vajravelu, Fl. Palghat Dist. 43. 1990. [RANUNCULACEAE]

Climbing subshrubs, branchlets pubescent. Leaves bipinnate, leaflets 4.5-7 x 2-3 cm, ovate. Panicles to 20 cm across, drooping, terminal and axillary. Flowers 0.8-1 cm across, white; sepals 4, to 7 x 4 mm, oblong, obtuse, pubescent; stamens many, filaments to 8 mm long, glabrous; carpels 10-15, pubescent. Achenes ca 3 x 1 mm, ovoid, hairy; style *ca.* 30 mm long, persistent.

142. Cleome monophylla L., Sp. Pl. 672. 1753; Hook. f., Fl. Brit. India 1: 168. 1872; Gamble, Fl. Pres. Madras 41(29). 1915; Vajravelu, Fl. Palghat Dist. 57.

1990; Sundara Raghavan in Sharma & Balakr., Fl. Ind. 2: 312. 1993; Sasidh. & Sivar., Fl. Pl. Thrissur For. 42. 1996.[CAPPARACEAE]

Erect herbs, glandular hairy. Leaves 3-4.5 x 1.5 cm, oblong-lanceolate. Flowers in terminal raceme; bracts ovate-triangular, cordate at base; pedicel to 1 cm long. Flowers many; sepals 6 mm long, oblong, acuminate; petals 5 mm long, obovate; stamens 6, filaments glabrous. Capsule to 11 cm long, pubescent.

143. Clerodendrum serratum (L.) Moon, Cat. Pl. Ceylon 46. n.382. 1824; Hook. f., Fl. Brit. India 4:592.1885; Gamble, Fl. Pres. Madras 1100(770). 1924; Manilal, Fl. Silent Valley 214. 1988; Vajravelu, Fl. Palghat Dist. 365. 1990. *Volkameria serrata* L., Mant. Pl. 1: 90. 1767.[VERBENACEAE]

Shrubs, branchlets 4-angled. Leaves 27-35 x 18-25 cm, obovate. Panicles terminal, to 30 x 10 cm, pubescent. Flowers blue, shortly pedicelled; calyx 4 mm long, lobes obtuse, hairy; corolla 15-20 mm long, hairy below, lobes round. Berry 1 cm across, 2-4-lobed, depressed globose; seeds 2-4, rugose, black.

144. Clerodendrum viscosum Vent., Jard. Mal. 1: t.25. 1803; Manilal, Fl. Silent Valley 214. 1988; Vajravelu, Fl. Palghat Dist. 365. 1990. *Clerodendrum infortunatum* Wight, Ic. t. 1471. 1849, "*infortunata*", non L.; Hook. f., Fl. Brit. India 4: 594. 1885; Gamble, Fl. Pres. Madras 1100(770). 1924. *Clerodendrum petasites* auct. non. (Lour.) S. Moore, Blumea 5: 77. 1942. [VERBENACEAE]

Large shrubs, stem sub-tetragonous, pubescent. Leaves 16-20 cm across, orbicular, apex acute, base cordate. Flowers white, in large panicled cymes; calyx 12 mm long, lobes acuminate; corolla tube 2 cm long, slender, lobes 1 x 0.5 cm, obovate, pubescent; filaments hairy at base. Berry 0.8-1 cm across, 1-3-lobed, black, glabrous

145. Clitoria ternatea L., Sp. Pl. 753. 1753; Hook. f., Fl. Brit. India 2: 208. 1896; Gamble, Fl. Pres. Madras 365 (258). 1918; Sanjappa, Legumes Ind. 114. 1991; Vajravelu, Fl. Palghat Dist. 148. 1990.[FABACEAE]

Glabrescent, slender twainers. Leaflets 5-7 elliptic, obtuse rounded at base. Flowers large bright blue, prominently bracteolate; calyx tubular; stamens diadelphous. Pod linear oblong, compressed and many seeded.

146. Coccinia grandis (L.) Voigt, Hort. Sub. Calc. 59. 1845;Vajravelu, Fl. Palghat 212. 1990. *Bryonia grandis* L., Mant. Pl. 126. 1767. *Coccinia indica* Wight & Arn., Prodr. 347. 1834; Wight, Ill. 2: t. 105. 1850; Gamble, Fl. Pres. Madras 537. 1919. *Cephalandra indica* (Wight & Arn.) Naud. in Ann. Sci. Nat. Bot. ser. 5. 5: 16. 1866.[CUCURBITACEAE]

Vines. Leaves 3-5 angled, to 8 x 9 cm, apex acute, apiculate, margins crenate. Flowers axillary, solitary, monoceous, white; pedicels 3 cm; calyx tube 3 mm, campanulate, lobes 2 mm, ovate, acute; corolla 2.5 cm, 5-lobed,

campanulate, acute at apex; ovary 1 cm long, glandular, ovules numerous, stigma 3-partite, fimbriate.

147. Coccocarpia erythroxyli (Spreng.) Swinsc. *et* Krog, Norw. J. Bot. 23:256. 1976. Arvid., Opera Bot. 67:57. 1982; Awasthi, Kavaka 13:83. 1985; Singh & Sinha, Lichen Fl. Nagaland 177. 1994. *Lecidea erythroxyli* Spreng., Vetensk, Acad. Nya Handl. 1:47. 1820. [COCCOCARPIACEAE]

Thallus foliose, loosely or closely attached, whitish or lead gray, up to 6 cm in diam.; lobes up to 3 mm wide, imbricate, isidia absent; medulla white; lower surface brown to black; rhizines black; apothecia scattered, adnate, up to 3 mm in diam., with white hairs; disc plane, brownish red to blackish; proper exciple euparaplectenchymatous; thalline exciple indistinct; spores narrow to fusiform, 9-12 x 3-5 μm in size, with two oil droplets.

148. Cochlospermum religiosum (L.) Alston in Trimen, Handb. Fl. Ceylon 6 (Suppl.): 14. 1931; Vajravelu, Fl. Palghat Dist. 58. 1990. *Bombax religiosum* L., Sp. Pl. 512. 1753. *Cochlospermum gossypium* DC., Prodr. 1: 527. 1824; Hook. f., Fl. Brit. India 1: 90. 1872; Gamble, Fl. Pres. Madras 50(36). 1915.[COCHLOSPERMACEAE]

Small trees. Leaves 15-20 cm across, palmately 5-7 lobed. Flowers in terminal cymes, subsessile, 3-7 together; sepals 5-partite, lobes to 2.5 x 1.5 cm; petals 5, to 5 x 3 cm, obovate, yellow; stamens many, free, filaments to 2.2 cm long; ovary 1-celled, ovules many, 3-5 parietal, style-1, filiform. Capsule to 8 x 5.5 cm, obovoid, 5-angled; seeds many, globose with woolly hairs.

149. Cocos nucifera L., Sp. Pl. 1188. 1753; Moore & Dransfield, Taxon 28: 64. 1979; Manilal & Sivar., Fl. Calicut 300. 1982; Sasidh., Fl. Thrissur 481. 1996; Sivar. & Philip, Fl. Nilambur 747. 1997. [ARECACEAE].

A tall unarmed tree. Stems often thickened at the base with mass of rootlets. Leaves 1.8 to 4 m long. Spadix stout androgynous, at length drooping, simply panicled. Male flower unsymmetric; sepals and petals valvate; stmens six, pistillode minute. Female flowers larger than male; sepals and petals imbricate; ovule one; style short; stigma 3. Fruit one celled subglobose drupe.

150. Coelogyne nervosa A. Rich., Ann. Sci. Nat. Bot. ser. 2, 15: 16. 1841; Gamble, Fl. Pres. Madras 1430(1000). 1928; Manilal, Fl. Silent Valley 273. 1988; Sathish & Manilal, Orchid Memories 175. 2004. *Coelogyne corrugata* Wight, Ic. t. 1639. 1851; Hook. f., Fl. Brit. India 5: 835. 1890.[ORCHIDACEAE]

Pseudobulb, wrinkled. Leaves 2 per pseudobulb, 6-15 x 2-2.5 cm, oblong-lanceolate. Flowers white, in 8-12 cm long ; bracts 12 x 19 mm, ovate, acute; dorsal sepal oblong or elliptic, acute, to apiculate, 9-veined; lateral sepals oblong-

elliptic, acute, apiculate, 9-veined; petals elliptic, acute at both ends, 5-veined; lip 24 x 7-15 mm, ovate, acute, trilobed, side lobes, obliquely ovate.

151. Coix lacryma-jobi L., Sp. Pl. 972. 1753; Hook. f., Fl. Brit. India 7: 100. 1896; Gamble, Fl. Pres. Madras 1705(1182). 1934; Manilal, Fl. Silent Valley 350. 1988; Vajravelu, Fl. Palghat Dist. 569. 1990; Sreekumar & Nair, Fl. Kerala Grasses 207. 1991; Sasidh. & Sivar., Fl. Pl. Thrissur For. 508. 1996.[POACEAE]

Tufted perennials; culms 25-100 cm tall. Leaves 10-60 x 1-3.5 cm, lanceolate, scabrous. Inflorescence a false panicle with groups of peduncled racemes. Spikelets dissimilar, unisexual. Female spikelet 3-10 mm long; lower glume oblong; upper ovate; lower floret barren; upper floret female. Male spikelets 5-15 x 2-4 mm, 2-4 in each raceme, lanceolate; lower glume lanceolate; upper glume oblong; lower floret male, upper empty, first lemma hyaline; palea delicate.

152. Colocasia esculenta (L.) Schott in Schott & Endl., Melet. Bot. 1: 18. 1832; Vajravelu, Fl. Palghat Dist. 533. 1990. *Caladium esculentum* (L.) Vent., Mag. Encycl. 4: 471. 1801. *Colocasia nymphaeifolia* (Vent.) Kunth, Enum. Pl. 3: 37. 1841. *Colocasia antiquorum* Schott in Schott & Endl., Melet. Bot. 1: 18. 1832; Hook. f., Fl. Brit. India 6: 523. 1893; Gamble, Fl. Pres. Madras 1580(1102). 1931.[ARACEAE]

Herbs, rhizome stoloniferous. Leaves few to many, peltate, 20-28 x 10-18 cm, ovate; petiole 30-45 cm long, cylindrical, smooth. Peduncle solitary or few together, 10-20 cm long, stout; spathe to 20 cm long. Spadix 10 cm long, cylindrical, appendages terete, obtuse. Male flowers above, stamens 6; female flowers on lower, ovary 1-celled, ovules many on 2-4 parietal placentas. Neutral flowers many. Fruit an aggregate of berries, globose.

153. Commelina benghalensis L., Sp. Pl. 41. 1753; Hook. f., Fl. Brit. India 6: 370. 1892; Gamble, Fl. Pres. Madras 1539(1075). 1931; Vajravelu, Fl. Palghat Dist. 516. 1990; Sasidh. & Sivar., Fl. Pl. Thrissur For. 473. 1996.[COMMELINACEAE]

Procumbent herbs, pubescent. Leaves 3-5 x 2.5 cm, ovate. Spathe 1 x 1.5 cm, hairy. Flowers 10-12 mm across; sepals 3 mm long, obovate, red-glandular; petals 5 mm long, blue; stamens 3, filaments glabrous; staminodes 2; ovary 2-celled, cell 1-ovuled. Capsule 3-celled, seeds 4 or 5, oblong, smooth, brown.

154. Commelina erecta L., Sp. Pl. 41. 1753; Vajravelu, Fl. Palghat Dist. 516. 1990. *Commelina undulata* R. Br., Prodr. 270. 1810; Hook. f., Fl. Brit. India 6: 373. 1892; Gamble, Fl. Pres. Madras 1539(1075). 1931. [COMMELINACEAE]

Decumbent herbs, stem pubescent on one side. Leaves 8-12 x 2.5 cm, narrowly elliptic-lanceolate. Flowers 13 cm across; sepals 5 x 3 mm, obovate, acute; petals clawed, blue; stamens 3, one anther shorter than others; ovary 3-

celled, 3-ovuled, glabrous. Capsule 3-celled, glabrous; seeds 4 x 3 mm, oblong, powdery.

155. Coprinus sp. [COPRINACEAE]

Sporopores scattered or in dense clusters on ground, richely manured soil or around ded treee stumps, pileus conical to ovate, clour light grey to black, gills distinctly formed, white when young but black when old, stipe cylindrical. Basidia often polymorphic, basidiospores black.

156. Corchorus aestuans L., Syst. Nat. (ed. 10) 1079. 1759; Vajravelu, Fl. Palghat Dist. 92. 1990. *Corchorus acutangulus* Lam., Encycl. 2: 104. 1786 non Forssk. 1775; Hook. f., Fl. Brit. India 1: 398. 1874; Gamble, Fl. Pres. Madras 121(86). 1915.[TILIACEAE]

Herbs. Leaves 3-4 x 2 cm, ovate. Cymes axillary, 1-3 flowered. Flowers 7 mm across, 5-merous, yellow; bracts and bracteoles 3 mm, linear; stamens many. Capsule 2.5 cm long, oblong,.3 toothed at apex, glabrous; seeds many, 1.5 mm.

157. Cordia obliqua Willd., Sp. Pl. 1: 1072. 1798; Clarke in Hook. f. Fl. Brit. India 4: 137. 1883; Gamble, Fl. Pres. Madras 887. 1923; Matthew & Rani in Matthew, Fl. Tamil Nadu Carnatic 1000. 1983 & Ill. Fl. Tamil Nadu Carnatic t. 469. 1982. [BORAGINACEAE]

Trees, branchlets lenticellate. Leaves alternate, 10-14 x 7-11 cm, broadly ovate. Cymes axillary and terminal; flowers polygamous; calyx tube 5 mm, fleshy, lobes 2 mm, ovate; corolla tube 5 mm, lobes 5 mm; alternating filaments glabrous; ovary 4 celled, 2.5 mm, style coiled, 6 mm.

158. Cordia wallichii G. Don, Gen. Hist. 4: 379. 1837-1838; Gamble, Fl. Pres. Madras 887(623). 1923; Manilal, Fl. Silent Valley 185. 1988; Vajravelu, Fl. Palghat Dist. 302. 1990. *Cordia obliqua* Willd. var. *wallichii* (G. Don) Clarke in Hook. f., Fl. Brit. India 4: 137. 1883. *Cordia obliqua* Willd. var. *tomentosa* Kazmi, J. Arnold. Arbor. 51. 143. 1970. [BORAGINACEAE]

Trees, bark white corky, branchlets densely pubescent. Leaves 10-14 x 5-8 cm, elliptic. Cymes 8 x 8 cm, terminal, corymbose. Flowers creamy white; calyx 9 mm long, lobes 3, ovate, acute, hairy; corolla 15 mm long, lobes 6, oblong, acute; stamens 6, filaments villous at base. Drupe 2 x 2 cm, depressed-globose, yellow, shining.

159. Coriandrum sativum L., Sp. Pl. 256. 1753; Gamble, Fl. Pres. Madras 566(399). 1919; Manilal & Sivar., Fl. Calicut 128. 1982; Mukherjee & Const., Umbell. India 31 1993. [APIACEAE]

A slender branched glabrous annual herb with strong smell. Leaves pinnately decompound. Flowers inner actinomorphic and outer one zygomorphic; sepals acute petals immarginate. Fruits ribbed solitary. Seeds convexo-concave.

160. Corypha umbraculifera L., Sp. Pl. (ed. 2) 1657. 1763; Hook. f., Fl. Brit. India 6: 428. 1892; Gamble, Fl. Pres. Madras. 1561(1089). 1931; Vajr., Fl. Palghat Dist. 529. 1990; Renuka, Palms Kerala 37. 1999.[ARECACEAE]

Monocarpic palms with tall stout stem. Leaves very large, circular or lunulate in outline. Spadix laerge terminal, erect, paniculate, pyramidal. Spathes many tubular. Flowers small, bisexual; petals 3, ovate, acute; stamens 6; anthers dorsifixed; ovary 3 lobed. Fruit fleshy globose drupe with basilar style.

161. Coscinium fenestratum (Gaertn.) Colebr., Trans. Linn. Soc. London 13: 65. 1822; Hook. f., Fl. Brit. India 1: 99. 1872; Gamble, Fl. Pres. Madras 27(19). 1915; Sasidh. & Sivar., Fl. Pl. Thrissur For. 36. 1996. *Menispermum fenestratum* Gaertn., Fruct. 1: 219, t. 45, f.5. 1788.[MENISPERMACEAE]

Woody climbers, wood yellow, branchlets hoary. Leaves 15-18 x 13-15 cm, ovate. Inflorescence supra-axillary or cauliflorous. Female flowers mostly from old wood; sepals 6, sericeous; petals 3; ovary densely pilose, staminodes 6. Fruit of 1or 2 drupes, to 2 cm dia, globose, brown villous, endocarp borny, peduncle to 12 cm; seed 1, black, glabrous.

162. Costus speciosus (Koenig) J.E. Smith, Trans. Linn. Soc. London 1: 249. 1791; Hook. f., Fl. Brit. India 6: 249. 1892; Gamble, Fl. Pres. Madras 1490(1041). 1928; Manilal, Fl. Silent Valley 311. 1988; Vajravelu, Fl. Palghat Dist. 498. 1990.*Costus nepalensis* Rosc., Monandr. Pl. t. 80. 1828.[ZINGIBERACEAE]

Tall herbs, stem fleshy; rhizome perennial, cylindrical. Leaves spiral, 18-25 x 4-6 cm, oblong. Flowers solitary in each bract, calyx 2 cm long, tubular; corolla 3-lobed, pinkish-white; lip 5 cm across, orbicular, white with yellow centre, entire; staminal filaments petalloid; anthers parallel. Capsule globose, reddish; seeds few, angled.

163. Crataeva magna (Lour.) DC., Prodr. 1: 243. 1824; Vajravelu, Fl. Palghat Dist. 58. 1990. *Capparis magna* Lour., Fl. Cochinch. 330. 1790. *Crataeva nurvala* Buch.-Ham., Trans. Linn. Soc. London 15: 121. 1827. *Crataeva religiosa* var. *nurvala* (Buch.-Ham.) Hook. f. & Thoms. in Hook. f., Fl. Brit. India 1: 172. 1872. [CAPPARACEAE]

Medium trees. Leaflets 9-12 x 3-5 cm, ovate, base rounded, glabrous. Flowers in terminal corymbs, to 20 cm; pedicel to 5 cm long; sepals 4, free, 3 mm long; stamens many, filaments to 3.5 cm long, free; gynophore to 4.5 cm long, slender; ovary 1-2-celled; stigma sessile, capitate. Berry to 4 cm across, globose.

164. Crotalaria pallida Dryand. in Ait., Hort. Kew. ed. 1. 3: 20. 1789; Britto in Matthew, Fl. Tamil Nadu. Carnatic 358. 1983; Vajravelu, Fl. Palghat 152. 1990. *Crotalaria striata* DC., Prodr. 2: 131. 1825; Baker in Hook.f. Fl. Brit. India 2: 84. 1876; Gamble, Fl. Pres. Madras 301. 1918; Gamble, Fl. Pres. Madras 301. 1918. [FABACEAE]

Shrubs, thinly pubescent. Terminal leaflets 10 x 3 cm; lateral 7 x 2.5 cm, elliptic. Racemes terminal and lateral, to 15 cm long; calyx tube 3 mm; standard petal 1.7 x 1.2 cm, orbicular, yellow striped with purple; wings 1.5 x 0.8 cm; keel 1.3 x 0.5 cm, falcate, filaments 4 and 7 mm; anthers 2.5 and 0.5 mm; ovary 5 mm, pubescent, style 1 cm. Pod 4 x 1 cm, oblong, puberulus; seeds many.

165. Cryptolepis buchananii Roem. & Schult., Syst. Veg. 4: 409. 1819; Hook. f., Fl. Brit. India 4: 5. 1883; Gamble, Fl. Pres. Madras 826(580). 1923; Manilal, Fl. Silent Valley 177. 1988; Vajravelu, Fl. Palghat Dist. 288. 1990. *Nerium reticulatum* Roxb., Fl. Ind. 2: 8. 1832.[ASCLEPIADACEAE]

Twining subshrubs. Leaves 10-20 x 5-8 cm, elliptic or oblong-lanceolate. Flowers in 3 cm broad axillary cymes, few together; corolla campanulate, greenish-yellow, tube 2 mm long, lobes linear-lanceolate, 8 x 2 mm, imbricate; coronal lobes 1-seriate, clavate, 2 mm long, connate with corolla tube. Follicle 8 x 2 cm, divaricate, lanceolate.

166. Cucumella silentvalleyii Manilal., Sabu & Philip Matthew, Acta Bot. Indica 13(2): 283-284.1985; Manilal, Fl. Silent Valley 115.1988. [CUCURBITACEAE]

Much branched climbers, stem angular, sparsely pilose. Leaves suborbicular, 5 angled, deeply cordate denticulate. Flowers yellow monoecious; male 3-5 flowered; female solitary; petals glabrous, anthers free. Fruit oblong fusifor. Seeds many, densly hairy.

167. Cucumis prophetarum L., Cent. I. Pl. 33. 1755; Hook. f., Fl. Brit. India 2: 619. 1879; Gamble, Fl. Pres. Madras 535(378). 1919; Chakrav., Fasc. Fl. Ind. 2: 35. 1982; Manilal, Fl. Silent Valley 116. 1988.[CUCURBITACEAE]

Climbing herbs, stem scabrid. Leaves 8-9 x 7-8 cm, ovate-orbicular, calyx tube narrow, 4 mm long, lobes subulate; corolla pale yellow, lobes ovate, acute, villous, 1.5 cm long; anthers linear, connective appendage shorter than the anthers; ovary hairy, stigma 3-lobed. Berry subglobose, sparsely echinate, to 5 x 3 cm, striped; seeds many, compressed.

168. Cucumis sativus L., Sp. Pl. 1012. 1753; Chakr., Rec. Bot. Surv. India 17: 105. 1959; Manilal & Sivar., Fl. Calicut 123. 1982; Sivar. & Philip, Fl. Nilambur 288. 1997 [CUCURBITACEAE].

A hispidly hairy climbing annual; stem angled. Leaves slightly lobed, cordate, hispid on both surface. Flowers yellow; male flowers clustered; filaments very short; anthers cohery. Female flowers solitary with oblanceolate sepals; ovary muricate with rigid sepals. Fruits ovate or oblong. Seeds numerous white in colour.

169. Cucurbita maxima Duch. in Lam., Encycl. 2: 151. 1786; Hook. f., Fl. Brit. India 3: 622. 1879; Chakrav., Fasc. Fl. Ind. 2: 40. 1982; Manilal & Sivar., Fl. Calicut 123. 1982. [CUCURBITACEAE]

Leaves circular to reniform in outline, rounded lobes. Flowers yellow. Peduncle short and spongy; corolla lobes curved outwards. The fruiting peduncle striated, round and smooth oblong. Fruit a large furrowed pepo. Seeds ovoid or oblong.

170. Cullenia exarillata Robyns, Bull. Jard. Bot. Nat. Belg. 40: 249. 1970; Manilal, Fl. Silent Valley 30. 1988; Vajravelu, Fl. Palghat Dist. 87. 1990. *Cullenia excelsa* Wight, Ic. t. 1701, 1762.1851; Gamble, Fl. Pres. Madras 101(73).1915.[CULLINIACEAE]

Large trees, buttress prominent, older branches furnished with large tubercles, branchlets and underside of leaves densely covered with peltate scales. Leaves alternate, 12-16 x 4-6 cm, oblong. Flowers densely clustered on tubercles on old branches; petals absent; stamens many; ovary 5-celled, echinate, cell 2-ovuled; style woolly, elongate. Capsule globose, 15-20 cm across, dehiscent, densely echinate, globose, 5-valved.

171. Cuminum cyminum L., Sp. Pl. 254.1753; Hook. f., Fl. Brit. India 2: 718. 1883.[APIACEAE]

A slender galbrous annual. Leaves twice or thrice 3-partite. Flowers few rayed; calyx teeth small subulate; petals oblong or obovate. Fruits cylindric, tip narrowed, ridged bristly. Seeds dorsally compressed.

172. Curculigo orchioides Gaertn., Fruct. 1: 63. t. 16. f.11. 1788; Hook. f., Fl. Brit. India 6: 279. 1892; Gamble, Fl. Pres. Madras 1502(1050). 1928; Vajravelu, Fl. Palghat Dist. 505. 1990. *Curculigo malabarica* Wight, Ic. t. 2043A.1853. [HYPOXIDACEAE]

Small herbs, rhizome to 15 cm long, oblong, perennial. Leaves 10-15 x 2 cm, lanceolate, plicate, base sheathing, pilose, subsessile. Perianth yellow, 1.5 cm across; tube 3 cm long, narrow, sparsely pilose; stamens 6, filaments erect; ovary 3-celled, ovules many, villous. Fruit baccate; seeds subglobose.

173. Curcuma aromatica Salisb., Parad. Lond. t.96.1807; Hook. f., Fl. Brit. India 6:216.1890; Gamble, Fl. Pres. Madras 1483(1036). 1928; Manilal, Fl. Silent Valley 311. 1988. *Curcuma zedoaria* sensu Roxb., Asiat. Res. 11: 333. 1810, non (Christm.) Rosc.[ZINGIBERACEAE]

Rhizome pale yellow inside. Leaves 40-65 x 10-20 cm, elliptic, acute at both ends. Flowers brownish-yellow; calyx 1.5 cm long, lobes obtuse; corolla lobes 1.2 x 0.8 cm, glabrous, brownish; anthers 4 mm long; tail 3.5 mm long, divaricating; lip yellowish, 1.5 x 1.5 cm, shallowly 3-lobed; midlobe emarginate; lateral staminode 1.2 x 1 cm.

174. Curcuma longa L., Sp. Pl. 2. 1753; Hook. f., Fl. Brit. India 6: 214. 1890; Gamble, Fl. Pres. Madras 1483(1036). 1928; Mangaly & Sabu, Rheedea 3: 155. 1993 *Curcuma domestica* Valeton, Bull. Jard. Bot. Buitenz. ser. 2. 27: 31. 1918. [ZINGIBERACEAE]

Rhizome conical, deep yellow inside, sessile tubers many. Leaves 30-50 x 10-15 cm, oblong-lanceolate, tapering at both ends. Inflorescence terminal, 20-30 cm, white or greenish, fertile bracts to 30, compactly arranged. Flowers to 5 cm; bracteoles 3-2 cm, ovate-oblong; calyx truncate, 3-lobed, labellum trilobed, yellow, lateral staminodes linear, style filiform, stigma bilipped; ovary 5 mm.

175. Curcuma neilgherrensis Wight, Ic. t. 2006. 1853; Hook. f., Fl. Brit. India 6: 210. 1892; Gamble, Fl. Pres. Madras 1482(1036). 1928; Manilal, Fl. Silent Valley 312. 1988. *Curcuma angustifolia* sensu Dalz. & Gibs., Bombay Fl. 274. 1861, non Roxb. [ZINGIBERACEAE]

Rhizome conical, white inside, roots ending in fusiform tubers. Leaves 6-9, 14-18 x 5-8 cm, ovate-elliptic. Inflorescence lateral, 10-15 x 3-5 cm; coma oblong-lanceolate, pink. Flowers to 5 cm long, light yellow; labellum 2 cm across, yellow with medium cleft; lateral staminodes longer than corolla, connective prolonged, glandular hairy, style filiform, stigma bilipped; ovary 4 mm.

176. Curcuma zedoaria (Christm.) Rosc., Trans. Linn. Soc. London 8: 354. 1807; Hook. f., Fl. Brit. India 6: 210. 1890; Gamble, Fl. Pres. Madras 1482(1036). 1928; Mangaly & Sabu, Rheedea 3:168. 1993; Sasidh. & Sivar., Fl. Pl. Thrissur For. 460. 1996. *Amomum zedoaria* Christm. in Chrstm. & Panzer, Linn. Pflanzenf. Syst. 5: 12. 1779. *Curcuma zerumbet* Roxb., Asiat. Res. 11: 332. 1810. [ZINGIBERACEAE]

Rhizome pale yellow inside, tubers ellipsoidal. Leaves 25-35 x 10-15 cm, elliptic, acute at both ends. Spike lateral, 20-22 cm long, with a purple corona; peduncle 5-10 cm long; bracts 3-5 x 3.5 cm, obovate, obtusely acute, deep purple at apex, glabrous; crown with acute bracts; calyx 1.2 cm long, lobes obtuse; corolla lobes apiculate, pale yellow; lip 1.5 x 1.5 cm, orbicular, emarginate.

177. Cycas circinalis L., Sp. Pl. 1188. 1753; Hook. f., Fl. Brit. India 5: 656. 1888; Gamble, Fl. Pres. Madras 1394. 1928. Vajra., Fl. Palghat. 459. 1990.[CYCADACEAE]

Small palmaceous trees, dioecious, scarcely branched; stems clothed with thick leaf scars. Leaves collected into a terminal caudex. Strobilus to 40 cm dia, ovoid, terminal. Microsporophylls many; sporangia densely packed along the lower surface. Megasporophylls loose terminal clusters, ultimately axillary; ovuliferous scales, 10-20 cm long, subterete, with a terminal rhomboid serrate appendage; ovules 4-10, arranged in two rows. Seeds to 4.5 x 2.5 cm, oblong to ellipsoid.

178. Cyclea peltata (Lam.) Hook. f. & Thoms., Fl. Ind. 201. 1855 & in Hook. f., Fl. Brit. India 1: 104. 1872p.p; Gamble, Fl. Pres. Madras 31(22). 1915; Manilal, Fl. Silent Valley 5. 1988; Vajravelu, Fl. Palghat Dist. 51. 1990. *Menispermum peltatum* Lam., Encycl. 4: 96. 1797. *Cyclea arnottii* Miers, Ann. Mag. Nat. Hist. ser. 3, 18:19.1866; Gamble, Fl. Pres. Madras 31(22).1915. [MENISPERMACEAE]

Climbing herbs. Leaves 8-10 x 6-7 cm, ovate. Flowers densely packed towards the branch tips, sessile, densely hairy; male flowers 1.5 mm across; sepals hairy outside; petals glabrous; Female flowers smaller; sepal-1, hairy; petal-1, hairy; ovary-1, densely hairy. Drupe 4 mm dia, subglobose, white, pilose.

179. Cymbidium aloifolium (L.) Sw., Nov. Acta Regiae Soc. Upsal. 6: 73. 1799; Gamble, Fl. Pres. Madras 1436(1004). 1928; Vajravelu, Fl. Palghat Dist. 471. 1990. *Epidendrum aloifolium* L., Sp. Pl. 953. 1753. *Cymbidium bicolor* auct. non L.: Abraham & Vatsala, Intr. Orchids 307. 1981. [ORCHIDACEAE]

Robust epiphytes, roots numerous, densely covering the base. Leaves 30-35 x 1.5 x 2 cm, oblong. Flowers in 30-40 cm long, pendulous; sepals similar, 25 x 5 mm, linear-lanceolate, acute, 7-veined; petals 20 x 6 mm, 5-veined; lip 17 x 10 mm, trilobed; midlobe ovate, acute, disc with 2 fleshy calli at the mouth of the small saccate base.

180. Cymbopogon flexuosus (Nees *ex* Steud.) Wats. in Atkins., Gaz. N. W. Prov. Ind. 392. 1882; Gamble, Fl. Pres. Madras 1756(1216). 1934; Vajravelu, Fl. Palghat Dist. 569. 1990; Sreekumar & Nair, Fl. Kerala Grasses 71. 1991; 809. *Andropogon nardus* L. var. *flexuosus* (Nees *ex* Steud.) Hack. in A. & C. DC., Monogr. Phan. 6: 603. 1889; Hook. f., Fl. Brit. India 7: 207. 1896 [POACEAE]

Perennials; culms 60-300 cm tall, robust; nodes glabrous. Leaves 15-60 x 1-2 cm, linear-lanceolate. Panicle 20-75 cm long; racemes 1.5-3 cm long slender, joints and pedicels hairy. Sessile spikelets 4 x 1 mm, lanceolate; lower glume oblong; first lemma hyaline, 3 mm long; second lemma with filiform lobes; awn 12 mm long; anthers 2 mm long. Pedicelled spikelets 4 mm long; pedicels hairy.

181. Cymbopogon martinii (Roxb.) Wats. in Atkins., Gaz. N.W. Prov. Ind. 392. 1882; Gamble, Fl. Pres. Madras. 1756(1217). 1934. *Andropogon martinii* Roxb., Fl. Ind. 1: 280. 1820. [POACEAE]

Perennials; culms 20-150 cm tall, robust; nodes glabrous. Leaves linear-lanceolate. Panicle 15-45 cm long. Sessile spikelets 4 x 1 mm, lanceolate; lower glume oblong; first lemma hyaline, 2 mm long; second lemma with filiform lobes; awn 10-13 mm long; anthers 2 mm long. Pedicelled spikelets 3 mm long.

182. Cynodon dactylon (L.) Pers., Syn. Pl. 1: 85. 1805; Hook. f., Fl. Brit. India 7: 288. 1896; Gamble, Fl. Pres. Madras 1835(1270). 1934; Vajravelu, Fl. Palghat Dist. 570. 1990; Sreekumar & Nair, Fl. Kerala Grasses 360. 1991. *Panicum dactylon* L., Sp. Pl. 58. 1753.[POACEAE]

Perennials; culms 5-30 cm long, stoloniferous; nodes glabrous. Leaves 2-5 x 0.2-0.7 cm, ovate-lanceolate. Racemes 3-6 cm long, digitate; rachis flat, glabrous, with two rows of spikelets. Spikelets similar, 2.5 mm long, ovate-lanceolate, glabrous; floret one; lemma 2 x 1.5 mm, 1-nerved, strongly keeled; keel ciliate; palea 2 x 0.5 mm, 2-nerved, curved.

183. Cyperus rotundus L., Sp. Pl. 45. 1753; Clarke in Hook. f., Fl. Brit. India 6: 614. 1893; Fischer in Gamble, Fl. Pres. Madras 1641. 1931; Britto & Matthew in Matthew, Fl. Tamil Nadu Carnatic 3 (2): 1742. 1983.[CYPERACEAE]

Rhizomatous annuals; culms 25-40 cm high, smooth. Leaves 10-22 x 0.1-0.25 cm, scabrous. Umbel 10 x 6 cm, compound; bracts 5 x 0.25 cm; rays up to 6. Spike congested; rachis 4--6 mm long. Spikelets 12-16 x 2 mm, 5-7 in each spike, 14-18-flowered; glumes 2.5 x 1.2 mm, obtuse at apex, reddish-brown. Nut oblong to obovate, 1.5 mm long, smooth.

184. Dalbergia horrida (Dennst.) Mabb., Taxon 26: 538. 1977, var. horrida; Sanjappa, Legumes Ind. 136. 1992. *Dalbergia spinosa* Roxb., Fl. Ind. 3: 234. 1832; Hook. f., Fl. Brit. India 2: 238. 1876; Gamble, Fl. Pres. Madras. 381(269). 1918. *Dalbergia sympathetica* Nimmo ex Graham, Cat. Pl. Bombay 55. 1839; Vajr. Fl. Palghat Dist. 154. 1990. [FABACEAE]

Large Climbing Shrubs with curiously twisted branches bearing large spines. Leaflets oblong or ovate, 11-15, emarginated, white in axillary cymose panicles. Wing and keel petal clawed. Pod pubescent 1-2 seeded.

185. Dalbergia lanceolaria L. f., Suppl. Pl. 316. 1781, ssp. **lanceolaria**; Hook. f., Fl. Brit. India 2: 235. 1876; Gamble, Fl. Pres. Madras 383(270). 1918; Manilal, Fl. Silent Valley 74. 1988; Vajravelu, Fl. Palghat Dist. 154. 1990. *Dalbergia frondosa* Roxb., Fl. Ind. 3: 226. 1832.[FABACEAE]

Medium trees, bark greenish-white. Leaflets 12-20 pairs, 2-5 x 1-2 cm, oblong. Panicles to 15 cm long, yellowish-hirsute. Flowers greenish-white; calyx 3 mm long; petals white; standard 10 x 7 mm, orbicular, glabrous; wings 8 mm long, curved; keel glabrous. Pods to 9 x 2.5 cm, elliptic-oblong, glabrous, apex acute, narrowed to the base, stalk very long; seeds 1-3.

186. Dalbergia latifolia Roxb., Corom. Pl. 2: 7, t. 113. 1799; Hook. f., Fl. Brit. India 2: 231. 1876; Gamble, Fl. Pres. Madras 383(270). 1918; Vajravelu, Fl. Palghat Dist. 154. 1990. *Dalbergia emarginata* Roxb., Fl. Ind. 3: 224. 1832. [FABACEAE]

Tall trees, branchlets slender, white. Leaflets 7-11, 3-6 cm across, obovate-orbicular. Panicles to 12 cm long, axillary, glabrous. Flowers to 10 mm long, creamy white; calyx 5 mm long, glabrous; standard 8 mm across, clawed; wings

curved; keel glabrous. Pods to 10 x 2 cm, oblong, obtuse, glabrous, stalk short; seeds 1-6.

187. Dalbergia sissoides Graham *ex* Wight & Arn., Prodr. 1: 265. 1834; Hook. f., Fl. Brit. India 2: 231. 1870; Gamble, Fl. Pres. Madras 383(270). 1918; Vajravelu, Fl. Palghat Dist. 154. 1990. *Dalbergia latifolia* Roxb. var. *sissoides* (Graham *ex* Wight & Arn.) Baker in Hook. f., Fl. Brit. India 2: 231. 1876. [FABACEAE]

Tall trees, bark yellow inside. Leaflets 6-9, 5-7 x 3-4 cm, obovate, acute at both ends. Flowers 8 mm long, greenish yellow; pedicels 6 mm long, slender; calyx 4 mm long, lobes obtuse, glabrous; standard 7 x 5 mm, greenish yellow; keel glabrous. Pods to 8 x 1.5 cm, elliptic-oblong, apex acute, attenuate into a long stalk at base.

188. Dalbergia volubilis Roxb., Corom. Pl. 2: 48. t.191. 1805; Hook. f., Fl. Brit. India 2: 235. 1876; Gamble, Fl. Pres. Madras 384(270). 1918; Manilal, Fl. Silent Valley 75. 1988; Vajravelu, Fl. Palghat Dist. 155. 1990. [FABACEAE]

Woody climbers, branchlets glabrous. Leaflets 8-10, 2-3 x 1.5 cm, obovate-oblong. Flowers to 10 mm across, blue; calyx 5 mm long, lobes ovate, acute, hairy; standard 8 mm across, reflexed; keel 5 x 3 mm, glabrous; stamens isodiadelphous. Pods to 3.5 x 1.5 cm, elliptic, apex obtuse, shortly cuspidate, stalked, glabrous; seed solitary.

189. Datura metel L., Sp. Pl. 179. 1753; Hook. f., Fl. Brit. India 4: 243. 1883; Gamble, Fl. Pres. Madras 941(660). 1923; Sant., J. Bombay Nat. Hist. Soc. 47: 657. 1948; Vajravelu, Fl. Palghat Dist. 315. 1990. *Datura fastuosa* L. var. *alba* (Nees) Clarke in Hook. f., Fl. Brit. India 4: 243. 1883; Gamble, Fl. Pres. Madras 941(660). 1924. [SOLANACEAE]

Shrubs, stem terete. Leaves alternate, 10-20 x 6-12 cm, ovate. Flowers erect, solitary, axillary, pedicellate; calyx green, to 6 cm long, tubular, lobes 5, erect, acute,; corolla to 15 cm long, white with violet shades, lobes 5, erect, truncate; stamens 5, included, filaments equal, anthers oblong; ovary 2-celled, style filiform, stigma 2-lobed. Capsule 3.5 cm across, globose, prickly; seeds compressed, glabrous.

190. Davallia bullata Wall. *ex* Hook., Sp. Fil. 1: 169. t. 50B. 1864; Bedd., Ferns South. India 6. t. 17. 1863; Manickam & Irud., Pterid. Fl. W. Ghats 132. t. 103. 1992; Nayar & Geev., Fern Fl. Malabar 263. 1993.[DAVALLIACEAE]

Epiphytes. Rhizome creeping, densely scaly. Scales 3-7 x 1.1 mm, peltate, lanceolate, acuminate, ciliate, dark brown. Fronds 27-35 x 20-25 cm, tripinnate; stipe 12-15 cm, long; lamina 16-25 x 20-25 cm, rhomboid or deltoid. Sori 2 x 0.5 mm, dark brownish. Sporangial capsule ellipsoid. Spores planoconvex to reniform, hyaline-yellowish, verrucate.

191. Decalepis hamiltonii Wight & Arn. in Wight, Contrib. 64.1834; Hook. f., Fl. Brit. India 4:11.1883; Gamble, Fl. Pres. Madras 828(582). 1923.[ASCLEPIADACEAE]

Woody climbers, sap milky, branchlets jointed. Leaves 4-6 x 3-4.5 cm. Cymes trichotomously branched; calyx deeply 5 lobed, 2 mm, oblong; corolla tube 1 mm, lobes 3 x 2 mm, oblong; corona of 10 scales; filaments 1 mm, anthers attached to style apex; ovaries 1 mm, stigma obtuse. Follicle 6 x 3.5 cm, oblong-lanceolate, epicarp crinkled; seeds ovate, coma silky white.

192. Dendrocalamus strictus (Roxb.) Nees, Linnaea 9: 476. 1834; Hook. f., Fl. Brit. India 7: 404. 1897; Gamble, Fl. Pres. Madras 1858(1286). 1934. *Bambos stricta* Roxb., Pl. Corom. 1: 58, t. 80. 1798.[POACEAE]

Tufted tree grass; culms to 15 m high, unarmed. Leaves 8-16 x 1.5 cm, ovate-lanceolate, apex long acuminate; ligule dentate. Heads of spikelets globose, to 2.5 cm across; spikelets 6 mm long, ovate, lower glume 4 mm, upper 4.5 mm, ovate, lemmas 2, 5 mm, broadly ovate with a mucro; stamens 6, filaments free, 0.2 mm, anthers 2.5 mm, oblong.

193. Dendrocnide sinuata (Blume) Chew, Gard. Bull. Singapore 21: 206. 1965; Sasidh. & Sivar., Fl. Pl. Thrissur For. 418. 1996. *Laportea crenulata* (Roxb.) Gaud. in Freye., Voy. Bont. Bot. 498. 1826; Hook. f., Fl. Brit. India 5: 550. 1888; Gamble, Fl. Pres. Madras 1373(961). 1928; Vajravelu, Fl. Palghat Dist. 453. 1990.[URTICACEAE]

Large shrubs to small trees, branchlets terete. Leaves 13-20 x 7-10 cm, elliptic to oblong-lanceolate. Cymes axillary, peduncled, branches dichotomous, to 20 x 20 cm. Male perianth lobes 4 or 5, ovate; female perianth lobes 4, ovate, free; stamens 4, free; pistillode clavate; ovary 1-celled, ovules solitary, style 4 mm long, puberulus, persistent. Achenes 6 mm, ovoid, white, glabrous.

194. Desmodium gangeticum (L.) DC., Prodr. 2: 327.1825; Hook. f., Fl. Brit. India 2:168.1876; Gamble, Fl. Pres. Madras 345(244). 1918; Vajravelu, Fl. Palghat Dist. 157. 1990; Sanjappa, Legumes Ind. 153. 1991.[FABACEAE]

Subshrubs, stem hispid, 3-angled. Leaves 8-12 x 8 cm, ovate. Racemes to 30 cm long, axillary, villous; pedicels 2-5 together, 3 mm long. Flowers pale blue; calyx 2 mm long, lobes acute; standard 3.5 x 3 mm, apex retuse, base acute. Pods straight, 8-jointed; joints moniliform, glabrous, black.

195. Desmodium laxiflorum DC., Ann. Sci. Nat. (Paris) 4: 100. 1825 & Prodr. 2: 335. 1825; Gamble, Fl. Pres. Madras 344(243). 1918; Vajravelu, Fl. Palghat Dist. 158. 1990; Sanjappa, Legumes Ind. 156. 1991. *Desmodium diffusum* DC., Ann. Sci. Nat. (Paris) 4: 100. 1825.[FABACEAE]

Erect herbs, stem angled, adpressed-hairy. Terminal leaflet 9-13 x 8-10 cm, ovate. Flowers solitary or paired, pink; calyx 2 mm long, hairy; standard 6 x 3 mm, emarginate. Pods 6-9 jointed, joints 4 x 1.25 mm, oblong, longitudinally striate.

196. Desmodium triflorum (L.) DC., Prodr. 2: 334. 1825; Hook. f., Fl. Brit. India 2: 173. 1876; Gamble, Fl. Pres. Madras 347(245). 1918; Manilal, Fl. Silent Valley 79. 1988; Vajravelu, Fl. Palghat Dist. 159. 1990. *Desmodium triflorum* (L.) DC. var. *minus* Wight & Arn., Prodr. 229. 1834. [FABACEAE]

Prostrate herbs, branches slender, pilose. Leaflets 4-6 x 4-5 mm, orbicular, obtuse to retuse. Racemes small, axillary. Flowers 3-5, 3 mm across; calyx 2 mm long, 5-lobed; standard 3 mm across, orbicular, pink; wings obovate. Pods to 1 cm long, straight; joints 4-6, squarish, hooked-pubescent.

197. Didymocarpus tomentosa Wight, Ic. t. 1349. 1848; Hook. f., Fl. Brit. India 4: 353. 1884; Gamble, Fl. Pres. Madras 989(695). 1924; Vajravelu, Fl. Palghat Dist. 332. 1990. *Didymocarpus rottleriana* var. *tomentosa* (Wight) Clarke in A. & C. DC., Monogr. Phan. 5: 101. 1883.[GESNERIACEAE]

Leaves 6-7 x 4 cm, ovate or orbicular. Scapes few, to 12 cm long, glandular-hairy, flowers blue, subumbellate, pedicels 1 cm long; sepals 2.5 x 1 mm, oblanceolate, obtuse, long-hairy; corolla 11 mm long, glandular-hairy, lobes obovate to orbicular; staminodes straight, bristle-like; ovary densely glandular, hairy. Capsule 2 x 0.2 cm, linear, densely glandular hairy

198. Digera muricata (L.) Mart., Beitr. Amar. 77. 1825; Rani & Matthew in Matthew, Fl. Tamil Nadu Carnatic 1311. 1983 & Ill. Fl. Tamil Nadu Carnatic t. 587. 1982; Vajravelu, Fl. Palghat 388. 1990. *Achyranthes muricata* L., Sp. Pl. ed. 2. 1: 295. 1762. [AMARANTHACEAE]

Profusely branched herbs. Leaves 4 x 3 cm, ovate, apex acute; petiole to 3 cm. Spikes axillary, to 9 cm; bracts 1.5 mm, ovate, scarious; bracteoles 2, 2 mm, ovate; tepals 5, outer 3 larger, 3 mm, ovate, scarious; stamens 5, basally connate, filaments 1.5 mm; anthers 0.2 mm; ovary 0.5 mm, obovoid. Utricle 2 mm, ovoid; seed one.

199. Dillenia pentagyna Roxb., Pl. Corom. t. 20. 1795; Hook. f., Fl. Brit. India 1: 38. 1872; Gamble, Fl. Pres. Madras 8(6). 1915; Manilal, Fl. Silent Valley 2. 1988; Vajravelu, Fl. Palghat Dist. 44. 1990.[DILLINIACEAE]

Medium trees. Leaves simple, alternate, 25-50 x 10-25 cm, obovate. Flowers fascicled on old branches, to 3 cm across; sepals 5, obovate, glabrous; petals yellow, 10-15 x 7-12 mm, obovate, obtuse; stamens many, filaments unequal, to 9 mm long, yellow; carpels 6-10, united; ovules many. Fruits to 1.5 cm across, fleshy, globose, yellow. Seeds many, ca 5 x 3 mm, angular.

200. Dioscorea alata L., Sp. Pl. 1033. 1753; Hook. f., Fl. Brit. India 6: 296. 1892; Gamble, Fl. Pres. Madras 1512(1056). 1928 ; Sivar. & Philip, Fl. Nilambur 726. 1997.*Dioscorea globosa* Roxb., Fl. Ind. 3: 797. 1832.[DIOSCOREACEAE]

Stem winged, wings some times reduced to ribs. twining to left, glabrous. Leaves broadly ovate. Spike 6-10 cm long, rachis of the female winged. slender, pendulous, 2-3 together or solitary; peduncle to 20 cm long, axillary. Flowers distant; bracts lanceolate, subulate at apex; tepals, oblong, acute, glabrous; stamens 6, free. Capsule broadly obcordate.

201. Dioscorea bulbifera L., Sp. Pl. 1033. 1753; Hook. f., Fl. Brit. India 6: 296. 1892; Gamble, Fl. Pres. Madras 1511(1055). 1928 ; Vajravelu, Fl. Palghat Dist. 507. 1990. *Dioscorea sativa* sensu Hook. f., Fl. Brit. India 6: 295. 1892, non L. 1753.[DIOSCOREACEAE]

Stem ridged, twining to left, glabrous. Leaves 12-20 x 7-15 cm, broadly ovate. Spike 4-8 cm long, slender, pendulous, 2-3 together or solitary; peduncle to 20 cm long, axillary. Flowers distant; bracts lanceolate, subulate at apex; tepals 1.5 x 0.5 mm, oblong, acute, glabrous; stamens 6, free.

202. Dioscorea esculenta (Lour.) Burkill, Gard. Bull. Straits Settlem. 1: 396. 1917; Gamble, Fl. Pres. Madras 1510(1055). 1928.*Oncus esculentus* Lour., Fl. Cochinch. 194. 1790.*Dioscorea spinosa* Roxb. *ex* Hook.f., FBI 6:291.1892. [DIOSCOREACEAE]

A climbing herb. Tubers numerous, protected by root fibers. Stem prikly. Leaves orbicular or reniform with sharp stipule like spines. Flowers rarely produced. Male flower 1-2 together on a long spike; perianth saucer shaped; stamens 6. Capsule oblong. Seeds closely winged.

203. Dioscorea hamiltonii Hook.f., Fl. Brit. India 6: 295. 1892; Gamble, Fl. Pres. Madras. 1512(1056). 1928; Ramach. & V.J. Nair, Fl. Cannanore Dist. 474. 1988; Sasidh. et al., Bot. Stud. Med. Pl. Kerala 20. 1996; Sasidh. & Sivar., Fl. Pl. Thrissur For. 468. 1996.[DIOSCOREACEAE]

Climbers, tubers long stalked, stem winged or regularly angled. Leaves ovate or lanceolate, acuminate, truncately to deeply coradate; petiole up to 2-6 cm long. Male spike short, suverticillate on slender axillary branchelets. Capsule reniform, retuse.

204. Dioscorea hispida Dennst., Schluss. Hort. Malab. 15. 1818; Gamble, Fl. Pres. Madras 1511(1055). 1928; Vajravelu, Fl. Palghat Dist. 508. 1990. *Dioscorea daemona* Roxb., Fl. Ind. 3: 805. 1832; Hook. f., Fl. Brit. India 6: 289. 1892.[DIOSCOREACEAE]

Stem twining to the left, glabrous. Leaflets subequal, 12-17 x 6-12 cm, obovate; lateral leaflets gibbous at base; petiole 12 cm long. Panicles to 45 cm long, axillary. Racemes fascicled, shortly peduncled, to 1 cm long.

205. Dioscorea intermedia Thw., Enum. Pl. Zeyl. 326.1864; Hook. f., Fl. Brit. India 6:297.1892; Gamble, Fl. Pres. Madras. 1512(1056). 1928. *Dioscorea spicata* Hook.f. in Trimen, Handb. Fl. Ceylon IV: 277.1898, non Roth 1821.[DIOSCOREACEAE]

Stem terete, glabrous unarmed. Leaves mostly alternate elliptic or oblong; veins irregular, distant; petiole up to 3 cm long. Male spikes short, fascicled in long panicles. Female spike short, solitary. Capsule transversly oblong.

206. Dioscorea oppositifolia L., Sp. Pl. 1033. 1753; Hook. f., Fl. Brit. India 6: 292. 1892; Gamble, Fl. Pres. Madras 1512(1056). 1928; Manilal, Fl. Silent Valley 316. 1988; Vajravelu, Fl. Palghat Dist. 508. 1990. *Dioscorea oppositifolia* L. var. *linnaei* Prain & Burkill, J. Asiat. Soc. Bengal 10: 30. 1914; Gamble, Fl. Pres. Madras 1512(1056). 1928. [DIOSCOREACEAE]

Stem turning to right, glabrescent. Leaves opposite or sub-opposite, 7-13 x 3-4 cm, ovate or rounded, apex abruptly acuminate, base rounded. Spike pubescent, to 10 cm; male tepals ovate, obtuse, pubescent; female tepals orbicular, pubescent. Capsule 2 x 3 cm, glabrous.

207. Dioscorea pentaphylla L., Sp. Pl. 132. 1753; Hook. f., Fl. Brit. India 6: 281. 1892; Gamble, Fl. Pres. Madras 1511(1056). 1928; Manilal, Fl. Silent Valley 317. 1988; Vajravelu, Fl. Palghat Dist. 508. 1990. *Dioscorea pentaphylla* L. var. *linnaei* Prain & Burkill, J. Asiat. Soc. Bengal 10: 23. 1914; Gamble, Fl. Pres. Madras 1511(1056). 1928. [DIOSCOREACEAE]

Stem twining to the left, terete, glabrous. Leaves 5-foliolate, alternate, middle leaflets larger, 6-10 x 3-4 cm, elliptic. Flowers many; female tepals 2 x 1.5 mm, acute, tomentose; male spike slender, panicled; flowers closely packed; tepals 1 mm long, oblong; stamens 3. Capsule 25 x 13 mm, oblique at base, truncate at apex.

208. Dioscorea sp. .[DIOSCOREACEAE]

Stem terete, twining to right, glabrous. Leaves opposite, 8-15 x 2-5 cm, elliptic, margins coriaceous; petiole to 3 cm long. Spike 2-6 cm long, slender, 3-6 together along the peduncle; peduncle 15-20 cm long; bracts lanceolate. Flowers many; male tepals ovate, obtuse; stamens 6; female flowers not seen.

209. Dioscorea spicata Roth, Nov. Pl. Sp. 571. 1821; Fl. Brit. India 6: 291. 1892; Fischer in Gamble, Fl. Pres. Madras 1512. 1928. .[DIOSCOREACEAE]

Twiners. Leaves opposite or subopposite, rarely alternate, to 10 x 5 cm, ovate or lanceolate, apex cuspidate, coriaceous, basally 5-nerved, reticulations prominent; petiole 3.5 cm. Male flowers in axillary spikes, to 25 cm; perianth lobes 6, 1.5 x 1 mm, ovate; stamens 6, filaments 0.5 mm; pistillode conical.

210. Dioscorea tomentosa Koenig *ex* Spreng., Pl. Min. Cogn. Pug. 2: 92. 1815; Hook. f., Fl. Brit. India 6: 289. 1892; Gamble, Fl. Pres. Madras 1511(1055). 1928; Manilal, Fl. Silent Valley 317. 1988; Vajravelu, Fl. Palghat Dist. 509. 1990. [DIOSCOREACEAE]

Stem twining to the left, terete, tomentose. Leaves 3-foliolate, leaflets subequal, 9-13 x 7-10 cm. Spikes to 30 cm long, densely tomentose, distantly flowered fascicles at nodes on long peduncle. Female flowers sessile; bracts 4 mm long, ovate; tepals 2 x 1 mm, oblong, acute, hairy. Capsule 25 x 15 mm, oblong, tomentose.

211. Dioscorea wallichii Hook. f., Fl. Brit. India 6: 295. 1892; Gamble, Fl. Pres. Madras 1512(1056). 1928; Vajravelu, Fl. Palghat Dist. 509. 1990. *Dioscorea aculeata* L., Sp. Pl. 1033. 1753 p. p.; Hook. f., Fl. Brit. India 6: 296. 1892. [DIOSCOREACEAE]

Stem twining to the right, smooth or scarcely prickly towards the base. Leaves 8-12 cm across, orbicular. Spikes 7-10 cm long, 3-6 together at nodes on 30-40 cm long peduncle; bracts and bracteoles ovate, acuminate. Male tepals 1 x 1 mm, ovate, acute; stamens 6.

212. Diospyros cordifolia Roxb., Pl. Corom. t. 50. 1795; Gamble, Fl. Pres. Madras 776(545). 1923. *Diospyros montana* Roxb. var. *cordifolia* (Roxb.) Clarke in Hook. f., Fl. Brit. India 3: 555. 1882.[EBENACEAE]

Trees, spinous at base, especially when young, branchlets tomentose. Leaves 5-8 x 3-3.5 cm, oblong-lanceolate. Flowers greenish-yellow, tetra-merous; male flowers-calyx tube 2 mm, lobes 3 mm, villous; corolla 6 mm, broadly ovate, acute; stamens 16, in pairs of unequal size, longer 7 mm, smaller 5 mm, acuminate. Berry 2 cm across, yellow, fruiting calyx enlarged to 1.5 cm, ovate, cordate.

213. Diplazium esculentum (Retz.) Sw., Schrad. Journ. Bot. 1800. 2: 312. 1803; Manickam & Irud.,Pterid. Fl. W. Ghats 242. t. 187. 1992; Nayar & Geev., Fern Fl. Malabar 195. 1993; Subh.Chandra, Ferns India 151. 2000. *Hemionitis esculenta* Retz., Obs. Bot. 6: 38. 1791. [ATHYRIACEAE]

Terrestrials. Rhizome erect. Scales 5-7 x 1-1.2 mm, lanceolate, acuminate, entire or rarely fimbriate, dark brown, membranous. Fronds 1.5-2 x 0.6-0.8 m, bipinnate; stipe 0.8-1 m long. Sori 3.5 mm long, dark brown, linear, along veins, indusia brownish. Sporangial capsule subglobose. Spores, yellowish, ellipsoid, monolete, granulose

214. Diploclisia glaucescens (Blume)Diels in Engl., Pflanzenr. IV 94(46): 226. 1910; Gamble, Fl. Pres. Madras 28(20). 1915; Manilal, Fl. Silent Valley 6. 1988. *Cocculus glaucescens* Blume, Bijdr. 25. 1825. *Cocculus macrocarpus* Wight & Arn., Prodr. 13. 1834; Hook. f., Fl. Brit. India 1: 101. 1872.[MENISPERMACEAE]

Woody climbers. Leaves 6-8 cm across, broadly ovate to orbicular. Flowers unisexual, in large drooping panicles, bright yellow; sepals 6 in two whorls, 3 mm long, obovate; petals 6, 2 mm long, obovate, emarginate; stamens 6 in male flowers, staminodes absent; carpels 3 in female flowers, free; style cylindric. Drupe compressed, curved, tubercled.

215. Diplocyclos palmatus (L.) Jeffrey, Kew Bull. 15: 352. 1962; Manilal, Fl. Silent Valley 116. 1988; Vajravelu, Fl. Palghat Dist. 212. 1990. *Bryonopsis laciniosa* sensu Naud., Ann. Sci. Nat. Bot. ser. 4, 12: 141. 1859; Gamble, Fl. Pres. Madras 534(377). 1919; Chakrav., Fasc. Fl. Ind. 2: 16. 1982, non L. 1753. [CUCURBITACEAE]

Climbing herbs, tendrils bifid. Leaves to 12 cm across, palmately deeply 5-lobed, serrate. Flowers monoecious, fascicled, axillary; calyx tube 3 mm long; petals 5, 7 x 4 mm, obovate, 3 mm long; stamens 3, anthers conduplicate, 3 mm long; ovary globose, ovules horizontal; style slender; stigmas 3. Berry to 2 cm across, globose, red with white lines; seeds 6 x 7 mm, pyriform, compressed, thinly rugose.

216. Dolichos trilobus L. Sp. Pl. 726.1753; Verdc. in Kew Bull. 24: 422. 1970; Vajravelu, Fl. Palghat Dist. 160. 1990. *Dolichos falcatus* Klein ex Wild. Sp. Pl. 3 : 1047. 1802; Backer in Hook f. Fl. Brit. Ind. 2: 211.1876; Gamble, Fl. Pres. Madras 366. 1918.[FABACEAE]

Slender glabrous twainers. Leaflets triangular, ovate, 3 lobed. Flowers blue in racemes; calyx teeth short. Pods linear, glabrous 6-8 seeded.

217. Dorstenia indica Wall. *ex* Wight, Ic.t.1964. 1853; Hook. f., Fl. Brit. India 5: 494. 1988; Gamble, Fl. Pres. Madras 1370(958). 1928; Vajravelu, Fl. Palghat Dist. 444. 1990.[MORACEAE]

Herbs. Leaves alternate, 5-9 x 2.5 cm, obovate or oblanceolate. Receptacle axillary, solitary, discoid, 5-angled, to 1.5 cm across. Male flowers towards the periphery of the receptacle; stamens 3. Female flowers grouped at the centre; ovary sunken in the tissue of the receptacle, style lateral, stigmas 2. Fruit an achene.

218. Drymaria cordata (L.) Willd. *ex* Roem. & Schult. ssp. **diandra** (Blume) Duke, Ann. Miss. Bot. Gard. 48: 253. 1963. Vajravelu, Fl. Palghat Dist. 67. 1990. *Drymaria diandra* Blume, Bijdr. 62. 1825; Majumdar in Sharma & Balakr., Fl.

Ind. 2: 533. 1993. *Drymaria cordata* (L.) Willd. *ex* Roem. & Schult., Syst. Nat. (ed.16) 5: 1819; Gamble, Fl. Pres. Madras 63. 1915.[CARYOPHYLLACEAE]

Stem slender. Leaves opposite, to 1 cm across, orbicular. Flowers ca 5 mm across, in axillary or terminal cymes; sepals 5, 3 mm long, lanceolate, spreading; petals 2 mm long, 2-5-fid, chartaceous, white; stamens 5, free, anthers small; ovary 1-celled, ovules few, basal, style 3-fid. Capsule 4 x 1 mm, 3-valved; seeds orbicular, minutely muricate.

219. Drynaria quercifolia (L.) Js.Sm., J. Bot. 3: 398. 1841; Bedd., Ferns South. India 63. t. 187. 1864; Manickam & Irud., Pterid. Fl. W. Ghats 312. t. 238. 1992; Nayar & Geev., Fern Fl. Malabar 382. 1993. *Polypodium quercifolium* L., Sp. Pl. 1087. 1753. [POLYPODIACEAE]

Epiphytes or lithophytes. Rhizome creeping. Scales 10-12 x 1-2 mm, dark brown, linear or lanceolate. Fronds dimorphic; fertile fronds 60-80 x 40-50 cm; stipe 12-15 x 0.5-0.8 cm, grooved above, rounded beneath. Sori 1-1.5 mm dia, dark brown, many on vein endings. Sporangial capsule subglobose. Spores brown, ellipsoid, perine spinous.

220. Eclipta prostrata (L.) L., Mant. Pl. 286. 1771; Chowdhery in Hajra *et al.*, Fl. Ind. 12: 381. 1995. *Verbesina prostrata* L., Sp. Pl. 902. 1753. *Eclipta alba* (L.) Hassk., Pl. Jav. Rar. 528. 1848; Gamble, Fl. Pres. Madras 705(496). 1921; Vajravelu, Fl. Palghat Dist. 252. 1990. [ASTERACEAE]

Erect or prostrate herbs, stem strigose. Leaves alternate, to 2 x 0.8 cm, elliptic. Heads 8 x 10 mm, depressed, conical. Female flowers usually in outer 2 rows; corolla slender; limb 2 mm long, 2-lobed, white. Bisexual flowers central, tubular; anthers obtuse at base. Achenes of outer flowers compressed, inner 3-angled, truncate, warted; pappus of 2 or 3 minute scales.

221. Elaeagnus conferta Roxb., Fl. Ind. 1: 460. 1820; Gamble, Fl. Pres. Madras 1246. 1925; Sasidh. & Sivar., Fl. Pl. Thrissur For. 384. 1996. *E. latifolia* auct. non L., 1753: Bedd., Fl. Sylv. t. 180. 1872. [ELAEAGNACEAE]

Thorny climbers, densely covered with silvery scales; thorns axillary, straight, 1-2 cm long. Leaves to 14 x 7.5 cm, ovate, acute. Flowers bisexual, 3-6 in axillary fascicles, gamotepalous, lobes 4, ovate; stamens 4, filaments free; anthers transverse; ovary 1-celled; inferior; ovules solitary; style filiform, stigma lateral. Fruit a nut covered with thickened perianth base, 2.6 x 1.2 cm, reddish, fleshy.

222. Elaeocarpus glandulosus Wall. *ex* Merr., J. Arnold Arbor. 32: 194. 1951; Manilal, Fl. Silent Valley 36. 1988. *Elaeocarpus tectorius* sensu Ramam. in Sald. & Nicols., Fl. Hassan Dist. 131. 1974, non (Lour.) Poir. 1812.[ELAEOCARPACEAE]

Large trees with broad buttresses. Leaves 12-15 x 4-7 cm, elliptic-oblong. Racemes to 8 cm long; pedicel 3 mm long, glabrous; sepals 7 mm long, minutely pubescent outside, glandular inside; petals white, 7 mm long, fimbriate, glandular; stamens many, anthers 1.5 mm long, puberulus; ovary densely hairy. Drupe to 2.5 x 2 cm, oblong.

223. Elaeocarpus tuberculatus Roxb., Fl. Ind. 2: 594.1832; Hook. f., Fl. Brit. India 1:404.1874; Gamble, Fl. Pres. Madras 124(88). 1915; Manilal, Fl. Silent Valley 37. 1988; Vajravelu, Fl. Palghat Dist. 97. 1990. *Monocera tuberculata* (Roxb.) Wight & Arn., Prodr. 83. 1834. [ELAEOCARPACEAE]

Large trees, prominently buttressed, branchlets stout. Leaves 17-22 x 12-15 cm, obovate. Flowers facing downwards; sepals 15 x 3 mm, lanceolate; petals white, 18 mm long, fimbriate, fulvous tomentose, anthers 5 mm long, thinly tomentose, bristle 3 mm long; ovary densely hairy; style 10 mm long, tomentose. Drupe to 3 x 2.5 cm, ferrugineous tomentose.

224. Elatostema acuminatum (Poir.) Brongn. in Duper., Voy. Bot. 211. 1834; Gamble, Fl. Pres. Madras 1377(963). 1928; Manilal, Fl. Silent Valley 261. 1988; Vajravelu, Fl. Palghat Dist. 452. 1990. *Procris acuminata* Poir. in Lam., Encycl. 5: 629. 1804.[URTICACEAE]

Glabrous herbs with elongated stem. Leaves oblong-lanceolate, apex caudate-acuminate, base rounded, slightly oblique, coarsely crenate-toothed, lateral nerves 7-9 pairs, slender, archingly joining along margin. Receptacle sessile, solitary; bracts obovate-obtuse; bracteoles linear.

225. Elephantopus scaber L., Sp. Pl. 814. 1753; Hook. f., Fl. Brit. India 3: 242. 1881; Gamble, Fl. Pres. Madras 676(476). 1921; Vajravelu, Fl. Palghat Dist. 252. 1990; Sasidh. & Sivar., Fl. Pl. Thrissur For. 249. 1996.[ASTERACEAE]

Stout perennial herbs. Leaves basal, rosetted, 10-15 x 4-5 cm, oblanceolate. Heads 5-6 flowered, 3-5 together, supported by cucullate spathes in lax cymes. Involucral bracts 10 x 2 mm, lanceolate, calycine. Flowers similar, bisexual; corolla tubular, 8-10 mm long, 5-lobed; pink. Achenes 4 mm long, obovoid, ribbed, hairy; pappus 6, bristle-like, scabrid, connate at base.

226. Elettaria cardamomum (L.) Maton, Trans. Linn. Soc. London 10: 254. 1811; Hook. f., Fl. Brit. India 6: 251. 1892; Gamble, Fl. Pres. Madras 1491(1041). 1928; Manilal, Fl. Silent Valley 312. 1988; Vajravelu, Fl. Palghat Dist. 499. 1990.*Elettaria cardamomum* (L.) Maton var. *minus* Watt, Econ. Prodr. India 512. 1908. [ZINGIBERACEAE]

Rhizome branched, thick. Leaves bifarious, 40-60 x 6-10 cm, elliptic-lanceolate. Flowers in prostrate or erect, 30-50 cm long, panicles; calyx tubular, 1 cm long; corolla white, lobes unequal, to 2 cm long, oblong; labellum 1 x 0.5

cm, obovate, white with red lines; anther cells parallel, shortly spurred; staminodes short; style filiform, stigma funnel shaped. Capsule *ca.* 13 x 8 mm, ellipsoid, striate; seeds many, angular, fragrant.

227. Eleusine coracana (L.) Gaertn., Fruct. 1: 8, t. 1, f. 11. 1788; Bor, Grasses India 492.1960; Manilal & Sivar., Fl. Calicut 339. 1982. *Cynosurus coracanus* L., Syst. Nat. ed. 10,2: 875.1759; L., Sp. Pl. ed. 2, 106. 1762 [POACEAE]

Tufted annuals, erect; culms round or compressed, 35-60 cm high. Leaves 30-45 x 0.6-1.5 cm, linear-lanceolate. Racemes sub-digitate, each 4-7 cm long. Spikelets long, ovate; lower glume 2 x 1 mm, ovate, keeled, 1-nerved; upper glume 6-nerved, keeled; florets 5-8, all bisexual, lemmas 3.5 x 1.5 mm, keeled; palea, 2-nerved, 2-keeled. Grain round.

228. Eleusine indica (L.) Gaertn., Fruct. 1: 8. 1789; Hook. f., Fl. Brit. India 7: 293. 1896; Gamble, Fl. Pres. Madras 1839(1273). 1934; Manilal, Fl. Silent Valley 353. 1988; Vajravelu, Fl. Palghat Dist. 572.1990. *Cynosurus indicus* L., Sp. Pl. 72.1753.[POACEAE]

Tufted annuals, erect; culms round or compressed, 20-30 cm high; nodes glabrous. Leaves 20-30 x 0.6-1 cm, linear-lanceolate. Racemes 2-6, sub-digitate, each 7-9 cm long; rachis flat, serrulate. Spikelets 6-8 mm long, ovate; lower glume 2 x 1 mm, ovate, keeled, 1-nerved; upper glume 6-nerved, keeled; florets 5-8, all bisexual, lemmas 3.5 x 1.5 mm, keeled; palea, 2-nerved, 2-keeled.

229. Emilia sonchifolia (L.) DC. in Wight, Contrib. 24.1834; Gamble, Fl. Pres. Madras 716(503). 1921; Manilal, Fl. Silent Valley 154. 1988; Vajravelu, Fl. Palghat Dist. 252. 1990.*Cacalia sonchifolia* L., Sp. Pl. 835. 1753.[ASTERACEAE]

Herbs, branchlets sparsely hairy. Leaves 3-8 cm long, ovate-oblong. Heads 1.2 cm long, few, on long terminal peduncles; bracts 7 mm long, oblong, with hyaline margins, acute; receptacle rugose. Flowers many; corolla 8 m long; lobes oblong, glandular; anthers 1 mm long, entire at base. Achenes 2 mm long, tetrangular, hispid along the angles; pappus 13 mm long, white.

230. Ensete superbum (Roxb.) Cheesman., Kew Bull. 1947: 100. 1948; Vajravelu, Fl. Palghat Dist. 503. 1990. *Musa superba* Roxb., Pl. Corom. t. 223.1811; Hook. f., Fl. Brit. India 6:261.1892; Gamble, Fl. Pres. Madras 1497(1046).1928. [MUSACEAE]

Erect shrubs with unbranched globose leafsheaths formed into a pseudostem, succulent. Leaves spirally arranged, to 3 x 0.8 m, oblong, entire. Spadix 50-100 cm long, with 3-5 spathes at base; bracts several, to 20 x 14 cm, ovate, obtuse, brown. Flowers many on each bracts; unisexual; sepals and 2 petals united into a sheath, 3.5 cm long, 5-lobed; third petals forms into a

membranous sheath; stamens 5, perfect. Fruit oblong; seeds few, subglobose, black.

231. Entada rheedei Spreng., Syst. Veg. 2: 325. 1825 "rheedii"; Vajravelu, Fl. Palghat Dist. 188. 1990. *Entada scandens* sensu Hook. f., Fl. Brit. India 2: 86. 1878, non Benth. 1841; Gamble, Fl. Pres. Madras 417(296). 1919.[FABACEAE]

Woody climbers, tendrillate, branchlets glabrous. Leaves bipinnate, pinnae 2 or 3 pairs. Flowers 3 mm long, densely packed, yellow; calyx cupular, truncate; petals 4, free, valvate; stamens 10, free; filaments 6 mm long, ovary many-ovuled; style slender; stigma concave. Pods to 1 m long, thick, woody, crenate on both sutures; seeds 5 cm across, many, biconvex, orbicular, smooth.

232. Equisetum ramosissimum Desf., Fl. Atlant. 2: 398. 1800; R.D.Dixit, Cens. Indian Pterid. 24. 1984; Manickam & Irud., Pterid. Fl. W. Ghats 44. pl. 24. 1992; sub sp. **debile** (Roxb. ex Voucher) Hauke, Amer. Fern J. 52: 33. 1962; N.C.Nair et al., J. Econ. Tax. Bot. 12: 19. 1988. *E. debile* Roxb. ex Voucher, Mem. Soc. Phys. Hist. Nat. Grev. 1: 287. 1821.[EQUISETACEAE]

Terrestrials. Rhizome 5-10 mm thick, long creeping, copiously branched, subterranean, rooting at internodes. Aerial stem 1-1.5 m tall, branched, dark green, polished, glabrous with ridges and furrows. Leaves minute scaly, at the nodes. Cones terminal, 1-2 x 0.5-0.8 cm; sporophylls peltate, closely packed. Spores 28-35 μm, globose smooth with coiled elators.

233. Erythrina stricta Roxb., Fl. Ind. 3: 251. 1832; Hook. f., Fl. Brit. India 2: 189. 1876; Gamble, Fl. Pres. Madras 354(250). 1918; Manilal, Fl. Silent Valley 81. 1988.[FABACEAE]

Tall trees, bark corky, branchlets densely prickled. Leaves 3-foliolate. Flowers to 6 cm long, bright red; calyx to 1 cm long, spathiform, split on one side; standard to 5 x 2.5 cm, elliptic, acute; wings 8 x 4 mm, obovate; keel 2 x 2 cm; stamens 10, monadelphous, vexillary stamens free above; anthers uniform; ovary stalked, many-ovuled, style curved. Pods to 15 x 1 cm, oblong, cylindrical, apex acuminate; seeds 3-6.

234. Erythrina variegata L. in Stickman, Herb. Amboin. 10. 1754; Vajravelu, Fl. Palghat Dist. 161. 1990. *Erythrina corollodendron* L. var. *orientalis* L., Sp. Pl. 706. 1753. *Erythrina variegata* L. var. *orientalis* (L.) Merr., Interpr. Herb. Amboin. 276. 1917. *Erythrina indica* Lam., Encycl. 2: 391. 1786; Hook. f., Fl. Brit. India 2: 188. 1876; Gamble, Fl. Pres. Madras 353(249). 1918.[FABACEAE]

Small trees, bark greenish, branchlets stellately pubescent. Leaves trifoliolate; leaflets 10-15 cm across, rhomboid-ovate. Flowers to 7.5 cm long; pedicles to 1 cm; calyx to 2 x 8 cm, spathaceous, apically 5-toothed; corolla bright-red, standard to 6.5 x 2.5 cm, oblong-elliptic, obtuse, wings to 1.5 x 1 cm, obovate;

keels to 1 x 0.7 cm, oblong falcate, staminal sheath to 3.5 cm; ovary *ca* 2 cm, pubescent.

235. Erythropalum scandens Blume, Bijdr. 922. 1826; Hook. f., Fl. Brit. India 1: 578. 1875. *Erythropalum populifolium* (Arn.) Mast. in Hook. f., Fl. Brit. India 1: 578. 1875; Gamble, Fl. Pres. Madras 191(137). 1915; Manilal, Fl. Silent Valley 51. 1988; Vajravelu, Fl. Palghat Dist. 113. 1990.[ERYTHROPALACEAE]

Tendrillate climbers. Leaves alternate, 11-15 x 7-10 cm, ovate to deltoid. Flowers in axillary peduncled cymes; petals 5, 6 x 2 mm, oblong, obtuse, yellow; stamens 5, filaments very short, staminodes hairy; disc surrounds the ovary, ovary 1-celled, 1-3 ovuled, style short, stigma 3-fid. Fruit ovoid, 8 x 6 mm, orange-red, glabrous; seed 1, bluish-black, aril red.

236. Eugenia indica (Wight) Chithra in Nair & Henry, Fl. Tamil Nadu India 1: 153. 1983; Vajravelu, Fl. Palghat Dist. 197. 1990. *Jossinia indica* Wight, Ic. t. 523. 1842. *Eugenia jossinia* Duthie in Hook. f., Fl. Brit. India 2: 500. 1879; Gamble, Fl. Pres. Madras 484(342). 1919.[MYRTACEAE]

Small trees. Leaves 3-5 x 2 cm, oblanceolate. Flowers axillary, solitary or paired, pedicels to 2.2 cm, tomentose; calyx tube 4 mm, campanulate, lobes 4, 5 mm across, orbicular, tomentose, glabrous within; petals 10 mm across, orbicular, white; filaments to 8 mm; disc broad. Berry 7 mm across, globose, rusty, crowned with persistent calyx.

237. Euphorbia antiquorum L., Sp. Pl. 450. 1753; Wight, Ic. t. 897. 1844-1845; Gamble, Fl. Pres. Madras 1277. 1925; Rani in Matthew, Fl. Tamil Nadu Carnatic 1428. 1983 & Fur. Ill. Fl. Tamil Nadu Carnatic t. 547. 1988. [EUPHORBIACEAE]

Armed fleshy shrubs; branchlets 3-5 angular, spines to 1 cm. Cyathia axillary, in lax cymes; bracts 5, 5 mm, ovate; peduncles 1 cm long; involucre cupular, 5 mm long, glands 5, thick, semicircular; male flowers in 5 groups of 4-8 each; stalk 3 mm, female flowers erect; ovary 3 x 4, styles 3. Capsule 1 cm across.

238. Euphorbia hirta L., Sp. Pl. 454. 1753; Gamble, Fl. Pres. Madras 1275(892). 1925; Manilal, Fl. Silent Valley 249. 1988; Vajravelu, Fl. Palghat Dist. 428. 1990. *Chamaesyce hirta* (L.) Millisp., Publ. Field Columbian Mus. Bot. ser. Chicago 2: 303. 1909. *Euphorbia pilulifera* L., Sp. Pl. 454. 1753; Hook. f., Fl. Brit. India 5: 250. 1887. [EUPHORBIACEAE]

Decumbent herbs, green or reddish. Leaves opposite, 3-4 x 1.5 cm, ovate. Cyathea 20-50 together, 1-2 mm across, densely packed in shortly peduncled cymes, involucral bracts obconical, hispid, glands 5, reddish. male florets 4-6; ovary glabrous, styles 3, bifid from the base. Capsule 1 x 1.5 mm, 3-lobed, lobes acute, hispid; seeds 1 x 0.5 mm, 3-angular, rugose.

239. Euphorbia thymifolia L., Sp. Pl. 454. 1753; Hook. f., Fl. Brit. India 5: 252. 1887; Gamble, Fl. Pres. Madras 1276(893). 1925; Vajravelu, Fl. Palghat Dist. 429. 1990; Sasidh. & Sivar., Fl. Pl. Thrissur For. 404. 1996. *Chamaesyce thymifolia* (L.) Millsp., Publ. Field Columbian Mus. Bot. ser. Chicago 2: 412. 1916. [EUPHORBIACEAE]

Prostrate herbs, branches radiating, reddish, pubescent. Leaves opposite, to 2 x 0.5 cm, oblong. Cyathium axillary, solitary or 2-5 together, 0.5 mm across; involucre 0.8 mm long, campanulate, 4-glandular. Male flowers 1-4; ovary tomentose, styles 3. Capsule 1.5 mm across, minutely adpressed pubescent; seeds 1 x 0.5 mm, 3-angled, transversally rugose.

240. Fagraea ceylanica Thunb., Vetensk. Acad. Handl. 3: 132. 1782; Gamble, Fl. Pres. Madras 865(608). 1923; Manilal, Fl. Silent Valley 180. 1988; Vajravelu, Fl. Palghat Dist. 294. 1990.*Fagraea obovata* Wall. in Roxb., Fl. Ind. 2: 33. 1824; Hook. f., Fl. Brit. India 4: 83. 1883; Gamble, Fl. Pres. Madras 865(608). 1923. [LOGANIACEAE]

Small trees or shrubs, terrestrial or epiphytic. Leaves 15-20 x 5-8 cm, obovate. Flowers few to many, large, in terminal cymes, 5-merous; calyx tube 5 mm long, lobes 8 mm long, obovate, obtuse, imbricate; corolla 4-7 cm long, creamy yellow; stamens 5, exserted, filaments 2 cm long, inserted on the throat of corolla tube; ovary 2-celled, ovule numerous, style 4 cm long, stigma capitate. Berry 4 cm long, ellipsoid, obtuse, glabrous, glossy.

241. Ficus benghalensis L., Sp. Pl. 1059. 1753; King in Ann. Roy. Bot. Gard. (Calcutta) 1: 18. tt. 13 & 81 C. 1887; Hook. f. Fl. Brit. India 5: 499. 1888; Fischer in Gamble, Fl. Pres. Madras 1361. 1928; Vajravelu, Fl. Palghat 450. 1990. *Urostigma benghalense* (L.) Gasp., Nov. Gen. Fici 7. 1844; Wight, Ic. t. 1989. 1853. [MORACEAE]

Large trees. Leaves 10-20 x 9-12 cm, broadly ovate, base rounded, coriaceous, basally 3-5 nerved, puberulus; petiole 2.5 cm, stipules 2.5 x 2 cm, ovate. Receptacles in pairs, axillary, sessile, *ca.* 1.5 cm across, globose, brownish.

242. Ficus drupacea Thunb. var. **pubescens** (Roth) Corner, Gard. Bull. Singapore 17: 381. 1960 & 21: 13. 1965; Vajravelu, Fl. Palghat Dist. 446. 1990. *Ficus mysorensis* Heyne *ex* Roth in Roem. & Schult., Syst. Veg. 1: 508. 1817; Gamble, Fl. Pres. Madras 1361(952). 1928.[MORACEAE]

Large trees, bark dark brown. Leaves 12-17 x 7-10 cm, ovate. Receptacle 2 cm across, paired, densely fulvous pubescent when young, glabrous when mature, yellow; bracteoles 3, ovate, tomentose towards the apex.

243. Ficus exasperata Vahl, Enum. Pl. 2: 197. 1805; Manilal, Fl. Silent Valley 259. 1988; Vajravelu, Fl. Palghat Dist. 447. 1990. *Ficus asperrima* Roxb., Fl. Ind. 3: 554. 1832; Hook. f., Fl. Brit. India 5: 522. 1888; Gamble, Fl. Pres. Madras 1366(955). 1928. [MORACEAE]

Small trees, bark thick, greyish brown, branchlets scabrous. Leaves 14-20 x 8-12 cm, ovate to obovate. Receptacle solitary, 15 mm across, globose, yellow, deep pink when ripe, coarsely scabrid; peduncle 1 cm long, bracteoles 6 or 7, above the base, ovate.

244. Ficus hispida L. f., Suppl. Pl. 442. 1781; Hook. f., Fl. Brit. India 5: 522. 1888; Gamble, Fl. Pres. Madras 1367(956). 1928; Manilal, Fl. Silent Valley 259. 1988; Vajravelu, Fl. Palghat Dist. 447. 1990. *Ficus oppositifolia* Roxb., Pl. Corom. t.124. 1799. [MORACEAE]

Small trees, branchlets hollow, cylindrical. Leaves 14-18 x 7-10 cm, ovate-oblong or obovate-oblong. Receptacles 2 cm across, many, fascicled, on slender drooping long leafless branches, obovoid-globose, hispid, greenish yellow; peduncles very short or absent

245. Ficus racemosa L., Sp. Pl. 1060. 1753; Vajravelu, Fl. Palghat Dist. 448.1990. *Ficus glomerata* Roxb., Pl. Corom. t. 123. 1799; Hook. f., Fl. Brit. India 5:535. 1888; Gamble, Fl. Pres. Madras 1364(954). 1928. [MORACEAE]

Small trees, branchlets puberulus, slender. Leaves 10-15 x 4-6 cm, elliptic; petiole 3 cm long; stipule 15 mm long, glabrous. Tubercles branched, drooping, to 20 cm long; receptacles 2 cm across, globose, ashy-puberulus; peduncles 7 mm long; bracteoles 3, at the base of the peduncle.

246. Ficus religiosa L., Sp. Pl. 1059. 1753; Hook. f., Fl. Brit. India 5: 513. 1888; Gamble, Fl. Pres. Madras 1363(953). 1928; Vajravelu, Fl. Palghat Dist. 450. 1990. *Urostigma religiosum* (L.) Gasp., Ric. Caprifico 82. t. 7. ff.1-5. 1845.[MORACEAE]

Strangles. Leaves 9-13 x 8-11 cm, broadly ovate. Figs *ca* 8 mm across, monoecious, axillary paired; basal bract *ca* 4 mm, cupular, puberulus, apical bract 3; tepals 4, linear lanceolate; ovary 1 mm, ovoid-oblong.

247. Ficus tinctoria G. Forst. ssp. **parasitica** (Koen. *ex* Willd.) Corner, Gard. Bulll. Singapore 17: 476. 1960; Vajravelu, Fl. Palghat Dist. 449. 1990. *Ficus parasitica* Koenig *ex* Willd., Mem. Acad. Roy. Sci. Hist. (Berlin) 2: 102. 1798. [MORACEAE]

Large shrubs to small trees. Leaves 6-11 x 3-5.5 cm, ovate, apex acuminate or obtuse, base acute, oblique, coriaceous, scabrid, nerves 4-7 pairs; petiole 1 cm. Receptacles in pairs or in clusters, axillary; peduncles 8 mm, pubescent.

248. Flacourtia montana Graham, Cat. Pl. Bombay 10. 1839; Fl. Ind. 1: 192. 1872; Gamble, Fl. Pres. Madras 54(39). 1915; Manilal, Fl. Silent Valley 10. 1988; Balakr. in Sharma & Balakr., Fl. Ind. 2: 406. 1993. [FLACOURTIACEAE]

Medium trees, trunk armed with unbranched thorns. Leaves 12-15 x 4-6 cm, elliptic. Flowers unisexual, dioecious, densely packed in axillary congested cymes; sepals 4 or 5, 1.5 mm long, ovate, pubescent; male flowers-stamens many; female flowers-ovary 1-celled, ovules few, parietal, styles 5, stigma bifid at apex. Berry to 1.5 cm across, bright red; seeds few, reddish.

249. Frullania squarrosa (Reinw. *et. al.*) Nees in Gottsche *et al.*, Syn. Hep. 416. 1845; Steph., Sp. Hepat. 4: 388. 1910; V.Nath & A.K.Asthana, J. Hattori Bot. Lab. 85: 75. 1998.[JUBULACEAE]

Plants green to deep brown, main stem 3-4 cm long, pinnately branched; leaf lobes imbricate, spreading, 0.7-0.4 x 1.1-0.7 mm long, base cordate; leaf lobule triangular with a blunt apex; underleaves large, broadly ovate. Female inflorescence terminal on the main axis or on the leading branches, perianth obovate to oblong, dorsally compressed, strongly 3-keeled with ornamentations on the surface and the margins.

250. Ganoderma lucidum (Curt. Ex Fr.) Karst. Rev. Mycol. 3, 9: 17, 1881; Leelavathy and Ganesh, Polypores of Kerala 23, 2000. (GANODERMATACEAE)

Fruit body attached to underground roots, annual, centrally or laterally stipitate, corky in consistency, woody when dry; 5-15 x 4-8 x 0.75-1.5 cm. Pileus surface oxblood red to brown. Stipe fox brown or black, glabrous, cylindrical to flatten. Basidiospores yellowish brown, thick- walled, truncate, outer wall hyaline, inner wall thick, finely verrucose.

251. Garcinia gummi-gutta (L.) Robs., Brittonia 20: 103. 1968; Manilal, Fl. Silent Valley 19. 1988; Vajravelu, Fl. Palghat Dist. 70. 1990. *Cambogia gummi-gutta* L., Gen. Pl. (ed.5) 522. 1754. *Garcinia cambogia* (Gaertn.) Desr. in Lam., Encycl. 3: 701. 1792; Hook. f., Fl. Brit. India 1: 261. 1874; Gamble, Fl. Pres. Madras 73(53). 1915. [CLUSIACEAE]

Medium trees, branchlets terete, glabrous. Leaves 10-13 x 6-8 cm, elliptic, acute at both ends. Flowers terminal, umbellate; sepals 7 x 6 mm, obtuse; stamens in male flowers connate into a central column. Female flowers solitary; ovary 6-12 celled, furrowed, staminodes many, in a ring around the ovary. Berry 4-8 cm across, glabrous, grooved, beaked.

252. Gardenia resinifera Roth, Nov. Pl. Sp. 150. 1821; Vajravelu, Fl. Palghat Dist. 231. 1990. *Gardenia lucida* Roxb., Fl. Ind. 1: 707.1832; Hook. f., Fl. Brit. India 3:115.1880; Gamble, Fl. Pres. Madras 618(436). 1921.[RUBIACEAE]

Small trees, exudate resiniferous. Leaves 10-15 x 5-9 cm, elliptic. Flowers axillary, solitary, or in lax cymes, white turns to yellow; calyx tube 0.7 cm, lobes 5, 1 cm, triangular, acuminate; corolla tube 3 cm long, lobes 3 x 2 cm long, obovate, puberulus without; anthers 1.5 cm long, oblong, exserted; ovary 6 mm, style 3.5 cm. Berry 2 x 1.5 cm, ellipsoid.

253. Gaultheria fragrantissima Wall. in Asiat. Res. 13: 397. 1820; Clarke in Hook. f. Fl. Brit. India 3: 457. 1882; Gamble, Fl. Pres. Madras 743. 1921. *G. leschenaultii* DC., Prodr. 7: 593. 1839; Wight, Ic. t. 1195. 1848. [ERICACEAE]

Large shrubs. Leaves to 7 x 4.5 cm, elliptic-oblong. Racemes axillary; bracts 2 mm, ovate, bracteoles 2, 1.5 mm; calyx 5-lobed, 2 mm, ovate; corolla urceolate, tube 4 mm, lobes 0.5 mm; stamens 10, dorsally 2-spurred; ovary 5-celled, ovules many in each cell, stigma 3 mm.

254. Givotia moluccana (L.) Sreem., Taxon 24: 696. 1975; Matthew, Kew Bull. 46: 545. 1991. *Croton moluccanum* L., Sp. Pl. 1005. 1753. *Givotia rottleriformis* Griff., Calcutta J. Nat. Hist. 4: 388. 1844; Gamble, Fl. Pres. Madras 1342(938). 1925; Vajravelu, Fl. Palghat Dist. 430. 1990. [EUPHORBIACEAE]

Medium trees, branchlets densely stellate-tomentose. Leaves alternate, 13-17 x 10-15 cm, broadly ovate. Male flowers in axillary to 20 cm long, paniculate cymes; tepals 10, obovate, obtuse; stamens 20, free. Female flowers few in shorter panicles; styles 3, spreading, 2-fid. Drupe 3 cm across, globose, densely tomentose; seeds 3, oblong.

255. Gliricidia sepium (Jacq.) Kunth *ex* Walp., Rep. 1: 679. 1842; Sanjappa, Legumes Ind. 181. 1991; Sivar. & Philip, Fl. Nilambur 220. 1997; Subram., Indian For. 96. 527. 1970. *Robinia sepium* Jacq., Enum. Syst. Pl. 28. 1760.*Gliricidia macualata* (Steud.) Kunth, Nov. Gen. Sp. 6: 393. 1824.[FABACEAE]

A small deciduous tree. Leaves long, feathery with small black spotting gland on the underside of leaves. Flowers strikingly beautiful, pale pink. Fruit is beean like pod.

256. Gloriosa superba L., Sp. Pl. 305. 1753; Hook. f., Fl. Brit. India 6: 358. 1892; Gamble, Fl. Pres. Madras 1519(1061). 1928; Manilal, Fl. Silent Valley 320. 1988; Vajravelu, Fl. Palghat Dist. 510. 1990. [LILIACEAE]

Climbing herbs, tuber horizontal. Leaves scattered, 13-20 x 3-4 cm, lanceolate, acuminate into a tendril. Flowers axillary, solitary; tepals 6, similar, 7 cm long, oblong, petalloid, yellow at lower half, red above; stamens 6, filaments filiform, anthers versatile; ovary 3-celled, style 3-fid at apex. Capsule septicidal, many-seeded.

257. Glycosmis pentaphylla (Retz.) DC., Prodr. 1:538. 1824, quoad basionym; Hook. f., Fl. Brit. India 1:499.1875, p.p; Sasidh. & Sivar., Fl. Pl. Thrissur For. 82. 1996; Nair & Nayar in Hajra *et al.,* Fl. Ind. 4:343.1997. *Limonia pentaphylla* Retz., Obs. Bot. 5: 24. 1788. *Glycosmis cochinchinensis* Gamble, Fl. Pres. Madras 153(109). 1915p.p, non (Lour.) Pierre *ex* Engl. 1896.[RUTACEAE]

Shrubs, branchlets puberulent. Leaves 3-7 foliolate, pinnate; leaflets 7-15 x 2.5-6 cm, elliptic or oblong. Flowers creamy white, peduncle brown tomentose; calyx lobes minute, ciliolate along the margins; stamens 10, filaments tapering towards apex. Berry white, turning to dull pink.

258. Gmelina arborea Roxb., Pl. Corom. t. 246. 1815; Hook. f., Fl. Brit. India 4: 581. 1885; Gamble, Fl. Pres. Madras 1097(768). 1924; Vajravelu, Fl. Palghat Dist. 365. 1990 [VERBENACEAE]

Trees, bark white, branchlets stout, tomentose. Leaves 15-20 x 14-18 cm, broadly ovate. Flowers in terminal racemes, subsessile; calyx 6 mm long; corolla brownish-yellow, 3 cm across, bilabiate, tube ventricose, lobes subequal; stamens 4, didynamous, anthers divaricate; ovary glabrous, globose, style 1, slender, glabrous. Berry 2 x 1.5 cm, ovoid, yellow, smooth.

259. Gnetum edule (Willd.) Blume, Nov. pl. expos. 31. 1833.*Thoa edulis* Willd., Sp. Pl. 477. 1805. *Gnetum ula* Brongn. in Duperr, Voy. Bot 7: 12. 1829; Bharadwaj, J. Ind. Bot. Soc. 36: 415. 1957; Vajra., Fl. Palghat. 459. 1990. *Gnetum scandens* sensu Brandis, For. Fl. 502. 1874, non Roxb., 1832; Gamble, Fl. Pres. Madras 1885. 1936. [GNETACEAE]

Large woody lianas; branchlets terete, smooth with swollen nodes. Leaves opposite, simple, 10-18 x 5-9 cm, elliptic-ovate. Strobilus axillary or terminal, to 7 cm long, with whorls of ovules in female cone and stamens in male cone. Seeds to 3.5 x 1.5 cm, oblong, smooth, shining.

260. Gnidia glauca (Fresen.) Gilg in Engl., Bot. Jahrb. Syst. 19: 265. 1894; Manilal, Fl. Silent Valley 238. 1988. *Lasiosiphon eriocephalus* (Meisner) Decne. in Jacq., Voy. Bot. 148. 1844; Hook. f., Fl. Brit. India 5: 197. 1886; Gamble, Fl. Pres. Madras 1244(871). 1925. [THYMELIACEAE]

Large shrubs or small trees, branchlets glabrous. Leaves spiral, 5-9 x 2-3cm, oblong. Flowers many, in terminal heads surrounded by leafy bracts; perianth 15 mm long, tubular, lobes 5, short; stamens 10, biseriate, free, filaments attached to the perianth tube; ovary 1-celled, ovule solitary, stigma capitate. Capsule 4 x 1 mm, ellipsoid, thinly hairy, covered by the persisting base of the perianth tube.

261. Gossypium barbadense L., Sp. Pl. 693. 1753; Gamble, Fl. Pres. Madras 102(73). 1915; Paul in Sharma & Sanjappa, Fl. Ind. 3: 388. 1993; *Hibiscus barbadensis* (L.) O. Ktze., Rev. Gen. Pl. 1: 67. 1891.[MALVACEAE]

An erect shrubby annual, young part clothed with wooly hairs. Leaves simple to lobed; lobes short base cordate. Flowers large; bracteole pectinate; calyx much shorter than the involucre, quite free. Capsule spherical acute. Seeds ovoid grey to black coloured.

262. Grewia glabra Blume, Bijdr. 115. 1825; Manilal, Fl. Silent Valley 33. 1988; Vajravelu, Fl. Palghat Dist. 94. 1990. *Grewia serrulata* DC., Prodr. 1: 510. 1824; Daniel & Chandra. in Sharma & Sanjappa, Fl. Ind. 3: 509. 1993. *Grewia disperma* sensu Dunn in Gamble, Fl. Pres. Madras 118(84). 1915 non Rottl. *ex* Spreng. 1825. [TILIACEAE]

Shrubs, branchlets glabrous. Leaves 8-13 x 3-4 cm, elliptic. Peduncle 2-2.5 cm long, slender, glabrous; pedicels to 2 cm long, sparsely stellate hairy; sepals to 19 x 4 mm, oblong, tomentose outside; petals 3.5 x 3 mm, ovate, white; gynandrophore densely hairy; stigma fimbriate. Drupelets to 5 x 5 mm, globose.

263. Grewia tiliifolia Vahl, Symb. Bot. 1: 35. 1790; Hook. f., Fl. Brit. India 1: 386. 1874, "tiliaefolia"; Gamble, Fl. Pres. Madras 118(84). 1915; Manilal, Fl. Silent Valley 34. 1988; Vajravelu, Fl. Palghat Dist. 94. 1990. *Grewia leptopetala* Brandis, Indian Trees 100. 1906. [TILIACEAE]

Medium trees, bark greyish-brown, branchlets stellate-tomentose. Leaves 14-18 x 8-12 cm, broadly ovate. Peduncle axillary, 7 mm long; sepals 7 mm long, hairy at base inside; petals yellow, 3 x 1 mm, densely tomentose outside; filaments 3 mm long; stigma 2-3-lobed, recurved. Drupelets 1-4, to 5 mm dia, globose, reddish.

264. Gymnema sylvestre (Retz.) R. Br. *ex* Schult. in Roem. & Schult., Syst. Veg. 6: 57. 1820; Hook. f., Fl. Brit. India 4: 29. 1883; Gamble, Fl. Pres. Madras 839(590). 1923; Vajravelu, Fl. Palghat Dist. 289. 1990. *Periploca sylvestris* Retz., Obs. Bot. 2: 15. 1781. [ASCLEPIADACEAE]

Twining subshrubs, branchlets fulvous-tomentose. Leaves 4-7 x 3-5 cm, elliptic to ovate or obovate. Flowers 4 mm across in umbellate cymes; sepals 2 mm long, ovate; corolla 2.5 mm long, tube globose, lobes triangular; corolline corona 5 vertical pairs of pubescent ridges; gynostegium 1.5 x 1 mm, cylindrical. Follicle 7.5 x 0.8 cm, lanceolate, seeds 10 x 5 mm, much compressed.

265. Gynandropsis gynandra (L.) Briq., Annuaire Conserv. Jard. Bot. Geneve 17: 382. 1914.*Cleome pentaphylla* L., Sp. Pl. (ed. 2) 983. 1763. *Gynandropsis pentaphylla* (L.) DC., Prodr. 1: 238. 1824; Hook. f., Fl. Brit. India 1: 171. 1892; Gamble, Fl. Pres. Madras 40(29). 1915. [CAPPARACEAE]

Annual herb. Leaves long petioled, digitately 3-7 foliate. Flowers white or purple in bracteate racemes; petals 4, long clawed; stamens 6, inserted upon the long gynophore, spreading; ovary stalked, 1 celled. Capsule oblong linear. Seeds reniform.

266. Haldina cordifolia (Roxb.) Ridsd., Blumea 24: 361. 1978; Vajravelu, Fl. Palghat Dist. 231. 1990. *Nauclea cordifolia* Roxb., Pl. Corom. t. 53. 1796. *Adina cordifolia* (Roxb.) Hook. f. *ex* Brand., For. Fl. 263. t.33. 1874; Gamble, Fl. Pres. Madras 584(412). 1921.[RUBIACEAE]

Large trees, bark pale brown, branchlets tomentose. Leaves 10-15 cm across, orbicular. Flowers 9 mm long, sessile; calyx tube obovoid, lobes 1.5 mm long, spathulate; corolla tube 8 mm long, 5-ridged; lobes 5, ovate, acute, small; stamens 5, exserted; ovules many, style 12 mm long, stigma globose. Capsule 5 x 3 mm, obovoid; seeds with tail at one end and bifid wings at other end.

267. Harpullia arborea (Blanco) Radlk., Sitzungsber. Math.-Phys. Cl. Koenigl. Bayer. Akad. Wiss. Muenchen 16: 404. 1890; Vajravelu, Fl. Palghat Dist. 131. 1990. *Ptelea arborea* Blanco, Fl. Filip. (ed. 1) 63. 1837. *Harpullia imbricata* (Blume) Thw., Enum. Pl. Zeyl. 56. 1858; Gamble, Fl. Pres. Madras 253(180). 1918.[SAPINDACEAE].

Small to medium trees. Leaves paripinnate, leaflets 5 pairs, 12-16 x 4-6 cm, elliptic-oblong, Flowers in loose axillary panicles; pedicels to 4 cm long, slender; sepals 5 x 2.5 mm, obovate, hairy; petals yellow, 8 x 3 mm, oblong, clawed; stamens 5, filaments free; ovary 2-celled, cell 1-ovuled, style elongate. Capsule to 5 x 7 cm, 2-lobed, inflated, saccate, red; seeds black, shining.

268. Hedychium coronarium Koenig in Retz., Obs. Bot. 3: 73. 1783; Hook. f., Fl. Brit. India 6: 225. 1892; Gamble, Fl. Pres. Madras 1485(1039). 1928; Manilal, Fl. Silent Valley 313. 1988. *Hedychium flavescens* sensu Matthew, Mat. Fl. Tamil Nadu Carnatic 356. 1981 non Carey *ex* Rosc. 1825.[ZINGIBERACEAE]

Leaves 20-30 x 6-10 cm, oblong, apex acuminate. Spike 8-15 x 5-7 cm, ovoid; bracts 5 x 2 cm, oblong, obtuse, glabrous. Flowers 2-4 in each bracts; calyx 4 cm long, not split, glabrous; corolla tube 9 cm long, narrow, glabrous, lobes 3.5 cm long, slender, glabrous; lip 6 x 6 cm; lobes emarginate, white; anthers 1.5 cm long, filaments shorter than lip.

269. Hedyotis corymbosa (L.) Lam., Encycl. 1: 272. 1792. *Oldenlandia corymbosa* L., Sp. Pl. 119.1753; Hook. f., Fl. Brit. India 3: 64. 1880; Gamble, Fl. Pres. Madras 600(423). 1921; Vajravelu, Fl. Palghat Dist. 239. 1990.[RUBIACEAE]

Diffuse herbs, stem 4-angled, scabrous. Leaves to 25 x 4 mm, lanceolate. Umbels axillary; peduncle to 1.5 cm long, slender. Flowers 2-3, 5 mm long; pedicels to 7 mm long, slender; calyx 3 mm long, lobes ovate, serrate; corolla white, capsule 3 x 3 mm, globose, opening apically; seeds many, angled.

270. Helicanthes elastica (Desr.) Danser, Verh. Akad. Wet. afd. Natuurk. Sect. 2. 29: 55. 1933; Manilal, Fl. Silent Valley 239. 1988; Vajravelu, Fl. Palghat Dist.

410. 1990. *Loranthus elasticus* Desr. in Lam., Encycl. 3: 599. 1792; Hook. f., Fl. Brit. India 5: 216. 1886; Gamble, Fl. Pres. Madras 1254(877). 1925. [LORANTHACEAE]

Parasitic shrubs, branches woody, thickened at nodes, glabrous. Leaves opposite, 7-10 x 3-5 cm, ovate. Flowers axillary, fascicled, 1-3 together, sessile; bracts minute; calyx tube cupular, truncate; corolla 2.5 cm long, lobes 5; stamens 5, filaments and style slender, crimson, stigma globose. Berry 5 mm across, globose, red.

271. Helicteres isora L., Sp. Pl. 963. 1753; Hook. f., Fl. Brit. India 1: 365. 1874; Gamble, Fl. Pres. Madras 107(77). 1915; Manilal, Fl. Silent Valley 31. 1988; Vajravelu, Fl. Palghat Dist. 89. 1990.[STERCULIACEAE]

Large shrubs. Leaves 13-15 x 8-10 cm, orbicular. Flowers axillary, solitary or fascicled; calyx 15 mm long, tubular, 5-toothed, yellowish; petals 3-3.5 cm long, unequal, reddish; gynophore to 4 cm long, curved; stamens 5, filaments short, united at base; ovary 5-celled, ovules many, style 5. Fruit a spirally twisted follicle, to 5 cm long; seeds many, tubercled.

272. Helixanthera intermedia (Wight) Danser, Bull. Jard. Bot. Buitenz. ser. 3, 10: 317. 1929; Vajravelu, Fl. Palghat Dist. 410. 1990. *Loranthus intermedius* Wight, Calcutta J. Nat. Hist. 6: 361. 1846; Hook. f., Fl. Brit. India 5: 205. 1886; Gamble, Fl. Pres. Madras 1251(876). 1925. [LORANTHACEAE].

Glabrous shrubs. Leaves 4-7 x 3-4 cm, ovate. Racemes 7 cm long, axillary, many-flowered; pedicel 7 mm long, slender, glabrous. Flower buds 4-angled and curved; corolla lobes 4, straight, purplish pink, free to the base; stamens 4, filaments attached below the middle of the corolla; stigma globose.

273. Hemidesmus indicus (L.) R. Br. in Ait.f., Hort. Kew (ed. 2) 2: 75. 1811; Gamble, Fl. Pres. Madras 825(580). 1923; Manilal, Fl. Silent Valley 178. 1988; Vajravelu, Fl. Palghat Dist. 290. 1990. *Periploca indica* L., Sp. Pl. 211. 1753.[ASCLEPIADACEAE]

Perennial twiners, stem slender, usually brownish. Leaves very variable, 4-15 x 0.7-2 cm, elliptic-oblong to linear-lanceolate. Flowers in axillary shortly peduncled cymes; sepals, ovate, free; corolla mostly yellow; corona 5, scale-like; stamens 5, filaments adnate at base: pollinia in pairs; gynostegium obovoid. Follicles 2, slender, terete.

274. Heracleum candolleanum (Wight & Arn.) Gamble, Fl. Pres. Madras 565(399). 1919; Mukherjee & Const., Umbell. India 243. 1993; Sasidh. & Sivar., Fl. Pl. Thrissur For. 209. 1996. *Pastinaca candolleana* Wight & Arn., Prodr. 372. 1834.[APIACEAE]

Shrubs, stem ridged. Leaves 35-45 x 20-25 cm, 1 or 2 pinnate. Umbels compound, terminal, corymbose. Flowers 5-merous, 2 mm across, calyx 5-toothed; petals 3, ovate, acuminate, with a strong midrib, glabrous; stamens 5, free, anthers ovate; ovary compressed. Fruit 7-10 x 4-7 mm, biconvex, dorsally compressed, winged, glabrous.

275. Hibiscus rosa-sinensis L., Sp. Pl. 694. 1753; FBI 1: 334. 1874; Manilal & Sivar., Fl. Calicut 48. 1982; Paul in Sharma & Sanjappa, Fl. Ind. 3: 391. 1993; Sivar. & Philip, Fl. Nilambur 86. 1997.[MALVACEAE]

An evergreen shrub. Leaves ovate, acuminate, serrate, glabrous. Flowers solitary, axillary, large, showy, red or scarlet; calyx companulate five lobed; corolla tubular below; staminal tube red. Capsule rarely developed.

276. Hibiscus surattensis L., Sp. Pl. 696. 1753; Hook. f., Fl. Brit. India 1: 334. 1874; Gamble, Fl. Pres. Madras 97(70). 1915; Vajravelu, Fl. Palghat Dist. 80. 1990; Sivar. & Pradeep, Malv. South. Peninsular India 119. 1996. [MALVACEAE]

Scandent subshrubs, stem greenish, retrorsely prickled. Leaves 7-10 x 10-14 cm, cordate at base. Flowers axillary, to 6 cm across; pedicels to 7 cm long, prickled; involucral bracts 20-25 x 2-3 mm, bifurcate, pubescent, lobes unequal, ciliate; calyx to 10 mm long, 10-costate, 5-lobed; petals yellow with brown tinge at the base.

277. Holarrhena pubescens (Buch.-Ham.) Wall. *ex* G. Don, Gen. Hist. 4: 78. 1837-1838; Vajravelu, Fl. Palghat Dist. 280. 1990. *Echites pubescens* Buch.-Ham., Trans. Linn. Soc. London 13: 521. 1821. *Holarrhena antidysenterica* (Roth) A. DC. in DC., Prodr. 8: 413. 1844; Hook. f., Fl. Brit. India 3: 644. 1882; Gamble, Fl. Pres. Madras 811(570). 1923. [APOCYNACEAE]

Large shrubs or small trees. Leaves 10-18 x 5-10 cm, ovate-oblong. Flowers in terminal or axillary cymes; calyx 3 mm long, lobes lanceolate; corolla yellowish white, tube 10 mm long; stamens included, anthers linear, mucronate; carpels free, ovules many, stigma oblong, bifid above. Mericarps 40 x 0.5 cm, terete; seeds 1-2 cm long, linear oblong, acute, concave, comose.

278. Holigarna arnottiana Hook. f., Fl. Brit. India 2: 36. 1876; Gamble, Fl. Pres. Madras 268(191).1918; Vajravelu, Fl. Palghat Dist. 136.1990; Dali & Mukherjee in Singh *et al.*, Fl. Ind. 5: 457. 2000 [ANACARDIACEAE].

Large trees, bark dull red inside, latex milky. Leaves 15-20 x 4-6 cm, oblanceolate. Panicle to 10 x 10 cm. Flowers yellowish white, many; pedicels puberulus; petals 5, ovate, acute, hirsute outside. Drupe to 1.5 x 1 cm, obovoid-oblong.

279. Holoptelea integrifolia (Roxb.) Planch., Ann. Sci. Nat. Bot. ser. 3, 10: 259. 1848; Hook. f., Fl. Brit. India 5: 481. 1888; Gamble, Fl. Pres. Madras 1348(943). 1928; Vajravelu, Fl. Palghat Dist. 441. 1990. *Ulmus integrifolius* Roxb., Pl. Corom. t. 78. 1798.[ULMACEAE]

Medium trees, polygamous. Leaves 6-10 x 4-6 cm, ovate. Flowers appear before leaves, in axillary congested 12 mm long cymes, unisexual or bisexual; sepals 4 or 5, free, 2 mm long, oblong, hispid; stamens 5, free; anthers pubescent. Female flowers with longer pedicels; ovary compressed, long-stipitate, 2-winged; 1-celled, ovule 1, style 2-fid. Fruit 3 cm across, samaroid, glabrous.

280. Holostemma ada-kodien Schult. in Roem. & Schult., Syst. Veg. 6: 95. 1820; Vajravelu, Fl. Palghat Dist. 290.1990. *Holostemma annulare* (Roxb.) K. Schum. in Engl. & Prantl, Nat. Pflanzenf. 4(2): 250. 1895; Gamble, Fl. Pres. Madras 834(586). 1923.[ASCLEPIADACEAE]

Twiners. Leaves 8-12 x 5-8 cm, oblong or ovate. Flowers few to many in axillary peduncled cymes; calyx lobes ovate, 4 mm long; corolla 2.5 cm across, campanulate, pale purple, lobes 8 x 6 mm, ovate, obtuse; gynostegium 8 x 6 mm, outer corona short, truncate; inner corona 5, ovate, acute, glabrous.

281. Homonoia riparia Lour., Fl. Cochinch. 637. 1790; Hook. f., Fl. Brit. India 5: 455. 1887; Gamble, Fl. Pres. Madras 1333(933). 1925; Manilal, Fl. Silent Valley 251. 1988; Vajravelu, Fl. Palghat Dist. 431. 1990. [EUPHORBIACEAE]

Large shrubs, branchlets pubescent, reddish. Leaves spiral, closely packed, 13-18 x 2-3 cm, linear-oblong. Flowers in axillary 10-15 cm long racemes. Male flowers 3 mm across, sepals 2-5, glabrous, yellowish red; stamens many, free. Female flowers sessile, densely packed; ovary densely hairy, styles 3, spreading, linear. Capsule 5 mm across, globose, hairy.

282. Hopea ponga (Dennst.) Mabber., Taxon 28: 587. 1979; Janardh. in Sharma & Sanj., Fl. India 3: 230. 1993; *Artocarpus ponga* Dennst., Schluess. Hort. Ind. Malab. 15, 18, 30. 1818. *Hopea wightiana* Wall. ex Wight & Arn., Prodr. 85. 1834; Dunn in Gamble, Fl. Pres. Madras 82. 1915.[DIPTEROCARPACEAE]

Medium sized trees; twigs glabrous. Leaves 18 x 4 cm, ovate-lanceolate. Flowers in axillary drooping panicles; larger sepals 5-7 mm long, oblong; petals 8 mm long, oblong, pubescent; style stout, pubescent. Nut 8 x 6 mm, ovoid, acute; wings of fruiting calyx 5 x 1.3 cm, oblong, obtuse, glabrous, 8-nerved, red.

283. Huperzia phlegmaria (L.) Roth, Feddes Repert. 54: 62. 1944; Manickam & Irud., Pterid. Fl. W. Ghats 24. t. 3. 1992. *Lycopodium phlegmaria* L., Sp. Pl. 1101. 1753. *Phlegmariurus phlegmaria* (L.) Sen & Sen, Fern Gaz. 11: 421. 1978; Dixit, Cens. Ind. Pterid. 9. 1984.[LYCOPODIACEAE]

Leaves 12-15 x 3-4 mm, lanceolate, apex acuminate, glabrous, subcoriaceous, yellowish-green. Cones 15-20 cm long, dichotomously branched. Sporophylls 5 x 2 mm, lanceolate, acuminate. Sporangia 1 x 1.5 mm, axillary of sporophylls. Spores tetrahedral, granulose.

284. Hydnocarpus alpina Wight, Ic. t. 942. 1845; Hook. f., Fl. Brit. India 1: 197. 1872; Gamble, Fl. Pres. Madras 52(37). 1915; Manilal, Fl. Silent Valley 11. 1988; Vajravelu, Fl. Palghat Dist. 61. 1990. *Hydnocarpus pendula* Manilal *et al.*, Trop. Plant. Sci. Res. 1: 355. 1983.[FLACOURTIACEAE]

Medium trees, bark black, branchlets puberulus. Leaves 10-15 x 4-6 cm, ovate. Flowers ca 15 mm across in axillary peduncled cymes; pedicel 1.5-2 cm long; sepals 8 mm long, oblong, pubescent; petals 1 cm long narrow, glabrous; filaments glabrous; ovary in female flowers globular, tomentose, stigma 5, lobed. Berry to 7 cm across, densely tomentose, dark brown.

285. Hydnocarpus pentandra (Buch.-Ham.) Oken, Allg. Naturf. 3: 1381. 1841; Vajravelu, Fl. Palghat Dist. 61. 1990. *Chilmoria pentandra* Buch.-Ham., Trans. Linn. Soc. London 13. 501. 1822. *Hydnocarpus wightiana* Blume, Rumph. 4: 22. 1848; Hook. f., Fl. Brit. India 1: 196. 1872; Gamble, Fl. Pres. Madras 52(37). 1915. [FLACOURTIACEAE]

Medium trees, bark white, branchlets puberulus. Leaves 13-7 x 5-8 cm, elliptic, apex acuminate, base acute or obtuse, nerves 8 pairs. Flowers to 1 cm across, in peduncled axillary cymes; sepals broadly ovate, pubescent; petals broadly ovate, greenish yellow, obtuse, ciliate; scale half as long as petals, densely hairy; filaments hairy; ovary in female flowers globose tomentose; stigma 3-5 lobed; staminodes 5. Berry 4-7 cm across, rind thick, rough with uneven surface.

286. Hygrophila schulli (Buch.-Ham.) M. R. & S. M. Almeida, J. Bombay Nat. Hist. Soc. 83(Suppl.): 221. 1986. *Bahell schulli* Buch.-Ham., Trans. Linn. Soc. London 14: 289. 1825. *Asteracantha longifolia* (L.) Nees in Wall., Pl. Asiat. Rar. 3: 90. 1832; Gamble, Fl. Pres. Madras 1015(712). 1924. *Hygrophila auriculata* (K. Schum.) Heine, Kew Bull. 16: 172. 1962; Vajravelu, Fl. Palghat Dist. 350. 1990. [ACANTHACEAE]

Subshrubs, strigose-hispid, with sharp thorns. Leaves in whorls of 8, unequal, 6-10 x 2-4 cm, linear-lanceolate. Flowers in axillary whorls; bracts and bracteoles leafy, 1.2 cm long; calyx lobes 4, larger lobe 1 cm long; corolla pink, 1.5 cm long, bilipped, lobes obtuse, ciliate. Capsule 1 cm long; seeds orbicular, 3 mm across.

287. Hypotrachyna crenata (Kurok.) Hale, Phytologia 28; 341. 1974. *Parmelia crenata* Kurok. in Hale & Kurok., Contrib. U.S. Nat. Herb. 36: 168. 1964.[PARMELIACEAE]

Thallus foliose, loosely attached, up to 6 cm in diam.; lobes irregularly branched, imbricate, mineral gray, up to 4 mm wide, tip rounded, margins crenate; upper surface smooth, isidiate; isidia short, branched; medulla white; lower surface black, sparsely rhizinate; apothecia absent.

288. Hyptis suaveolens (L.) Poit., Ann. Mus. Natl. Hist. Nat. Paris 7: 472. t.27. f.2. 1806; Hook. f., Fl. Brit. India 4: 630. 1885; Gamble, Fl. Pres. Madras 1129(789). 1924; Vajravelu, Fl. Palghat Dist. 376. 1990. *Ballota suaveolens* L., Syst. Nat. (ed. 10) 1100. 1759. [LAMIACEAE]

Shrubs, stem obtusely 4-angular, thinly hairy. Leaves 4-7 x 3-5 cm, ovate. Flowers in clusters of 1-12; calyx tube 8 mm long, tubular, 10-ribbed, glandular hairy, teeth spinulose, 4 mm long; corolla 5 mm long, lobes short, glabrous inside, blue. Nutlets 4 x 2.5 mm, compressed, with a ridge on dorsal surface, pubescent, deep brown, mucilaginous when wet.

289. Imperata cylindrica (L.) Raeusch., Nomencl. Bot. (ed.3) 10. 1797; Sreekumar & Nair, Fl. Kerala Grasses 114. 1991; Sasidh. & Sivar., Fl. Pl. Thrissur For. 516. 1996. *Lagurus cylindricus* L., Syst. Nat. (ed.10) 878. 1759. *Imperata koenigii* (Retz.) P. Beauv. var. *major* Nees, Fl. Africa Austr. 90. 1841.[POACEAE]

Perennials; culms 20-150 cm high, tufted; nodes bearded. Leaves 15-70 x 0.8-2 cm, lanceolate. Panicle 30 x 1.5 cm, cylindrical; rachis glabrous. Spikelets 4 x 1 mm, similar, lanceolate. Glumes equal, lanceolate; lower floret empty, upper bisexual; first lemma 2 x 1 mm, oblong, hyaline, epaleate; second lemma 1.5 x 1 mm, hyaline, 3-lobed, paleate.

290. Ipomoea alba L., Sp. Pl. 161. 1753; Manilal, Fl. Silent Valley 188. 1988; Vajravelu, Fl. Palghat Dist. 309. 1990. *Calonyction bona-nox* (L.) Boj., Hort. Maurit. 227. 1837; Gamble, Fl. Pres. Madras 920(646). 1923. [CONVOLVULACEAE]

Perennial climbers, stem stout, glabrous. Leaves 10-15 x 8-12 cm, ovate. Flowers 1-3 together, but usually solitary; corolla white, 8-10 cm broad, funnel shaped, lobes spreading, glabrous. Capsule 2.5 x 1.5 cm, glabrous; seeds glabrous.

291. Ipomoea aquatica Forssk., Fl. Aegypt.-Arab. 44. 1775; Merr., Philipp. J. Sci. 59: 452. 1936; Manilal & Sivar., Fl. Calicut 182. 1982; Vajravelu, Fl. Palghat Dist. 309.1990. *Convolvulus aculeatus* L. Sp. Pl. 155. 1753.[CONVOLVULACEAE].

Large glabrous climbers; stem warted. Leaves ovate, entire to angle. Flowers dull white large in cymes; outer sepals smaller; corolla saver form; stamens exerted. Capsule ovoid, globose, glabrous. Seed yellow.

292. Ipomoea deccana Austin, Rev. Handb. Fl. Ceylon 1: 324. 1980; Manilal, Fl. Silent Valley 188. 1988; Vajravelu, Fl. Palghat Dist. 310. 1990. *Ipomoea bracteata* Wight, Ic. t. 1374. 1848, non Cav. 1799; Hook. f., Fl. Brit. India 4: 203. 1883; Gamble, Fl. Pres. Madras 918(644). 1923.[CONVOLVULACEAE]

Hispid creepers. Leaves 3-5 cm across, 5-lobed, base cordate, lobes rhomboid. Flowers 3 together, sessile; sepals unequal, to 9 x 3 mm, acute; corolla purple, 15 mm long, campanulate; filaments unequal, inserted near the base of corolla tube. Capsule 6 x 6 mm, globose, puberulus in vertical lines; seeds pubescent, black.

293. Ipomoea carnea Jacq. Ssp. **fistulosa**(Mart. Ex Choisy) Austin, taxon 26: 237. 1977; Ramachandran & Nair, Fl. Cannanore Dist. 302. 1988; Sivar. & Philip, Fl. Nilambur 449. 1997.*Ipomoea carnea* Jacq. Enum Syst. Pl. 13. 1760. [CONVOLVULACEAE]

Medium shrubs. Leaves broadly ovate, deltoid to hastate. Panicle axillary; calyx lobes 5 sub equal; corolla pink to rose; stamens 5 hairy below; ovary conical; style 2 cm. Capsule 1.5 cm. Seeds hairy , long and brownish.

294. Ixora coccinea L., Sp. Pl. 110. 1753; Hook. f., Fl. Brit. India 3: 145. 1892; Gamble, Fl. Pres. Madras 631(445). 1921; Vajravelu, Fl. Palghat Dist. 234. 1990.[RUBIACEAE]

Large shrubs. Leaves elliptic, ovate, acute at apex, rounded or cordate at base. Flowers in dense sessile corymbiform cymes; calyx 4 toothed; corolla 2-4 cm long; stamens four. Fruits berries, black when ripe.

295. Jasminum multiflorum (Burm. f.) Andr., Bot. Repos. 8,t.496. 1807; Vajravelu, Fl. Palghat Dist. 275. 1990. *Nyctanthes multiflora* Burm. f., Fl. Ind. 5. t.3. f.1. 1768. *Jasminum pubescens* Willd., Sp. Pl. 1: 37. 1797; Gamble, Fl. Pres. Madras 789(554). 1923. *Jasminum bracteatum* Roxb., Fl. Ind. 1: 92. 1820.[OLEACEAE]

Climbing shrubs, stem densely pubescent. Leaves 6-8 x 2-4 cm, ovate. Cymes terminal, congested, pubescent. Flowers densely packed; calyx tube short, lobes 8 mm long, subulate, hairy; corolla tube 15 mm long, lobes 5-8, to 10 mm long, oblong, acute, white.

296. Jatropha curcas L., Sp. Pl. 1006. 1753; Hook. f. Fl. Brit. India 5: 383. 1887; Gamble, Fl. Pres. Madras 1340. 1925; Vajravelu, Fl. Palghat 431. 1990.[EUPHORBIACEAE]

Shrubs, bark white. Leaves palmatifid, to 14 x 15 cm, ovate, orbicular. Racemes axillary and terminal, to 12 cm; bracts 1 cm, elliptic, pubescent; male flowers-pedicels 3 mm, calyx 5-lobed, 4 mm, lobes oblong; corolla lobes 5, 3 mm, oblong, ciliate, pubescent on inner side, disc of 5 glands; staminal column 3 mm, branched; stamens 10, outer 5 free.

297. Justicia adhatoda L., Sp. Pl. 15. 1753; Sivar. & Philip, Fl. Nilambur 505. 1997. *Adhatoda vasica* Nees in Wall., Pl. Asiat. Rar. 3: 103.1832. *Adhatoda zeylanica* Medicus, Hist. Commentat. Acad. Elect. Sci. Theod.-Palat. 6: 393. 1790. [ACANTHACEAE]

A stiff, evergreen, much branched perennial shrub with a strong unpleasant odour. Leaves elliptic lanceolate or ovate lanceolate. Flowers large, white with red or yellow barred throats; spike with large bracts. Fruit a capsule.

298. Justicia gendarussa Burm. f., Fl. Ind. 10. 1768; Hook. f., Fl. Brit. India 4: 532. 1885; Gamble, Fl. Pres. Madras 1079(755). 1924; Manilal, Fl. Silent Valley 205. 1988. *Gendarussa vulgaris* Nees in Wall., Pl. Asiat. Rar. 3: 104. 1832.[ACANTHACEAE]

Shrubs, branches dark purple, terete, smooth. Leaves 7-10 x 2 cm, linear or oblong-lanceolate. Spikes terminal, to 8 cm long, narrow; bracts linear, 4 mm long. Flowers white; calyx lobes linear-lanceolate, 5 mm long; corolla white with purple streaks, 1.5 cm long; ovary and style puberulus. Capsule 12 mm long, glabrous

299. Kalanchoe laciniata (L.) Pers. Syn. 446. 1805; Whigt Ic. T. 1158. 1846. Hook. f., Fl. Brit. India 4: 415. 1878; Gamble, Fl. Pres. Madras 451. 1919. Vajravelu, Fl. Palghat Dist. 192. 1990.[CRASSULACEAE]

Large succulent herbs. Leaves fleshy; segment narrow linear glaucous acute, dentate lanceolate. Bracts linear. Flowers yellow in erect compact panicle of cymes; corolla lobe oblong lanceolate, glabrous pubescent. Fruits glabrous.

300. Kaempferia galanga L., Sp. Pl. 2. 1753; Hook. f., Fl. Brit. India 6: 219. 1890; Fischer in Gamble, Fl. Pres. Madras 1484. 1928. Manilal & Sivar., Fl. Calicut 287. 1982; Sasidh. & Sivar., Fl. Thrissur 464. 1996.*Alpinia sessilis* Koenig in Retz., Obs. Bot. 3: 64. 1783. [ZINGIBERACEAE]

Rhizomatous herbs. Rhizome tuberous. Stem very short. Leaves ovate, spread flat on the ground. Flowers spicate; scape radical; calyx short cylindric; corolla tube long; staminode broad, 2 lobed; connective of anther produced in to a quadrate, 2 lobed appendage; ovary 3 celled. Fruit an oblong capsule.

301. Kydia calycina Roxb., Pl. Corom. 3: 11. t. 215. 1811; Hook. f., Fl. Brit. India 1: 348. 1874; Gamble, Fl. Pres. Madras. 93(67). 1915; Manilal, Fl. Silent Valley 27. 1988; Vajr., Fl. Palghat Dist. 81. 1990; Sivar. & Pradeep, Malvac. Southern Peninsular India 159. 1996; *Kydia fraterna* Roxb., Pl. Corom. 3: 12. t.216. 1811.[MALVACEAE]

Sp. Pl. 363. 1753; Hook. f., Fl. Brit. India 5: 44. 1886; Gamble, Fl. Pres. Madras 1190(833). 1925; Vajravelu, Fl. Palghat Dist. 390. 1990.[POLYGONACEAE]

Trailing or scandent shrubs, stem glabrous. Leaves 9-11 x 3-5 cm, ovate. Spike 7 x 7 mm, panicled, globose; peduncles glandular-hairy; bracts ovate, obtuse, 1-flowered. Flowers pedicelled; tepals 4, white, 5 x 2.5 mm, oblong, obtuse, glabrous; stamens 8, styles 3. Nut 5 x 2.5 mm, trigonous, glabrous, acute, brown.

390. Peziza sp. [PEZIZACEAE]

Sporpophores growing on humus or soil with excess manure or on cow dung; gregarious sessile, fleshy, brittle when young, deep cup shaped with age. Margin incurved. Hymenium brown darker than outer surface. Asci 8 spored, ascospores elliptical and dark coloured.

391. Phoenix loureirii Kunth, Enum. Pl. 3: 257. 1841, var. **humilis** (Royle *ex* Becc.) Barrow, Kew Bull. 53: 561. 1998. *Phoenix humilis* Royle, Illustr. Himal. 394, 397 & 399. 1849; Becc. & Hook. f. in Hook. f., Fl. Brit. India 6: 426. 1892. *Phoenix humilis* Royle *ex* Becc. var. *pedunculata* (Griff.) Becc., J. Bot. Malesia 3: 379, 387, t. 44. ff. 13-15, 18-21. 1890; Gamble, Fl. Pres. Madras 1560(1088). 1931. [ARECACEAE]

Dioecious coarse bushy shrubs, to 2 m tall, densely covered with leaf sheaths. Leaves in a dense caudex. Spadix axillary, 20-30 cm across; branches spreading, to 18 cm long. Flowers sessile; perianth biseriate, outer smaller, connate, cupular; inner ovate, valvate; stamens 6, free; ovary of 3 free carpels, ovules solitary, stigma uncinate. Drupes 12 x 8 mm, obovoid, yellow.

392. Pholidota imbricata Hook., Exot. Fl. t. 138. 1825; Gamble, Fl. Pres. Madras 1431(1000). 1928. *Pholidota pallida* sensu Abraham & Vatsala, Intr. Orch. 288. 1981, non Lindl. 1836; Manilal, Fl. Silent Valley 301. 1988; Vajravelu, Fl. Palghat Dist. 490. 1990. [ORCHIDACEAE].

Epiphytes; pseudobulb 3-5 x 2 cm, sheathed, ovoid, subtetragonal smooth, crowded. Leaves 25-40 x 4-5.5, solitary, oblanceolate-oblong. Flowers creamy orange, in 50-60 cm long, terminal, pendulous racemes; bracts 6-9 x 5-6 mm, ovate; dorsal sepal ovate; lateral sepals ovate; petals linear, subacute, 1-veined; lip 8 x 8.4 mm; saccate 5-veined; midlobe bifid, lobules rounded.

393. Phyllanthus amarus Schum. & Thonn., Kongel. Danske Vidensk.-Selsk Skr. 4: 195. 1829; Vajravelu, Fl. Palghat Dist. 435. 1990. *Phyllanthus niruri* sensu Hook. f., Fl. Brit. India 5: 298. 1887, non L. 1753; Gamble, Fl. Pres. Madras 1290(903). 1925.[EUPHORBIACEAE]

Erect herbs, leafy branchlets to 4 cm long. Leaves 5-8 x 3 mm, oblong. Female flowers solitary; pedicels 2 mm long; sepals 5, oblong, obtuse with

nerved; lower floret empty; first lemma 7 x 1.5 mm, obtuse, 9-nerved; second lemma similar, 5-6-nerved; palea 6 x 1.5 mm, 2-nerved; anthers 3 mm long; stigmas 5-6 mm long.

385. Pennisetum polystachyon (L.) Schult., Syst. Veg. 2: 146. 1824; Gamble, Fl. Pres. Madras 1792(1241). 1934; Manilal, Fl. Silent Valley 360. 1988; Vajravelu, Fl. Palghat Dist. 585. 1990. [POACEAE]

Culms 50-200 cm high, stout. Leaves 20-60 x 0.6-1.5 cm, densely hairy. Spikelets 5 mm long, solitary in the involucre; lower glume minute; upper glume 3-4 x 1.5 mm, 5-nerved, puberulus; first lemma 3 x 1.5 mm, 3-nerved, puberulus, epaleate; second lemma 2 x 1 mm, 3-5-nerved, glabrous; palea 2 x 1 mm, 2-nerved; anthers 2 mm long.

386. Peperomia portulacoides (Lam.) Dietr., Sp. Pl. (ed. 6) 172. 1831; Hook. f., Fl. Brit. India 5: 98. 1886; Gamble, Fl. Pres. Madras 1210(847). 1925; Vajravelu, Fl. Palghat Dist. 396. 1990. *Piper portulacoides* Lam., Tabl. Encycl. 1: 82. 1791. [PIPERACEAE]

Terrestrial herbs, glabrous. Leaves 3-4 x 2-2.5 cm, obovate-rhomboid. Spike terminal and axillary, 5 cm long, slender, glabrous; peduncle 2 cm long; bracts orbicular, sessile, margins white. Nut partially embedded in the rachis.

387. Pergularia daemia (Forssk.) Chiov. in Result. Sci. Misc. Stefan. Paoli Somal. Ital. 1: 16. 1916; Vajravelu, Fl. Palghat 291. 1990. *Asclepias daemia* Forssk., Fl. Aeg.-Arab. 51. 1775. *Pergularia extensa* (Jacq.) N. E. Br. in Dyer, Fl. Cap. 4: 758. 1908. [ASCLEPIADACEAE]

Twiners, hirsute, latex milky. Leaves to 7 x 8 cm, broadly ovate. Racemes axillary; flowers greenish; calyx lobes 2 mm, hirsute; corolla campanulate; pollinia pendulous, oblong; corona double; inner staminal, erect, tooth to 2.5 mm; ovaries 1 mm, basally connate. Follicles paired, 6 x 2 mm, softly echinate, curved.

388. Persea macrantha (Nees) Kosterm., Reinwardtia 6: 193. 1962; Vajravelu, Fl. Palghat Dist. 407. 1990. *Machilus macrantha* Nees in Wall., Pl. Asiat. Rar. 2: 70. 1831; Gamble, Fl. Pres. Madras 1227(859). 1925.[LAURACEAE]

Large trees, bark granular, smelling, branchlets glabrous. Leaves 12-20 x 5-10 cm, ovate-oblong. Flowers 8-10 mm across, shortly pedicelled; perianth lobes 6, greenish white, 6 mm long, ovate; stamens 9, 3-seriate, innermost row with extrorse anthers, filaments pubescent; ovary conical, 1-celled, pubescent. Drupes 1.2 cm across, globose, black, glabrous.

389. Persicaria chinensis (L.) Gross. in Engl., Bot. Jahrb. Syst. 49: 269,277,315. 1913; Manilal, Fl. Silent Valley 226. 1988. *Polygonum chinense* L.,

380. Parmotrema grayanum (Hue) Hale, Phytologia 28(4): 336. 1974. *Parmelia grayana* Hue, Nouv. Arch. Mus. Paris ser. 4. 1:184. 1899; Awasthi, Biol. Mem. 1: 210. 1976. [PARMELIACEAE]

Thallus foliose, closely or loosely attached, upto 6 cm in diam.; lobes short, rotund, upto 8 mm wide, sub imbricate; margin ciliate; upper surface smooth, ashy gray, emaculate, sorediate; soralia marginal granular; medulla white; lower surface slightly wrinkled, rhizinate; rhizines on the central region, marginal area erhizinate; apothecia absent.

381. Parmotrema reticulatum (Tayl.) M. Choisy, Bull. Mens. Soc. Linn. Lyon 21: 175. 1952. [PARMELIACEAE]

Thallus foliose, loosely attached, pale grey; lobes upto 10mm wide, crenate or irregularly incised, ciliate; upper surface reticulately cracked, maculate, sorediate; sorediate lobes involute; soralia marginal; medulla white; lower surface black, rhizinate, marginal area brown; apothecia upto 10mm in diameter; thalline exciple sorediate.

382. Parmotrema tinctorum (Nyl.) Hale, Phytologia 28(4): 339. 1974; Singh & Sinha, Lich. Fl. Nagaland 303-304. 1994. *Parmelia tinctorum* Nyl., Fl. 55: 547. 1872; Zahlbr., Cat. Lich. Univ. 6: 268. 1930; Hale, Contrib. U.S. Nat. Herb. 36: 264. 1965; Awasthi, Biol. Mem. 1: 223.1976. [PARMELIACEAE]

Thallus foliose, loosely attached, up to 20 cm in diam.; lobes rotund, up to 2 mm wide, slightly wrinkled or longitudinally folded; margin entire, eciliate; upper surface smooth, dull, glaucous grey, emaculate, isidiate; isidia filiform; medulla white; lower surface black, minutely wrinkled, sparsely rhizinate; apothecia absent.

383. Pavetta tomentosa Roxb. *ex* J. E. Smith in Rees, Cyclop. 26:52.1813; Gamble, Fl. Pres. Madras 1879(1301). 1936; Vajravelu, Fl. Palghat Dist. 242. 1990.[RUBIACEAE]

Large shrubs, stem densely white-tomentose. Leaves 9-13 x 5-7 cm, ovate. Flowers pedicelled; pedicels 6 mm long; calyx 2.5 mm long, retrose hairy, 4-toothed; corolla tube 12 mm long, glabrous, lobes 7 x 1.5 mm, oblong, hairy at base; anthers 7 mm long, linear; style 28 mm long, glabrous.

384. Pennisetum hohenackeri Hochst. ex Steud., Syn. Pl. Glum. 1: 102. 1854; Fischer in Gamble, Fl. Pres. Madras 1792. 1934; Sreekumar & Nair, Fl. Kerala Grass. 289. 1991. *P. alopecuros* Nees ex Steud., Syn. Pl. Glum. 1: 102. 1854; Hook. f., Fl. Brit. India 7: 84. 1896. [POACEAE]

Perennials; culms 30-100 cm high, erect. Leaves 10-70 x 0.8 cm, linear-lanceolate. Raceme 10-20 cm long. Spikelets 8 mm long; lower glume 1.5 x 1.5 mm, orbicular, nerveless; upper glume 3 x 1.5 mm, ovate, obtuse, 3-

Culms 5-10 m tall, scandent, smooth. Leaves 20-40 x 2-5 cm. Spikelets 0.8-1.2 cm long, lanceolate, compressed; glumes 2; lower larger; florets 3; lower lemmas sterile, lanceolate, epaleate; upper most one fertile, lanceolate, glabrous; palea oblong, 2-keeled; keels glabrous; staminal tube long; anthers 4-5 mm long.

376. Palaquium ellipticum (Dalz.) Baill., Traite, Bot. Med. Phan. 1500. 1884; Gamble, Fl. Pres. Madras 764(537). 1921; Manilal, Fl. Silent Valley 168. 1988; Vajravelu, Fl. Palghat Dist. 267. 1990.*Dichopsis ellipticum* (Dalz.) Benth., Gen. Pl. 2: 658. 1876. [SAPOTACEAE]

Bark reddish inside. Leaves 5-8 x 2-4 cm. Pedicels 1.5 cm long, slender; outer sepals 7 x 5 mm, ovate, acute, pubescent, inner smaller; corolla yellowish brown, 10 mm long, tube cylindrical, hairy inside, lobes 6, ovate, acute; stamens 16-20; anthers tomentose, crested; ovary white-tomentose. Berry 3 x 1 cm, ridged, curved, smooth.

377. Pandanus thwaitesii Mart., Bull. Soc. Bot. Ital. 369. 1904; Gamble, Fl. Pres. Madras 1570(1095). 1931; Manilal, Fl. Silent Valley 330. 1988; Sasidh. & Sivar., Fl. Pl. Thrissur For. 481. 1996.[PANDANACEAE]

Dioecious shrubs with stilt roots. Leaves spiral close, 150 x 6 cm, 3-costate, linear-lanceolate. Male spadix, terminal branched; male flowers densely packed, perianth absent, stamens many. Female spadix branched; spathe oblong, to 20 cm long; flowers closely arranged, ovary 1-celled, ovule solitary. Fruit an aggregate of drupe, to 6 x 5 cm; drupes obovoid.

378. Panicum sumatrense Roth *ex* Roem. & Schult., Syst. Veg. 2: 434. 1817; Veldkamp *et al.*, Blumea 34: 82. *Panicum miliare* sensu Hook.f., FBI 7: 46. 1896, non Lam. 1791; Gamble, Fl. Pres. Madras 1782(1234). 1934.[POACEAE]

Perennials with branching rhizome; culms 25-60 cm high, erect; nodes glabrous. Leaves bifarious,linear-oblong. Spikelets 3 x 1 mm, lanceolate; lower glume broadly ovate; upper glume lanceolate; first lemma similar to upper glume, paleate, empty; second lemma 2 x 1 mm, ovate, concave; palea 2 x 1 mm, oblong. Grains tightly enclosed in the hardened lemma and palea.

379. Parahemionitis cordata (Roxb. *ex* Hook. & Grev.) Fraser-Jenk., New Sp. Syndr. Indian Pterid. 187. 1997. *Hemionitis cordata* Roxb. *ex* Hook. & Grev., Ic. Fil. t. 64. 1828; *Hemianitis arifolia* (Burm.f.) T. Moore, Ind. Fil. 114. 1859; Manickam & Irud., Pterid. Fl. W. Ghats 93. t. 68. 1992. [HEMIONITIDACEAE]

Terrestrial or lithophytic herbs. Rhizome erect or short creeping. Scales 2-3 x 0.1-0.2 mm. Fronds 20-25 x 3-5 cm, simple; stipe 15-17 cm long; lamina cordate or deltoid, chartaceous, densely scaly below. Sori dark brown, continuous along the veins, acrostichoid at maturity. Sporangial capsule globose. Spores dark brown, tetrahedral, trilete, reticulate.

exserted, filaments hairy at base. Capsule 40-75 x 5-8 cm, tapering at both ends; seeds 5-6 cm long, winged all around except at the base.

371. Oryza meyeriana (Zoll. & Mor. Ex Steud.) **subsp. granulate**(Nees & Arn. Ex. Watt) Tateoka, Bot. Mag. (Tokyo)75: 460. 1962. *Oryza granulata* Nees& Arn. ex Watt, Dic. Econ Prod. Ind. 5: 500.1891.[POACEAE]

A tall annual grass. Culms small, less than 1 m. Leaves linear acuminate, 7 -30x 1-1.5 cm long, striate, one nerved, panicle compound, spikelets few; lower glume minute, lemma regularly punctuate, caryopsis oblong angular.

372. Oryza sativa L., Sp. Pl. 333. 1753; FBI 7: 92. 1896; Gamble, Fl. Pres. Madras 1844(1276). 1934; Manilal & Sivar., Fl. Calicut 351. 1982.[POACEAE]

A tall annual grass. Culms up to 1m long. Leaves linear acuminate, 12 - 55x 1.5-2.5 cm long, striate, one nerved, panicle compound, spikelets numerous; glumes oblong, lemma regularly punctuate, caryopsis oblong angular.

373. Oxalis corniculata L., Sp. Pl. 435. 1753; Hook. f., Fl. Brit. India 1: 436. 1874; Gamble, Fl. Pres. Madras 132(94). 1915; Manilal, Fl. Silent Valley 38. 1988; Vajravelu, Fl. Palghat Dist. 98. 1990; Sasidh. & Sivar., Fl. Pl. Thrissur For. 76. 1996; Manna in Hajra *et al.,* Fl. Ind. 4: 242. 1997. *Oxalis corniculata* L. var. *hispida* Blatt., J. Bombay Nat. Hist. Soc. 34: 898. 1931.[OXALIDACEAE]

Diffuse perennial herbs, branches slender, rooting at lower nodes, pubescent. Leaves trifoliolate.. Flowers 6 mm across in peduncled umbels, yellow, 2-many together; peduncles 3-7 cm long; pedicels 2 cm long; sepals lanceolate, obtuse at apex; petals 7 mm long, oblong. Capsule oblong, to 1.5 cm long; seeds 5-10 per cell, flattened to ovoid, transversely ridged.

374. Oxytenanthera bourdillonii Gamble, Ann. Roy. Bot. Gard. (Calcutta) 7: 76,t.67. 1896; Gamble, Fl. Pres. Madras 1861(1288). 1934. *Pseudoxytenanthera bourdillonii* (Gamble) Naithani, J. Bombay Nat. Hist. Soc. 87: 440. 1990. [POACEAE]

Culms 3-8 m high, smooth; culm sheath blade to 15 cm long, glabrous. Leaves 15-35 x 2-5 cm, sessile. Spikelets 2.5 cm long, glabrous; lower glume acute; upper glume 10-11 x 6-7 mm, glabrous; florets 3-5, all bisexual; lemmas 20 x 6 mm, glabrous; palea 10-13 x 4 mm, hairy along the keels; staminal tube short; anthers 6-7 mm long, apiculate.

375. Oxytenanthera monadelpha (Thw.) Alston in Trimen, Handb. Fl. Ceylon 6 (Suppl.) 342. 1931; Gamble, Fl. Pres. Madras 1861(1288). 1934. *Dendrocalamus monadelphus* Thw., Enum. Pl. Zeyl. 376. 1864. *Pseudoxytenanthera monadelpha* (Thw.) Sodestrom & Ellis, Smiths. Contrib. Bot. 72: 52. 1988. [POACEAE]

Woody herbs, pubescent. Leaves to 3 x 1.8 cm, ovate-oblong. Racemes terminal, to 15 cm; flowers *ca.* 6 in a whorl; pedicels 2 mm; bracts linear, hairy; calyx tube 4 mm, pubescent; corolla 4 mm, upper lip 3-4 fid; filaments 5-7 mm; ovary 0.5 cm, style 1 cm

367. Ocimum gratissimum L., Sp. Pl. 1197. 1753; Hook. f., Fl. Brit. India 4: 608. 1885; Gamble, Fl. Pres. Madras 1111(777). 1924; Vajravelu, Fl. Palghat Dist. 380. 1990; Sasidh. & Sivar., Fl. Pl. Thrissur For. 362. 1996. [LAMIACEAE]

Subshrubs, glandular-scabrid. Leaves 4-7 x 3-5 cm, elliptic to obovate. Racemes terminal, panicled. Flowers 4-6 at each node; pedicel 4 mm long; calyx 5 mm long, glabrous, upper lip ovate, lobes of lower lip acuminate, glandular; corolla white, tube 2-3 mm long, lobes obtuse; filaments glabrous or villous at base. Nutlets 1.5 x 1 mm, pitted, brown.

368. Ocimum tenuiiflorum L., Sp. Pl. 597. 1753; Vajravelu, Fl. Palghat Dist. 380. 1990; Sivar. & Philip, Fl. Nilambur 551. 1997. *Ocimum sanctum* L., Mant. Pl. 1: 85. 1767; Hook. f., Fl. Brit. India 4: 609. 1885; Gamble, Fl. Pres. Madras 1111(778). 1924 [LAMIACEAE]

Subshrubs, glandular-scabrid. Leaves 2-3 x 1-1.8 cm, pubescent, ovate to obovate. Racemes terminal, panicled. Flowers 5-6 at each node; calyx 5 mm long, glabrous, upper lip ovate, lobes of lower lip acuminate, glandular; corolla purplish pink, tube 2-3 mm long, lobes obtuse; filaments glabrous or villous at base. Nutlets broad ellipsoid, smooth.

369. Opuntia stricta Haw. var. **dillenii** (Ker-Gawl.) L., Benso, Car. Succ. J. (Los Angles) 41: 126. 1969. *Opuntia dillenii* (Ker-Gawl.) Haw., Suppl. Pl. Succ. 79. 1819; Gamble, Fl. Pres. Madras 548(387). 1919; Vajravelu, Fl. Palghat Dist. 219. 1990. *Cactus dillenii* Ker-Gawl. in Edwards, Bot. Reg. 3: t. 255. 1818.[CACTACEAE]

Shrubs, fleshy, areoles woolly, spines 1-4 cm. Leaves linear, deciduous. Flowers solitary, sessile; calyx lobes to 7 mm, broadly ovate, acuminate; corolla to 7 cm across, lobes mucronate, yellow; stamens many, filaments to 1.5 cm; ovary inferior, ovules many, style 1.5 cm, stigma branched, stout. Berry 6 x 4 cm, obovoid.

370. Oroxylum indicum (L.) Benth. *ex* Kurz, For. Fl. Burma 2: 238. 1877; Hook. f., Fl. Brit. India 4: 378. 1884; Gamble, Fl. Pres. Madras 994(698). 1924; Vajravelu, Fl. Palghat Dist. 335. 1990. *Bignonia indica* L., Sp. Pl. 625. 1753. [BIGNONIACEAE]

Medium trees, bark grey, smooth, dull yellow inside. Leaves to 1 m long, pinnae opposite. Racemes 30-50 cm long; pedicels 1-2 cm long; calyx 2.5 cm long; corolla *ca.* 10 cm long, lobes 3 cm long, pale-purple streaked; four stamens

362. Oberonia brunoniana Wight, Ic. t. 1622. 1851; Hook. f., Fl. Brit. India 5: 681. 1888; Seidenf., Dansk Bot. Ark. 25(3):50.1968; Abraham & Vatsala, Intr. Orch. 422.1981; Manilal, Fl. Silent Valley 296.1988.[ORCHIDACEAE].

Leaves brownish, to 28 x 2.5 cm, oblong-ensiform. Flowers brick red, 4 x 2.5 mm, pedicelled, in close verticils; bracts 2 x 1.8 mm, ovate, acute, denticulate; dorsal sepal oblong; petals lanceolate, acute; lip 2 x 2.5 mm, ovate in outline, 3-lobed; lateral lobes oblong, ear-like; midlobe 2-lobuled; lobules oblong, truncate, diverging, with broad sinus; disc ovate, saccate.

363. Ochlandra scriptoria (Dennst.) Fischer in Gamble, Fl. Pres. Madras 1863(1289). 1934; Sasidh. & Sivar., Fl. Pl. Thrissur For. 519. 1996. *Bambusa scriptoria* Dennst., Schluss. Hort. Malab. 31. 1818. *Ochlandra rheedei* (Kunth) Benth. & Hook.f. *ex* Gamble, Ann. Roy. Bot. Gard. (Calcutta) 7: 121, t.107. 1896 [POACEAE]

Rootstock rhizomatous, branched; culms erect, to 10 m tall, 2-2.5 cm across. Leaves 10-15 x 1.5 cm, linear-lanceolate, apex acuminate. Spikelets 2-2.5 cm long. Fertile glume mucronate; palea mucronate; stamens about 16, anthers 1.5 cm long; filaments 0.5 cm long, free; lodicules 6-8, linear-oblong, 7 x 1.5 mm; ovary and style glabrous; stigma 6 or 7, unequal, plumose.

366. Ochlandra setigera Gamble, Ann. Roy. Bot. Gard. Calcutta 7:128.1896 & in Hook. f., Fl. Brit. India 7:420.1897; C.E.C. Fisch. in Gamble, Fl. Pres. Madras 3: 1863. 1934; Seethalakshmi & M. Kumar, Bamb. India Comp.185. 1998.[POACEAE]

Medium sized growing in tufts. Rhizome sympodial. Culms erect. Leaves linear-lanceolate. Inflorescence a short spicate panicle. Spikelets single flowered; sterile glumes 3; lemma ovate-lanceolate; palea thin membranous; ovary glabrous; style long, glabrous, tip divides to 6 plumose stigma. Fruit a caryopsis

365. Ochlandra travancorica (Bedd.) Benth. *ex* Gamble, Ann. Roy. Bot. Gard. (Calcutta) 7: 125. t.111. 1896 & Hook. f., Fl. Brit. India 7: 419. 1896; Gamble, Fl. Pres. Madras 1863(1289). 1934. *Bheesha travancorica* Bedd., Fl. Sylv. t.324. 1891.[POACEAE]

Rootstock rhizomatous, branched; culms to 5m tall. Leaves scattered, 20-40 x 5-10 cm, oblong-lanceolate. Panicles large, spicate. Spikelets in verticils, 3-9 together, sessile, 5-6 cm long; glumes 2-5, unequal, to 5 cm long; florets one, bisexual; lemmas 5 cm long,; palea membranous, stamens 20-40, filaments monadelphous; style long; stigma 4-6; fruit ovoid, 2-3 x 1.5 cm, beaked, smooth.

366. Ocimum basilicum L., Sp. Pl. 597. 1753; Hook. f. Fl. Brit. India 4: 608. 1885; Gamble, Fl. Pres. Madras 1111. 1924. [LAMIACEAE]

357. Neolamarckia cadamba (Roxb.) Bosser, Adansonia ser. 4. 6: 247. 1984. *Nauclea cadamba* Roxb., Fl. Ind. 2: 121. 1824. *Anthocephalus cadamba* (Roxb.) Miq., Fl. Ind. Bat. 2: 135. 1850; Hook. f., Fl. Brit. India 3: 23. 1880. *Anthocephalus indicus* A. Rich., Mem. Rubiac. 157. 1830; Gamble, Fl. Pres. Madras 583(411). 1921.[RUBIACEAE]

Large trees. Leaves opposite, 16-22 x 8-12 cm, oblong. Heads 4-6 cm across, terminal, peduncled. Flowers sessile, densely packed; calyx lobes 5, each 6 mm long, oblong; corolla tube 10 mm long, slender, 6 mm long; anthers 3 mm long, sessile, apiculate; ovary 2 or 4 celled, ovules numerous, style entire, stigma clavate. Capsule membranous; seeds many, compressed.

358. Nervilia plicata (Andr.) Schltr. in Engl., Bot. Jahrb. Syst. 45: 403. 1911; Gamble, Fl. Pres. Madras 1548(1020). 1928; Vajravelu, Fl. Palghat Dist. 485. 1990 *Arethusa plicata* Andr., Bot. Repos. 5. t.321. 1803. *Nervilia biflora* (Wight) Schltr. in Engl., Bot. Jahrb. Syst. 45: 403. 1911; Gamble, Fl. Pres. Madras 1549(1020). 1928.[ORCHIDACEAE]

Tubers 1.5 x 2 cm across, subglobose, white. Leaf 5-7 cm across. Scape to 16 cm long, 2-flowered; bracts 5 x 2 mm, ovate-lanceolate; sepals and petals brownish, similar, 20 x 4 mm, oblong, lanceolate, acute; lip dark violet, 18 x 10 mm, elliptic, obtuse, margin wavy.

359. Nicandra physalodes (L.) Gaertn., Fruct. 2: 237. t. 131. f. 2. 1791, "*physaloides*"; Clarke in Hook. f. Fl. Brit. India 4: 240. 1883; Gamble, Fl. Pres. Madras 941. 1923; Vajravelu, Fl. Palghat 316. 1990. *Atropa physalodes* L., Sp. Pl. 181. 1753.[SOLANACEAE]

Herbs, stem grooved. Leaves to 15 x 9 cm, elliptic-acute, sinuate, apex acute, base cuneate, decurrent to petiole; petiole to 5 cm. Flowers solitary, axillary; calyx lobes 3 x 2.5 cm, cordate, acuminate, accrescent, enclosing the berry, prominently reticulately veined. Berry 3 cm across, yellow.

360. Nicotiana tabacum L., Sp. Pl. 180.1753; Hook. f., Fl. Brit. India 4: 245. 1883; Gamble, Fl. Pres. Madras 941(661). 1923.[SOLANACEAE]

A stout, viscid annual herb up to 3 m tall. Leaves ovate, elliptic to 12-30 cm long. Flowers white to pale red born in compound panicle. Fruit a capsule, narrowly elliptic or orbicular.

361. Nymphaea pubescens Willd. Sp. Pl. 2: 1154.1799; Dunn in Gamble Fl. Pres Madr. 34.1915; Vajravelu, Fl. Palghat Dist. 53.1990.[NYMPHAEACEAE]

Aquatic herb. Rhizome tuberous. Leaves peltate, orbicular, reniform, coradate, prominently veined, brown and short hary beneath. Flowers white. Stamens yellow. Fruits spongy. Seeds many arillate.

Medium trees, branches nearly horizontal, bark brownish black, often with grey blotches, smooth with linear pustular lenticels, reddish inside, exudation red. Leaves 18-25 x 5-7 cm, oblong. Perianth 6 mm long, yellow, tomentose outside; anthers 10-15; female flowers usually solitary. Capsule 5-7 cm long, ovoid or subglobose; arillus red or yellowish red.

353. Myristica fragrans Houtt., Hist. Nat. 3: 333. 1774; Hook. f., Fl. Brit. India 5: 102. 1886; Gamble, Fl. Pres. Madras 1214(850). 1925; Manilal & Sivar., Fl. Calicut 249. 1982. Sivar. & Philip, Fl. Nilambur 582. 1997.[MYRISTICACEAE]

Medium trees, branches nearly horizontal, bark brownish black. Leaves 7-12 x 3.5-5 cm, elliptic, oblong, subglobose beneath. Cymes few flowerd. Perianth 6 mm long, yellow, tomentose outside; anthers 10-15; female flowers usually solitary. Fruit broadly pyriform capsule; arillus red and much laciniate.

354. Naravelia zeylanica (L.) DC., Syst. Nat. 1: 167. 1817; Hook. f., Fl. Brit. India 1: 7. 1872; Gamble, Fl. Pres. Madras 3(3). 1915; Manilal, Fl. Silent Valley 1. 1988; Vajravelu, Fl. Palghat Dist. 44. 1990. *Atragene zeylanica* L., Sp. Pl. 542. 1753.[RANUNCULACEAE]

Climbing subshrubs, branchlets tomentose. Leaves trifoliolate; Flowers 1-1.5 cm across, greenish yellow; sepals 4, 6 x 6 mm, ovate, pubescent outside; petals 10, *ca.* 7 mm long, clavate, green; stamens many, filaments flat; carpels 8, densely hairy. Achenes ca 7 x 1 mm, ellipsoid, with long feathery stigma, to 5 cm long.

355. Naringi crenulata (Roxb.) Nicols. in Sald. & Nicols., Fl Hassan Dist. 387. 1976; Vajravelu, Fl. Palghat Dist. 106. 1990. *Limonia crenulata* Roxb., Pl. Corom. t. 86. 1798; Gamble, Fl. Pres. Madras 157(112). 1915. *Hesperethusa crenulata* (Roxb.) Roem., Syn. Monogr. 1: 38. 1846. [RUTACEAE]

Large shrubs or small trees, branches with axillary erect spines, branchlets angled, white. Leaves 3-7 foliolate. Flowers 6-8 mm across, 3-6 together in axillary cymes; pedicel 10 mm long; sepals 4, free or united at base; petals 4, 4 x 2 mm, oblong, white; stamens 8, anthers sagitate at base; ovary globose, 4-celled, stigma capitate. Berry 8 mm across, globose; seeds 1-3, ovoid, smooth.

356. Nelumbo nucifera Gaertn., Fruct. 1: 73, t. 19, f. 2. 1788; Maheshwari in Manilal, Bot. Hist. Hort. Malab. 123. 1980; Vajravelu, Fl. Palghat Dist. 53 .1990. *Nymphaea nelumbo* L., Sp. Pl. 511. 1753. [NELUMBONACEAE].

Large aquatic herbs; rhizome creeping. Leaves orbicular, peltate, glaucous beneath. Flowers white or rose; petals many. Carpels ovoid, sunk in spongy torus.

Erect tufted slender herbs. Leaves 6-10 x 0.3 cm, linear-lanceolate. Panicles terminal, branches slender; bracts ochreate, minute. Flowers blue; petals oblong, 2 mm long; staminal filaments naked; ovary globose, ovules 2-seriate in each cell. Capsule 3-valved; seeds 6-8 in each cell, smooth.

348. Murraya paniculata (L.) Jack., Malay. Misc. 1: 31. 1820; Vajravelu, Fl. Palghat Dist. 105. 1990. *Chalcas paniculata* L., Mant. Pl. 1: 68. 1767. *Murraya exotica* L., Mant. Pl. 2: 563. 1771; Hook. f., Fl. Brit. India 1: 502. 1875; Gamble, Fl. Pres. Madras 155(111). 1915.[RUTACEAE]

Shrubs, branchlets white, glabrous. Leaves pinnate, 3-5 foliolate. Flowers 3-7 together in axillary cymes; sepals 5, 1 mm across, petals white, to 17 x 6 mm, oblanceolate, clawed, imbricate; stamens 10, biseriate, filaments 8 mm long, anthers ovate; ovary 2-celled, oblong, glabrous, style slender, stigma capitate. Berry to 15 x 7 mm, oblong, reddish; seeds planoconvex, densely white-woolly.

349. Musa paradisiaca L., Sp. Pl. 1043. 1753; Moore, Baileya 5: 185. 1957; Manilal & Sivar., Fl. Calicut 289. 1982; Sasidh. & Sivar., Fl. Thrissur 465. 1996; Sivar. & Philip, Fl. Nilambur 719. 1997. *Musa sapientum* L., Syst. Nat. ed. 10, 1303.1759 [MUSACEAE].

Cormous Herb. Pseudostem cylindric. Leaves large oblong. Flowers mooecious, zygomorphic; calyx creamy yellow, 5 toothed; ovary many ovuled.

350. Musa rosacea Jacq., fragm. Bot. t. 132, f. 4. 1809; Backer in Fl. Brit. India 6: 23. 1892; Fischer in Gamble, Fl. Pre. Madras 1497.1928. Manilal, Fl. Silent Valley 316. 1988.[MUSACEAE]

Cormous Herb. Pseudostem cylindric; bracts lilac red, ovate, oblong, few flowered. Flowers zygomorphic; calyx creamy yellow, 5 toothed.

351. Mussaenda belilla Buch.-Ham., Trans. Linn. Soc. London 14: 203. 1824; Vajravelu, Fl. Palghat Dist. 237. 1990. *Mussaenda laxa* (Hook. f.) Hutch. *ex* Gamble, Fl. Pres. Madras 610(430). 1921. *Mussaenda frondosa* L. var. *laxa* Hook. f., Fl. Brit. India 3: 89. 1880.[RUBIACEAE]

Branchlets pubescent. Leaves 7-10 x 5-8 cm, broadly ovate. Flowers pedicelled; larger calyx lobes 8-9 cm across, orbicular, hirsute, white; other calyx lobes 10 mm long, linear; corolla tube 28 mm long, slender, adpressed hairy; petals yellow, densely villous inside. Fruits 8 x 6 mm, ovoid.

352. Myristica beddomei King, Ann. Roy. Bot. Gard. (Calcutta) 3: 291, t. 118. f.1-8,1891; Gamble, Fl. Pres. Madras 1214(850). 1925. *Myristica dactyloides* auct. non Gaertn., Fruct. 1: 195, t. 41. f.202. 1788; Manilal, Fl. Silent Valley 233. 1988; Vajravelu, Fl. Palghat Dist. 400. 1990. *Myristica contorta* Warb., Monogr. Myris. 5-7. 1897; Gamble, Fl. Pres. Madras 1214(850). 1925.[MYRISTICACEAE]

Leaves 6-8 x 5-7 cm, ovate, entire or shallowly 3-lobed. Flowers dioecious,; bracts of male flowers to 1.5 cm across; calyx tube short, campanulate, petals 27 x 18 mm, obovate, yellow; stamens 3, anthers free. Female flowers few; ovary densely muricate, ovules horizontal; stigma 3-lobed. Berry to 5 x 2 cm, ellipsoid, densely echinate, red; seeds 8 x 7 mm, irregular, rugose, black.

344. Moringa pterygosperma Gaertn., Fruct. 2: 314. 1791; Hook.f. Fl. Brit. India 2: 45. 1876; Vajravelu, Fl. Palghat 140. 1990. *M. oleifera* auct. non Lam. 1785; Bedd., Fl. Sylv. t.80. 1871; Gamble, Fl. Pres. Madras 269. 1918.[MORINGACEAE]

Small trees; branchlets lenticellate. Leaves tri-pinnate, to 50 cm. Flowers white, pedicels to 1.5 cm; calyx lobes 1.5 cm, oblong, reflexed, pubescent outside; petals 1.5 x 0.5 cm; fertile stamens 5, filaments 1 cm; anthers one celled; ovary 1-celled, 3-valved, to 5 mm, ovoid, tomentose, style 8 mm, stigma perforated. Pod to 50 cm, 9-ribbed; seeds winged.

345. Mucuna pruriens (L.) DC., Prodr. 2: 405. 1825; Hook. f., Fl. Brit. India 2: 187. 1876; Manilal, Fl. Silent Valley 84. 1988; Manilal, Fl. Silent Valley 84. 1988; Vajravelu, Fl. Palghat Dist. 167. 1990. *Dolichos pruriens* L. in Stickman, Herb. Amboin. 23. 1754 & Syst. Nat. (ed. 10) 1162. 1759.[FABACEAE]

Perennial climbers, branchlets pubescent. Leaves 3-foliolate. Flowers ca. 3.5 cm long, in axillary tomentose, pendulous racemes, dark purple; upper 2 calyx lobes united; standard petals with auriles at base; wings adhere to keels; stamens 9+1, alternate one shorter; ovary sessile, villous, ovules few. Pods to 7 x 1.2 cm, slightly curved at both ends, tawny bristly; seeds 4-6.

346. Mukia maderaspatana (L.) Roem., Syn. Monogr. 2: 47. 1846; Sasidh. & Sivar., Fl. Pl. Thrissur For. 204. 1996. *Cucumis maderaspatanus* L., Sp. Pl. 1012. 1753.*Melothria maderaspatana* (L.) Cogn. in A. & C. DC., Monogr. Phan. 3: 623. 1881; Gamble, Fl. Pres. Madras 539(381). 1919; Vajravelu, Fl. Palghat Dist. 213. 1990.[CUCURBITACEAE]

Stem coarsely scabrous. Leaves 6-9 x 5-7 cm, ovate. Male flowers 8-12 together, 4 mm across, yellow; pedicel 6 mm long; calyx densely hairy outside; petals 2.5 mm long, obovate, yellow; anthers 1 mm long. Female flowers solitary or 2-3 together. Berry to 1 cm across; seeds 5 x 3 mm, obovate, marginate, yellowish white, rugose.

347. Murdannia semiteres (Dalz.) Sant., Poona Agri. Coll. Mag. 41. 284. 1951; Manilal, Fl. Silent Valley 327. 1988; Vajravelu, Fl. Palghat Dist. 523. 1990. *Aneilema semiteres* Dalz. in Hook.'s, J. Bot. Kew Gard. Misc. 3: 138. 1851.[COMMELINACEAE]

339. Mimusops elengi L., Sp. Pl. 349. 1753; Hook. f., Fl. Brit. India 3: 548. 1882; Gamble, Fl. Pres. Madras 765(538). 1921; Sasidh. & Sivar., Fl. Pl. Thrissur For. 267. 1996.[SAPAOTACEAE]

Medium trees, branchlets rusty tomentose. Leaves 8-12 x 4-6 cm, broadly elliptic. Flowers 2-5 together, in axillary fascicles; rusty tomentose; sepals 4 + 4; outer sepals 8 x 4 mm, ovate, acute, white, tomentose; corolla yellowish brown, to 12 mm across; stamens 8, filaments densely hairy, anthers villous on back,; ovary ridged, tomentose. Berry 3 x 2 cm, ovoid, glabrous.

340. Mitragyna parvifolia (Roxb.) Korth., Observ. Naucl. Ind. 19. 1839; Gamble, Fl. Pres. Madras 585(413). 1921; Manilal, Fl. Silent Valley 136. 1988; Vajravelu, Fl. Palghat Dist. 236. 1990. *Stephegyne parvifolia* (Roxb.) Korth., Verh. Nat. Gesch. Ned. Bezitt. Bot. 161. 1842; Hook. f., Fl. Brit. India 3: 25. 1880.[RUBIACEAE]

Large trees. Leaves 13-17 x 9-12 cm, ovate. Heads 3 cm across, terminal, solitary; bracteoles spathulate. Flowers 12 mm long, shortly pedicelled, calyx tube truncate; corolla tube 8 mm long, villous inside, lobes 4, oblong, deflexed; anthers sessile; ovules many; style 12 mm long, filiform. Capsule 6 x 4 mm, 6-ribbed, ellipsoid.

341. Mollugo pentaphylla L., Sp. Pl. 89. 1753; Gamble, Fl. Pres. Madras 553(390). 1919; Vajravelu, Fl. Palghat Dist. 221. 1990. *Mollugo stricta* sensu Clarke in Hook. f., Fl. Brit. India 2: 663. 1879 p.p., non L. 1762. [MOLLUGINACEAE]

Erect herbs, stem quadrangular. Leaves whorled, 3-5 at each node, 2-3 x 1 cm, obovate to lanceolate. Flowers 3 mm across, greenish-white; sepals 5, 2 x 1 mm, obovate, obtuse, glabrous; stamens 3, free; ovary 3-5 celled, ovules many; styles 3, free. Capsule ellipsoid, glabrous. Seeds many, sub-reniform, dark brown.

342. Momordica charantia L., Sp. Pl. 1009. 1753; Hook. f., Fl. Brit. India 2: 616. 1879; Gamble, Fl. Pres. Madras 532(375). 1919; Manilal, Fl. Silent Valley 119. 1988; Vajravelu, Fl. Palghat Dist. 214. 1990.[CUCURBITACEAE]

Leaves 5-7 lobed, to 7-12 cm across; lobes ovate, to 5 cm. Flowers dioecious; male flowers 1.5-2 cm across, solitary, axillary, calyx to 12 mm, lobes ovate; petals to 1.5 x 1 cm, obovate, rounded; stamens 3, pistillode 3-lobed; ovary to 1 cm, fusiform, mucronate. Berry 8-15 cm, oblong, tubercled, seeds ovoid.

343. Momordica dioica Roxb. *ex* Willd., Sp. Pl. 4: 605.1805; Hook. f., Fl. Brit. India 2:617. 1879; Gamble, Fl. Pres. Madras 531(375). 1919;Vajravelu, Fl. Palghat Dist. 214.1990. [CUCURBITACEAE]

Large trees, bark flaking off, branchlets lenticellate. Leaves 3-pinnate, secondary rachis 3 pairs; leaflets 2-5 pairs. flowers white; calyx lobes 1.5-2 mm, ovate, pubescent; petals 7 x 1 mm, obovate; staminal tube 6 mm; anther exserted; ovary 5-celled, 1 mm, stigma capitate. Drupe to 2 x 1 cm, globose.

335. Merremia umbellata (L.) Hall. f. in Engl., Bot. Jahrb. Syst. 16: 552. 1893; Gamble, Fl. Pres. Madras 928(651). 1923; Manilal, Fl. Silent Valley 190. 1988; Vajravelu, Fl. Palghat Dist. 313. 1990. *Convolvulus umbellatus* L., Sp. Pl. 155. 1753. [CONVOLVULACEAE]

Prostrate or twining herbs, stem sparsely hairy. Leaves 5-8 x 3-5 cm, oblong. Flowers subumbellate; pedicels 1 cm long; sepals 8 x 6 mm, suborbicular, obtuse; corolla 3.5 cm long, campanulate, white, lobes hairy at apex; filaments broadened and glandular below. Capsule 2 cm across, globose, seeds angular, black, pubescent.

336. Mesua ferrea L., Sp. Pl. 515. 1753; Hook. f., Fl. Brit. India 1: 277. 1874; Gamble, Fl. Pres. Madras 77(55). 1915. *Mesua roxburghii* Wight, Illustr. 1: 127. 1840. *Mesua nagassarium* Kosterm., Ceylon J. Sci. 12, 1: 71. 1976, non Burm. f; Manilal, Fl. Silent Valley 21. 1988; Vajravelu, Fl. Palghat Dist. 72.1990.[CLUSIACEAE]

Bark reddish grey. Leaves elliptic. Flowers solitary, axillary; pedicels 5 mm long, slender; sepals 6 mm across, orbicular, obtuse, puberulus; petals to 2 x 1.5 cm, white, obovate, obtuse; stamens polyadelphous. Capsule to 2 cm across, ellipsoid, acute, glabrous, seeds plano-convex.

337. Mesua thwaitesii Planch. & Triana, Ann. Sci. Nat. Bot. ser. 4, 15: 305. 1861; Hook. f., Fl. Brit. India 1: 278. 1874; Singh in Sharma & Sanjappa, Fl. Ind. 3: 143. 1993. *Mesua ferrea* L. var. *thwaitesii* (Planch. & Triana) Vesque in A. & C. DC., Monogr. Phan. 8: 634. 1893. [CLUSIACEAE]

Bark greyish green. Leaves oblong, apex acuminate, base acute. Flowers in terminal cymes, sessile; sepals to 1.5 cm across, orbicular, glabrous; petals 3-4 x 2-3 cm, obovate; stamens polyadelphous. Capsule to 5 cm across, depressed globose, acute, greenish yellow; seeds 2 or 3, to 3 x 2 cm plano-convex or trigonous, brown.

338. Mimosa pudica L., Sp. Pl. 518. 1753; Hook. f., Fl. Brit. India 2: 291. 1878; Gamble, Fl. Pres. Madras 421(298). 1919; Manilal, Fl. Silent Valley 94. 1988; Vajravelu, Fl. Palghat Dist. 188. 1990.[FABACEAE]

Perennial herbs, prickles scattered. Pinnae to 3.5 cm long. Head to 2 cm across, peduncled, axillary. Flowers 1.5 mm long; calyx minute; corolla tube broaden above, lobes obtuse; filaments 4. Pods to 25 x 5 mm, 3-5 seeded, bristly along the margins.

Large trees, bark rough with vertical fissures, exudate yellowish. Leaves alternate, 16-22 x 3-5 cm, oblong. Flowers many, unisexual; sepals 2 x 1.5 mm, triangular, 4 x 1.5 mm, oblong, curved; fertile stamens 1; ovary 1-celled, ovule solitary, style lateral. Drupe to 6 x 3 cm, oblong, mesocarp fleshy; endocarp fibrous; seed sub-reniform.

330. Manihot esculenta Crantz., Inst. Rei. Herb. 1: 167. 1766; Manilal & Sivar., Fl. Calicut 259. 1982; Sivar. & Philip, Fl. Nilambur 630. 1997. *Manihot utilissima* Phol., Pl. Bras. Ic. 1: 32. 1827; Gamble, Fl. Pres. Madras 1346(942).1925.[EUPHORBIACEAE]

A Sub herbaceous tall shrub with large tuberous roots. Stem nodose. Leaves palmately compound with 3-7 narrow segments. Flowers monoecious. Fruit a capsule. Seeds ovoid or oblong.

331. Marsilea minuta L., Mant. Pl. 308. 1771; R.D.Dixit, Cens. Indian Pterid. 85. 1984; Manickam & Irud., Pterid. Fl. W. Ghats 342. pl. 259. 1992; Subh.Chandra, Ferns India 423. 2000. [MARSELIACEAE]

Terrestrial or aquatic herbs. Rhizome 1-1.5 mm thick, long creeping. fronds 8-10 x 1-2 cm, simple; lamina quadrifid; each lobe 0.8-1 x 0.6-1 cm, obovate or obtriangular. Sporocarps 3 x 2.5 mm, oblongoid, hispid when young, less hairy at maturity, with 4-5 mm long stalk, produced in clusters.

332. Martynia annua L., Sp. Pl. 618. 1753; Gamble, Fl. Pres. Madras. 1003(705). 1924; Vajr., Fl. Palghat Dist. 336. 1990. *Martynia diandra* Gloxin, Obs. Bot. 14, t. 1. 1785; Hook. f., Fl. Brit. India 4: 386. 1884.[PEDALIACEAE]

Erect viscid,densly glandular, pubescent herbs. Leaves opposite broadly ovate, dentate, cordate at base. Flowers showy, pink outside, yellow and brown dotted inside; calyx and corolla glandular, pubescent; stamens two. Fruit ovoid with an upturned beak.

333. Mastixia arborea (Wight) Bedd. ssp. **meziana** (Wang.) Matthew, Blumea 23: 89. 1976 & Fasc. Fl. Ind. 19: 27. 1988; Vajravelu, Fl. Palghat Dist. 225. 1990. *Mastixia meziana* Wang., Feddes Repert. 4: 336. 1907; Gamble, Fl. Pres. Madras 573(405). 1919 [CORNACEAE]

Large trees, bark dull yellow inside, branchlets ferruginous-tomentose. Leaves 12-15 x 5-7 cm, apex acuminate, base attenuate. Flowers sessile, 7 mm across, greenish yellow; calyx lobes 5, deltoid, puberulous; petals 5, thick, puberulous outside. Drupe 3 x 1.5 cm, oblong, glabrous.

334. Melia dubia Cav., Diss. 7: 364. 1789; Hook. f., Fl. Brit. India 1: 545. 1875; Vajravelu, Fl. Palghat Dist. 111. 1990. *Melia composita* Willd., Sp. Pl. 2: 509. 1799; Gamble, Fl. Pres. Madras 176(126). 1915.[MELIACEAE]

Appl. Agric. Trop. 23:149. 1943; Vajravelu, Fl. Palghat Dist. 267. 1990 [SAPOTACEAE].

Medium trees, exudation milky. Leaves 15-20 x 7-10 cm, broadly elliptic. Flowers crowded at the tip of branchlets or rarely from the scars of fallen leaves; calyx lobes 11 x 6 cm, obovate, acuminate, densely brown tomentose; corolla lobes 12, 5 x 2 mm, twisted; stamens 3 series, sessile; anthers apiculate, hairy on back; ovary tomentose, 6-celled, 6-ovuled.

326. Maesa indica (Roxb.) DC., Trans. Linn. Soc. London 17: 134. 1834; Manilal, Fl. Silent Valley 166. 1988; Vajravelu, Fl. Palghat Dist. 264. 1990. *Baeobotrys indica* Roxb., Fl. Ind. 2: 230. 1824. *Maesa indica* (Roxb.) DC. var. *perrottetiana* (A. DC.) Clarke in Hook. f., Fl. Brit. India 3:509. 1882.[MYRSINACEAE]

Large shrubs, branchlets glandular. Leaves 10-15 x 4-8 cm, ovate. Flowers in axillary, 3-6 cm long racemes; pedicels 2 mm long; bracteoles 2, opposite, inserted, below the calyx; calyx, lobes 5, orbicular, 0.5 mm long; corolla white, 4 mm across, lobes obovate; stamens 5, anthers orbicular; ovary 1-celled, ovules many, immersed in globose placenta, stigma capitate. Berry 4 mm across; seeds few, angular, black.

327. Mallotus philippensis (Lam.) Muell.-Arg., Linnaea 34: 196. 1865; Hook. f., Fl. Brit. India 5: 442. 1887, "philippinensis"; Gamble, Fl. Pres. Madras 1322(924). 1925; Vajravelu, Fl. Palghat Dist. 433. 1990. 1996. *Croton philippense* Lam., Encycl. 2: 206. 1786.[EUPHORBIACEAE]

Small trees, branchlets rusty tomentose. Leaves 12-18 x 5-8 cm, ovate. Flowers in terminal rusty puberulus panicle. Male flowers 4 mm across; sepals 3, ovate, acute, hairy; stamens many. Capsule 7 mm across, globose, densely red-glandular; seeds 1-4, globose, glabrous, brown.

328. Mallotus tetracoccus (Roxb.) Kurz, J. Asiat. Soc. Bengal 16: 245. 1873; Manilal, Fl. Silent Valley 253. 1988; Vajravelu, Fl. Palghat Dist. 434. 1990. *Rottlera tetracocca* Roxb., Fl. Ind. 3: 827. 1832. [EUPHORBIACEAE]

Small trees, branchlets tomentose. Leaves 12-18 x 13-16 cm, broadly ovate to orbicular. Male flowers in groups of 3-6, sessile, sepals 4 or 5, orbicular, densely hairy; stamens many, free. Female flowers in branched terminal panicles; sepals 5-6, ovate, densely hairy, styles 3, bifid, spreading. Capsule 15 mm across, 4-lobed, densely stellate hairy.

329. Mangifera indica L., Sp. Pl. 200. 1753; Hook. f., Fl. Brit. India 2: 13. 1876; Gamble, Fl. Pres. Madras 259(185). 1918; Manilal, Fl. Silent Valley 67. 1988; Vajravelu, Fl. Palghat Dist. 138. 1990. [ANACARDIACEAE]

320. Lycoperdon sp. [LYCOPERDACEAE]

Sporopores solitary or scattered on the ground in open places of forests; 6-8 cm high and 5-8.5 cm in diamete, pteridium usually with a definite apical mouth, greyish brown, gleba light yellow, basidiospores brown globos and verucos.

321. Lycopersicon esculentum Mill., Gard. Dict. (ed. 8) 2. 1768; Hook. f., Fl. Brit. India 4: 237. 1883; Gamble, Fl. Pres. Madras 941(661). 1923. *Lycopersicon cerasiforme* Dunal, Solan. Synop. 113. t. 3. f. B. 1813 & in DC., Prodr. 13: 26. 1852.[SOLANACEAE]

A speading unarmed pubescent herb with characteristic odour. Leaves unevenly pinnate. Flowers yellow born in peduncled cyme. Fruit a globose berry, pulpy. Seeds numerous compressed and papillose.

322. Lygodium flexuosum (L.)Sw., Schrad. Journ. Bot. 1800(2): 106. 1801. Dixit, Cens. Ind. Pterid. 60. 1984; Manickam & Irud., Pterid. Fl. W. Ghats 61. t. 38. 1992. *Ophioglossum flexuosum* L., Sp. Pl. 1063. 1753.[SCHIZAECEAE]

Climbing herbs. Rhizome creeping, black hairy. Fronds 60-80 cm long, tripinnate; fertile pinnules ovate to rounded, laciniate, lobes subcordate or truncate at base, costa raised below, indistinct above, veins free forked. Sporangia yellowish-brown, crowded on the lobes of fertile pinnae. Spores black, triangular, reticulate.

323. Macaranga peltata (Roxb.) Muell.-Arg. in DC., Prodr. 15: 1010. 1866; Gamble, Fl. Pres. Madras 1326(928). 1925; Vajravelu, Fl. Palghat Dist. 432. 1990. *Mappa peltata* (Roxb.) Wight, Ic. t. 817. 1844-45. [EUPHORBIACEAE]

Medium trees, bark brown, reddish inside, exudation red, gummy; branchlets thick, terete. Leaves 13-20 x 11-15 cm, ovate-orbicular, peltate. Panicles to 5 cm long, tomentose; bracts concave 3 mm long; stamens 3, free, filaments 5 mm long; ovary 1-celled, stigma acute. Capsule globose, black; seed 1.

324. Mecardonia procumbens (Mill.) Small, Fl. Southeast. U.S. 1065 & 1338. 1903; Sasidh. & Sivar., Fl. Pl. Thrissur For. 324. 1996; Sivar. & Mathew, Fl. Nilambur 476. 1997; *Bacopa procumbens* (Mill.) Greenm., Publ. Field Columbian Mus. Bot. ser. Chicago 2: 261. 1907. [SCROPHULARIACEAE]

Prostrate or diffuse herbs, rooting at lower nodes. Leaves to 2 x1 cm, ovate or elliptic, acute serrate. Flowers solitary, axillary. Calyx 5 partite; corolla yellow 2 liped; stamens 4. Capsule ellipsoid equlling calyx.

325. Madhuca indica J. Gmelin, Syst. Nat. 2:799. 1791. *Bassia latifolia* Roxb., Pl. Corom. t.19.1795; Gamble, Fl. Pres. Madras 763(536). 1921. *Madhuca longifolia* (Koenig) Macbr. var. *latifolia* (Roxb.) A. Chev., Rev. Int. Bot.

Sushrubs. Leaves 5-20 x 3-7 cm, elliptic-lanceolate, puberulent below, crenate. Racemes large, to 20 cm, terminal or axillary, glabrescent; sepals to 10 mm long, elliptic; corolla to 2.5 cm, ventral lobe ovate, white with violet tinge; anthers with white spreading hairs on back. Capsule to 10 mm across, globose.

316. Ludwigia peruviana (L.) H. Hara, J. Jap. Bot. 28: 293. 1953; Manilal, Fl. Silent Valley 114. 1988; Vajravelu, Fl. Palghat Dist. 208. 1990. *Jussiaea peruviana* L., Sp. Pl. 388. 1753. *Jussiaea speciosa* Ridley, J. Bot. 59. 1921; Gamble, Fl. Pres. Madras 1875(1298). 1936.[ONAGRACEAE]

Subshrubs, branchlets hirsute. Leaves 8-12 x 3-4 cm, oblong-lanceolate. Flowers *ca.* 5 cm across; bracteoles to 1 cm, deciduous; pedicel to 2 cm; calyx tube *ca* 2 cm, hirsute, 4-lobed, 1 x 0.5 cm, lanceolate; petals 4, to 3 x 2 cm, sub-orbicular, yellow; stamens 8; ovary 4-celled, ovules numerous. Capsule ca 3 cm, oblong, slightly 4-angled.

317. Luffa acutangula (L.) Roxb., Hort. Beng. 70. 1814 & Fl. Ind. 3: 713. 1832. var. **acutangula**; Hook. f., Fl. Brit. India 2: 615. 1879; Gamble, Fl. Pres. Madras. 533(377). 1919; Chakrav., Fasc. Fl. Ind. 2: 69. 1982. *Cucumis acutangula* L., Sp. Pl. 1011. 1753 [CUCURBITACEAE]

Large pubescent climber. Stem 5 angled; Tendrils branched. Leaves alternate orbicular in outline. Male flowers yellow with three stamens. Female flowers yellow solitary in same axils as males. Fruit small 6-11x 2-4 cm, berry, cylindric, angled, and fibrous. Seeds many oblong compressed.

318. Luffa acutangula (L.) Roxb., Fl. Ind. 3: 713. 1832; Gamble, Fl. Pres. Madras. 533(377). 1919; Jeffrey, Kew Bull. 34: 792. 1980: var. **amara** (Roxb.) Clarke in Hook.f., Fl. Brit. India 2: 615. 1879; Chakrav., Fasc. Fl. Ind. 2: 70. 1982. *Luffa amara* Roxb., Fl. Ind. 3: 715. 1832. [CUCURBITACEAE]

Large pubescent climber. Stem 5 angled; Tendrils branched. Leaves alternate orbicular in outline. Male flowers yellow with three stamens. Female flowers yellow solitary in same axils as males. Fruit large, 10-18x 5-8cm, berry, cylindric, angled, and fibrous. Seeds many oblong compressed.

319. Luffa cylindrica (L.) M. Roem., Syn. Monogr. 2: 63. 1846; Chakravarthy, Fl. India Fasc. 11: 70. 1982; Manilal, Fl. Silent Valley 118. 1988. *Momordica cylindrica* L., Sp. Pl. 1009. 1753. *Luffa aegyptiaca* Mill., Gard. Dict. ed. 4, 500. 1785; Clarke in Hook. f., Fl. Brit. India 2: 614. 1879; Gamble, Fl. Pres. Madras 533. 1919.[CUCURBITACEAE]

Climbers, tendrils 3-6-fid. Leaves to 7 x 7 cm, shallowly 5-lobed, lobes triangular, acute, toothed, densely hispid below, scabrous above; petiole to 6 cm long. Female flowers axillary, solitary; pedicel to 6 cm long. Fruit to 21 x 7 cm, cylindric, terete, fibrous; seeds many.

311. Leptogium cyanescens (Rabenh.) Korber, Syst. Lich. Germ. 420. 1855; Awasthi & Akhtar, Geophytol. 8: 195. 1979; Singh & Sinha, Lichen Fl. Nagaland 167. 1994. *Collema cyanescens* Rabenh., Deutsch. Krypt. Fl. 50. 1845. [COLLEMATACEAE]

Thallus foliose, loosely attached, 75-180 μm in thick, up to 6 cm in size, lead- gray to dark lead-gray; lobes orbicular, up to 8 mm wide; margin entire to isidiate, rarely lobulate, undulate; isidia laminal, dense, concolorous with the thallus, granular to cylindrical; lower surface pale, smooth, etomentose; apothecia absent.

312. Leucas aspera (Willd.) Spreng., Syst. Veg. 2:743. 1825; Hook. f., Fl. Brit. India 4: 690. 1885; Gamble, Fl. Pres. Madras 1150(803).1924; Vajravelu, Fl. Palghat Dist. 377.1990. *Phlomis aspera* Willd. in Link, Enum. Hort. Berol. 2: 621. 1809. *Leucas plukenetii* (Roth) Spreng., Syst. Veg. 2:743.1825. [LAMIACEAE]

Herbs, pubescent. Leaves 4-5.5 x 0.8 cm, elliptic. Flowers white; bracts 8 mm long, linear, ciliate, acute; calyx mouth oblique, 5 mm, 10-toothed, ciliate with bulbous based hairs at apex; corolla tube 8 mm, upper lobe 4 mm, lower 8 mm; filaments 4 and 5 mm, pubescent; ovary 1 mm, style 8 mm.

313. Leucas indica (L.) R. Br. ex Vatke in Oesterr., Bot. Zeits. 25: 95. 1875; Vajravelu, Fl. Palghat 378. 1990. *Leonurus indicus* L., Syst. Nat. (ed. 10) 1101. 1759. *Leucas linifolia* (Roth) Spreng., Syst. Veg. 2: 743. 1825; Hook. f. Fl. Brit. India 4: 690. 1885; Gamble, Fl. Pres. Madras 1149. 1924.[LAMIACEAE]

Erect herbs. Leaves to 9 x 1 cm, elliptic-lanceolate. Flowers white; bracts 5 mm, linear, pubescent; calyx 8 mm, oblique, pubescent; corolla tube 1 cm, upper lip 4 mm, densely pubescent, lower lip 3-lobed, 1 cm long; filaments 3 and 5 mm, pubescent; ovary 1 mm, oblong, style 1 cm.

314. Lobelia dichotoma Miq., Fl. Ind. Bat. 2: 576. 1856; Haridasan & Mukherjee, Fasc. Fl. Ind. 19: 47. 1988. *Lobelia zeylanica* Clarke in Hook. f., Fl. Brit. India 3: 425. 1881, incl. var. *walkeri*, p.p.; Gamble, Fl. Pres. Madras 736(518). 1921.[COMPANULACEAE]

Diffuse herbs, stem 3-winged, glabrous. Leaves 3 x 1.5 cm, obovate. Flowers in terminal, short raceme; sepals 4.5 x 1 mm, lanceolate, glabrous; corolla blue, 10 mm long, ventral lobe broader; lateral and dorsal lobes lanceolate; anthers 2.5 mm long, 2 anthers with penicillate black hairs at apex; style stout, curved; stigma with a ring of hairs below.

315. Lobelia nicotianifolia Roth *ex* Roem. & Schult. var. **trichandra** (Wight) Clarke in Hook. f., Fl. Brit. India 3: 427. 1881; Gamble, Fl. Pres. Madras 737(518). 1921; Vajravelu, Fl. Palghat Dist. 260. 1990. *Lobelia trichandra* Wight, Ic. t. 1171. 1848. [COMPANULACEAE]

306. Laportea interrupta (L.) Chew, Gard. Bull. Singapore 21: 200. 1965; Vajravelu, Fl. Palghat Dist. 453. 1990. *Urtica interrupta* L., Sp. Pl. 985.1753. *Fleurya interrupta* (L.) Gaud., Voy. Uranie 12: 497. t.8. 1830;Gamble, Fl. Pres. Madras 1372(959). 1928.[URTICACEAE]

Herbs with stinging hairs. Leaves 9-15 x 7-10 cm, broadly ovate. Spikes to 22 cm long, interrupted, axillary; erect or horizontal. Female perianth lobes 1 mm long, ovate, hispid, keeled; ovary compressed, style 1 mm long, ovary compressed; male perianth lobes 4, 1 mm long, curved, hirtus; stamens 4. Achenes 1.5 x 1 mm, ovate, acute, rugose at margins.

307. Lawsonia inermis L., Sp. Pl. 349. 1753; Koehne, Bot. Jahrb. 4: 36. 1883; Manilal & Sivar., Fl. Calicut 115. 1982; Sasidh. & Sivar., Fl. Thrissur 196. 1996; Sivar. & Philip, Fl. Nilambur 279. 1997. *Lawsonia spinosa* L., Sp. Pl. 349. 1753.[LYTHRACEAE].

A large glabrous shrub. Leaves opposite, nearly sessile. Flowers yellowish white in large terminal panicled cyme; calyx tube minute; petals 4; stamens 8, inserted in pairs on the calyx tube between the petals. Ovary frre, globose; ovule numerous. Fruit a capsule. Seeds many.

308. Leea indica (Burm. f.) Merr., Philipp. J. Sci. 14. 245. 1919; Manilal, Fl. Silent Valley 61. 1988; Vajravelu, Fl. Palghat Dist. 127. 1990. *Staphylea indica* Burm. f., Fl. Ind. 75,t.23. f.2. 1768. [VITACEAE]

Shrubs to small trees. Leaves 2 or 3-pinnate, leaflets 11-14 x 3-5 cm. Cymes to 6 x 8 cm, peduncles 3-4 cm long, paired, axillary. Flowers greenish-white. Staminal tube shortly lobed at apex, anthers combined. Berry purple, *ca.* 6 mm across; seeds densely red-glandular.

309. Lentinus squarrosulus Mont. in Ann. Sci. Nat. Bot. Ser. 2, 18: 21, 1842; Pelger in Kew Bull. Addl. Ser. 12: 17. 1986; *Pleurotus squarrosulus* (Mont.) Singer in Sydowia, 15; 45, 1961. [LENTINACEAE]

Sporophores usually growing in clusters on the logs, white to cream coloured, subinfundiliform with a deep centric depression, gills crowded, white to cream when young brownish with age, edge serrate, stipes central, basidia clavate, basidiospores hyline, smooth and thin walled.

310. Lepianthes umbellata (L.) Rafin., Sylva Tellur. 85. 1838; Manilal, Fl. Silent Valley 230. 1988; Vajravelu, Fl. Palghat Dist. 395. 1990. *Piper umbellatum* L., Sp. Pl. 30. 1753. *Hackeria subpeltata* (Willd.) Kunth, Linnaea 13: 571. 1839; Gamble, Fl. Pres. Madras 1208(846). 1925.[PIPERACEAE]

Erect subshrubs, stem ridged. Leaves 20-40 cm, orbicular. Spikes 8-15 x 0.3 cm, cylindric, 3-7 together, umbellate, peduncled, axillary, bracts peltate, triangular, ciliate. Flowers densely packed; stamens 3, filaments short; ovary obovoid, truncate, stigmas 3, sessile, curved out. Berry trigonous, minute.

Trees, 5-7 m with stellate tomentum. Leaves ovate orbicular, 7 ribbed stellate, crenate. Flowers white in axillary and terminal panicles; epicalyx segments 4-6 spathualte, persistant; petals obovate, emarginate, fimbriate, clawed, hairy. Capsule depressed.

302. Lablab purpureus (L.) Sweet, Hort. Brit. ed. 1: 481. 1827; Sanj., Leg. India 199. 1991; Matthew, FPH 331. 1999. *Dolichos purpureus* L., SP. Pl. ed. 2: 1021. 1763. *D. lablab* L., Sp. Pl. 725. 1753; Baker in Hook. f., FBI 2: 209. 1876; Gamble, Fl. Pres. Madras 367. 1918. [FABACEAE]

Climbing shrub. Leaves alternate, 3 foliolate, to 18 x 16 cm; terminal leaflet to 10 x 7 cm, ovate-deltoid. Racemes to 30 cm. Flowers 2 cm across, purplish; calyx tube campanulate; standard to 1.5 x 2.5 cm, orbicular; wings 1.2 x 0.8 cm, obovate; keels 2 x 0.5 cm, oblong; ovary pubescent. Pod to 5x 2 cm, oblong-falcate, compressed; seeds ovoid.

303. Lagenaria siceraria (Molina) Standley, Publ. Field Mus. Nat. Hist., Bot. ser. 3: 435. 1930;Manilal & Sivar., Fl. Calicut 120. 1982; Sivar. & Philip, Fl. Nilambur 291. 1997.*Lagenaria vulgaris* Ser., Mém. Soc. Phys. Hist. Nat. Genéve 3: 25, t. 2.1825. [CUCURBITACEAE]

A softly pubescent climbing herb. Tendles two fid. Leaves ovate or orbicular cordate dentate. Flowers large solitary white monoeous or dioceous, males long, females short peduncle, stamens free, ovary oblong style short, three fid; ovules many horizontal, fruit bottle or dumbbell shaped.

304. Lagerstroemia microcarpa Wight, Ic. t. 109. 1839; Manilal, Fl. Silent Valley 113. 1988; Vajravelu, Fl. Palghat Dist. 205. 1990. *Lagerstroemia lanceolata* Wall. *ex* Clarke in Hook. f., Fl. Brit. India 2: 576. 1879; Gamble, Fl. Pres. Madras 513(362). 1919. [LYTHRACEAE]

Large trees, bark smooth, white, branchlets terete. Leaves 7-10 x 3-5 cm, elliptic-lanceolate. Racemes paniculate to 20 cm long. Flowers pedicellate; calyx lobes triangular, pubescent; petals 3 mm long, obovate, white, clawed; filaments erect, ovary 5-6 celled. Capsule 10 x 6 mm, obovoid, 6-valved; seeds 3-4 in each cell, flat.

305. Lantana camara L. var. **aculeata** (L.) Moldenke, Torreya 34: 9. 1934; Hook. f., Fl. Brit. India 4: 562. 1885; Manilal, Fl. Silent Valley 214. 1988; Vajravelu, Fl. Palghat Dist. 366. 1990. *Lantana aculeata* L., Sp. Pl. 627. 1753; Gamble, Fl. Pres. Madras 1087(761). 1924. *Lantana camara* L., Sp. Pl. 627.1753.[VERBENACEAE]

Leaves 4-6 x 3-3.5 cm, ovate. Spikes 1.5 cm across, globose, axillary, solitary, peduncled; bracts 8 x 3 mm, ovate, obtuse, floral bracts smaller. Flowers densely packed; calyx 1 mm long truncate, ciliate; corolla reddish, 4 mm broad, tube 8 mm long, curved, slender. Berry 4 x 4 mm, dark blue, smooth.

hyaline margins, glabrous; stamens 3, filaments connate. Capsule 2 x 2 mm, smooth; seeds 6, 1 x 1 mm, trigonous, prominently 6-ridged on outer face, rugose along concentric lines on lateral faces.

394. Phyllanthus emblica L., Sp. Pl. 982. 1753; Hook. f., Fl. Brit. India 5: 289. 1887; Manilal, Fl. Silent Valley 253. 1988; Vajravelu, Fl. Palghat Dist. 436. 1990. *Emblica officinalis* Gaertn., Fruct. 2: 122. 1791; Gamble, Fl. Pres. Madras 1295(906). 1925. [EUPHORBIACEAE]

Small to medium trees, leafy branchlets 8-18 cm long, villous. Leaves to 1 x 0.25 cm, numerous on lateral branchlets, oblong. Flowers densely clustered in leaf axils, pedicelled; sepals 6, 2 mm long, oblong, glabrous; stamens 3, filaments combined into a column. Capsule 1-2.5 cm across, subglobose, fleshy with 1 nut, glabrous.

395. Phyllanthus reticulatus Poir. in Lam., Encycl. 5:298.1804; Hook. f., Fl. Brit. India 5: 288.1887. *Kirganelia reticulata* (Poir.) Baill., Etud. Gen. Euphorb. 613. 1858; Gamble, Fl. Pres. Madras 1294(905). 1925; Vajravelu, Fl. Palghat Dist. 432. 1990.[EUPHORBIACEAE]

Shrubs, often thorny, branchlets rough, villous, reddish brown. Leaves 2-3 x 1.3 cm, elliptic-oblong. Flowers fascicled on leaf axils; pedicels 5-8 mm long; male sepals 5, 2 mm long, orbicular, reddish; stamens 5, outer filaments free, inner ones combined. Capsule 4 mm across, fleshy; seeds 1.5 x 1 mm, trigonous, brown, reticulate.

396. Physalis angulata L., Sp. Pl. 183. 1753; Hook. f., Fl. Brit. India 4: 238. 1883; Gamble, Fl. Pres. Madras 939(659). 1923; Gamble, Fl. Pres. Madras 939(659). 1923; Manilal, Fl. Silent Valley 192. 1988; Vajravelu, Fl. Palghat Dist. 316. 1990.[SOLANACEAE]

Annual herbs, branches angular. Leaves 4-6 x 2-3 cm, ovate. Flowers solitary, pedicels 1 cm long; calyx 5-toothed, in fruit 2.5 cm across; corolla pale-yellow, 0.8 cm across; ovary 2 mm, style 6 mm, stigma globose Berry 0.7 mm across; seeds minutely rugose.

397. Physalis peruviana L., Sp. Pl. ed. 2: 1670. 1762; Clarke in Hook. f. Fl. Brit. India 4: 238. 1883; Gamble, Fl. Pres. Madras 939. 1923; Matthew & Rani in Matthew, Fl. Tamil Nadu Carnatic 1057. 1983; Vajravelu, Fl. Palghat 317. 1990.[SOLANACEAE]

Pubescent herbs. Leaves to 6 x 4.5 cm, cordiform. Flowers axillary, solitary; pedicels to 8 mm; calyx tube 4 mm, lobes 4 mm; corolla tube 5 mm, broadly campanulate, yellow; ovary 2 mm, style 6 mm, stigma globose. Berry 1.2 cm across, enclosed in enlarged calyx, to 5 x 3 cm.

398. Pimpinella heyneana (DC.) Kurz, J. Asiat. Soc. Bengal 46: 115. 1877; Gamble, Fl. Pres. Madras 560(395). 1919; Manilal, Fl. Silent Valley 126. 1988; Vajravelu, Fl. Palghat Dist. 223. 1990. *Helosciadium heyneanum* DC., Prodr. 4: 106. 1830.[APIACEAE]

Erect or decumbent herbs, stem terete. Leaves alternate, 5-7 cm across. Umbels terminal, panicled; rays 10; secondary rays many, each 3 cm long. Flowers 9-16 in an umbellule, 1.5 mm across, white; pedicels 5 mm long; calyx shortly 5-toothed; petals 5, 1 mm long, orbicular; stamens 5. Fruit 3 x 2 mm, ovate, densely villous, rugose.

399. Pinanga dicksonii (Roxb.) Blume, Rumph. 2: 85. 1838; Hook. f., Fl. Brit. India 6:409.1892; Gamble, Fl. Pres. Madras. 1556(1086). 1931; Manilal, Fl. Silent Valley 329. 1988; Vajr., Fl. Palghat Dist. 529. 1990.[ARECACEAE]

Unbranched woody palm. Stem smooth, green annulate. Leaves long, leaflets premorse. Spadix with 4-8 branches. Flowers dark pinkish, 3 together; female in middle; stamens many. Fruits ellipsoid with fibrous pericarp. Seed one.

400. Piper betle L., Sp. Pl. 28. 1753; Huber in Dassan., Rev. Handb. Fl. Ceylon 6: 287.1988 ("1987") [PIPERACEAE].

Climbers. Leaves 8-20 x 5-8 cm, ovate, 5-7 ribbed; petiole 1-3 cm long. Female spike stout, erect; peduncle short; bracts peltate, orbicular. Male spike to 5 cm long, erect, slender; stamens 2. Fruting spike up to 10cm long.

401. Piper longum L., Sp. Pl. 29. 1753; Hook. f., Fl. Brit. India 5: 83. 1886; Gamble, Fl. Pres. Madras 1205(844). 1925; Sasidh. & Sivar., Fl. Pl. Thrissur For. 376. 1996. *Chavica roxburghii* Miq., Syst. Piperac. 239. 1843.[PIPERACEAE]

Leaves 4-8 x 3-4 cm, ovate; petiole 1-3 cm long. Female spike stout, erect; peduncle 1.5 cm long; bracts peltate, orbicular. Male spike to 7 cm long, erect, slender; stamens 2. Berry 2 mm across, glabrous, black or deep red.

402. Piper mullesua Buch.-Ham. *ex* D. Don, Prodr. Fl. Nepal 20. 1825. *Piper brachystachyum* Wall. *ex* Hook. f., Fl. Brit. India 5: 87. 1886; Gamble, Fl. Pres. Madras 1206(844). 1925; Manilal, Fl. Silent Valley 231. 1988. *Chavica sphaerostachya* Miq., Syst. Piperac. 239. 1843. [PIPERACEAE]

Leaves 5-9 x 2-4 cm, elliptic, apex acuminate, base acute, 3-5 ribbed, secondary nerves prominent, glabrous. Female spike to 7 x 4 mm, erect, oblong; peduncle 3 mm long; male spike to 4 cm long, erect, slender; bracts peltate, orbicular; stamens 3; stigmas 3, spreading. Berry 1.5 mm across, red.

403. Piper nigrum L., Sp. Pl. 28. 1753; Hook. f., Fl. Brit. India 5: 90. 1886; Gamble, Fl. Pres. Madras 1206(845). 1925; Manilal, Fl. Silent Valley 231. 1988; Vajravelu, Fl. Palghat Dist. 398. 1990. [PIPERACEAE]

Leaves 10-16 x 7-10 cm, ovate; petiole to 2.5 cm long. Spikes to 12 cm long, slender; peduncles to 2.5 cm long; bracts united forming a cup below the flower. Flowers closely placed; stamens 2; stigmas 3-5, recurved. Berry 5 mm across, globose, smooth, deep red.

404. Pithecellobium dulce (Roxb.) Benth. in Hook.'s Lond. J. Bot. 3: 199. 1844; Hook. f., Fl. Brit. India 2: 302. 1878; Gamble, Fl. Pres. Madras 434(308). 1919; Vajravelu, Fl. Palghat Dist. 189. 1990. *Mimosa dulcis* Roxb., Pl. Corom. 1: 67. t.99. 1798.[FABACEAE]

Trees; spines straight, branchlets pubescent. Leaves bipinnate, pinnae 3 cm. Panicles 15-20 cm, pubescent; flowers 5 mm across, creamy white; stamens numerous, filaments 4 mm, basally united; ovary 2 mm, pubescent, stigma minute. Pods 9 x 1 cm, circinate, turgid, pubescent

405. Pittosporum neelgherrense Wight & Arn., Prodr. 154. 1834; Hook. f., Fl. Brit. India 1: 198. 1872, "nilghirensis"; Gamble, Fl. Pres. Madras 55(40). 1915; Manilal, Fl. Silent Valley 12. 1988. [PITTOSPORACEAE]

Small trees. Leaves 9-12 x 2.5-4 cm, elliptic. Racemes 2-5 together, terminal, 2-3 cm long, stout; pedicel 5 mm long, glabrous. Capsule globose, rugulose, brown; seeds 7-10, shining.

406. Plantago erosa Wall. in Roxb., Fl. Ind. 1: 423. 1820; Pilger in Engl., Pflanzenr. 20: 60. 1937. *Pantago asiatica* auct. non L. 1753; Wight, Ill. 2: t. 177. 1850; Gamble, Fl. Pres. Madras 1160. 1924. [PLANTAGINACEAE]

Scapigerous herbs. Leaves radical, to 6 x 3 cm, ovate. Spikes terminal, 3-7, to 8 cm; bracts 1 mm, lanceolate, scarious on the margins; sepals 4, 2.5 mm, ovate; corolla tube to 1.5 mm, lobes minute, acute; filaments 1 mm, connectives produced, anthers 1 mm, versatile; ovary 1 mm, style 2 mm, ovules many, stigma hairy above the middle.

407. Pleurotus flabellatus (Berk.) Sacc. Fung. 5:369.1887; Manjula, Proc. Ind. Acad. Sci. 92(2): 113.1983. [LENTINACEAE]

Sporophores growing on dead tree trunk or the ground, solitary or caespitose. Pileus, slender, flabelliform, 6-11 cm in diameter, initially white. Gills deccurent, narrow. Stipe short. Basidia 4 spored. Basidiospores hyaline and cylindric.

408. Pleurotus sp. [LENTINACEAE]

Sporophores growing in large clusters on dead tree, centrally stipitate. Pileus, fleshy, 5.5—12.8 cm in diameter. Gills decurrent. Stipe solid, central. Basidia 4 spored. Basidiospores oblong.

409. Pleurotus sp. [LENTINACEAE]

Sporophores growing on stumps. Pileus, 5-12 cm in diameter, companulate. Gills crowded. Stipe central . Basidia 4 spored. Basidiospores hyaline and oblong.

410. Pleurotus sp. [LENTINACEAE]

Sporophores growing in groups on stumps, centrally stipitate. Pileus, fleshy, 4-9 cm in diameter. Gills crowded. Stipe solid, central. Basidia 4 spored. Basidiospores cream coloured and oblong.

411. Pleurotus sp. [LENTINACEAE]

Sporophores growing in groups on wood, centrally stipitate. Pileus, fleshy, 6-9 cm in diameter. Gills crowded, fleshy decurrent. Stipe solid, central. Basidia 4 spored. Basidiospores hyline and ellipsoid.

412. Pleurotus tuberreginum(Fr.) Singer, Lillola 22: 271.1951. [LENTINACEAE]

Sporophores growing on dead tree trunk, solitary or caespitose . Pileus 10-20 cm in diameter, initially white, later turned to brown. Gills deccurent, ash grey. Basidia 4 spored. Basidiospores hyaline and ellipsoidal.

413. Plumbago indica L., Diss. Stickman 24.1754; M. Mohanan & Henry, Fl. Thiruvanthapuram 273. 1994; Sivar. & Mathew, Fl. Nilambur 388. 1997. *Plumbago rosea* L., Sp. Pl. (ed.2) 215. 1762; Hook. f., Fl. Brit. India 3: 481. 1882; Gamble, Fl. Pres. Madras. 745(524). 1921. [PLUMBAGINACEAE]

Subshrubs, stem striate. Leaves alternate, 4-8 x 3 cm, ovate. Flowers red, in terminal racemes; calyx tubular, 5 ; corolla tube 3 cm long; stamens 5, included; ovary 1-celled, ellipsoid, ovules solitary, pendulous, style 1, 5-fid at apex. Capsule 2 mm long, circumscissile at base, glandular hairy. Fruit a capsule. Seeds cylindric, pendulous.

414. Plumbago zeylanica L., Sp. Pl. 151. 1753; Hook. f., Fl. Brit. India 3: 480. 1882; Gamble, Fl. Pres. Madras 744(524). 1921; Vajravelu, Fl. Palghat Dist. 262.1990.[PLUMBAGINACEAE]

Subshrubs, stem striate. Leaves alternate, 4-6 x 4 cm, ovate. Flowers white, in terminal racemes; calyx 11 mm long, tubular, 5 ; corolla tube 2.5 cm long; stamens 5, included; ovary 1-celled, ellipsoid, ovules solitary, pendulous, style 1, 5-fid at apex. Capsule 2 mm long, circumscissile at base, glandular hairy. Fruit a capsule. Seeds cylindric, pendulous.

415. Pogostemon paniculatus (Willd.) Benth. in Wall., Pl. Asiat. Rar. 1:30.1830; Hook. f., Fl. Brit. India 4: 631. 1885; Vajravelu, Fl. Palghat Dist. 382. 1990. *Elsholtzia paniculata* Willd., Sp. Pl. 3: 59. 1800.[LAMIACEAE]

Subshrubs. Leaves 6-8 x 3-4 cm, ovate. Panicle large, branches 5-10-flowered, 1-sided; bracteoles 5 x 3 mm, oblique, falcate, imbricating. Flowers densely packed; calyx 4 mm long, 5-ribbed, lobes acuminate, hirsute; corolla 6 mm long, purplish, pubescent outside; filaments bearded.

416. Polyalthia coffeoides (Thw. *ex* Hook. f. & Thoms.) Hook. f. & Thoms. in Hook. f., Fl. Brit. India 1: 62. 1872; Gamble, Fl. Pres. Madras 16(11). 1915; Manilal, Fl. Silent Valley 3. 1988; Vajravelu, Fl. Palghat Dist. 48. 1990.*Guatteria coffeoides* Thw. *ex* Hook. f. & Thoms., Fl. Ind. 141. 1855.[ANNONACEAE]

Tall trees, bark black. Leaves 16-20 x 5-7 cm, ovate-oblong. Flowers few together; pedicels to 3 cm long, stout; sepals 2 x 5 mm, suborbicular, glabrous; petals 5 x 1 cm, oblong, acuminate, hispid, greenish-yellow; stamens 1 mm long. Fruitlets to 2.5 x 1.5 cm, obovoid.

417. Polyalthia fragrans (Dalz.) Bedd., Fl. Sylv. t. 74. 1871; Hook. f., Fl. Brit. India 1: 63. 1872; Gamble, Fl. Pres. Madras 16(11). 1915; Vajravelu, Fl. Palghat Dist. 48. 1990.*Guatteria fragrans* Dalz. in Hook.'s J. Bot. Kew Gard. Misc. 3: 200. 1851.[ANNONACEAE]

Tall trees; bark grey; young parts pubescent. Leaves 18-24 x 7-9 cm, elliptic. Pedicels stout, bracteate; sepals 4 x 5 mm, orbicular, pubescent; petals 5.5 x 0.5 cm, linear-oblong,; ovaries tomentose; stamens many, connective forms a truncate hood. Fruitlets to 2.5 cm across, globose, long-stalked.

418. Polycarpaea corymbosa (L.) Lam., Tabl. Encycl. 2: 129. 1792; Hook. f., Fl. Brit. India 1: 245. 1874; Gamble, Fl. Pres. Madras 65(46). 1915. *Achyranthes corymbosa* L., Sp. Pl. 205. 1753.[CARYOPHYLLACEAE]

Stem stout. Leaves whorled or decussate. Flowers in terminal corymbose cymes, white; bracts and bracteoles 2 mm, scarious; sepals 2.5 mm, scarious, lanceolate, acute; petals 0.8 mm, suborbicular; stamens 5, filaments 0.5 mm. Capsule 1 mm, oblong.

419. Polygala persicariifolia DC., Prodr. 1: 326. 1824; Hook. f., Fl. Brit. India 1: 202. 1872; Gamble, Fl. Pres. Madras. 58(42). 1915; Manilal, Fl. Silent Valley 15. 1988; Vajr., Fl. Palghat Dist. 65. 1990. *Polygala wallichiana* Wight, Illustr. t. 22A. 1840.[POLYGALACEAE]

Erect herbs. Leaves linear lanceolate to oblong. Flowers pink in terminal racemes; outer sepals elliptic oblong; wing sepal sub orbicular; keel petals crested with linear appendages. Style curved and winded at middle. Capsule winged ciliate. Seeds hirsute with hood shaped appendages.

420. Polypleurum dichotomum (Gard.) Hall, Kew Bull. 26: 131. 1972; Nagendran & Arekal, Bull. Bot. Surv. India 23: 232. 1981; Vajravelu, Fl. Palghat

Dist. 392. 1990. *Podostemon dichotomum* Gard., Calcutta J. Nat. Hist. 7: 185. 1846; Hook. f., Fl. Brit. India 5: 64. 1886.[PODOSTEMACEAE]

Thallus to 20 x 0.5 cm, branched, ribbon like, free floating, base attached on rocks; secondary shoots marginal. Leaves to 3 x 0.5 mm, 2, unequal. Flowers solitary on secondary shoot; stamens 2, monadelphous, staminodes *ca.* 3 mm long, 2, linear; style *ca* 1 mm long, lanceolate. Fruit *ca* 3 mm, ellipsoid, 8-ribbed, isolobous.

421. Pongamia pinnata (L.) Pierre, Fl. Forest. Cochinch. sub. t. 385. 1899; Vajravelu, Fl. Palghat Dist. 167. 1990. *Pongamia glabra* Vent., Jard. Malm. 28. t.28.1803; Hook. f., Fl. Brit. India 2:240.1876; Gamble, Fl. Pres. Madras 385(272). 1918. [FABACEAE]

Trees, branchlets lenticellate. Leaves paripinnate. Flowers pinkish-white; calyx tube 4 x 5 mm, campanulate, truncate; standard petal 1.2 x 1 cm, obovate; wings 1.2 x 0.4 cm, oblong; keel 1 x 0.3 cm, obtuse; staminal tube 8 mm, filaments 3 mm; ovary 5 mm, subsessile, pubescent, style 7 mm, incurved, stigma capitate. Pods to 4 x 3 cm, obliquely oblong, woody, indehiscent.

422. Porpax reticulata Lindl., Bot. Reg. 31: Misc. 66. 1845; Fischer in Gamble, Fl. Pres. Madras 1422. 1928;Abraham & Vatsala, Intr. Orch. 385. 1981; Manilal, Fl. Silent Valley 302. 1988.[ORCHIDACEAE]

Pseudobulbs discoid, covered with long sheaths. Flowers deep brownish red, from the base of pseudobulbs; bracts 6 x 7 mm, 14 x 6 mm, saccate at base, 3-lobed at apex; lobes ovate, acute; petals 8 x 3 mm; lip 5 x 4 mm, panduriform, 3-lobed, toothed; lateral lobes erect, ovate, obtuse; midlobe suborbicular, obtuse, denticulate, papillose.

423. Portulaca oleracea L., Sp. Pl. 445. 1753; Hook. f., Fl. Brit. India 1: 246. 1874; Gamble, Fl. Pres. Madras 66(47). 1915; Manilal, Fl. Silent Valley 17. 1988; Vajravelu, Fl. Palghat Dist. 68. 1990. [PORTULACACEAE]

Erect or prostrate herbs. Leaves 1.5 x 1 cm, obovate. Flowers terminal and axillary, solitary or 2-3 together; sepals 5 x 5 mm, ovate, acute, glabrous; petals 6 x6 mm, obovate, obtuse, white or yellow; stamens 12, filaments hairy at base. Capsule 7 x7 mm, ovoid, glabrous; seeds many reniform, tubercled, black.

424. Pothos scandens L., Sp. Pl. 968. 1753; Hook. f., Fl. Brit. India 6: 551. 1893; Gamble, Fl. Pres. Madras 1592(1110). 1931; Manilal, Fl. Silent Valley 334. 1988; Vajravelu, Fl. Palghat Dist. 535. 1990; Sasidh. & Sivar., Fl. Pl. Thrissur For. 487. 1996.[ARACEAE]

Stem angled. Leaf 5-9 x 3 cm, lanceolate. Inflorescence axillary; peduncle to 0.5 cm long; spathe 5 mm across, orbicular, obtuse, concave, brown; spadix 3-5 mm across, globose. Flowers densely packed; bracts 3-5, orbicular; stamens 6, free; ovary obovoid, stigma 3-toothed.

425. Pouzolzia zeylanica (L.) Bennett, Pl. Jav. Rar. 1: 67. 1838; Manilal, Fl. Silent Valley 265. 1988; Vajravelu, Fl. Palghat Dist. 457. 1990. *Parietaria zeylanica* L., Sp. Pl. 1052. 1753. [URTICACEAE]

Slender procumbent herbs. Leaves alternate or opposite, 3-5 x 2.5 cm, ovate or elliptic. Flowers in axillary clusters; bracts 2, concave, scarious; tepals 4, ovate-lanceolate, 1.5 mm long, sparsely villous. Achenes 2-winged.

426. Protasparagus racemosus (Willd.) Oberm., S. Afr. J. Bot. 2: 244. 1983. *Asparagus racemosus* Willd., Sp. Pl. 2: 152. 1799; Hook. f., Fl. Brit. India 6: 316. 1892; Gamble, Fl. Pres. Madras 1517(1060). 1928; Manilal, Fl. Silent Valley 318. 1988.[LILIACEAE]

Climbing subshrubs, roots tuberous, cladodes 3-angled. Racemes 2-4 cm long, axillary; bracts minute, ovate; pedicel 4 mm long. Flowers 7 mm across, white; tepals obovate, lobes oblong, acute; stamens 6; ovary 2 or 3 celled, cell 2-ovuled. Berry 7 mm across, globose, smooth.

427. Prunus ceylanica (Wight) Miq., Fl. Ind. Bot. 1: 366. 1855; Kalkman, Blumea 13. 1: 52. 1965. Manilal, Fl. Silent Valley 97. 1988; Vajravelu, Fl. Palghat Dist. 190. 1990. *Polydontia zeylanica* Wight, Illustr. 1: 203. 1840.[ROSACEAE]

Large trees, bark black, splitting into rectangular pieces. Leaves alternate, simple, 8-12 x 3-5 cm, ovate. Flowers 6 mm across, white ; calyx 2 mm long, cupular, campanulate, lobes ovate, acute, densely hairy; petals obovate, stamens many, filaments 3 mm long; ovary sessile, 1-celled, glabrous; ovules 2, pendulous; style 1, subulate; stigma capitate. Drupe to 1 x 2 cm, 2-lobed, globose, glabrous; seeds 2, globose.

428. Pseudarthria viscida (L.) Wight & Arn., Prodr. 209. 1834; Gamble, Fl. Pres. Madras 334(236). 1918; Vajravelu, Fl. Palghat Dist. 168. 1990; Sanjappa, Legumes Ind. 230. 1991. *Hedysarum viscidum* L., Sp. Pl. 747. 1753.[FABACEAE]

Subshrubs, viscid pubescent. Leaves 3-foliolate, leaflets 7-10 x 5-7 cm, broadly ovate. Flowers in terminal or axillary raceme; calyx 2-lipped, 2 mm long, lobes lanceolate; petals red, standard 6 mm diam; wings 3 mm long, oblong; keel glabrous; stamens 9 + 1; ovary sessile, many-ovuled; style inflexed. Pods 2-3 cm long, oblong, compressed, viscid hairy. Seeds 3-5, reniform.

429. Psidium guajava L., Sp. Pl. 470. 1753; Hook. f., Fl. Brit. India 2: 468. 1878, "guayava"; Gamble, Fl. Pres. Madras 472(334). 1919; Manilal, Fl. Silent Valley 103. 1988; Vajravelu, Fl. Palghat Dist. 201. 1990.[MYRTACEAE]

Small trees. Leaves 6-10 x 4-6 cm, oblong. Flowers to 3.5 cm across, axillary, solitary or in pairs; peduncle to 1.5 cm; calyx tube urceolate, ovate-lanceolate, unequal; petals 4, white, ovate, to 3 x 2 cm; disc broad; stamens numerous,

filaments white; ovary globose, cell numerous; style to 1.5 cm. Berry to 8 cm across, globose.

430. Pteris pellucida C.Presl, Rel. Haenk. 1: 55. 1825; Bedd., Ferns South. India 13. t. 38. 1863; Manickam & Irud., Pterid. Fl. W. Ghats 69. t. 44. 1992. *Pteris venulosa* Blume, Enum. Pl. Jav. 209. 1828; Nayar & Geev., Fern Fl. Malabar 115. 1993.[PTERIDACEAE]

Scales 2-3 x 0.1-0.4 mm, linear or lanceolate. Fronds 40-45 x 15-20 cm, simply pinnate; stipe 18-30 cm long, brownish. Sori along the margin except at base and apex. Spores dark brown, verrucate with thick hyaline perispore.

431. Pterocarpus marsupium Roxb., Pl. Corom. t. 116. 1799; Hook. f., Fl. Brit. India 2: 239. 1876; Gamble, Fl. Pres. Madras 385(271). 1918; Vajravelu, Fl. Palghat Dist. 168. 1990; Sanjappa, Legumes Ind. 232. 1991.[FABACEAE]

Large trees, bark rough, black, reddish inside, exudate red. Leaves pinnate. Flowers many, 15 mm long; calyx 5 mm long, campanulate, shortly lobed, brown; petals yellow; standard obovate, crisped along the margins; wings obovate, auricled; keel similar to wings; stamens 5 + 5; ovary stalked, ovules 2, style incurved. Pods to 5 cm across, compressed, orbicular, stalked, winged.

432. Pterocarpus santalinus L.f., Suppl. Pl. 318. 1781; Hook. f., Fl. Brit. India 2: 239. 1865; Gamble, Fl. Pres. Madras 384(271). 1918..[FABACEAE]

A small to medium sized decicous tree up to 11 m tall; bark blackish brown. Leaves usually imparipinnate, leaflets three. Flowers yellow born in branched racemes; calyx 5-6mm long , teeth minute. Pods obliquely orbicular. Seeds reddish brown smooth leathery.

433. Pueraria tuberosa (Roxb. *ex* Willd.) DC., Ann. Sci. Nat. (Paris) 4: 97. 1825; Hook. f., Fl. Brit. India 2: 197. 1876; Gamble, Fl. Pres. Madras 360(254). 1918; Manilal, Fl. Silent Valley 85. 1988; Vajravelu, Fl. Palghat Dist. 168. 1990. *Hedysarum tuberosum* Roxb. *ex* Willd., Sp. Pl. 3: 1197. 1803.[FABACEAE]

Woody climbers, roots tuberous. Leaves 3-foliolate; leaflets 13-18 x 10-14 cm, subequal, ovate. Flowers to 1.3 cm long, fascicled in much branched panicles; calyx campanulate, brown tomentose, bluish-purple; petals clawed, standard orbicular, pale blue; stamens monadelphous, ovary densely brown-hirsute, ovules many, style curved, stigma capitate. Pods 1.5-3 cm long, linear, brown-hirsute.

434. Punica granatum L., Sp. Pl. 472. 1753; Hook. f., Fl. Brit. India 2: 581. 1893.[PUNICACEAE]

A large shrub. Leaves opposite, sub opposite or clustered, oblong obovate. Flowers sessile, bright red or vermilion red, terminal solitary; calyx adnate to the

ovary; petals 5-7, membranous, crumbled; stamen numerous; ovary many celled. Fruit a globose fleshy balausta, reddish brown. Seeds angled, aril filled with an acidic sweet juice.

435. Pyrrosia lanceolata (L.) Farwell, Am. Midl. Nat. 12: 245. 1931; Datta, Bull. Bot. Survey India 27: 139.1987; Manickam and Irudayaraj, Pterid. Fl. W. Ghats 322. 1992; Nampy & Madhusoodanan, Fern Fl. S. India 116. 1998. *Acrostichum lanceolatum* L., Sp. Pl. 1067. 1753 [POLYPODIACEAE].

Rhizome long creeping, densely covered by scales. Fronds simple, margin entire or wavy, veins immersed, frond dark green upper surface, brownish lower surface. Sori irregularly distributed mainly in the distal part of the pinna, orbicular, dark brown, naked; spores reniform or plano-convex.

436. Radermachera xylocarpa (Roxb.) K. Schum. in Engl. & Prantl, Nat. Pflanzenf. 4(3b): 243. 1895; Gamble, Fl. Pres. Madras 999(701). 1924; Vajravelu, Fl. Palghat Dist. 335. 1990. *Bignonia xylocarpa* Roxb., Fl. Ind. 3: 108. 1832.[BIGNONIACEAE]

Medium trees. Leaves to 60 cm long, bipinnate; leaflets opposite, 6-8 x 3-5 cm, ovate. Flowers in terminal panicled cymes;calyx 1 cm long, irregularly 5-lobed; corolla 4.5 cm long, white; stamens 4, included, anthers divaricate; staminodes filiform; ovary oblong, glabrous, ovules multiseriate, style slender; stigma spoon-shaped. Capsule 40 x 2 cm, woody, warty tubercled, bivalved; seeds winged, 1.5 cm long.

437. Ramalina celastri (Spreng.) Krog *et* Swinsc., Norw. J. Bot. 23:159. 1976; Singh & Sinha Lichen Fl. Nagaland 1994.*Parmelia celastri* Spreng., Linn. Syst. Veg. 4(2):328. pl. 20, f. 4. 1827. [RAMALINACEAE]

Thallus fruticose, erect or subpendulous, upper surface smooth; soredia and isidia absent; pseudocyphellate; pseudocyphellae laminal; lower surface pale, strongly longitudinally ridged; medulla dense; apothecia numerous, laminal on both surfaces, stipitate, up to 2mm in diam.; margin entire; receptacle ridged; disc concave, pruinose; spores 9-11 x 3-4 μm in size.

438. Rhaphidophora pertusa (Roxb.) Schott, Bonplandia 5: 45. 1857; Hook. f., Fl. Brit. India 6: 546. 1893; Gamble, Fl. Pres. Madras 1598(1109). 1931; Vajravelu, Fl. Palghat Dist. 536. 1990. *Monstera pertusa* (Roxb.) Schott, Wiener Z. Kunst. 1830: 781. 1830. [ARACEAE]

Stout perennial climbers, stem cylindrical, 4 cm thick, fleshy. Leaves 25-35 x 25-30 cm, broadly ovate. Inflorescence solitary, axillary; spathe to 20 x 8 cm long, ovate-oblong,; spadix 12 cm long, 2 cm thick. Flowers unisexual, densely packed. Female flowers basal; ovary obconical, truncate, 1-celled; ovule solitary; stigma knob-like. Male flowers above; stamens 4-6, free.

439. Rauvolfia serpentina (L.) Benth. *ex* Kurz, For. Fl. Burma 2: 171. 1877; Hook. f., Fl. Brit. India 3: 632. 1882; Gamble, Fl. Pres. Madras 807(567). 1923; Vajravelu, Fl. Palghat Dist. 282. 1990; Sasidh. & Sivar., Fl. Pl. Thrissur For. 282. 1996.[APOCYNACEAE]

Subshrubs, rootstock thick, sap watery. Leaves 7-10 x 3 cm, oblanceolate. Flowers white; sepals 4 mm long, oblong, acute; corolla white, tube 15 mm long, lobes 5 mm long, oblong, obtuse. Capsules 5 mm, ovoid, obtuse, black; fruiting calyx crimson.

440. Remusatia vivipara (Roxb.) Schott in Schott & Endl., Melet. Bot. 18.1832; Hook. f., Fl. Brit. India 6:521.1893; Gamble, Fl. Pres. Madras 1583(1104). 1931; Manilal, Fl. Silent Valley 334. 1988; Vajravelu, Fl. Palghat Dist. 535. 1990; *Colocasia vivipara* (Roxb.) Thw., Enum. Pl. Zeyl. 336. 1864.[ARACEAE]

Epiphytic or lithophytic herbs with erect bulbiferous slender shoots. Leaves 20-30 cm across, ovate. Inflorescence solitary, on erect, terminal peduncle; spathes obovate to rhomboid; spadix 5 cm long. Female flowers many, ovary globose, 1-celled; ovules many, parietal, stigma 3-lobed, globose. Male flowers many, on clavate above part of the spadix; stamens 6, united.

441. Ricinus communis L., Sp. Pl. 1007. 1753; Hook. f., Fl. Brit. India 5: 457. 1887; Gamble, Fl. Pres. Madras 1335(933). 1925; Manilal, Fl. Silent Valley 254. 1988; Vajravelu, Fl. Palghat Dist. 440. 1990.[EUPHORBIACEAE]

Shrubs, stem glaucous. Leaves 20-40 cm across, peltate, palmately 6-9 lobed. Flowers in long terminal racemes. Male flowers at the base of the raceme, 7 mm across; sepals 9, ovate; stamens many, free. Female flowers many, sepals similar to male flowers; ovary densely bristly; styles 3, free, bifid. Capsule 12 mm across, 3-valved; seeds oblong, carunculate, mottled with white and brown.

442. Rotula aquatica Lour., Fl. Cochinch. 121. 1790; Gamble, Fl. Pres. Madras 893(627). 1923; Manilal, Fl. Silent Valley 185. 1988; Vajravelu, Fl. Palghat Dist. 304. 1990. *Ehretia cuneata* Wight, Ic. t. 1385. 1848.[BORAGINACEAE]

Stout branching shrubs, branches virgate, usually pinkish, glabrous. Leaves alternate or fascicled, 1-2 x 0.5 cm, oblong-oblanceolate, apex obtuse, sessile. Flowers solitary or in few flowered cymes, axillary; calyx 3.5 mm long 5-partite, lobes lanceolate; corolla pink, 5 mm long, 7 mm across, campanulate, 5-lobed; stamens 5, anthers sagitate at base; ovary 4-celled, style filiform, stigma capitate. Drupe with 4, 1-seeded pyrenes, free, yellowish, smooth.

443. Rubia cordifolia L., Syst. Nat. (ed.12) 3: 229. 1768; Hook. f., Fl. Brit. India 3: 202. 1880; Gamble, Fl. Pres. Madras 655(462). 1921; Manilal, Fl. Silent Valley 142. 1988; *Rubia munjista* Roxb., Fl. Ind. 1: 383. 1820.[RUBAIACEAE]

Climbers, scabrous, stem 4-angled, articulate. Leaves whorled, 4 in each node. Cymes axillary, dichotomous. Flowers 3 mm across; calyx tube turbinate, lobes 4, minute; corolla lobes ovate, valvate, spreading, white; anthers globose; cell 1-ovuled, styles 2, stigmas capitate.

444. Rubus glomeratus Blume, Bijdr. 1111. 1826; Manilal, Fl. Silent Valley 99. 1988; Sasidh. & Sivar., Fl. Pl. Thrissur For. 173. 1996. *Rubus fulvus* Focke, Biblioth. Bot. 17: 81. 1911, non Sudre 1902; Gamble, Fl. Pres. Madras 441(313). 1919.[ROSACEAE]

Stem reddish, densely cottony hairy. Leaves 5-8 cm across, shallowly 5-lobed. Flowers in terminal panicles, bracts 8 mm long, densely hairy; bracteole bifid, filiform; pedicels 7 mm long; sepals 10 mm long, united below; petals 4 x 2 mm, obovate; ovary glabrous. Drupe 2 mm across, ovoid, yellow.

445. Rubus indicus Thunb., Diss. Rub. 5 & 7. 1813; Tirveng. in Dassan. & Fosb., Rev. Handb. Fl. Ceylon 3: 351. 1981; Chithra in Henry *et al.*, Fl. Tamil Nadu Ser. 1, 1: 143. 1983. *Rubus wightii* Gamble, Fl. Pres. Madras 440. 1919.[ROSACEAE]

Stems densely tomentose. Leaves to 13 x 10 cm, shallowly 5-lobed. Flowers axillary or terminal, densely tomentose; bracts 10 x 6 cm, obovate, pedicels 8 mm long; sepals 10 x 5 mm, united below; petals obovate, white; ovary densely hairy. Drupe 2 x 1 mm, yellow, glabrous

446. Salix tetrasperma Roxb., Pl. Corom. t. 97. 1798; Hook. f., Fl. Brit. India 5: 626. 1888; Gamble, Fl. Pres. Madras 1390(973). 1928; Manilal, Fl. Silent Valley 266. 1988; Vajravelu, Fl. Palghat Dist. 458. 1990.[SALICCACEAE]

Small trees, bark fissured, reddish, branchlets silky pubescent. Leaves 11-15 x 3-3.5 cm, ovate-lanceolate. Catkin axillary, to 8 cm, silky villous; bracts ovate; female flowers-disc yellow, clasping the pedicel at the base; ovary ovoid, 4-6 ovuled, stigma 2, branched again. Capsule to 4 mm; seeds with long deciduous hairs.

447. Sansevieria roxburghiana Schult. & Schult. f., Syst. 7: 357. Fl. 12D & E. 1829; Gamble, Fl. Pres. Madras 1520(1061). 1928; Binojkumar, J. Econ. Tax. Bot. 26: 458. 2002. *Sansevieria zeylanica* Roxb., Pl. Corom. t. Syst. Veg. 7:357. f.12 D & E. 1829.[LILIACEAE]

Succulent sushrubs, stem very short. Leaves basal, 30-60 x 1-1.5 cm, sessile. Flowers 3-5 in a cluster; perianth tube to 1 cm, lobes 6, 1 x 0.5 mm, greenish, tinged purple, 1-nerved, base tapering; stamens attached near the middle of the perianth lobes. Berry 5 mm across, globose

448. Santalum album L., Sp. Pl. 349. 1753; Hook. f., Fl. Brit. India 5: 231. 1886; Gamble, Fl. Pres. Madras 1261(883). 1925; Vajravelu, Fl. Palghat Dist. 414. 1990. *Santalum myrtifolium* Roxb., Fl. Ind. 1: 444. 1832.[SANTALACEAE]

Small trees. Leaves opposite, 5-7 x 3-4 cm, elliptic, apex acute. Flowers bisexual, 5-merous, 6 mm across, perianth lobes equal, connate into a campanulate tube; mouth with 5 fleshy appendages, pink; stamens free, inserted on the mouth of perianth tube; ovary half inferior, 1-celled, ovules 2 or 3 pendulous, stigma 3-lobed. Drupe 1 x 0.8 cm, obovoid, smooth, black.

449. Sapindus trifoliata L., Sp. Pl. 367. 1753; Hook. f., Fl. Brit. India 1: 682. 1875. *Sapindus laurifolius* Vahl, Symb. Bot. 3: 54. 1794; Gamble, Fl. Pres. Madras 250(178). 1918; Vajravelu, Fl. Palghat Dist. 132. 1990.[SAPINDACEAE]

Small to medium trees. Leaves to 8-foliolate. Panicles to 20 cm long, tomentose; Flowers greenish; sepals tomentose; petals lanceolate, villous, 5 mm long; ovary not lobed, tomentose.

450. Sauropus androgynus (L.) Merr. In Philip. Bur. For. Bull. 1: 30. 1903; Gamble, Fl. Pres. Madras 1303(911). 1925; Vajravelu, Fl. Palghat Dist. 438. 1990. [EUPHORBIACEAE]

Erect shrubs with weak glabrous stems. Leaves ovate or lanceolate, glaucous beneath. Flowers minute in clusters; male disc shaped. Perianth lobes 6, obovate imbricate. Capsules white, large inflated.

451. Sauropus quadrangularis (Willd.) Muell.-Arg., Linnaea 32: 73. 1863; Gamble, Fl. Pres. Madras 1303(911). 1925; Vajravelu, Fl. Palghat Dist. 438. 1990. *Phyllanthus quadrangularis* Willd., Sp. Pl. 4: 585. 1805.[EUPHORBIACEAE]

Glabrous shrubs. Leaves ovate-obtuse. Flowers solitary, axillary, pedicelled. Male flowers 3 mm across; sepals ovate, acute; stamens 3, anthers sessile on erect staminal column. Female sepals broadly ovate, obtuse, emarginate, united by the disk; styles 3, 2-fid at apex. Capsule 1.2 cm across, smooth, glabrous.

452. Schefflera venulosa (Wight & Arn.) Harms in Engl. & Prantl, Nat. Pflanzenf. 3(8): 39. 1894, var. **venulosa**; Gamble, Fl. Pres. Madras 570(403). 1919; Manilal, Fl. Silent Valley 128. 1988; Vajravelu, Fl. Palghat Dist. 224. 1990. *Heptapleurum venulosum* (Wight & Arn.) Seem., J. Bot. 3: 80. 1865; Hook. f., Fl. Brit. India 2: 729. 1879, p.p.[ARALIACEAE]

Small trees, branchlets 0.5-0.7 cm thick. Leaves 5 or 6 foliolate. Panicles 20 cm across, glabrous; umbels 2 cm across, 3-12 flowered. Flowers brown; pedicel 8-12 mm long; calyx truncate; petals 2 x 2.5 mm, triangular. Drupe 4 x 4 mm, globose, 5-angled.

453. Schleichera oleosa (Lour.) Oken, Allg. Naturgesch. 3:1341. 1841; Manilal, Fl. Silent Valley 64. 1988; Vajravelu, Fl. Palghat Dist. 133. 1990. *Schleichera trijuga* Willd., Sp. Pl. 4: 1096. 1805; Hook. f., Fl. Brit. India 1: 681. 1875; Gamble, Fl. Pres. Madras 248(177). 1915.[SAPINDACEAE]

Large trees, branchlets puberulus. Leaves paripinnate, to 10 foliolate. Flowers polygamodioecious, 3 mm across, in terminal or axillary panicles; sepals 5, ovate, acute; petals absent; stamens 8, free, filaments 6 mm long, glabrous; ovary ovoid, 3-celled, cell 1-ovuled. Fruit to 2 x 2cm, ovoid, globose, spiny, glabrous; seeds 3, to 1.5 x 1 cm, hemispheric.

454. Scilla hyacinthina (Roth) Macbr., Contr. Gray Herb. 56: 14. 1918; Vajravelu, Fl. Palghat Dist. 511. 1990. *Scilla indica* (Wight) Baker in Sunders, Refug. Bot. 3: 12. 1870, non Roxb. 1832; Hook. f., Fl. Brit. India 6: 348. 1892; Gamble, Fl. Pres. Madras 1527(1067). 1928 [LILIACEAE].

Herbs, bulbous perennial. Leaves 11-15 x 3 cm, radical. Scapes to 3, racemes 10-20 cm, flexuous; peduncle, pink. Flowers 8 mm across, perianth deeply six lobed, lobes to 4 x 1 mm, oblong, obtuse, pink; pedicel pink, to 1.5 cm; stamens 6, adnate to the base of the perianth; ovary 3-lobed *ca* 1.5 mm, style to 3 mm. Capsule to 7 x 4 mm, globose, loculicidal, smooth.

455. Scolopia crenata (Wight & Arn.) Clos, Ann. Sci. Nat. Bot. ser. 4, 8: 250. 1857; Hook. f., Fl. Brit. India 1: 191. 1872; Gamble, Fl. Pres. Madras 52(38). 1915; Manilal, Fl. Silent Valley 12. 1988; Vajravelu, Fl. Palghat Dist. 62. 1990. *Phoberos crenatus* Wight & Arn., Prodr. 29. 1834.[FLACOURTIACEAE]

Small to medium sized trees, branchlets with transverse lenticels. Leaves 7-9 x 4-5.5 cm, obovate. Flowers in racemes, upper axillary, to 7 cm long; sepals 6, 3 x 2 mm, obovate; petals 6, smaller, orbicular, white; stamens numerous, free; anthers 1 mm long, oblong, connective produced into a reddish hood; ovary 1-celled, few ovuled, style 4 mm long, thick, stigma 3-fid. Berry to 10 x 8 mm, globose, with persistent style; seeds few.

456. Scoparia dulcis L., Sp. Pl. 116. 1753; Hook. f., Fl. Brit. India 4: 289. 1884; Gamble, Fl. Pres. Madras 964(678). 1924; Manilal, Fl. Silent Valley 196. 1988; Vajravelu, Fl. Palghat Dist. 326. 1990; Sasidh. & Sivar., Fl. Pl. Thrissur For. 324. 1996.[SCROPHULARIACEAE]

Erect herbs, stem ridged. Leaves whorled, 2-3.5 x 1.5 cm, elliptic to obovate. Flowers axillary, solitary; pedicels erect, slender; calyx 3 mm long, deeply 4-lobed, lobes ovate, obtuse; corolla rotate, 4-lobed, white, throat densely hairy, lobes 3 mm long; stamens 4, subequal. Capsule globose, longer than the calyx, 2-valved; seeds many, pitted.

457. Selaginella delicatula (Desv. *ex* Poir.)Alston, J. Bot. 70: 282.1932; Manickam & Irud., Pterid. Fl. W. Ghats 40. t. 19. 1992. *Lycopodium delicatulum* Desv. *ex* Poir.in Lamk., Encycl. Suppl. 3: 584. 1814. [SELAGINELLACAEAE]

Terrestrials. Stem erect or suberect, rooting at base only. Leaves heteromorphic throughout, dense on branches; median leaves 2 x 1 mm, ovate, aristate, entire; lateral leaves 2.8 x 1.5 mm, ovate, obtuse; axillary leaves 3 x 1.5 mm, broadly ovate, obtuse. Strobili 8-10 mm long, 2-sided, sporophylls isomorphic; ovate, acuminate; microspores pale red; macrospores dull brown, verrucoid.

458. Selaginella involvens (Sw.) Spring, Bull. Acad. Brux. 10: 138. 1843; R.D.Dixit, Sela. India 46. f. 12. 1992; Manickam & Irud., Pterid. Fl. W. Ghats 35. pl. 12. 1992. *Lycopodium involvens* Sw., Syn. Fil. 182. 1806. [SELAGINELLACAEAE]

Lithophytes. Stem erect, 30-40 cm long, 5 mm thick, including leaves. Leaves heteromorphic throughout; median leaves 1.8 x 1 mm, ovate-acuminate, ciliate; lateral leaves 2.5 x 1.5 mm, ovate, acute, ciliate; axillary leaves 2 x 1.2 mm, ovate, acute, ciliate. Strobili 5 x 2 mm, quadrangular; sporophylls isomorphic, 1.5-1.8 x 0.5-0.8 mm, ovate, acuminate, denticulate.

459. Semecarpus anacardium L. f., Suppl. Pl. 182. 1781; Hook. f., Fl. Brit. India 2: 30. 1876; Gamble, Fl. Pres. Madras 266(190). 1918; Vajravelu, Fl. Palghat Dist. 139. 1990; Sasidh. & Sivar., Fl. Pl. Thrissur For. 124. 1996[ANACARDIACEAE]

Medium trees, bark greyish-brown. Leaves 25-30 x 10-15 cm, oblong-elliptic or obovate. Panicles to 20 cm long. Flowers yellowish white; calyx lobes ovate, margins ciliate; disc villous; filaments glabrous.

460. Senna alata (L.) Roxb., Fl. Ind. 2: 349.1832. *Cassia alata* L., Sp. Pl. 378. 1753; Wight, Ic. t. 253. 1840; Gamble, Fl. Pres. Madras 404. 1919; [FABACEAE]

Erect stout shrubs; branchlets 3 cm thick. Leaves 50-70 cm long. Flowers many, densely packed; sepals obovate, obtuse, glabrous; petals 2 x 1.5 cm, obovate, yellow with brown lines; two stamen only with fertile anthers. Pods 17 x 1.5 cm, 4-winged, glabrous.

461. Senna auriculata (L.) Roxb., Fl. Ind. 2:349.1832. *Cassia auriculata* L., Sp. Pl. 379. 1753; Baker in Hook.f. Fl. Brit. India 2: 263. 1878; Gamble, Fl. Pres. Madras 402. 1919; Vajravelu, Fl. Palghat 180. 1990. [FABACEAE]

Shrubs; branchlets pubescent. Leaflets to 2 x 1 cm, oblong-obovate. Corymbs axillary and terminal; peduncle 2 cm, pubescent; flowers yellow; larger sepals 1.5 x 1 cm, broadly ovate, obtuse, outer smaller; petals 3-3.5 x 2

cm, ovate, orbicular, clawed; stamens 7 fertile and 3 staminodes. Pod flat, pubescent, mucronate.

462. Senna tora (L.) Roxb., Fl. Ind. 2:340.1832. *Cassia tora* L., Sp. Pl. 376. 1753; Gamble, Fl. Pres. Madras 401(284). 1919; Vajravelu, Fl. Palghat Dist. 182. 1990 [FABACEAE]

Subshrubs. Leaves to 12 cm long, rachis glandular between leaflets. Flowers to 3 cm across, in axillary fascicles, pedicellate; calyx ovate, acute, hispid; petals obovate, not clawed; stamens 10, 7 fertile, subequal. Pods to 17 x 0.3 cm; terete, glabrous.

463. Senna occidentalis (L.) Link, Handb. 2: 140. 1831. *Cassia occidentalis* L., Sp. Pl. 377. 1753; Hook. f., Fl. Brit. India 2: 262. 1878; Gamble, Fl. Pres. Madras 401(284). 1919; Vajravelu, Fl. Palghat Dist. 182. 1990. [FABACEAE]

Shrubs. Leaves to 22 cm long, glandular at the base of petiole. Flowers to 3 cm across, pedicelled, in axillary two flowered umbel turning to terminal racemes; pedicels to 1.5 cm long; sepals orbicular, green; petals obovate, clawed; stamens 10, unequal, 7 fertile. Pods to 11 x 8 cm, oblong, curved, compressed, marginate, long-cuspidate.

464. Sesbania grandiflora (L.) Poir. in Lam., Encycl. 7: 127. 1806; Pers., Syn. 2: 316. 1807; Gillett, Kew Bull. 17: 105. 1963; Sanjappa, Legumes Ind. 244. 1991. *Aeschynomene grandiflora* (L.) L., Sp. Pl., ed. 2. 1060. 1763. [FABACEAE]

A soft wooded small tree with strait stem. Leaves with 10-30 pairs of leaf lets and an oddone. Racemes short, in the axils cof leaves; calyx teeth unequal; corolla whitish yellow. Pods strait, compressed, tetragonous.

465. Setaria italica (L.) P. Beauv., Essai Agrost. 51, 170, 178. 1812; Bor, Grasses India 362. 1960. *Panicum italicum* L., Sp. Pl. 56. 1753 [POACEAE].

Annual erected and tufted grass. Culms simple or branched. Leaves linear lanceolate. Panicle cylindric, 3-10 cm long. Spikelets two flowered, lower male, upper hermaphrodite

466. Sorghum bicolor (L.) Moench, Methodus 207. 1794. *Holcus bicolor* L., Mant. Pl. 2: 301. 1771. *Sorghum vulgare* Pers., Syn. Pl. 1: 101. 1805.[POACEAE]

A tall robust annual grass, leaves broad linear with a prominent mid rib. Panicle dense, thyrsiform; spiklet large, broad hairy pedicelled usually neuter, pedicel short.

467. Schumannianthus virgatus (Roxb.) Rolfe, J. Bot. 14: 244. 1907; Gamble, Fl. Pres. Madras 1494(1043). 1928; Manilal, Fl. Silent Valley 315. 1988;

Vajravelu, Fl. Palghat Dist. 502. 1990. *Phrynium virgatum* Roxb., Asiat. Res. 11:324. 1810. [MARANTACEAE]

Tall subshrubs, stem thickened at nodes. Leaves bifarious, 30-40 x 10-18 cm, ovate-oblong. Flowers paired in each bract; corolla white, tube short; lobes oblong; stamens 1, outer staminodes petalloid, white, to 1.5 cm long; inner staminodes smaller; ovary densely hairy. Berry obovoid, rugose.

468. Sida cordifolia L., Sp. Pl. 684. 1753; Hook. f., Fl. Brit. India 1: 324. 1874; Gamble, Fl. Pres. Madras. 89(64). 1915; Vajr., Fl. Palghat Dist. 83. 1990.[MALVACEAE]

Subshrubs, branchlets tomentose. Leaves, ovate, acute or cordate at base, serrate, minutely stellate-hairy; petiole to 1.5 cm long. Flowers to 1.5 cm across pale yellow to white. Mericarps 8-10, flattened, trigonos, aristate, retrosely ciliate.

469. Sida rhombifolia L., Sp. Pl. 684. 1753; Hook. f., Fl. Brit. India 1: 323. 1874, in part; Gamble, Fl. Pres. Madras 90(65). 1915; Manilal, Fl. Silent Valley 28. 1988; Vajravelu, Fl. Palghat Dist. 84. 1990. [MALAVACEAE]

Subshrubs, branchlets tomentose. Leaves ovate-oblong or rhomboid, minutely stellate-hairy; petiole to 1.5 cm long. Flowers to 1.5 cm across; pedicels longer than the petiole. Mericarps usually muticous or with 2 awns.

470. Solanum americanum Mill., Gard. Dict. (ed. 8) 5.1768; Sasidh. & Sivar., Fl. Pl. Thrissur For. 316. 1996. *Solanum nigrum* sensu Gamble, Fl. Pres. Madras 936(657). 1923, non L. 1753; Vajravelu, Fl. Palghat Dist. 319. 1990.[SOLANACEAE]

Herbs. Leaves 4-8 x 1.5-4 cm, ovate to broadly ovate. Flowers umbelled; pedicels 1 cm long, filiform, glabrous; calyx deeply 5-partite; corolla white with bluish shade, 5 mm across, lobes oblong. Berry 6 mm across, black, smooth, glossy; seeds 1 x 1 mm, orbicular, yellow, pitted.

471. Solanum torvum Sw., Prodr. 47. 1788; Hook. f., Fl. Brit. India 4: 234. 1883; Gamble, Fl. Pres. Madras 937(658). 1923; Vajravelu, Fl. Palghat Dist. 320. 1990. *Solanum indicum* L., Sp. Pl. 187. 1753, p.p.; Hook. f., Fl. Brit. India 4: 234. 1883; Gamble, Fl. Pres. Madras 938(658). 1923.[SOLANACEAE]

Shrubs, sparsely prickled, prickles stout, broaden at base. Leaves 14-18 x 8-13 cm, entire or shallowly lobed. Cymes congested, extra-axillary. Flowers many; pedicel 1 cm long, narrow; corolla white, 1.5 cm across, stellate hairy outside; style glabrous. Berry 13 x 13 mm, globose, yellow; seeds pitted.

472. Solanum viarum Dunal in DC., Prodr. 13: 240. 1852; Sasidh. & Sivar., Fl. Pl. Thrissur For. 317. 1996. *Solanum khasianum* Clarke in Hook.f., Fl. Brit.

India 4:234.1883, var. chatterjeeanum Sen Gupta, Bull. Bot. Surv. India 3: 411. 1961. [SOLANACEAE]

Shrubs, sparsely prickled, prickles stout, broaden at base. Leaves 9-12 x 6-10 cm, entire or shallowly lobed. Cymes congested, extra-axillary. Flowers many; corolla white, 1.5 cm across; style glabrous. Berry 13 x 13 mm, globose, orange; seeds pitted.

473. Solanum virginianum L., Sp. Pl. 187. 1753; Hepper & Jaeger, Kew Bull. 42: 434. 1986. *Solanum surattense* Burm. f., Fl. Ind. 57. 1768; Vajravelu, Fl. Palghat Dist. 320. 1990. *Solanum xanthocarpum* Schrad. & Wendl., Sert. Hannov. 1: 8. t.2. 1795.[SOLANACEAE]

Diffuse herbs, stem glandular hairy, prickles 2 cm long, present on all parts except berries. Leaves 8-13 x 7-10 cm, lyrate, membranous. Flowers 2-4 together, extra-axillary; pedicel 2 cm long, stout; calyx lobes 5, lobes acute; corolla 18 mm across, sparsely hispid. Berry 25 mm across, yellowish, smooth; seeds flat, not pitted.

474. Spatholobus parviflorus (Roxb. *ex* DC.) O. Ktze., Rev. Gen. Pl. 1:205.1891; Vajravelu, Fl. Palghat Dist. 172. 1990. *Butea parviflora* Roxb. *ex* DC., Prodr. 2: 415. 1825; Manilal, Fl. Silent Valley 70. 1988. *Spatholobus roxburghii* Benth. in Miq., Pl. Jungh. 238. 1852; Gamble, Fl. Pres. Madras 358(253). 1918.[FABACEAE]

Woody climbers, exudate red, branchlets puberulus. Leaves trifoliolate; leaflets 14-18 x 8-12 cm, ovate. Flowers 9 mm long, 8 mm across; calyx 4 mm long, densely villous inside; standard 8 x 6 mm, glabrous, pale-pink; wings 6 mm long, long-clawed; keel 9 mm long, obovoid; stamens 9+1; ovary subsessile, ovules 2, style incurved. Pods to 14 x 4.5 cm, stalked; stalk to 3 cm long.

475. Sphaeranthus indicus L., Sp. Pl. 927. 1753; Hook. f., Fl. Brit. India 3: 275. 1881 p.p.; Gamble, Fl. Pres. Madras 692. 1921; Sasidh. & Sivar., Fl. Pl. Thrissur For. 253. 1996. *S. hirtus* Willd., Sp. Pl. 3: 2395. 1802; Wight, Ic. t. 1094. 1846. [ASTERACEAE]

Diffuse aromatic herbs; stems with toothed wings. Leaves alternate, 3-4 x 1-2 cm, oblanceolate. Heads in globose spikes. Flowers two types, few; outer female, inner bisexual, all tubular; corolla 5-lobed, pink; lobes acute; anthers tailed at base. Achenes angular, glabrous; pappus absent.

476. Spilanthes clava DC. In Wight contr. Bot. ind. 19.1834; Kosterm and philipson in Blumea 6: 354. 1950. Manilal, Fl. Silent Valley 158. 1988; Vajravelu, Fl. Palghat Dist. 256. 1990. [ASTERACEAE]

Erect herbs. Stem sparsely pubescent. Leaves ovate , lanceolate, acute cuneate at base, heads solitary, Floret yellow or white. Fruit achene, glabrous.

477. Spirogyra sp. [ZYGNEMACEAE]

Free floating fresh water green algae, filaments unbranched, chloroplast spiral and band like, nucleus is situated in the centre of the cell and connected by cytoplasmic strands.

478. Sterculia foetida L., Sp. Pl. 1008. 1753; Wight, Ic. t. 181. 1839; Mast. in Hook. f., Fl. Brit. India 1: 354. 1874; Dunn in Gamble, Fl. Pres. Madras 105. 1915.[STERCULIACEAE]

Deciduous trees. Leaves digitate; leaflets 7-9, 10-13 x 3-5 cm, elliptic, acuminate, glabrous. Racemes terminal or axillary; flowers unisexual, dioecious or polygamous. Follicle to 12 cm, boat shaped, 5-lobed, glabrous, woody; seeds many, ellipsoid, smooth.

479. Sterculia guttata Roxb. *ex* DC., Prodr. 1: 482.1824; Hook. f., Fl. Brit. India 1:355.1874; Gamble, Fl. Pres. Madras 106(76). 1915; Manilal, Fl. Silent Valley 33. 1988; Vajravelu, Fl. Palghat Dist. 91. 1990. [STERCULIACEAE]

Medium trees, branchlets tomentose. Leaves 17-22 x 9-13 cm, obovate. Flowers pedicelled; calyx to 15 mm across, campanulate, lobes acuminate, densely hairy; stamens 10, column hairy at apex. Capsule to 5 x 3 cm, curved-obovoid, tomentose, reddish; seeds few, 8 x 6 mm, ovoid, smooth, shining.

480. Sterculia urens Roxb., Pl. Corom. t. 24. 1795; Hook. f., Fl. Brit. India 1: 355. 1874; Gamble, Fl. Pres. Madras 106(75). 1915; Vajravelu, Fl. Palghat Dist. 91. 1990; Malick in Sharma & Sanjappa, Fl. Ind. 3: 471. 1993; Sasidh. & Sivar., Fl. Pl. Thrissur For. 70. 1996. [STERCULIACEAE]

Medium trees, bark yellowish-white, smooth. Leaves 22-30 cm across, orbicular. Flowers greenish yellow, in terminal and upper axillary panicles; calyx to 13 mm dia, lobes oblong, curved outside; staminal column ca 8 mm long, curved. Follicles 4-5 cm long, oblong, sessile, bristly; seeds few, ca 6 x 4 mm, black.

481. Sterculia villosa Roxb. *ex* DC., Prodr. 1: 483. 1824; Hook. f., Fl. Brit. India 1: 355. 1874; Gamble, Fl. Pres. Madras 106(76). 1915; Sasidh. & Sivar., Fl. Pl. Thrissur For. 70. 1996. [STERCULIACEAE]

Small trees, bark pale brown, fibrous. Leaves 18-25 cm across, cordate at base. Flowers to 2 cm across, greenish brown; pedicels 5 mm long; calyx 8 mm long, stamens 10, anthers along the rim of staminal column, column hairy at apex, staminodes 10 in female flowers. Follicles 2-7, to 5 cm long, oblong, tomentose; seeds black, smooth.

482. Stereospermum colais (Buch.-Ham. *ex* Dillw.) Mabb., Taxon 27: 553. 1979; Manilal, Fl. Silent Valley 201. 1988; Vajravelu, Fl. Palghat Dist. 336. 1990.

Bignonia colais Buch.-Ham. *ex* Dillw., Rev. Hort. Malab. 28. 1839.[BIGNONIACEAE]

Large trees. Leaves to 35 cm long, 1-pinnate. Flowers in terminal panicles; calyx 6 mm long; corolla yellow, 2 cm long, 1.5 cm broad; stamens 5, included, filaments pubescent at base; ovary sessile, oblong, 2-celled, ovules many, 1-seriate, style slender, stigmas 2. Capsule to 35 x 0.7 cm, subtetragonous, spirally splitting; seeds 8 mm long, with membranous wings on both sides.

483. Streblus asper Lour., Fl. Cochinch. 615. 1790; Fl. Brit. India 5: 489. 1888; Fischer in Gamble, Fl. Pres. Madras 1353. 1928; Vajravelu, Fl. Palghat Dist. 450. 1990. *Epicarpurus orientalis* Blume, Bijdr. 488. 1825; Wight, Ic. t. 1961. 1853.[MORACEAE]

Unarmed trees, latex milky. Leaves to 7 x 3 cm, elliptic; petiole 0.5 cm, pubescent. Male flowers in small axillary clusters, subsessile; bracts 1 mm; perianth 4-lobed, 1 mm, concave, ciliate; stamens 4, filaments inflexed, 1 mm; pistillode rudimentary.

484. Striga angustifolia (D. Don) Sald., Bull. Bot. Surv. India 5: 70. 1963; Manilal, Fl. Silent Valley 197. 1988; Vajravelu, Fl. Palghat Dist. 327. 1990. *Buchnera angustifolia* D. Don, Prodr. Fl. Nepal 91. 1825.[SCROPHULARIACEAE]

Erect herbs, stem scabrid. Leaves 2-4 x 0.4 cm, linear-lanceolate. Flowers in terminal spikes; bracts lanceolate; sepals 10 mm long; corolla 14 mm long, 2-lipped, upper lip orbicular, lower lip 3-lobed. Capsule 4 x 3 mm, obovoid, cuspidate; seeds cylindrical, brown.

485. Strobilanthes sp.[ACANTHACEAE]

Under shrubs. Stem 4 angled. Leaves elliptic ovate, acuminate, serrulate up 6-8x 2.5-3.5 cm.

486. Strychnos nux-vomica L., Sp. Pl. 189. 1753; Hook. f., Fl. Brit. India 4: 90. 1883; Gamble, Fl. Pres. Madras 868(610). 1923; Vajravelu, Fl. Palghat Dist. 296. 1990; Sasidh. & Sivar., Fl. Pl. Thrissur For. 297. 1996.[LOGANIACEAE]

Medium trees, bark yellowish, scurfy. Leaves 8-15 x 5-9 cm, broadly ovate. Flowers sessile; calyx 1 mm long, lobes triangular, acute, pubescent; corolla greenish yellow, tube 10 mm long, hairy within; lobes 4 x 1.5 mm, oblong, acute; anthers sessile, inserted at the throat of corolla tube. Berry 3-4 cm across, yellow, glabrous; seeds 3 or 4, orbicular, flat.

487. Symplocos cochinchinensis (Lour.) Moore ssp. **laurina** (Retz.)Nooteb., Rev. Symplocac. 156. 1975 & in Dassan & Fosb., Rev. Handb. Fl. Ceylon 3: 458. 1981; Manilal, Fl. Silent Valley 169. 1988; Vajravelu, Fl. Palghat Dist. 271. 1990. *Drupatris cochinchinensis* Lour., Fl. Cochinch. 314. 1790.[SYMPLOCACEAE]

Small trees. Leaves 8-13 x 4-6 cm, elliptic, acute at both ends. Flowers white, sessile, many, sepals rounded, 1 mm across, hairy; corolla 7 mm across, glabrous, lobes orbicular; stamens numerous, equal, arranged in 5 groups; style glabrous. Drupe 5 mm long, glabrous.

488. Syzygium caryophyllatum (L.) Alston in Trimen, Handb. Fl. Ceylon 6: (Suppl.) 116. 1931; Matthew, Ill. FPH t. 318. 1996 & FPH 495. 1999. *Myrtus caryophyllata* L., Sp. Pl. 472. 1753. *Eugenia caryophyllaea* (L.) Wight, Ic. t. 540. 1842; Duthie in Hook. f., FBI 2: 490. 1878.[MYRTACEAE]

Leaves to 9 x 4 cm, obovate, base attenuate, apex obtusely acute to acuminate, coriaceous. Cymes corymbose. Flowers 4 mm wide; calyx tube to 4 x 3 mm, ovoid, lobes ovate; petals cream, suborbicular. Berry to 1 cm across, globose, red.

489. Syzygium cumini (L.) Skeels, U. S. DA. Bur. Pl. Industr. Bull. 248: 2. 1912; Manilal, Fl. Silent Valley 104. 1988; Vajravelu, Fl. Palghat Dist. 199. 1990. *Myrtus cumini* L., Sp. Pl. 471. 1753.[MYRTACEAE]

Medium trees, bark grey, light pink inside. Leaves 14-18 x 5-8 cm, ovate-oblong. Flowers 6-9 mm across, subsessile; calyx tube 3 mm broad, turbinate; filaments 7 mm long. Berry 10 x 7 mm, deep blue, crownen by a small calyx limb.

490. Syzygium densiflorum Wall. *ex* Wight & Arn., Prodr. 329. 1834; Matthew, Ill. FPH t. 319. 1996 & FPH 496. 1999. *Syzygium arnottianum* Walp. Rep. 2: 180. 1843; Gamble, FPM 478. 1919. [MYRTACEAE]

Leaves to 6 x 2.5 cm, elliptic, base acute, apex caudate-acuminate, subcoriaceous. Cymes corymbose, to 6 cm long. Flowers to 6 mm wide; calyx tube 4 x 4 mm, turbinate, lobes ovate; petals free, cream, 3 x 2.5 mm, obovate; stamens to 6 mm long; ovary oblong. Berry oblong, red.

491. Syzygium mundagam (Bourd.) Chithra in Nair& Henry , Fl. Tamilnadu ser.I. 1: 157. 1983; Vajravelu, Fl. Palghat Dist. 200. 1990. *Eugenia mundagam* Bourd. For. Trres of travancore 182. 1908. *Jambosa mundagam*(Bourd.) Gamble, Fl. Pres. Madras 473. 1919.[MYRTACEAE]

Trees 7-10 m. Leaves 15-20 x 4-6 cm, cordate at base. Flowers white or pink, fragrant, in terminal corymbose cymes, Berries globose.

492. Tabernaemontana divaricata (L.) R. Br. ex Roem. & Schult., Syst. 4: 427. 1819; Merr., Contrib. Arnold Arb. 8: 140. 1934; Manilal & Sivar., Fl. Calicut 166. 1982. *Ervatamia coronaria* (Jacq.) Stapf in Thistleton Dyer, Fl. Trop. Afr. 4: 127. 1902. [APOCYNACEAE]

Large shrubs; bark corky with shallow fissures. Leaves, elliptic-oblong. Flowers white, scented; calyx 4 mm long, lobes short, oblong, obtuse; corolla tube to 3 cm long; lobes 15 mm long, oblong, obtuse, apex crisped. Fruit a capsule. Seeds with red aril.

493. Tabernaemontana heyneana Wall. in Edward's Bot. Reg. 15: t. 1273. 1829; Hook. f., Fl. Brit. India 3: 646. 1882; Vajravelu, Fl. Palghat Dist. 283. 1990. *Tabernaemontana alternifolia* L., Sp. Pl. 211.1753. *Ervatamia heyneana* (Wall.) Cooke, Fl. Pres. Bombay 2:134.1904.[APOCYNACEAE]

Large shrubs or small trees, bark corky with shallow fissures. Leaves 13-18 x 4-7 cm, elliptic-oblong. Flowers pedicellate; calyx 4 mm long, lobes short, oblong, obtuse; corolla white, tube 25 mm long; lobes 15 mm long, oblong, obtuse, apex crisped. Capsule yellow, 5 x 1.5 cm, beak acuminate; aril red.

494. Tamarindus indica L., Sp. Pl. 34. 1753; Hook. f., Fl. Brit. India 2: 273. 1878; Gamble, Fl. Pres. Madras 409(290). 1919; Vajravelu, Fl. Palghat Dist. 184. 1990; Sanjappa, Legumes Ind. 36. 1991; Sasidh. & Sivar., Fl. Pl. Thrissur For. 166. 1996.[FABACEAE]

Trees, branchlets warty. Leaves paripinnate; leaflets 14-17 pairs, to 2 x 0.7 cm, oblong. Racemes terminal on short branches; calyx tube 6 mm, turbinate, lobes 4, to 1 cm, subequal; petals 3, 1.5 x 1 cm, oblanceolate; stamens 10, 8 fertile; ovary 8 mm, stipitate, style 5 mm. Pods to 15 x 2 cm, oblong-falcate, mesocarp pulpy.

495. Tamilnadia uliginosa (Retz.) Tirveng. & Sastry, Mauritius Inst. Bull. 8: 85. 1979; Sasidh. & Sivar., Fl. Pl. Thrissur For. 239. 1996. *Randia uliginosa* (Retz.) DC., Prodr. 4: 386. 1830; Hook. f., Fl. Brit. India 3: 110. 1880; Gamble, Fl. Pres. Madras 615(434). 1921. [RUBIACEAE]

Small trees, branchlets 4-angled. Leaves crowded at the apex of branchlets, 7-10 x 3-5 cm, obovate or oblong. Flowers solitary at the end of branchlets, to 5 cm across; calyx tube 2.5 cm long, lobes 6, rounded; corolla white, lobes 6, orbicular, imbricate. Berry 5 cm long, ovoid or ellipsoid, smooth, yellow.

496. Tarenna asiatica (L.) O.Ktze. *ex* K. Schum., Bot. Tidsskr. 24: 332. 1902; Vajravelu, Fl. Palghat Dist. 244. 1990. *Rondeletia asiatica* L., Sp. Pl. 172. 1753; Hook. f., Fl. Brit. India 3: 102. 1880.[RUBIACEAE]

Branchlets glabrous. Leaves 13-17 x 4-6 cm, elliptic-oblong, acuminate at both ends, nerves 13 pairs; petiole 3-4 cm long. Cymes peduncled, axillary, 10 cm across; peduncle to 6 cm long; branches slender. Drupe 6 mm across, globose; seeds 2, black.

497. Targionia hypophylla L., Sp. Pl. 1136. 1753; Steph., Sp. Hepat. 1: 61. 1900; Kashyap, Liv. W. Him. Punjab Pl. 1: 57. 1929; *T. michellii* Corda in Opiz., Beitr. 1: 649.1829.[TARGIONIACEAE]

Thallus greenish, simple, rarely dichotomously divided, 5-10 mm x 2- 4 mm, fixed to the soil only at their base, margin entire, air chambers distinct, containing green filaments, pores simple, conspicuous, scales broadly triangular; involucre purple, subglobose, keeled; sporogonia single; capsule spherical; spores 42-55 μm in diameter, dark brown; elaters bispiraled, 80-200 x 7-10 μm.

498. Tectaria coadunata (Js.Sm.) C.Chr., Contr. U.S. Nat. Herb. 26: 331. 1931; Manickam & Irud., Pterid. Fl. W. Ghats 260. t. 200. 1992; Nayar & Geev., Fern Fl. Malabar 144. 1993; *Sagenia coadunata* Js.Sm. in Hook., J. Bot. 4: 184. 1841.[DRYOPTERIDACEAE]

Scales 4-5 x 1-1.5 mm, entire. Fronds 40-80 x 20-40 cm, bipinnate; stipe 15-50 cm long; lamina broadly ovate; pinnae 37-40 x 20-28 cm. Sori circular, 2 mm dia, marked with a depression above, arranged on both sides of the costule, more towards margins; indusia dark brown, peltate. Spores yellowish-brown, oblongoid or reniform, perine thickly folded.

499. Tectona grandis L. f., Suppl. Pl. 151. 1781; Hook. f., Fl. Brit. India 4: 570. 1885; Gamble, Fl. Pres. Madras 1092(765). 1924; Vajravelu, Fl. Palghat Dist. 369. 1990; Sasidh. & Sivar., Fl. Pl. Thrissur For. 354. 1996.[VERBENACEAE]

Large trees,. Leaves 25-45 x 20-35 cm, obovate. Flowers to 7 mm across, white; calyx 5 mm long, lobes 6, ovate, white, tomentose; corolla 6 mm long, lobes 6, oblong, spreading; stamens 6, equal, erect; ovary densely tomentose, 4-celled, style slender, bifid at apex. Drupes 1.5-2 cm across; globose, densely floccose hairy, covered by the inflated calyx.

500. Teinostachyum wightii Bedd., Fl. Sylv. t. 323. 1874; Hook. f., Fl. Brit. India 7: 410. 1896. *Teinostachyum beddomei* Fischer in Gamble, Fl. Pres. Madras 1860(1287). 1934. *Schizostachyum beddomei* (Fischer) Majumdar in Karthik. *et al.*, Fl. Indian Enum. Monocot 281. 1989.[POACEAE]

Robust, scandent shrubs; culms to 13 m long, first erect, thin walled; node with a white margin above, culm sheath papery, clothed with brown appressed hairs. Leaves 10-15 x 2-3 cm, oblong-lanceolate, glabrous above, hairy below. Panicle terminal. Caryopsis glabrous, ovoid.

501. Terminalia bellirica (Gaertn.) Roxb., Pl. Corom. t. 198. 1805; Hook. f., Fl. Brit. India 2: 445. 1878; Gamble, Fl. Pres. Madras 463(328). 1919; Vajravelu, Fl. Palghat Dist. 196. 1990. [COMBRETACEAE]

Large trees, bark smooth, yellowish inside, branchlets thinly fulvous-hairy. Leaves alternate, 12-16 x 5-8 cm. Flowers 6 mm across, sessile, yellow; calyx tube campanulate, lobes triangular, densely villous inside, hispid outside; stamens 10. Drupe to 2.5 x 1.8 cm, obovoid, stalked, glabrous.

502. Terminalia elliptica Willd., Sp. Pl. 4: 969. 1806; Gangop. & Chakrab., J. Econ. Tax. Bot. 16:601.1992 & 21: 351. 1997. *Terminalia alata* Heyne *ex* Roth, Nov. Pl. Sp. 379. 1821. *Terminalia crenulata* Roth, Nov. Pl. Sp. 380. 1821; Gamble, Fl. Pres. Madras 465(329). 1919; Vajravelu, Fl. Palghat Dist. 197. 1990.[COMBRETACEAE]

Large trees. Leaves subopposite, 15-20 x 6-9 cm, oblong. Flowers 5 mm across; calyx lobes triangular, densely villous inside; stamens 5, filaments 5 mm long, glabrous; ovary densely long-villous. Drupe to 3.5 x 5.5 cm, wings 5, broad, coriaceous, reddish brown.

503. Terminalia paniculata Roth, Nov. Pl. Sp. 383.1821; Hook. f., Fl. Brit. India 2:448.1878; Gamble, Fl. Pres. Madras 465(329). 1919; Manilal, Fl. Silent Valley 102. 1988; Vajravelu, Fl. Palghat Dist. 197. 1990; Sasidh. & Sivar., Fl. Pl. Thrissur For. 178. 1996; *Pentaptera paniculata* (Roth) Roxb., Fl. Ind. 2: 442. 1832.[COMBRETACEAE]

Large trees. Leaves 14-18 x 5-7 cm, ovate-oblong. Flowers 8 mm across, white, closely packed; sepals ovate, densely villous inside; stamens 5; filaments glabrous. Drupe to 15 x 12 mm, puberulus, reddish-yellow.

504. Terminalia travancorensis Wight & Arn., Prodr. 314. 1834; Gamble, Fl. Pres. Madras 464(329). 1919; Raghavan & Kulkarni, J. Econ. Tax. Bot. 5: 219. 1984.*Terminalia angustifolia* sensu Roxb., Fl. Ind. 2: 437. 1832, non Jacq. 1776; Hook. f., Fl. Brit. India 2: 449. 1878.[COMBRETACEAE]

Large trees, bark smooth, yellowish, branchlets glabrous. Leaves opposite, 10-14 x 3-4.5 cm, elliptic-oblong. Flowers 2.5 mm across; sepals hispid outside, densely villous inside; stamens 10, filaments 4 mm long; ovary densely tomentose. Drupe to 3 x 1.3 cm, ellipsoid, 5-ridged, glabrous.

505. Termitomyces clypeatus Heim, Bull. Jard. Bot. Brux 21: 207.1951; Manjula, Proc. Ind. Acad. Sci. 92(2): 151.1983. [PLUTEACEAE]

Sporophores in groups, growing on sandy soil or shaded ground in association with termite nests, pileus 5-7 cm in diameter, gills with lamellulae, stipe 7-9 cm long, central, white to dirty brown, basidia four spored, clavate, basiodiospores hyaline obovoid to ellipsoid 5.5-8.5 X 4-5.5µm

506. Termitomyces eurhizus (Berk.) Heim in Arch. Mus. Nat. Hist. Ser. 6, 18: 140, 1942; Pelger in Kew bull. Addl. Ser. 12: 254. 1986. *Agaricus eurrhizus* Berk. In Hooker, Lond. Gourn. Bot. 6: 483, 1947 [PLUTEACEAE]

Spoprophores usually growing solitary, characterized by its obligate association with termites nests, pileus 3-9.5 cm in diameter, at first convex later expanded with prominent umbo, gills crowded, stipes central solid above ground and hollow below the soil basidia clavate four spored, basidiospores hyaline, ellipsoid thin walled 6.8-9.3 X 5.1-6.8µm.

507. Termitomyces heimii Natarajan, Mycologia 71: 853.1979; Natarajan, Soth India Agaricales 175. 1983; Manjula, Proc. Ind. Acad. Sci. 92(2): 151.1983. [PLUTEACEAE]

Sporphores growing in groups association with termite nests. Pileus upto 8.5 cm in diameter, planoconvex with an umbo. Gills crowded, whitish but pinguish with age. Stipe upto 18.5 cm long, cylindrical creemish white. Basidia 2-4 spored, basidiospores ellipsoidal hyaline and thin walled.

508. Termitomyces microcarpus (Berk. & Br.) Heim in Mem. Acad. Sci. Inst. Fr. 64: 72, 1941; Pelger in Kew Bull. Addl. Ser. 12: 253. 1986. *Agaricus microcarpus* Berk. & Br. In Jurn. Linn. Soc. Bot. 11: 537. 1871 [PLUTEACEAE]

Sporophores in groups, pileus 0.5- 2.5 cm in diameter companulate to convex expanding, with a acute papillate projection. Stipe 2.4 X 0.523 mm slender, sinous cylindric and solid, basidia 20-25 X 6-8 µm, clavate, bearing four stregmata. Basidiospores 6-8 X 3.5-4.5µm.

509. Tetrastigma nilagiricum (Miq.) Shetty, Kew Bull. 44: 477. 1989; Mabber. in Dassan., Rev. Handb. Fl. Ceylon 9: 480. 1995. *Cissus nilagirica* Miq., Linnaea 26: 221. 1854.[VITACEAE]

Stout climbers; stem slender, densely muriculate. Leaves 3-5 foliolate, leaflets oblanceolate. Cymes 3 cm across, trichotomous; pedicels rusty tomentose. Flowers many, greenish; calyx obscurely 5-toothed, rusty tomentose; petals 2 mm long; style bulged at base. Berry 1 cm across, obovoid.

510. Tephrosia purpurea (L.) Pers., Syn. 2: 329. 1807; Hook. f., Fl. Brit. India 2: 112. 1876,p.p.; Gamble, Fl. Pres. Madras 320(226). 1918; Vajravelu, Fl. Palghat Dist. 174. 1990.[FABACEAE]

Shrubs, stem minutely scabrous. Leaflets 15-17, 2-2.5 x 0.7 cm, oblanceolate. Flowers lax; pedicels 6 mm long, slender; calyx 7 mm long, one lobe much smaller than others; standard red, 10 x 10 mm, clawed, glabrous; wings 10 x 4 mm, curved; keel 7 mm long, clawed. Pods to 4 x 0.4 cm, minutely velutinus; seeds 7 or 8, 4 x 3 mm, rectangular, dark-brown.

511. Thespesia lampas (Cav.) Dalz. & Gibs., Bombay Fl. 19. 1861; Hook. f., Fl. Brit. India 1: 345. 1874; Manilal, Fl. Silent Valley 29. 1988; Vajravelu, Fl. Palghat

Dist. 84. 1990. *Hibiscus lampas* Cav., Diss. 3: 154. t.56. 1787; Gamble, Fl. Pres. Madras 98(71). 1915.[MALVACEAE]

Shrubs, stem glabrous. Leaves 12-15 x 11-14 cm; 3-5 lobed or entire, ovate. Flowers axillary, solitary or in terminal racemes; calyx cupular, 12 mm across, stellate hairy; corolla 6-8 cm across, rose-yellow. Capsule to 25 x 20 mm, ellipsoid, glabrous, 5-valved; seeds many, 5 x 3 mm, trigonous, glabrous, brown.

512. Thevetia peruviana (Pers.) Merr., Philipp. J. Sci. 9: 130. 1914; Matthew, Fur. Ill. Fl. Tamil Nadu Carnatic t. 364. 1988. *Cerbera peruviana* Pers. Syn. Pl. 1: 267. 1809. *T. neriifolia* Juss. ex Steud. Nomencl. ed. 2. 2: 680. 1841, "nereifolia"; Gamble, Fl. Pres. Madras 821. 1923.[APOCYNACEAE]

Small trees, latex milky. Leaves 15 x 1.5 cm, linear, apex obtuse, base decurrent. Cymes axillary and terminal; flowers yellow; calyx 5 lobed, 8 x 3 mm, ovate, apex acute, glandular within; corolla funnel shaped 6.5 cm long, villous inside; anther cells rounded at base, 2 mm, Ovary of 2 distinct carpels, style 1.5 cm, stigma fusiform.

513. Thottea siliquosa (Lam.) Ding Hou, Blumea 27: 327. 1981; Manilal, Fl. Silent Valley 229. 1988; Vajravelu, Fl. Palghat Dist. 395. 1990. *Apama siliquosa* Lam., Encycl. 1: 91. 1783; Gamble, Fl. Pres. Madras 1200(840). 1925.[ARISTOLOCHIACEAE]

Shrubs, branchlets angled. Leaves 19-25 x 5-8 cm, elliptic-oblong, inequilateral. Flowers in axillary fascicles, 1-5 together, 1.5 cm across; perianth lobed, united into a cup, acute, yellow or brown, lined inside; stamens 12, united in 3 groups; stigma peltate, many-lobed. Capsule to 12 cm long, 5 mm broad, cylindrical; seeds 2 mm long, trigonous, rugose.

514. Thunbergia fragrans Roxb., Pl. Corm. t. 67.1795; Gamble, Fl. Pres. Madras 1007(707).1924; Manilal, Fl. Silent Valley 212.1988; Vajravelu, Fl. Palghat Dist. 362. 1990.*Thunbergia laevis* Nees in Wall., Pl. Asiat. Rar. 3: 77. 1832.[ACANTHACEAE]

Climber, scabrous. Leaves 6-8 x 4-6 cm, ovate, entire. Flowers solitary; pedicels 3 cm long; bracteoles 1.5 cm long, ovate-oblong, obtuse, mucronate; sepals of 8-16 fibrils; corolla white, 4 cm across, tube 3 cm long, lobes 3.5 cm; filaments glandular hispid at base. Capsule 1 cm across, glabrous, beak 1.5 cm long, acute.

515. Tinospora cordifolia (Willd.) Hook.f. & Thoms. in Hook.f., Fl. Brit. India 1: 97. 1872; Gamble, Fl. Pres. Madras 26(19). 1915; Vajravelu, Fl. Palghat Dist. 52. 1990. *Menispermum cordifolium* Willd., Sp. Pl. 4: 826. 1806.[MENISPERMACEAE]

Leaves 8-11 x 7-9 cm, broadly ovate. Male flowers in racemes, outer sepals smaller; petals shorter than the inner sepals; stamens 6, free, opposite to petals;

female flowers-staminodes 6, carpels 3, stigma forked. Drupes 6 x 5 mm, sessile; seeds grooved vertically.

516. Tinospora sinensis (Lour.) Merr., Sunyatsenia 1: 139. 1934 & Trans. Am. Phil. Soc. Philad. 24. 158. 1935; Vajravelu, Fl. Palghat Dist. 52. 1990. *Campylus sinensis* Lour., Fl. Cochinch. 113. 1790.. [MENISPERMACEAE]

Leaves 11-14 x 9-11 cm, broadly ovate. Male flowers 3-5 together, pedicelled; sepals 6 in 2 whorls, outer smaller, inner 2 x 1.5 mm, obovate; petals 6 smaller; stamens 6, free, anthers orbicular. Female flowers: sepals and petals similar to male flowers; carpels 3, stigma bilobed, staminodes 6, clavate. Drupe 8 mm long, 1 or 2 together, ovoid, red, glabrous.

517. Toddalia asiatica (L.) Lam., Tabl. Encycl. 2: 116. 1797; Gamble, Fl. Pres. Madras 150(107). 1915; Nair & Nayar in Hajra *et al.*, Fl. Ind. 4: 403.1997. *Paullinia asiatica* L., Sp. Pl. 365. 1753. *Toddalia asiatica* (L.) Lam., Illustr. 2: 116. 1797, var. *obtusifolia* Gamble, Fl. Pres. Madras 151(107). 1915; Manilal, Fl. Silent Valley 47. 1988.[RUTACEAE]

Erect or scandent shrubs, usually armed with prickles. Leaves 3-foliolate. Flowers pedicelled, unisexual; sepals 4 or 5, united below; petals 4 or 5, oblong, yellow; stamens in male flowers 5, filaments equal, spreading; anthers oblong, obtuse; ovary 4 or 5-celled, ovoid, glabrous, cell 2-ovuled, style absent, stigma capitate, sessile. Berry to 7 x10 mm, depressed-globose; seeds 1-4, ovoid, pulp fleshy.

518. Tragia involucrata L., Sp. Pl. 980.1753; Hook. f., Fl. Brit. India 5:465.1888,p.p.; Gamble, Fl. Pres. Madras 1332(931). 1925; Sasidh. & Sivar., Fl. Pl. Thrissur For. 415. 1996.[EUPHORBIACEAE]

Leaves 7-10 x 4-6.5 cm, ovate or elliptic, apex caudate-acuminate, base acute or rounded, serrate, hispidulous, lateral nerves 6-8 pairs, basal pair opposite; petiole to 3 cm long. Spikes to 2 cm long; bract of male flowers spathulate; female flowers ebracteate. Capsule 0.6 x 1 cm, hispid.

519. Trema orientalis (L.) Blume, Mus. Bot. Lugd.-Bat. 2: 62. 1856; Gamble, Fl. Pres. Madras 1350(944). 1928; Manilal, Fl. Silent Valley 258. 1988; Vajravelu, Fl. Palghat Dist. 442. 1990 *Celtis orientalis* L., Sp. Pl. 1044. 1753 [ULMACEAE]

Small trees, dioecious. Leaves alternate, 10-15 x 3-5 cm, ovate. Flowers in axillary fascicles or cymes. Male flowers usually sessile; sepals 4 or 5, equal, 2 mm long, curved; stamens 5. Female flowers in cymes; sepals unequal, ciliate; ovary ovate, 1-celled, style 2-fid, curved, stigmas plumose. Fruit a drupe, 3 mm across, globose.

520. Trianthema portulacastrum L., Sp. Pl. 223. 1753; Gamble, Fl. Pres. Madras. 550(389). 1919; Manilal & Sivar., Fl. Calicut 125. 1982; Vajr., Fl.

Palghat Dist. 221. 1990. *Trianthema monogyna* L., Mant. Pl. 1: 69. 1767; Hook. f., Fl. Brit. India 2: 660. 1879. [AIZOACEAE]

Prostrate herbs. Leaves very unequal, orbicular, ovate. Flowers pinkish white, solitary in pouches. Stamens many. Capsule turbinate, 2 lobed. Seeds 2 in the operculam, 7 in the lower part, white papilose.

521. Tribulus terrestris L., Sp. Pl. 387. 1753; Hook. f., Fl. Brit. India 1: 423. 1874; Gamble, Fl. Pres. Madras 130(92). 1915. *Tribulus lanuginosus* L., Sp. Pl. 387. 1753.[ZYGOPHYLLACEAE]

Prostrate herbs. Leaves opposite, imparipinnate. Flowers 1 or 2, axillary, golden yellow, to 2 cm across; pedicels to 3 cm; sepals 5, 5 mm, linear; petals 5, 7 x 4 mm; stamens 10, filaments dilated at base, disc 10-lobed; ovary 5-lobed, hirsute with bulbous hairs; stigmas 5. Fruit 1 cm across, globose, 5-angled, cocci 5, woody, each with a pair of divaricate spines.

522. Trichodesma indicum (L.) R. Br., Prodr. 496. 1810; Wight, Ill. 2: t. 172. 1850; Clarke in Hook. f. Fl. Brit. India 4: 153. 1883; Gamble, Fl. Pres. Madras 899. 1923; Vajravelu, Fl. Palghat 304. 1990. [BORAGINACEAE]

Scabrous herbs. Leaves opposite and alternate, 4-5 x 0.5-1 cm, linear-oblong. Flowers solitary, axillary or in lax racemes; calyx lobes 8 mm long, acuminate, sagitate, hairy, one nerved; corolla salver shaped, 9 mm long, lobes acuminate; anthers united, pubescent at base and outside, connective 5 mm; ovary 4 lobed, style 5 mm.

523. Trichodesma zeylanicum (Burm. f.) R. Br., Prodr. 496. 1810; Hook. f., Fl. Brit. India 4: 154. 1883; Gamble, Fl. Pres. Madras 899(632). 1923; Manilal, Fl. Silent Valley 186. 1988; Vajravelu, Fl. Palghat Dist. 305. 1990. [BORAGINACEAE]

Erect herbs, coarsely hispid. Leaves 8-10 x 2 cm, lanceolate. Flowers axillary or in terminal cymes; sepals 10 x 5 mm, enlarging in fruit; corolla blue, 8 mm long, campanulate, lobes 5, triangular with twisted narrow tip; stamens 5, anthers sessile, connivent, connective produced in twisted threads; ovary 4-lobbed and 4-celled; style terminal. Nutlets, rugose on the inner surface.

524. Tridax procumbens L., Sp. Pl. 900. 1753; Hook. f., Fl. Brit. India 3: 311. 1881; Gamble, Fl. Pres. Madras 711(500). 1921; Manilal, Fl. Silent Valley 160. 1988; Vajravelu, Fl. Palghat Dist. 256. 1990.[ASTERACEAE]

Procumbent herbs. Leaves 3-6 x 1.5-3 cm, ovate. Heads 1.3 x 1.5 cm, solitary, on long peduncles; bracts in 3-series, lanceolate, hairy. Outer row of flowers ligulate, female, limb 3 x 2 mm, 3-toothed, white; inner flowers bisexual, tubular; corolla 6 mm long, 5-lobed at apex, yellow. Achenes 2 mm long, obovoid, densely hairy; pappus many, setaceous.

525. Trigonella foenum-graecum L. Sp. Pl. 777.1753; Hook. f., Fl. Brit. India 2: 87. 1874; Gamble, Fl. Pres. Madras 215(303). 1918.[FABACEAE]

An erect strong smelling annual herb with thinly hairy or subglabrous stems. Leaves short petioled; leaflets toothed, oblong, oblanceolate. Flowers pale yellow, sessile, 1-2 together in the axils of young leaves; calyx teeth linear; corolla much exerted. Pods first straight and later falcate.

526. Triumfetta pilosa Roth, Nov. Pl. Sp. 223. 1821; Hook. f., Fl. Brit. India 1: 394. 1874; Gamble, Fl. Pres. Madras 120(86). 1915; Manilal, Fl. Silent Valley 34. 1988; Vajravelu, Fl. Palghat Dist. 95. 1990. *Triumfetta cana* Blume, Bijdr. 113. 1825; Hook. f., Fl. Brit. India 1: 396. 1874.[TILIACEAE]

Shrubs, branchlets stellate-hairy. Leaves 12-16 x 7-10 cm, ovate. Flowers 3-10-together; pedicel 3 mm long; sepals 10 x 1 mm, hairy outside; petals yellow, 7 x 2 mm, oblanceolate, hairy at base; stamens 10, filaments 7 mm long. Capsule densely glochidiate-bristled.

527. Triumfetta rhomboidea Jacq., Enum. Syst. Pl. 22. 1760; Hook. f., Fl. Brit. India 1: 395. 1874; Gamble, Fl. Pres. Madras 120(86). 1915; Manilal, Fl. Silent Valley 35. 1988; Vajravelu, Fl. Palghat Dist. 95. 1990.*Triumfetta trilocularis* Roxb., Fl. Ind. 2: 462. 1832. [TILIACEAE]

Herbs or subshrubs, branchlets stellate-hairy. Leaves 5-8 cm across, ovate to rhomboid, 3-lobed. Flowers 3-15 together; pedicels 5 mm long; sepals 7 x 1 mm, sparsely stellate-hairy; petals 6 x 2 mm, oblanceolate, with two tufts of hairs at base. Capsule with stiff bristles

528. Urena lobata L., Sp. Pl. 692. 1753, ssp. **lobata**; Hook. f., Fl. Brit. India 1: 329. 1874; Gamble, Fl. Pres. Madras 92(66). 1915 Borss., Blumea 14: 140. 1966; Manilal, Fl. Silent Valley 29. 1988; Vajravelu, Fl. Palghat Dist. 85. 1990; Sivar. & Pradeep, Malv. South. Peninsular India 180. 1996.[MALVACEAE]

Stem densely stellate pubescent. Leaves to 7-9 cm across, ovate, 3-5 angular or lobed, densely stellate hairy below; petiole to 1.5 cm long. Flowers shortly pedicelled; bracts spathulate; calyx glabrous; petals obovate, stellate-tomentose. Schizocarp 12 mm across, black

529. Usnea nepalensis Awasthi, Proc. Indian Sci. Congr. Abs. 3: 228. 1957-*nomen nudum*; G. Awasthi, J. Hattori Bot. Lab. 61: 376. f. 70&71. 1986.[USNEACEAE]

Thallus fruticose, pendulous, up to 10 cm long; branching sympodial, branches up to 2 mm in diam., papillate; papillae minute, tuberculate; pseudocyphellate; isidia white, elongate; cortex cartilaginous; medulla dense; axis solid, white; apothecia up to 4 mm in diam., margin ciliate; receptacle pseudocyphellate; spores colourless, simple, 6-8 x 4-6 µm in size.

530. Usnea nilgirica G. Awasthi, J. Hattori Bot. Lab. 61: 351. f. 29. 1986. [USNEACEAE]

Thallus fruticose, up to 15 cm long, brown, soft; basal disc black; branching dichotomous, pseudocyphellate, articulated, apices tapering, papillate; papillae minute, dense; isidia white; cortex yellow; medulla arachnioid, axis solid; apothecia absent.

531. Usnea picta (Stein.) Mot., Lich. Gen. *Usnea* Stud. Monogr. Pars syst. 325. 1936-38; G. Awasthi, J. Hattori Bot. Lab. 61:379. 1986; Singh & Sinha, Lichen Fl. Nagaland 337. 1994.*Usnea cerartina* var. *picta* Stein., Sber. Akad. Wiss. Wien math. nat. CI 106(1):210. 1897.[USNEACEAE]

Thallus fruticose, erect, up to 6 cm long, yellowish-gray; basal disc black; branching sympodial; branches upto 2 mm in diam., terete, soredia and isidia absent, papillate to tuberculate; tubercles pseudocyphellate; cortex colourless; medulla dense; axis solid; apothecia terminal, up to 8 mm in diam.; margins irregularly lobed; receptacle smooth, rarely ciliate; disc flat, greyish; spores 7-10 x 4-7 μm in size.

532. Usnea subchalybaea Zahlbr., Annal. Mycology 7: 475. 1909; Zahlbr., Cat. Lich. Univ. 6: 593. 1930; Mot., Lich. Gen. *Usnea* stud. Monogr. Pars. Syst.: 647. 1936-38; G. Awasthi, J. Hattori Bot. Lab. 61: 386. f. 89. 1986. [USNEACEAE]

Thallus fruticose, erect, up to 4 cm long, rigid, pale yellow to dark brown; basal disc black; branching subsympodial, main branches up to 1 mm in diam., terete, inflated, tapering at apex; lateral branchlets sparse; surface cracked, isidiate; isidia dense, minute, filiform, black tipped; cortex semiprosoplectenchymatous; medulla dense; axis solid, white; apothecia absent.

533. Usnea subfloridana Stirt., Scott. Natur. 6: 294. 1882; Laundon, Lichenologist 3: 70. 1965; G. Awasthi, J. Hattori Bot. Lab. 61: 387-388. f. 58. 1986. [USNEACEAE]

Thallus fruticose, erect, up to 7 cm long, brown; basal disc black; branching subsympodial to sympodial; surface papillate; papillae minute, dense, concolorous to thallus, sorediate; soralia round to oblong; isidiate; cortex palisade like; medulla dense, arachnioid; axis solid; apothecia absent.

534. Utleria salicifolia Bedd. *ex* Hook. f., Fl. Brit. India 4: 7. 1883; Gamble, Fl. Pres. Madras 827(581). 1923; Sasidh. & Swarup., J. Econ. Tax. Bot. 18: 636.1994.[ASCLEPIADACEAE]

Subshrubs. Leaves to 15-19 x 2-3 cm, linear-lanceolate. Flowers *ca* 6 mm across; pedicel to 4 mm; calyx lobes *ca* 2 mm, glandular; corolla rotate, 2 mm,

lobes ovate; corona scales 5, rounded; stamens inserted at base of the corolla tube, anthers ovate; ovary oblong. Mericarps divaricate, lanceolate, to 5 cm long.

535. Vaccinium neilgherrense Wight, Calcutta J. nat. Hist. 8: 173. 1847, Ic. T. 1189. 1848; Hook. f., Fl. Brit. India 3: 454. 1882; Gamble, Fl. Pres. Madras 741. 1921; Manilal, Fl. Silent Valley 164.1988; Vajravelu, Fl. Palghat Dist. 261. 1990.[VACCINIACEAE]

Small trees, Laeves alternate, elliptic, ovate lanceolate, crenate, serrate. Flowers light pinkish, fragrant in lax racemes; calyx persistant; corolla lobes reflexed. Berries globose.

536. Vanda tessellata (Roxb.) Hook. *ex* D. Don in Loud., Hort. Brit. 372.1830; Gamble, Fl. Pres. Madras 1445(1010).1928; Manilal, Fl. Silent Valley 307.1988; Sathish & Manilal, Orchid Memories 228. 2004. *Epidendrum tessellatum* Roxb., Pl. Corom. t. 42. 1795. [ORCHIDACEAE].

Scandent epiphytic subshrubs. Leaves 2-ranked, 10-15 x 2.4 cm, oblong. Flowers 5 cm across, white outside, inner tessellate with brown spots; petals to 5 cm; lip bluish dotted with purple, 3-lobed, side lobes 7 mm; spur 5 mm, conical; column 5 mm.

537. Vanda thwaitesii Hook. f., in Trim., Handb. Fl. Ceylon 4: 193. 1898; Jayaw. in Dassan. & Fosb., Rev. Handb. Fl. Ceylon 2: 220. 1981. *Aerides tessellatum* sensu Thw., Enum. Pl. Zeyl. 305. 1861, non Wight, 1831 [ORCHIDACEAE].

Stem stout, woody, to 25 cm high, covered with leaf base. Leaves 12-15 x 1.5-2 cm, strap-shaped. Flowers greyish-green, 4 x 3.5 cm, in 9-10 cm long; lateral sepals 23 x 13 mm, elliptic, subacute, obtuse, margins wavy, 9-veined; petals 21 x 11 mm, obovate, obtuse, margins wavy, 7-veined; lip 20 x 18-20 mm, 3-lobed; spur 10 x 4-6 mm, conical, inflated, keeled, rounded.

538.Vateria indica L., Sp. Pl. 513. 1753; Hook. f., Fl. Brit. India 1: 313. 1874; Gamble, Fl. Pres. Madras 85(61). 1915; Manilal, Fl. Silent Valley 24. 1988; Vajravelu, Fl. Palghat Dist. 75.1990. *Vateria malabarica* Blume, Mus. Bot. Lugd.-Bat. 2: 29. 1852.[DIPTEROCARPACEAE]

Tall trees, bark smooth, grey, exudate resinous, branchlets puberulus. Leaves 16-20 x 9-12 cm, oblong. Flowers to 2.5 cm across, pedicellate; sepals 5, free, to 1 cm long, lanceolate; petals white, 1.5 x 0.7 cm, obovate, spreading, shortly united at base; stamens many, free, filaments hairy; ovary densely hairy, 3-celled, cell 2 or 3 ovuled, style filiform. Capsule 2-3 x 1.5 cm, oblong, obtuse, coarsely puberulus, brown.

539. Vernonia anthelmintica (L.) Willd., Sp. Pl. 3: 1634. 1803; Hook. f. Fl. Brit. India 3: 236. 1881;Rani & Matthew in Matthew, Fl. Tamil Nadu. Carnatic 826. 1983 & Ill. Fl. Tamil Nadu. Carnatic t. 393. 1982.*Centratherum anthelminticum* (L.) O. Ktze., Rev. Gen. Pl. 1: 320. 1891; Gamble, Fl. Pres. Madras 667. 1921.[ASTERACEAE]

Tall herbs, pubescent. Leaves to 12 x 4 cm, oblanceolate. Corymbs at the axils of forks; phyllaries multiseriate, outer herbaceous, 5 x 2 mm, pubescent, inner scarious; flowers 6 mm long; ovary 2 mm, oblong, hairy. Achenes 4 mm, 8-10 ribbed, oblong, pubescent; pappus 2-seriate; outer 0.5 mm, inner numerous, barbellate, unequal, to 6 mm.

540. Vernonia cinerea (L.) Less., Linnaea 4: 291. 1829; Gamble, Fl. Pres. Madras 676(475). 1921; Vajravelu, Fl. Palghat Dist. 257. 1990; Sasidh. & Sivar., Fl. Pl. Thrissur For. 256. 1996. *Conyza cinerea* L., Sp. Pl. 862. 1753.[ASTERACEAE]

Annuals or perennial herbs, stem ribbed, smooth or puberulus. Leaves variable, 2-8 x 1-3 cm, ovate. Heads 5 x 3 mm, in terminal corymbose cymes, peduncled; outer bracts minute, inner oblong, acute, cuspidate, hairy. Flowers 5-10, similar; corolla 3 mm long, glabrous. Achenes 1.5 mm long, hairy; outer pappus 1 mm long, setaceous, inner 3 mm long.

541. Vetiveria zizanioides (L.) Nash in Small, Fl. South-East U.S. 67. 1903; Gamble, Fl. Pres. Madras 1733(1201). 1934; Manilal & Sivar., Fl. Calicut 343. 1982; Sivar. & Philip, Fl. Nilambur 815. 1997.*Phalaris zizanioides* L., Mant. Pl. 2: 183. 1771.[POACEAE]

A perennial densely tufted grass. Root stock aromatic. Leaves erect rigid. Panicles contracted oblong. Racemes slender. Sessile spikelets linear or lanceolate; pedicelled spikelets with the lower involucres glume tubercled on the back and upper tubercled in the keel.

542. Vigna mungo (L.) Hepper, Kew Bull. 12: 128. 1956; Sanjappa, Legumes Ind. 275. 1991.*Phaseolus mungo* L., Mant. Pl. 1: 101.1767; Hook. f., Fl. Brit. India 2:313.1878; Gamble, Fl. Pres. Madras 363(256). 1918.[FABACEAE]

A diffuse or shortly scandant herb. Stems twisted, with spreading or reflexed hairs. Flowers bright yellow. Pods erect or ascending. Seeds black, mottled, grey smooth.

543. Vigna radiata (L.) Wilczek, Fl. Congo Belge. 6: 386. 1954. Sanjappa, Legumes Ind. 275. 1991.*Phaseolus radiatus* L., Sp. Pl. 725.1753; Gamble, Fl. Pres. Madras 363(256). 1918.[FABACEAE]

A diffuse or shortly scandant herb. Stem clothed with long decidous brownish silky hairs. Leaves dark green; leaflets membranous. Flowers yellow in cpitate

shortly peduncled racemes, occasionally sub panicled. Pods erect or ascending. Seeds green, smooth.

544. Vigna unguiculata (L.) Walp., Repert. 1: 779. 1842; Verdc., Kew Bull. 24: 543. 1970. *Dolichos unguiculatus* L., Sp. Pl. 725. 1753. *Dolichos sinensis* L. in Stickman, Herb. Amboin. 23.1754. [FABACEAE]

Vigorously bushy or trailing, annual herbs up to 1 m. Leaves trifoliate with long petiole; leaflets are large, hairy dark green. Flowers white, light purple or light pink; occurring in alternate pairs on thickened nodes. Pods are smooth cylindrical and some what constricted between the seeds.Seeds globular to kidney shaped.

545. Viscum orientale Willd., Sp. Pl. 4: 737. 1805; Hook. f., Fl. Brit. India 5: 224. 1886; Gamble, Fl. Pres. Madras 1258(880). 1925; Sasidh. & Sivar., Fl. Pl. Thrissur For. 388. 1996.[VISCACEAE]

Branchlets erect or drooping, internodes terete, angled towards apex. Leaves to 3-4 x 2.5 cm, obovate, acute at both ends, base 3-5 ribbed, shortly petioled. Flowers sessile or sub-sessile, axillary, 3-together, middle one female, laterals male; bracts cupular. Berry obovoid, truncate, smooth.

546. Vitex negundo L., Sp. Pl. 638. 1753; Wight, Ic. t. 519. 1842; Clarke in Hook. f. Fl. Brit. India 4: 583. 1885; Gamble, Fl. Pres. Madras 1102. 1924; Vajravelu, Fl. Palghat 370. 1990; Sasidh. & Sivar., Fl. Pl. Thrissur For. 355. 1996.[VERBENACEAE]

Small trees; branchlets grey pubescent. Leaves 3-5 foliate. Panicles terminal and axillary, to 29 cm long, pubescent; calyx 3 mm, cup shaped, pubescent; corolla tube 4 mm long, hairy inside; filaments 4 and 5 mm; ovary 1 mm, style 6.5 mm, stigma bifid. Drupe 4 mm across, globose.

547. Volvariella volvaceae (Bull. ex Fr.) Singer, Lilloa 22: 401, 1951.[PLUTEACEAE]

Sporophores usually growing solitary or gregarious on rotten paddy strope heaps; pileus usually 5-12.5 cm in diameter, gills crowded free, thin flesh coloured. Stipe central cylindrical 8-14 cm long. Basidia clavate, tetrasterigmatic, 18.7-28.9 X 6.8-11.9µm. Basiodiospores oval to ovoid, 6.8-9.3 X 4.6-6.3µm.

548. Wattakaka volubilis (L. f.) Stapf, Bot. Mag. sub. t. 8976. 1923; Vajravelu, Fl. Palghat 293. 1990. *Asclepias volubilis* L.f., Suppl. 170.1782. *Dregea volubilis* (L. f.) Benth. ex Hook. f. Fl. Brit. India 4: 46. 1883. *Marsdenia volubilis* (L. f.) Cooke, Fl. Pres. Bombay 2: 166. 1904; Gamble, Fl. Pres. Madras 846. 1923.[ASCLEPIADACEAE]

Twiners. Leaves to 8 x 5 cm, ovate.Umbels axillary, 4.5 cm, many flowered; pedicels 2 cm, pubescent; calyx lobes unequal, 2 mm, lanceolate; corolla rotate, tube 3 mm, lobes 4 x 4 mm, orbicular; corona single, staminal, with 2 globular masses above the anthers; pollinia erect.

549. Wrightia tinctoria (Roxb.) R. Br., Mem. Wern. Nat. Hist. Soc. 1: 47. 1811; Hook. f., Fl. Brit. India 3: 653. 1882; Gamble, Fl. Pres. Madras 815(573). 1923; Manilal, Fl. Silent Valley 175. 1988; Vajravelu, Fl. Palghat Dist. 283. 1990.[APOCYNACEAE]

Small trees. Leaves 8-10 x 3.5 cm, elliptic-oblong. Flowers white; sepals ovate, obtuse, ciliate; corolla tube 4 mm long, broad, lobes 12 x 5 mm, oblong, obtuse; corona many, erect, linear; anthers acuminate, coriaceous, 6 mm long. Mericarps 30 cm long, terete, joined at apex, glabrous; seeds oblong.

550. Xylia xylocarpa (Roxb.) Taub., Bot. Centralbl. 47: 397. 1891; Gamble, Fl. Pres. Madras 417(295). 1919; Vajravelu, Fl. Palghat Dist. 190. 1990. *Mimosa xylocarpa* Roxb., Pl. Corom. t. 100. 1798.[FABACEAE]

Medium trees, bark rough. Leaves bipinnate, pinnae 2. Flowers numerous, 5 mm long, sessile, dull yellow; calyx 4 mm long, tubular, toothed at apex; petals 5, free or united at base, valvate; stamens 10, free, filaments 8 mm long, anthers glandular at apex; ovary many-ovuled, stigma minute. Pods to 18 x 6 cm, curved-obovate, compressed, woody; seeds 4-10, transverse, oblong.

551. Zanthoxylum rhetsa (Roxb.) DC., Prodr. 1: 728. 1824; Hook. f., Fl. Brit. India 1: 495. 1875; Gamble, Fl. Pres. Madras 150(107). 1925; Sasidh. & Sivar., Fl. Pl. Thrissur For. 85. 1996. *Fagara rhetsa* Roxb., Fl. Ind. 1: 438. 1820.[RUTACEAE]

Trunk armed with stout prickles. Leaves apically clustered, leaflets 13-21. Flowers in terminal cymose panicles, pedicelled, 2-3 mm across, greenish-yellow. Fruit tubercled; seeds globose, smooth, ca 3 mm across.

552. Zea mays L., Sp. Pl. 971. 1753; Hook. f., Fl. Brit. India 7: 102. 1896; Gamble, Fl. Pres. Madras 1704(1181). 1934.[POACEAE]

A tall stout erect annual moneceous plant. Leaves lanceolate flat. Male panicles terminal with spikelets in pairs, 2 flowered. Stamens 3. Female spikes axillary, enclosed in the sheath of the leaf and surrounded by bracts. Spikelets sessile densely covered in vertical series on thick central axis. Styles long 2 fid. Grains crowded shining and sub globose.

553. Zehneria scabra (L. f.) Sond. in Harv. & Sond., Fl. Cap. 2: 486. 1862; Manilal, Fl. Silent Valley 122. 1988; Vajravelu, Fl. Palghat Dist. 217. 1990. *Bryonia scabra* L. f., Suppl. Pl. 423. 1781.[CUCURBITACEAE]

Branchlets scabrous. Leaves 5-7 cm across, triangular, base cordate. Umbel 3-5 flowered; peduncle to 1.5 cm long. Female flowers 5 mm across; calyx tube 2 mm long,; petals 2.5 x 2 mm, obovate; stigma 3-lobed. Male flowers larger, 8 mm across; petals ovate, acute; anthers 1 mm long. Berry 7 mm across, globose; seeds 5 x 4 mm, obovate, biconvex, smooth, not marginate.

554. Zeylanidium lichenoides (Kurz) Engl. in Engl. & Prantl, Nat. Pflanzenf. (ed. 2) 18a:62. 1930; Mathew & Sathish, Aqua. Bot. 57: 265. 1997. *Hydrobryum lichenoides* Kurz, J. Asiat. Soc. Bengal 42:103. 1873; Gamble, Fl. Pres. Madras 1199(839). 1925.[PODOSTEMACEAE]

Thallus ribbon like, lower smaller, upper larger. Spathella 2 x 1 mm, prostrate. Flowers 2.5 x 1 mm, zygomorphic; tepals 2, 1 mm long, scarious, subulate; stamens 2, monadelphous, andropodium 1.2 x 0.3 mm, anthers bilobed; ovary 1.5 x 0.9 mm, ellipsoid, smooth, stigma bilobed, smooth. Capsule 2 x 1 mm, anisolobous, ellipsoid, ribs 8; one lobe persistent, stalk 2 mm, long.

555. Zingiber neesanum (Graham) Ramam. in Sald. & Nicols., Fl. Hassan Dist. 769. 1976; Manilal, Fl. Silent Valley 314. 1988. *Alpinia neesiana* Graham, Cat Pl. Bombay 2-7. 1139.[ZINGIBERACEAE]

Rhizome creeping, yellow inside. Leaves 25-35 x 3.5 cm. Flowers solitary in each bract; calyx 2 cm long, glabrous; corolla tube 2 cm long, lobes unequal, larger lobe 3.5 x 1.5 cm, elliptic, acute, glabrous; lip 3.5 x 3.5 cm, 3-lobed; lobes obtuse, glabrous, middle lobe emarginate; ovary glabrous. Capsule 3-4 cm long, ellipsoid, smooth, red inside, 3-valved.

556. Zingiber officinale Rosc., Trans. Linn. Soc. London 8: 348. 1807; Hook. f., Fl. Brit. India 6: 246. 1892; Gamble, Fl. Pres. Madras 1489(1040). 1928; Manilal, Fl. Silent Valley 314.1988. *Amomum zingiber* L., Sp. Pl. 1.1753 [ZINGIBERACEAE]

Rhizome thick, dull yellow. Leaves 17-25 x 3 cm, elliptic-oblong, apex acuminate. Peduncles 20-30 cm long, erect; spike 3-5 x 3 cm, obovoid; bracts 2.5 x 2 cm, obovate, green. Flowers few; calyx 2 cm long; corolla white, tube small; labellum 3 x 2.5 cm, white, obovate.

557. Zingiber zerumbet (L.) J.E. Smith, Exot. Bot. 2: 105, t.112.1804; Hook. f., Fl. Brit. India 6:247. 1892; Gamble, Fl. Pres. Madras 1490(1040). 1928; *Amomum zerumbet* L., Sp. Pl. 1. 1753.[ZINGIBERACEAE]

Rhizome thick, fragrant, yellowish inside. Leaves 20-30 x 5-8 cm. Spike to 15 cm long, cylindrical, on erect peduncle 30-45 cm long, floral bracts 3.5 x 3 cm, obovate, thinly pubescent above, green, changing to red. Flowers white, solitary in each bract; corolla 2-3 cm long; lip 2.5 x 2 cm, white or pale yellow; midlobe orbicular.

558. Zizyphus mauritiana Lam., Encycl. 3: 319. 1789; Bhandari & Bhansali in Singh *et al.*, Fl. Ind. 5: 234. 2000. *Zizyphus jujuba* Lam., Encycl. 3: 318. 1789; Hook. f., Fl. Brit. India 1: 632. 1875; Gamble, Fl. Pres. Madras 219(157). 1918, non Mill. 1768. [RHAMNACEAE]

Small trees, armed, branchlets white tomentose. Leaves 2.5-5 x 1.5-3 cm, 3-ribbed, coarsely crenate, tomentose beneath. Flowers in fascicles, sessile; calyx lobes 1 mm, ovate; petals 1 mm, concave, margin strongly curved, disc of 10 grooved lobes. Drupe to 1 cm globose, rugose.

559. Zizyphus oenoplia (L.) Mill., Gard. Dict. (ed. 8). 3.1768; Hook. f., Fl. Brit. India 1:634.1875; Gamble, Fl. Pres. Madras 220(158).1918; Vajravelu, Fl. Palghat Dist. 121. 1990. *Rhamnus oenoplia* L., Sp. Pl. 194. 1753. [RHAMNACEAE]

Scandent shrubs, thorns many, recurved, branchlets densely silky hairy. Leaves 4-6.5 x 2-3 cm, ovate, apex. Flowers 3 mm across, shortly pedicelled, 6-20 in axillary clusters; sepals triangular, hispid outside; petals clawed, concave, greenish yellow; disk flat, glabrous. Drupe 6 x 6 mm, globose, black.

560. Zizyphus rugosa Lam., Encycl. 3: 319. 1789; Hook. f., Fl. Brit. India 1: 636. 1875; Gamble, Fl. Pres. Madras 221(158). 1918; Manilal, Fl. Silent Valley 58. 1988; Vajravelu, Fl. Palghat Dist. 121. 1990; Sasidh. & Sivar., Fl. Pl. Thrissur For. 110. 1996; Bhandari & Bhansali in Singh *et al.*, Fl. Ind. 5: 241. 2000.[RHAMNACEAE]

Scandent shrubs, thorns, recurved. Leaves 9-12 x 4-7 cm, ovate-orbicular. Flowers 6-20 together; subsessile, 5 mm across; sepals densely tomentose outside; disk flat, glabrous; ovary densely tomentose, 2-celled; styles 2, curved. Drupe to 1.3 cm, globose, white, glabrous.

Appendix 5

Wild edible plants used by the tribal groups of Palakkad district

Sl. No.	Botanical name	Family	Part used
1.	*Acacia pennata*	Fabaceae	Leaves
2.	*Adenia hondala*	Passifloraceae	Leaves
3.	*Allmania nodiflora*	Amaranthaceae	Leaves
4.	*Alternanthera sessilis*	Amaranthaceae	Leaves
5.	*Amaranthus spinosus*	Amaranthaceae	Leaves
6.	*Amaranthus viridis*	Amaranthaceae	Leaves
7.	*Amorphophallus paoeniifolius var. paoeniifolius*	Araceae	Leaves, Rhizomes
8.	*Angiopteris evecta*	Marattiaceae	Leaves
9.	*Antidesma acidum*	Euphorbiaceae	Fruits
10.	*Antidesma ghaesembilla*	Euphorbiaceae	Fruits
11.	*Antidesma montanum*	Euphorbiaceae	Fruits
12.	*Ardisaia solanacea*	Myrsinaceae	Leaves
13.	*Arenga wightii*	Arecaceae	Tender shoot, sap of inflorescence
14.	*Argyreia nervosa*	Convolvulaceae	Fruits
15.	*Artocarpus heterophyllus*	Moraceae	Fruits, seeds
16.	*Artocarpus hirsutus*	Moraceae	Fruits, seeds
17.	*Artocarpus gomezianus*	Moraceae	Fruits
18.	*Auricularia sp.*	Auricualriaceae	Pileus
19.	*Baccaurea courtallensis*	Euphorbiaceae	Fruits
20.	*Bambusa bambos*	Poaceae	Tender shoots, seeds
21.	*Bauhinia racemosa*	Fabaceae	Fruits
22.	*Boerhavia diffusa*	Nyctaginaceae	Leaves
23.	*Calamus gamblei*	Arecaceae	Fruits
24.	*Calamus hookerianus*	Arecaceae	Fruits
25.	*Calamus thwaitesii*	Arecaceae	Fruits
26.	*Canavalia africana*	Fabaceae	Leaves
27.	*Caryota urens*	Arecaceae	Stem pith
28.	*Celosia argentea*	Amaranthaceae	Leaves
29.	*Cereus pterogonus*	Cactaceae	Root tubers, fruits
30.	*Christella parasitica*	Thelypteridaceae	Leaves
31.	*Colocasia esculenta*	Araceae	Rhizomes, leaves, fruits
32.	*Commelina benghalensis*	Commelinaceae	Leaves
33.	*Coprinus sp.*	Coprinaceae	Pileus

Sl. No.	Botanical name	Family	Part used
34.	*Corchorus aestuans*	Tiliaceae	Leaves
35.	*Cordia obliqua*	Boraginaceae	Friuts
36.	*Cordia wallichii*	Boraginaceae	Friuts
37.	*Cucumella silentvalleyii*	Cucurbitaceae	Fruits
38.	*Cucumis prophetarum*	Cucurbitaceae	Leaves
39.	*Cullinia exarillata*	Culliniaceae	Flowers, seeds
40.	*Curcuma zedoaria*	Zingiberaceae	Rhizomes
41.	*Cycas circinalis*	Cycadaceae	Leaves, Seeds
42.	*Decalepis hamiltonii*	Asclepiadaceae	Root tubers
43.	*Dendrocalamus strictus*	Poaceae	Tender shoots, seeds
44.	*Digera muricta*	Amaranthaceae	Leaves
45.	*Dioscorea bulbifera*	Dioscoreaceae	Root tubers
46.	*Dioscorea hamiltonii*	Dioscoreaceae	Root tubers
47.	*Dioscorea hispida*	Dioscoreaceae	Root tubers
48.	*Dioscorea intermedia*	Dioscoreaceae	Root tubers
49.	*Dioscorea oppositifolia*	Dioscoreaceae	Root tubers
50.	*Dioscorea pentaphylla*	Dioscoreaceae	Root tubers
51.	*Dioscorea sp.*	Dioscoreaceae	Root tubers
52.	*Dioscorea spicata*	Dioscoreaceae	Root tubers
53.	*Dioscorea tomentosa*	Dioscoreaceae	Root tubers
54.	*Dioscorea wallichii*	Dioscoreaceae	Root tubers
55.	*Diplazium esculentum*	Athyriaceae	Leaves
56.	*Diplocyclos palmatus*	Cucurbitaceae	Leaves
57.	*Ensete superbum*	Musaceae	Stem pith, fruits
58.	*Entada rheedei*	Fabaceae	Seeds
59.	*Eugenia indica*	Myrtaceae	Fruits
60.	*Ficus drupacea*	Moraceae	Fruits
61.	*Ficus racemosa*	Moraceae	Fruits
62.	*Flacourtia montana*	Flacouritiaceae	Fruits
63.	*Garcinia gummigutta*	Clusiaceae	Fruits
64.	*Givotia moluccana*	Euphorbiaceae	Fruits
65.	*Glycosmis pentaphylla*	Rutaceae	Fruits
66.	*Grewia tiliifolia*	Tiliaceae	Fruits
67.	*Gynandropsis gynandra*	Capparaceae	Leaves
68.	*Hibiscus surattensis*	Malvaceae	Leaves, fruits
69.	*Holostemma ada-kodien*	Asclepiadaceae	Leaves, flowers
70.	*Ipomoea aquatica*	Convolvulaceae	Leaves
71.	*Lantana camara*	Verbenaceae	Fruits
72.	*Laportea interrupta*	Urticaceae	Leaves
73.	Lentinus squarrosulus	Lentinaceae	Pileus

Sl. No.	Botanical name	Family	Part used
74.	*Lepianthes umbellata*	Piperaceae	Leaves
75.	*Lobelia dichotoma*	Companulaceae	Leaves
76.	*Luffa cylindrica*	Cucurbitaceae	Fruits
77.	*Lycoperdon sp.*	Lycoperdaceae	Fruiting body
78.	*Madhuca indica*	Sapotaceae	Fruits
79.	*Maesa indica*	Myrsinaceae	Fruits
80.	*Mangifera indica*	Anacardiaceae	Fruits
81.	*Marselia minuta*	Marseliaceae	Leaves
82.	*Mesua ferrea*	Clusiaceae	Fruits
83.	*Mimosops elengii*	Sapotaceae	Fruits
84.	*Mollugo pentaphylla*	Molluginaceae	Leaves
85.	*Momordica dioica*	Cucurbitaceae	Leaves, fruits
86.	*Murraya paniculata*	Rutaceae	Fruits
87.	*Musa rosacea*	Musaceae	Fruits
88.	*Nelumbo nucifera*	Nelumbonaceae	Rhizome
89.	*Nicandra physaloides*	Solanaceae	Fruits
90.	*Opuntia stricta var. dillenii*	Cactaceae	Fruits
91.	*Oxalis corniculata*	Oxalidaceae	Leaves, fruits
92.	*Oxytenanthera bourdillonii*	Poaceae	Tender shoots
93.	*Palaquium ellipticum*	Sapotaceae	Fruits
94.	*Persicaria chinensis*	Polygonaceae	Leaves, fruits
95.	*Peziza sp.*	Pezizaceae	Fruiting body
96.	*Phoenix loureirii var. humilis*	Arecaceae	Tender shoots, Fruits
97.	*Phyllanthus emblica*	Euphorbiaceae	Fruits
98.	*Phyllanthus reticulatus*	Euphorbiaceae	Fruits
99.	*Physalis angulata*	Solanaceae	Fruits
100.	*Physalis peruviana*	Solanaceae	Fruits
101.	*Pinanga dicksonii*	Arecaceae	Fruits
102.	*Piper mullesua*	Piperaceae	Fruits
103.	*Piper nigrum var.nigram*	Piperaceae	Fruits
104.	*Pithecellobium dulce*	Fabaceae	Fruits
105.	*Pleurotus flaballatus*	Lentinaceae	Pileus
106.	*Pleurotus sp.*	Lentinaceae	Pileus
107.	*Pleurotus sp.*	Lentinaceae	Pileus
108.	*Pleurotus sp.*	Lentinaceae	Pileus
109.	*Pleurotus tuber-regium*	Lentinaceae	Pileus
110.	*Polyalthia coffeoides*	Annonaceae	Fruits
111.	*Polyalthia fragrance*	Annonaceae	Fruits
112.	*Portulaca oleracea*	Portulacaceae	Leaves
113.	*Protasparagus racemosus*	Liliaceae	Root tubers

Sl. No.	Botanical name	Family	Part used
114.	*Ricinus communis*	Euphorbiaceae	Oil
115.	*Rubus glomeratus*	Rosaceae	Fruits
116.	*Rubus indicus*	Rosaceae	Fruits
117.	*Sauropus quadrangularis*	Euphorbiaceae	Leaves
118.	*Scolopia crenata*	Flacourtiaceae	Fruits
119.	*Semecarpus anacardium*	Anacardiaceae	Fruits
120.	*Senna occidentalis*	Fabaceae	Leaves
121.	*Senna tora*	Fabaceae	Leaves
122.	*Solanum americanum*	Solanaceae	Leaves, fruits
123.	*Solanum torvum*	Solanaceae	Fruits
124.	*Sterculia foetida*	Sterculiaceae	Seeds
125.	*Syzygium caryophyllatum*	Myrtaceae	Fruits
126.	*Syzygium cumini*	Myrtaceae	Fruits
127.	*Syzygium densiflorum*	Myrtaceae	Fruits
128.	*Syzygium mundagam*	Myrtaceae	Fruits
129.	*Tamilnadia uliginosa*	Rubiaceae	Fruits
130.	*Terminalia bellirica*	Combretaceae	Seeds
131.	*Termitomyces clypeatus*	Pluteaceae	Pileus
132.	*Termitomyces heimi*	Pluteaceae	Pileus
133.	*Termitomyces eurhizus*	Pluteaceae	Pileus
134.	*Termitomyces microcarpus*	Pluteaceae	Pileus
135.	*Trainthema portulacastrum*	Aizoaceae	Leaves
136.	*Ulteria salicifolia*	Asclepiadaceae	Root tubers
137.	*Vernonia cinera*	Asteraceae	Leaves
138.	*Volvariella volvaceae*	Plutiaceae	Pileus, stipes
139.	*Xylia xylocarpa*	Fabaceae	Seeds
140.	*Zehneria scabra*	Cucurbitaceae	Leaves
141.	*Zingiber neesanum*	Zingiberaceae	Rhizomes
142.	*Zingiber officinale*	Zingiberaceae	Rhizomes
143.	*Zizyphus mauritiana*	Rhamnaceae	Fruits
144.	*Zizyphus oenoplea*	Rhamnaceae	Fruits
145.	*Zizyphus rugosa*	Rhamnaceae	Fruits

Appendix 6. Food from cultivated plants

Sl. No.	Botanical name	Local name(s)	Family	Part used
1.	*Abelmoschus esculentus*	Benda, Venda	Malvaceae	Fruits
2.	*Allium cepa*	Venkiyam	Liliaceae	Bulb
3.	*Allium sativum*	Vella venkiyam	Liliaceae	Bulb
4.	*Amaranthus caudatus*	Porikkerai	Amaranthaceae	Leaves
5.	*Amaranthus cruentus*	Porikkeerai	Amaranthaceae	Leaves and seeds
6.	*Basella alba*	Vasala keerai,	Basellaceae	Leaves
7.	*Benincassa hispida*	Kumbala, Poosanikay	Cucurbitaceae	Leaves and fruits
8.	*Brassica juncea*	Kadugu	Brassicaceae	Leaves and seeds
9.	*Cajanus cajan*	Thuvara	Fabaceae	Seeds
10.	*Capsicum annuum*	Milakay, Mulaku	Solanaceae	Fruits
11.	*Capsicum frutescence*	Jeeni mulakay, Kanthari	Solanaceae	Fruits
12.	*Carica papaya*	Papali, Kappala, Karuvathu	Caricaceae	Fruits
13.	*Citrus limon*	Elimichi	Rutaceae	Fruits
14.	*Cocos nucifera*	Thenkay	Arecaceae	Fruits
15.	*Coriandrum sativun*	Mally	Apiaceae	Seeds
16.	*Cucumis sativus*	Bellari	Cucurbitaceae	Fruits
17.	*Cucurbita maxima*	Sakkara, Matha	Cucurbitaceae	Leaves and fruits
18.	*Cuminum cyminum*	Jeera	Apiaceae	Seeds
19.	*Curcuma longa*	Manjal	Zingiberaceae	Rhizome
20.	*Dioscorea alata*	Kanjalu, Kavathu	Dioscoreaceae	Root tuber
21.	*Dioscorea esculenta*	Cheru kanalu, Cheru kilangu	Dioscoreaceae	Root tuber
22.	*Lab lab purpureus*	Avarai	Fabaceae	Fruits

Sl. No.	Botanical name	Local name(s)	Family	Part used
23.	*Lagenaria siceraria*	Chura, Churakay	Cucurbitaceae	Leaves and fruits
24.	*Luffa acutangula var.amara*	Peesil	Cucurbitaceae	Fruits
25.	*Lycopersicum esculentum*	Mathura kotta, thakkali	Solanaceae	Fruits
26.	*Manihot esculenta*	Poola kilangu	Euphorbiaceae	Root tuber
27.	*Momordica charantia*	Pavarai, Paval, Kaippa	Cucurbitaceae	Leaves and fruits
28.	*Moringa pterygosperma*	Mringai	Moringaceae	Leaves and fruits
29.	*Musa paradisiaca*	Bala, vazha	Musaceae	Stem pith and fruits
30.	*Oryza sativa*	Gudda Nellu, Karanellu	Poaceae	Seeds
31.	*Panicum sumatrense*	Chama	Poaceae	Seeds
32.	*Psidium guajava*	Pera, Koyya palam	Myrtaceae	fruits
33.	*Punica granatum*	Mathalam	Punicaceae	Fruits
34.	*Sauropus androgynus*	Sukrumani	Euphorbiaceae	Leaves
35.	*Sesbania grandiflora*	Agathi keerai	Euporbiaceae	Leaves
36.	*Setaria italica*	Thena	Poaceae	Seeds
37.	*Sorghum vulgare*	Poricholam	Poaceae	Seeds
38.	*Trigonella foenum-graecum*	Uluva	Fabaceae	Seeds
39.	*Vigna ungiculata*	Thandan pyaru	Fabaceae	Leaves, pods and seeds
40.	*Vigna mungo*	Uzhunnu	Fabaceae	Seeds
41.	*Vigna radiata*	Cherupayaru	Fabaceae	Seeds
42.	*Zea mays*	Makkacholam	Poaceae	Seeds

Appendix 7. Common food plants used by all the eight tribal groups in the study area

Sl.no	Botanical name	Family	Part used
1.	*Allium cepa*	Liliaceae	Bulb
2.	*Allium sativum*	Liliaceae	Bulb
3.	*Alternathera sessilis*	Amaranthaceae	Leaves
4.	*Amaranthus spinosus*	Amaranthaceae	Leaves
5.	Amaranthus viridis	Amaranthaceae	Leaves
6.	*Antidesma acidum*	Euphorbiaceae	Fruits
7.	*Artocarpus heterophyllus*	Moraceae	Fruits , seeds
8.	*Artocarpus hirsutus*	Moraceae	Fruits, seeds
9.	*Auricularia sp.*	Auriculariaceae	Pieleus
10.	*Baccauria courtalensis*	Euphorbiaceae	Fruits
11.	*Bambusa bambos*	Poaceae	Fruits, seeds
12.	*Bauhinia racemosa*	Fabaceae	Fruits
13.	*Boerhavia diffusa*	Nyctaginaceae	Leaves
14.	*Capsicum annuum*	Solanaceae	Fruits
15.	*Capsicum frutescens*	Solanaceae	Fruits
16.	*Carica papaya*	Caricaceae	Fruits
17.	*Caryota urens*	Arecaceae	Stem pith
18.	*Celosia argentea*	Amaranthaceae	Leaves
19.	*Cocos nucifera*	Arecaceae	Seeds, oil
20.	*Colocasia esculenta*	Araceae	Rhizomes
21.	*Commelina benghalensis*	Commelinaceae	Leaves
22.	*Coriandrum sativum*	Apiaceae	Seeds
23.	*Cucumis sativus*	Cucurbitaceae	Fruits
24.	*Cucurbita maxima*	Cucurbitaceae	Fruits
25.	*Curcuma longa*	Zingibearceae	Rhizomes
26.	*Cycas circinalis*	Cycadaceae	Leaves, fruits
27.	*Dioscorea alata*	Dioscoreaceae	Root tubers
28.	*Dioscorea esculenta*	Dioscoreaceae	Root tubers
29.	*Dioscorea oppositifolia*	Dioscoreaceae	Root tubers
30.	*Dioscorea pentaphylla var.pentaphylla*	Dioscoreaceae	Root tubers
31.	*Dioscorea wallichii*	Dioscoreaceae	Root tubers
32.	*Diplazium esculentum*	Athyriaceae	Root tubers
33.	*Ensete superbum*	Musaceae	Stem pith, fruits
34.	*Ficus racemosa*	Moraceae	Fruits
35.	*Flacourtia montana*	Flacourtiaceae	Fruits
36.	*Glycosmis pentaphylla*	Rutaceae	Fruits
37.	*Grewia tiliifolia*	Tiliaceae	Fruits
38.	*Holostema ada-kodien*	Asclepiadaceae	Leaves, Flowers
39.	*Lantana camra*	Verbenaceae	Fruits
40.	*Lycoperdon sp.*	Lycoperdaceae	Pileus

Sl.no	Botanical name	Family	Part used
41.	*Lycopersicon esculentum*	Solanaceae	Fruits
42.	*Manihot esculenta*	Euphorbiaceae	Root tubers
43.	*Mangifera indica*	Anacardiaceae	Fruits
44.	*Momordica charantia*	Cucurbitaceae	Fruits
45.	*Momordica dioica*	Cucurbitaceae	Fruits
46.	*Moringa pterygosperma*	Moringaceae	Leaves, fruits
47.	*Musa paradisiaca*	Musaceae	Fruits
48.	*Opuntia stricta var. dillenii*	Cactaceae	Fruits
49.	*Oxalis corniculata*	Oxalidaceae	Leaves
50.	*Phyllanthus emblica*	Euphorbiaceae	Fruits
51.	*Physalis angulata*	Solanaceae	Fruits
52.	*Piper nigrum var.nigram*	Piperaceae	Fruits
53.	*Pithecellobium dulce*	Fabaceae	Fruits
54.	*Pleurotus sp.*	Lentinaceae	Pileus
55.	*Pleurotus sp.*	Lentinaceae	Pileus
56.	*Psidium guajava*	Myrtaceae	Fruits
57.	*Polyalthia fragrans*	Annonaceae	Fruits
58.	*Portulaca oleracea*	Portulacaceae	Leaves
59.	*Semecarpus anacardium*	Anacardiaceae	Fruits
60.	*Senna occidentalis*	Fabaceae	Leaves
61.	*Senna tora*	Fabaceae	Leaves
62.	*Solanum americanum*	Solanaceae	Leaves
63.	*Syzygium cumini*	Myrtaceae	Fruits
64.	*Tamarindus indica*	Fabaceae	Fruits, Seeds
65.	*Terminalia bellirica*	Combretaceae	Fruits
66.	*Termitomycetes clypeatus*	Plutiaceae	Pileus
67.	*Termitomycetes hemi*	Plutiaceae	Pileus
68.	*Termitomyces eurhizus*	Plutiaceae	Pileus
69.	*Termitomyces microcarpus*	Plutiaceae	Pileus
70.	*Xylia xylocarpa*	Fabaceae	Fruits
71.	*Zingiber officinale*	Zingiberaceae	Rhizome
72.	*Zizyphus mauritiana*	Rhamnaceae	Fruits
73.	*Zizyphus oenoplea*	Rhamnaceae	Fruits
74.	*Zizyphus rugosa*	Rhamnaceae	Fruits

Appendix 8. Fodder plants

Sl No	**Botanical name**	**Family**
1.	*Artocarpus heterophyllus*	Moraceae
2.	*Bambusa bambos*	Poaceae
3.	*Bauhinia racemosa*	Fabaceae
4.	*Dendrocalamus strictus*	Poaceae
5.	*Erythrina stricta*	Fabaceae
6.	*Erythrina variegata*	Fabaceae
7.	*Ficus hispida*	Moraceae
8.	*Ficus racemosa*	Moraceae
9.	*Gliricidia sepium*	Fabaceae
10.	*Merremia umbellata*	Convolvulaceae
11.	*Trema orientalis*	Ulmaceae

Appendix 9. List of medicinal plants used by all the tribal groups

Sl.no	Botanical name	Family
1.	*Acalypha fruticosa*	Euphorbiaceae
2.	*Bambusa bambos*	Poaceae
3.	*Capsicum annuum*	Solanaceae
4.	*Chromolaena oderata*	Asteraceae
5.	*Cocos nucifera*	Arecaceae
6.	*Curcuma longa*	Zingiberaceae
7.	*Drynaria quercifolia*	Polypodaiceae
8.	*Mimosa pudica*	Fabaceae
9.	*Naravelia zeylanica*	Ranunculaceae
10.	*Phyllanthus amarus*	Euphorbiaceae
11.	*Rauvolfia serpentina*	Apocynaceae
12.	*Tectona grandis*	Verbenaceae

Appendix 10. List of diseases and ethno medicinal plants recorded

Botanical name and diseases	Family
1. Abortion	
1. *Careya arborea*	Lecythidaceae
2. *Carica papaya*	Caricaceae
2. Abscess	
1 *Leea indica*	Leaceae
2 *Opuntia stricta var. dillenii*	Cactaceae
3 *Porpax reticulata*	Orchidaceae
4 *Triumfetta rhomboidea*	Tiliaceae
5 *Urena lobata*	Malvaceae
6 *Wattakaka volubilis*	Asclepiadaceae
3. Allergy	
1. *Corchorus aestuans*	Teliaceae
2. *Dendrocnide sinuata*	Urticaceae
3. *Terminalia bellirica*	Combretaceae
4. *Cordia obliqua*	Boraginaceae
4. Anemia	
1. *Senna tora*	Fabaceae
5. Back pain	
1. *Dalbergia horrida*	Fabaceae
2. *Cosciniun fenestratum*	Menispermaceae
3. *Entada rheedei*	Fabaceae
4. *Terminalia bellirica*	Combretaceae
5. *Terminalia paniculata*	Combretaceae
6. Blood purification	
1. *Ensete superbum*	Musaceae
2. *Nicandra physaloides*	Solanaceae
3. *Scoparia dulcis*	Scrophulariaceae
7. Body pain	
1. *Achyranthes aspera*	Amaranthaceae
2. *Aeschynanthus perrottetii*	Gesneriaceae
3. *Arundinaria wightiana*	Poaceae
4. *Bidens pilosa*	Asteraceae
5. *Cassia fistula*	Fabaceae
6. *Corchorus aestuans*	Teliaceae
7. *Cosciniun fenestratum*	Menispermaceae
8. *Cymbopgon flexuosus*	Poaceae
9. *Dalbergia horrida*	Fabaceae
10. *Entada rheedei*	Fabaceae

Botanical name and diseases	Family
11. *Ficus tinctoria*	Moraceae
12. *Gaultheria fragrantissima*	Ericaceae
13. *Haldina cordifolia*	Rubiaceae
14. *Mitragyna parvifolia*	Rubiaceae
15. *Mussaenda bellila*	Rubiaceae
16. *Nymphaea pubescens*	Nymphaeaceae
17. *Ochlandra travancorica*	Poaceae
18. *Psidium guajava*	Myrtaceae
19. *Pterocarpus marsupium*	Fabaceae
20. *Schleichera oleosa*	Sapindaceae
21. *Senna auriculata*	Fabaceae
22. *Terminalia bellirica*	Combretaceae
23. *Terminalia paniculata*	Combretaceae
24. *Vitex negendo*	Verbenaceae
8. Burns	
1. *Bulbophyllum sterile*	Orchidaceae
2. *Cajanus cajan*	Fabaceae
3. *Curcuma aromatica*	Zingiberaceae
4. *Curcuma longa*	Zingiberaceae
5. *Curcuma neilgherrensis*	Zingiberaceae
6. *Ensete superbum*	Musaceae
7. *Hopea ponga*	Dipterocarpaceae
8. *Hypotrachena crenata*	Parmeliaceae
9. *Opuntia stricta Haw. var. dillenii*	Cactaceae
10. *Parahemionitis cordata*	Hemionitidaceae
11. *Parmotrema grayanum*	Parmeliaceae
12. *Pleurotus sp.*	Lentinaceae
13. *Portulaca oleracea*	Portulaccaceae
14. *Pterocarpus marsupium*	Fabaceae
9. Chest pain	
1. *Acacia nilotica*	Fabaceae
2. *Clerodendrum serratum*	Verbenaceae
3. *Curcuma aromatica*	Zingiberaceae
4. *Curcuma zedoaria*	Zingiberaceae
5. *Dalbergia horrinda*	Fabaceae
6. *Wattakaka volubilis*	Asclepidaceae
10. Contraception	
1. *Careya arborea*	Lecythadaceae
2. *Cassia fistula*	Fabaceae

Botanical name and diseases	Family
3. *Dalbergia latifolia*	Fabaceae
4. *Pergularaia daemia*	Asclepiadaceae
5. *Albizia odoratissima*	Fabaceae
11. Cooling agent	
1. *Mallotus tetracoccus*	Euphorbiaceae
2. *Equisetum ramosissimum sub sp. debile*	Equisetaceae
12. Couph and cold	
1. *Ageratum conyzoides*	Asteraceae
2. *Clematis gouriana*	Rananunculaceae
3. *Clerodendrum serratum*	Verbenaceae
4. *Cuminum cyaminum*	Apiaceae
5. *Cymbopgon flexuosus*	Poaceae
6. *Datura metel*	Solanaceae
7. *Garcinia gummigutta*	Clusiaceae
8. *Gaultheria fragrantissima*	Ericaceae
9. *Naravelia zeylanica*	Rananculaceae
10. *Ocimum tenuiiflorum*	Lamiaceae
11. *Pergularaia daemia*	Asclepiadaceae
12. *Sapindus trifoliata*	Sapindaceae
13. *Solanum viarum*	Solanaceae
14. *Sterculia guttata*	Sterculiaceae
13. Crack in heals	
1. *Melia dubia*	Meliaceae
14. Diabetes	
1. *Cajanus cajan*	Fabaceae
15. Diarrhea	
2. *Achyranthes aspera*	Amaranthaceae
3. *Acorus calamus*	Araceae
4. *Aporosa lindleyana*	Euphorbiaceae
5. *Argemone mexicana*	Papaveraceae
6. *Boerhavia diffusa*	Nyctaginaceae
7. *Briedelia retusa*	Euphorbiaceae
8. *Caesalpinia bonduc*	Fabaceae
9. *Cannabis sativa ssp.indica*	Cannabinaceae
10. *Careya arborea*	Lecythadaceae
11. *Carica papaya*	Caricaceae
12. *Cassia fistula*	Fabaceae
13. *Celastrus paniculatus*	Celstraceae

Botanical name and diseases	Family
14. Cleistanthus collinus	Euphorbiaceae
15. Dalbergia latifolia	Fabaceae
16. Dalbergia sissoides	Fabaceae
17. Datura metel	Solanaceae
18. Drynaria quercifolia	Polypodiaceae
19. Euphorbia thymifolia	Euphorbiaceae
20. Ficus racemosa	Moraceae
21. Holarrhena pubescens	Apocynaceae
22. Hopea ponga	Dipterocarpaceae
23. Lagerstroemia microcarpa	Lythraceae
24. Phyllanthus emblica	Euphorbiaceae
25. Pogostemon paniculatus	Lamiaceae
26. Portulaca oleracea	Portulaccaceae
27. Rauvolfia serpentina	Apocynaceae
28. Syzygium cumini	Myrtaceae
29. Syzygium cumini	Myrtaceae
30. Terminalia elliptica	Combretaceae
31. Thespesia lampas	Malavaceae
32. Triumfetta pilosa	Teliaceae
33. Zizyphus oenoplea	Rhamnaceae
34. Zizyphus rugosa	Rhamnaceae
16. Dog bite	
1. Calotropis gigantea	Asclepiadaceae
2. Eleusine indica	Poaceae
3. Hemidesmus indicus	Asclepiadaceae
17. Dysentry	
1. Dalbergia latifolia	Fabaceae
2. Spatholobus parviflorus	Fabaceae
18. Ear ache	
1. Acampe praemorsa	Orchidaceae
2. Allium cepa	Liliaceae
3. Calotropis gigantea	Asclepiadaceae
4. Canthium rheedei	Rubiaceae
5. Capsicum annuum	Solanaceae
6. Cleome monophylla	Capparaceae
7. Drynaria quercifolia	Poypodiaceae
8. Erythropalum scandens	Erythropalaceae
9. Gynandropsis gynandra	Capparaceae
10. Helicteres isora	Sterculiaceae

Botanical name and diseases	Family
11. Myristica beddomei	Myristicaeae
12. Oberonia brunoniana	Orchidaceae
13. Ocimum basilicum	Lamiaceae
14. Parahemionitis cordata	Hemionitidaceae
15. Plantago erosa	Plantaginaceae
16. Pyrrosia lancelata	Polypodiaceae
17. Raphidophora pertusa	Araceae
18. Thespesia lampas	Malavaceae
19. Vanda tessellata	Orchidaceae
20. Vanda thwaitesii	Orchidaceae
19. Epilepsy	
1. Butea monosperma	Fabaceae
2. Costus speciosus	Zingiberaceae
3. Dalbergia lanceolaria	Fabaceae
4. Polypleurum dichotomum	Podostemaceae
5. Sterculia urens	Sterculiaceae
20. Eye diseases	
1. Chamaecrista absus	Fabaceae
2. Hibiscus rosasinensis	Malavaceae
3. Holarrhena pubescens	Apocynaceae
4. Tabernaemontana divaricata	Apocynaceae
5. Costus speciosus	Zingiberaceae
6. Clitoria ternatea	Fabaceae
21. Fertility	
1. Schleichera oleosa	Sapindaceae
2. Terminalia bellirica	Combretaceae
22. Fever	
1. Allium cepa	Liliaceae
2. Allium sativum	Liliaceae
3. Azadirachta indica	Meliaceae
4. Brassica juncea	Brassicaceae
5. Cannabis sativa ssp.indica	Cannabinaceae
6. Cassia fistula	Fabaceae
7. Cuminum cyaminum	Apiaceae
8. Cyclea peltata	Menispermaceae
9. Drynaria quercifolia	Polypodiaceae
10. Eleusine indica	Poaceae
11. Garcinia gummigutta	Clusiaceae
12. Gaultheria fragrantissima	Ericaeae

Botanical name and diseases	Family
13. *Ixora coccinea*	Rubiaceae
14. *Jatropha curcas*	Euphorbiaceae
15. *Lantana camra*	Verbenaceae
16. *Mimosa pudica*	Fabaceae
17. *Naravelia zeylanica*	Rananculaceae
18. *Neolamarckia cadamba*	Rubiaceae
19. *Pergularaia daemia*	Asclepiadaceae
20. *Physalis angulata*	Solanaceae
21. *Piper longum*	Piperaceae
22. *Portulaca oleracea*	Portulaccaceae
23. *Ricinus communis*	Euphorbiaceae
24. *Senna tora*	Fabaceae
25. *Sida rhombifolia*	Mlavaveae
26. *Solanum americanum*	Solanaceae
27. *Stereospermum colais*	Bignoniaceae
28. *Tragia involucrata*	Euphorbiaceae
29. *Vernonia anthelmintica*	Verbenaceae
23. Foot corn	
1. *Holigarna arnottina*	Anacardiaceae
24. Foot infection	
1. *Cayratia pedata*	Lecythadaceae
2. *Drymaria cordata*	Caryophyllaceae
3. *Elephantopus scaber*	Asteraceae
4. Hibiscus surettensis	Malavaceae
5. *Lab lab purpureus*	Fabaceae
6. *Lawsonia inermis*	Lythraceae
7. *Pimpinella heyneana*	Apiaceae
25. Furuncle	
1. *Triumfetta rhomboidea*	Teliaceae
2. *Grewia glabra*	Tiliaceae
3. *Gymnema sylvestre*	Asclepiadaceae
4. *Ipomoea deccana*	Convolvulaceae
5. *Mimosa pudica*	Fabaceae
6. *Scilla hyacinthina*	Liliaceae
7. *Tinospora cordifolia*	Menispermaceae
8. *Ramalina celastri*	Ramalinaceae
26. Head ache	
1. *Careya arborea*	Lecythadaceae

Botanical name and diseases	Family
2. *Albizia amara*	Fabaceae
3. *Allium sativum*	Liliaceae
4. *Azadirachta indica*	Meliaceae
5. *Bidens pilosa*	Asteraceae
6. *Brassica juncea*	Brassicaceae
7. *Cannabis sativa ssp.indica*	Cannabinaceae
8. *Clematis gouriana*	Rananculaceae
9. *Cosciniun fenestratum*	Menispermaceae
10. *Cyclea peltata*	Menispermaceae
11. *Dalbergia horrida*	Fabaceae
12. *Datura metel*	Solanaceae
13. Elaeocarpus tuberculatus	Eleocarpaceae
14. *Eleusine coracana*	Poaceae
15. *Hemidesmus indicus*	Asclepiadaceae
16. *Hyptis sauveolens*	Lamiaceae
17. *Ixora coccinea*	Rubiaceae
18. *Jatropha curcas*	Euphorbiaceae
19. *Leucas aspera*	Lamiaceae
20. *Leucas indica*	Lamiaceae
21. *Lycopersicon esculentum*	Solanaceae
22. *Mimosa pudica*	Fabaceae
23. *Moringa pterygosperma*	Moringaceae
24. *Murraya paniculata*	Rutaceae
25. *Musa paradisiaca*	Musaceae
26. *Naravelia zeylanica*	Rananculaceae
27. *Ocimum gratissimum*	Lamiaceae
28. *Ocimum tenuiiflorum*	Lamiaceae
29. *Pergularaia daemia*	Asclepiadaceae
30. *Physalis angulata*	Solanaceae
31. *Plumbago indica*	Plumbaginaceae
32. *Plumbago zeylanica*	Plumbaginaceae
33. *Ricinus communis*	Euphorbiaceae
34. *Santalaum album*	Santalaceae
35. *Senna auriculata*	Fabaceae
36. *Senna tora*	Fabaceae
37. *Sida rhombifolia*	Malavaceae
38. *Terminalia travancorensis*	Combretaceae
27. Indigestion	
1. *Areca catechu*	Arecaceae

Botanical name and diseases	Family
2. *Boerhavia diffusa*	Nyctaginaceae
3. *Cassia fistula*	Fabaceae
4. *Decalepis hamiltonii*	Asclepiacaeae
5. *Lagerstroemia microcarpa*	Lythraceae
6. *Oxalis corniculata*	Oxalidaceae
7. *Portulaca oleracea*	Portulaccaceae
8. *Pterocarpus marsupium*	Fabaceae
9. *Zingiber officinale*	Zingiberaceae
10. *Zingiber zerumbet*	Zingiberaceae
28. Inflammation	
1. *Albizia procera*	Fabaceae
2. *Allium cepa*	Liliaceae
3. *Begonia malbarica*	Verbenaceae
4. *Cassia fistula*	Fabaceae
5. *Ceropegia candelabrum*	Asclepiadaceae
6. *Coelogyne nervosa*	Orchidaceae
7. *Cucumis prophetarum*	Cucurbitaceae
8. *Dioscorea bulbifera*	Dioscoreaceae
9. *Lantana camra*	Bignoniaceae
10. *Mukia madraspatana*	Cucurbitaceae
11. *Murdannia semiteres*	Commelinaceae
12. *Polycarpaea corymbosa*	Caryophyllaceae
13. *Ramalina celastri*	Ramalinaceae
29. Insect sting	
1. *Areca catechu*	Arecaceae
2. *Cocos nucifera*	Arecaceae
3. *Curcuma aromatica*	Cucurbtaceae
4. *Curcuma longa*	Cucurbutaceae
5. *Diploclisia glaucescens*	Cucurbitaceae
6. *Helicteres isora*	Sterculiaceae
7. *Parahemionitis cordata*	Hemionitidaceae
30. Jaundice	
1. *Alstonia scholaris*	Apocynaceae
2. *Caesalpinia cucullta*	Fabaceae
3. *Celastrus paniculatus*	Celstraceae
4. *Curculigo orchiodes*	Amaryllydaceae
5. *Curcuma longa*	Zingiberaceae
6. *Phyllanthus amarus*	Euphorbiaceae
7. *Terminalia bellirica*	Combretaceaew
8. *Thespesia lampas*	Malvaceae

Botanical name and diseases	Family
31. Joint pain	
1. *Euphorbia antiquorum*	Euphorbiaceae
2. *Oxytenanthera monadelpha*	Poaceae
3. *Gynandropsis gynandra*	Capparaceae
32. Kidney stone	
1. *Rotula aquatica*	Boraginaceae
33. Leprosy	
1. *Drynaria quercifolia*	Polypodiaceae
2. *Raphidophora pertusa*	Araceae
34. Leucorrhea	
1. *Rotula aquatica*	Boraginaceae
2. *Mecardonia procumbens*	Scrophulariaceae
35. Madness	
1. *Careya arborea*	Lecythadaceae
36. Milk production	
1. *Cryptolepis buchananii*	Asclepiadaceae
2. *Strebulus asper*	Moraceae
37. Mother care	
1. *Dendrocalamus strictus*	Poaceae
2. *Tarenna asiatica*	Rubiaceae
3. *Cordia wallichii*	Boraginaceae
4. *Dalbergia volubilis*	Fabaceae
38. Mumps	
1. *Abrus precatorius*	Fabaceae
2. *Coccinia grandis*	Cucurbitaceae
39. Night blindness	
1. *Curcuma zedoaria*	Zingiberaceae
2. *Schumannianthus virgatus*	Marantaceae
40. Nourishment of hair	
1. *Ficus benghalensis*	Moraceae
2. *Frullania squarrosa*	Frulliniaceae
3. *Huperzia phlegmaria*	Lycopodiaceae
4. *Selaginella involvens*	Sellaginellaceae
5. *Tinospora sinensis*	Menispermaceae
6. *Usnea subchalybaea*	Usneaceae
41. Oedema	
1. *Ammania baccifera*	Lythraceae
2. *Bidens pilosa*	Asteraceae
3. *Erythrina variegata*	Fabaceae

Botanical name and diseases	Family
42. Pediculosis	
1. *Artemisia nilagirica*	Asteraceae
2. *Eclipta prostrata*	Asteraceae
3. *Anisomeles indica*	Lamiaceae
4. *Huperzia phlegmaria*	Lycopodiaceae
5. *Usnea subchalybaea*	Usneaceae
6. *Hydnocarpus pendandra*	Falcourtiaceae
43. Piles	
1. *Ensete superbum*	Musaceae
2. *Albizia amara*	Fabaceae
3. *Amorphophalus poenifolius var. poenifolius*	Aracceae
4. *Anaphyllum wightii*	Araceae
5. *Gardenia resinifera*	Rubiaceae
6. *Gossypium barbadense*	Malvaceae
7. *Prunus ceylanica*	Rosaceae
44. Placenta release	
1. *Callicarpa tomentosa*	Verbenaceae
2. *Carica papaya*	Caricaceae
3. *Clerodendrum viscosum*	Verbenaceae
4. *Panicum sumatrense*	Poaceae
5. *Sterculia guttata*	Sterculiaceae
45. Premature ejaculation	
1. *Eleusine indica*	Poaceae
46. Psoriasis	
1. *Pongamia pinnata*	Fabaceae
2. *Cryptolepis buchananii*	Asclepiadaceae
3. *Elephantopus scaber*	Asteraceae
4. *Wrightia tinctoria*	Apocynaceae
47. Rabies	
1. *Alangium salvifolium*	Alangiaceae
48. Respiratory trouble	
1. *Bauhinia racemosa*	Fabaceae
2. *Clerodendrum serratum*	Verbenaceae
3. *Curcuma longa*	Zingiberacea
4. *Datura metel*	Solanaceae
5. *Justicia adhathoda*	Acanthaceae
6. *Opuntia stricta var. dillenii*	Cactaceae
7. *Pavetta tomentosa*	Rubiaceae

Botanical name and diseases	Family
8. *Phyllanthus emblica*	Euphorbiaceae
9. *Protasparagus racemosus*	Liliaceae
10. *Pterocarpus marsupium*	Fabaceae
11. *Sapindus trifoliata*	Sapindaceae
12. *Trema orientalis*	Ulmaceae
49. Rheumatism	
1. *Allium cepa*	Liliaceae
2. *Azadirachta indica*	Meliaceae
3. *Balanophora fungosa*	Balanophoraceae
4. *Cassia fistula*	Fabaceae
5. *Curcuma longa*	Zingiberaceae
6. *Dalbergia horrida*	Fabaceae
7. *Elaeagnus conferta*	Elaegnaceae
8. *Justicia genderosa*	Acanthaceae
9. *Ludwigia peruviana*	Onagraceae
10. *Mimosa pudica*	Fabaceae
11. *Oxytenanthera monadelpha*	Poaceae
12. *Polycarpaea corymbosa*	Caryophyllaceae
13. *Pterocarpus marsupium*	Fabaceae
14. *Radomachera xylocarpa*	Bignoniaceae
15. *Scilla hyacinthina*	Liliaceae
16. *Thespesia lampas*	Malvaceae
17. *Vitex negendo*	Verbenaceae
18. *Zeylanidium lichenoides*	Podostemaceae
50. Scabies and itches	
1. *Calophyllum polyanthum*	Clusiaceae
2. *Canoparmelia pustulescens*	Parmerliaceae
3. *Cassia fistula*	Fabaceae
4. *Cereus pterogonus*	Cactaceae
5. *Chenopodium ambresoides*	Chenopodiaceae
6. *Cocos nucifera*	Arecaceae
7. *Commelina erecta*	Commelinaceae
8. *Cucumis prophetarum*	Cucurbitaceae
9. *Curcuma longa*	Zingiberaceae
10. *Drynaria quercifolia*	Polypodiaceae
11. *Erythrina stricta*	Fabaceae
12. *Euphorbia hirta*	Euphorbiaceae
13. *Hedychium coronarium*	Zingiberaceae
14. *Helicanthes elastica*	Loranthaceae

Botanical name and diseases	Family
15. Helixanthera intermedia	Loranthaceae
16. Hydnocarpus alpina	Flacourtiaceae
17. Leptogium cyanescens	*Collemataceae*
18. Leucas indica	Lamiaceae
19. Lobelia nicotianifolia	Companulaceae
20. Mesua ferrea	Clusiaceae
21. Moringa pterigosperma	Morigaceae
22. Nervilia plicata	Ranunculaceae
23. Ocimum tenuiiflorum	Lamiaceae
24. Peperomia portulaccoides	Piperaceae
25. Pongamia pinnata	Fabaceae
26. Porpax reticulata	Orchidaceae
27. Pothos scandens	Araceae
28. Psidium guajava	Myrtaceae
29. Senna alata	Fabaceae
30. Strebulus asper	Moraceae
31. Strychnos nux-vomica	Loganiaceae
32. Tabernaemontana heyneana	Apocynaceae
33. Targionia hypophylla	Targionaceae
34. Tectaria coadunata	Dryopteridaceae
35. Tridax procumbens	Asteraceae
36. Wattakaka volubilis	Asclepiadaceae
37. Wrightia tinctoria	Apocynaceae
38. Zanthoxylum rhetsa	Rutaceae
39. Zizyphus rugosa	Rhamnaceae
51. Scurf	
1. Coccocarpia erythroxyli	*Coccocarpiaceae*
2. Leptogium cyanescens	*Collemataceae*
3. Parmotrema reticulatum	*Parmeliaceae*
4. Parmotrema tinctorum	*Parmeliaceae*
52. Sex determination	
1. Cymbidium aloifolium	Orchidaceae
2. Pholidota imbricata	Orchidaceae
3. Schumannianthus virgatus	Marantaceae
53. Skin infection	
1. Acalypha fruticosa	*Euphorbiaceae*
2. Acalypha indica	*Euphorbiaceae*
3. Actiniopteris radiata	*Aspleniacea*
4. Ageratum conyzoides	*Asteraceae*

Botanical name and diseases	Family
5. *Albizia lebbeck*	*Fabaceae*
6. *Allium cepa*	*Liliaceae*
7. *Alstonia scholaris*	*Apocynaceae*
8. *Argemone mexicana*	*Papaveraceae*
9. *Artemisia nilagirica*	*Asteraceae*
10. *Asplenium phyllitidis*	*Aspleniaceae*
11. *Canoparmelia pustulescens*	*Parmeliaceae*
12. *Chenopodium ambresoides*	*Chenopodiaceae*
13. *Coccocarpia erythroxyli*	*Coccocarpiaceae*
14. *Cocos nucifera*	*Arecaceae*
15. *Curcuma aromatica*	*Zingiberaceae*
16. *Curcuma longa*	*Zingiberaceae*
17. *Curcuma neilgherrensis*	*Zingiberaceae*
18. *Dalbergia lanceolaria*	*Fabaceae*
19. *Eleusine indica*	*Poaceae*
20. *Ganoderma lucidum*	*Ganodermataceae*
21. *Hypotrachena crenata*	*Parmeliaceae*
22. *Ipomoea alba*	*Convolvulaceae*
23. *Mucuna pruriens*	*Fabaceae*
24. *Parmotrema grayanum*	*Parmeliaceae*
25. *Parmotrema reticulatum*	*Parmeliaceae*
26. *Parmotrema tinctorum*	*Parmeliaceae*
27. *Scoparia dulcis*	Scrophulariaceae
28. *Spirogyra sp.*	*Zygnemataceae*
29. *Targionia hypophylla*	*Targionaceae*
30. *Wrightia tinctoria*	*Apocynaceae*
54. Small pox	
1. *Azadirachta indica*	*Meliaceae*
2. *Curcuma longa*	*Zingiberaceae*
55. Smoothenig delivery	
1. *Oryza meyeriana*	*Poaceae*
2. *Sida rhombifolia*	*Malvaceae*
56. Snake bite	
1. *Andrographis paniculata*	*Acanthaceae*
2. *Arisema leschenaultii*	Araceae
3. *Calotropis gigantea*	Asclepiadaceae
4. *Cassia fistula*	Fabaceae
5. *Chlorophytum nimmonii*	Liliaceae
6. *Cissampelos pareira*	Menispermaceae

Botanical name and diseases	Family
7. *Curculigo orchiodes*	Amaryllydaceae
8. *Curcuma neilgherrensis*	Zingiberaceae
9. *Cyclea peltata*	Menispermaceae
10. *Drynaria quercifolia*	Polypodiaceae
11. *Ensete superbum*	Musaceae
12. *Erythropalum scandens*	Erythropalaceae
13. *Helicteres isora*	Sterculiaceae
14. *Holarrhena pubescens*	Apocynaceae
15. *Kalanchoe laciniata*	Crassulaceae
16. *Oroxylum indicum*	Bignoniaceae
17. *Pittosporum neelgherrense*	Pittosporaceae
18. *Pterocarpus santalinus*	Fabaceae
19. *Pueraria tuberosa*	Fabaceae
20. *Rauvolfia serpentina*	Apocynaceae
21. *Sansevieria roxburghiana*	Liliaceae
22. *Strychnos nux-vomica*	Loganiaceae
23. *Thevatia peruviana*	Apocynaceae
24. *Thottea siliquosa*	Aristolochiaceae
25. *Vaccinium neilgherrense*	Vacciniaceae
26. *Zizyphus oenoplea*	Rhamnaceae
57. Stomach ache	
1. *Achyranthes aspera*	Amaranthaceae
2. *Allium cepa*	Liliaceae
3. *Alpinia malaccensis*	Zingiberaceae
4. *Artemisia nilagirica*	Asteraceae
5. *Atalantia wightii*	Rutaceae
6. *Azadirachta indica*	Meliaceae
7. *Baliospermum montanum*	Euphorbiaceae
8. *Boerhavia diffusa*	Nyctaginaceae
9. *Bombax insigne*	Bombacaeae
10. *Briedelia retusa*	Euphorbiaceae
11. *Caesalpinia bonduc*	Fabaceae
12. *Caesalpinia cucullta*	Fabaceae
13. *Caesalpinia mimosoides*	Fabaceae
14. *Carica papaya*	*Caricaeae*
15. *Celastrus paniculatus*	Celastraceae
16. *Ceropegia candelabrum*	Asclepiadaceae
17. *Citrus limon*	Rutaceae
18. *Clerodendrum viscosum*	Verbenaceae

Botanical name and diseases	Family
19. Corchorus aestuans	Teliaceae
20. Curcuma aromatica	Zingiberaceae
21. Curcuma longa	Zingiberaceae
22. Cyclea peltata	Menispermaceae
23. Cyperus rotundus	Cyperaceae
24. Dalbergia horrida	Fabaceae
25. Dalbergia latifolia	Fabaceae
26. Dalbergia sissoides	Fabaceae
27. Dalbergia volubilis	Fabaceae
28. Desmodium gangeticum	Fabaceae
29. Drynaria quercifolia	Polypodiaceae
30. Elettria cardomomum	Zingiberaceae
31. Ensete superbum	Musaceae
32. Entada rheedei	Fabaceae
33. Ficus exasperata	Moraceae
34. Ficus racemosa	Moraceae
35. Ficus tinctoria	Moraceae
36. Glycosmis pentaphylla	Rutaceae
37. Gnetum edule	Gnetaceae
38. Hedychium coronarium	Zingiberaceae
39. Helicteres isora	Sterculiaceae
40. Heracleum candolleanum	Apiaceae
41. Holostema ada-kodien	Asclepiadaceae
42. Hopea ponga	Dipterocrapaceae
43. Imperta cylindrica	Poaceae
44. Kaempferia galanga	Zingiberaceae
45. Lantana camra	Verbenaceae
46. Mangifera indica	Anacardiaceae
47. Marselia minuta	Marseliaceae
48. Moringa pterygosperma	Moringaceae
49. Myristica beddomei	Myristicaceae
50. Myristica fragrance	Myristicaceae
51. Naringi crenulata	Rutaceae
52. Oxalis corniculata	Oxalidaceae
53. Persicaria chinensis	Polygonaceae
54. Phyllanthus emblica	Euphorbiaceae
55. Piper betel	Piperaceae
56. Piper longum	Piperaceae
57. Plumbago zeylanica	Plumbaginaceae

Botanical name and diseases	Family
58. *Pterocarpus marsupium*	Fabaceae
59. *Punica granatum*	Punicaceae
60. *Raphidophora pertusa*	Araceae
61. *Rauvolfia serpentina*	Apocynaceae
62. *Salix tetrasperma*	Salicaceae
63. *Solanum americanum*	Solanaceae
64. *Spatholobus parviflorus*	Fabaceae
65. *Terminalia bellirica*	Combretaceae
66. *Terminalia elliptica*	Combretaceae
67. *Thephrosia purpurea*	Fabaceae
68. *Thespesia lampas*	Malvaceae
69. *Thunbergia fragrance*	Acanthaceae
70. *Tribulus terrestris*	Zygophyllaceae
71. *Trigonella foenum-graecum*	Fabaceae
72. *Ulteria salicifolia*	Asclepiadaceae
73. *Zingiber officinale*	Zingiberaceae
74. *Ziziphus rugosa*	Zingiberaceae
58. Stomach tumour	
1. *Remusatia vivipara*	Araceae
59. Strengthening bone	
1. *Viscum orientale*	Viscaceae
60. Throat infection	
1. *Emilia sonchifolia*	Astreraceae
2. *Eleusine coracana*	Poaceae
3. *Elaeocarpus glandulosus*	Elaeopcarpaceae
61. Tooth ache	
1. *Acacia nilotica*	Fabaceae
2. *Allium cepa*	Liliaceae
3. *Aporosa lindleyana*	Euphorbiaceae
4. *Calotropis gigantea*	Asclepiadaceae
5. *Careya arborea*	Lecythadaceae
6. *Carica papaya*	Caricaceae
7. *Cuminum cyminum*	Apiaceae
8. *Desmodium laxiflorum*	Fabaceae
9. *Ficus religiosa*	Moraceae
10. *Mecaranga peltata*	Euphorbiaceae
11. *Mallotus philippensis var.phillippensis*	Euphorbiaceae
12. *Mangifera indica*	Anacrdiaceae

Botanical name and diseases	Family
13. Martynia annua	Pedalliaceae
14. Phyllanthus emblica	Euphorbiaceae
15. Pinanga dicksonii	Arecaeae
16. Piper longum	Piperaceae
17. Pseudarthria visida	Fabaceae
18. Ricinus communis	Euphorbiaceae
19. Rubia cordifolia	Rubiaceae
20. Solanum virginianum	Solanaceae
21. Spilanthes clava	Asteraceae
22. Stereospermum colais	Bignoniaceae
23. Syzygium cumini	Myrtaceae
24. Toddalia asiatica	Rutaceae
25. Wrightia tinctoria	Apocynaceae
26. Zingiber zerumbet	Zingiberaceae
62. Urinary trouble	
1. Rotula aquatica	Boraginaceae
2. Amaranthus spinosus	Amaranthaceae
3. Amaranthus viridis	Amaranthacea
4. Bambusa bambos	Poaceae
5. Coccinia grandis	Cucurbitaceae
6. Cosciniun fenestratum	Menispermaceae
7. Curculigo orchiodes	Amaryllidaceae
8. Ensete superbum	Musaceae
9. Gymnema sylvestre	Asclepiadaceae
10. Hygrophylla schulli	Acanthaceae
11. Piper betel	Piperaceae
12. Pouzolzia zeylanica	Urticaeae
13. Rotula aquatica	Boraginaceae
14. Tribulus terrestris	Zygophyllaceae
63. Vomiting	
1. Entada rheedei	Fabaceae
64. Whooping cough	
1. Phyllanthus emblica	Euphorbiaceae
65. Worm trouble	
1. Alstonia scholaris	Apocynaceae
2. Dalbergia volubilis	Fabaceae
3. Helicteres isora	Sterculiaceae
4. Laportea interrupta	Urticaeae
5. Momordica dioica	Cucurbitaceae

Botanical name and diseases	Family
6. *Solanum americanum*	Solanaceae
7. *Vernonia cinera*	Asteraceae
66. Wound healing	
1. *Acacia nilotica*	Fabaceae
2. *Acalypha fruticosa*	Euphorbiaceae
3. *Acanthospermum hispidum*	Asteraceae
4. *Actiniopteris radiata*	Actiniopteridaceae
5. *Adiantum caudatum*	Adianaceae
6. *Adiantum philippense*	Adianaceae
7. *Allium cepa*	Liliaceae
8. *Alstonia scholaris*	Apocynaceae
9. *Arenga wightii*	Arecaceae
10. *Aristolochia indica*	Aristolochiaceae
11. *Aristolochia tagala*	Aristolochiaceae
12. *Arundinaria wightiana*	Poaceae
13. *Baliospermum montanum*	Euphorbiaceae
14. *Bambusa bambos*	Poaceae
15. *Biophytum reinwardii*	Oxalidaceaew
16. *Borassus flabellifer*	Arecaceae
17. *Bulbophyllum sterile*	Orchidaceae
18. *Cajanus cajan*	Fabaceae
19. *Callicarpa tomentosa*	Verbenaceae
20. Calycopteris floribunda	Combretaceae
21. *Cardiospermum halicacabum*	Sapindaceae
22. *Caryota urens*	Arecaceae
23. *Centella asiatica*	Apiaceae
24. *Ceropegia candelabrum var.candilabrun*	Asclepiadaceae
25. *Chromolaena oderata*	Asteraceae
26. *Cinnamon malabatrum*	Luaraceae
27. *Cocos nucifera*	Arecaeae
28. *Corchorus aestuans*	Tiliaceae
29. *Curcuma longa*	Zingiberaceae
30. *Cynodon dactylon*	Poaceae
31. *Dendrocalamus strictus*	Poaceae
32. *Desmodium triflorum*	Fabaceae
33. *Didymocarpus tomentosa*	Gesneriaceae
34. *Drynaria quercifolia*	Polypodiaceae
35. *Emilia sonchifolia*	Asteraceae

Botanical name and diseases	Family
36. Ficus benghalensis	Moraceae
37. Ficus tinctoria	Moraceae
38. Gloriosa superba	Liliaceae
39. Gnetum edule	Gnetaceae
40. Gymnema sylvestre	Asclepiadaceae
41. Hedyotis corymbosa	Rubiaceae
42. Hypotrachena crenata	*Parmeliaceae*
43. Hyptis sauveolens	Lamiaceae
44. Jasminum multiflorum	Oleaceae
45. Jatropha curcas	Euphorbiaceae
46. Kalanchoe laciniata	Crassulaceae
47. Lantana camra	Verbenaceae
48. Lygodium flexuosum	Schizaeaceae
49. Mallotus philippensis	Euphorbiaceae
50. Mallotus tetracoccus	Euphorbiaceae
51. Mimosa pudica	Fabaceae
52. Mucuna pruriens	Fabaceae
53. Ochlandra travancorica	Poaceae
54. Oryza sativa	Poaceae
55. Oxytenanthera monadelpha	Poaceae
56. Parahemionitis cordata	Hemionitidaceae
57. Parmotrema grayanum	Parmeliaceae
58. Pergularaia daemia	Asclepiadaceae
59. Pinanga dicksonii	Arecaeae
60. Pleurotus sp.	Plutiaceae
61. Pongamia pinnata	Fabaceae
62. Pteris pellucida	Pteridaceae
63. Tectona grandis	Verbenaceae
64. Thottea siliquosa	Aristolochiaceae
65. Tridax procumbens	Asteraceae
66. Usnea nepalensis	Usneaceae
67. Usnea nilgirica	Usneaceae
68. Usnea picta	Usneaceae
69. Usnea subfloridana	Usneaceae
70. Wattakaka volubilis	Asclepiadaceae
71. Wrightia tinctoria	Apocynaceae

Appendix 11. Diseases in livestock and ethnoveterinary medicinal plants

Botanical name	Family
1. Foot and mouth disease	
1. *Aloe veera*	Liliaceae
2. *Cayratia trifolia*	Vitaceae
3. *Cleistanthus collinus*	Euphorbiaceae
4. *Fagraea zeylnica*	Loganiaceae
5. *Holoptelea integrifolia*	Ulmaceae
6. *Persea macrantha*	Lauraceae
7. *Semecarpus anacardium*	Anacardiaceae
8. *Ttectona grandis*	Verbenaceae
9. *Trichiodesma zeylanicum*	Boraginaceae
2. Indigestion	
1. *Azadirachta indica*	Meliaceae
2. *Capsicum fruitascence*	Solanaceae
3. *Cissus quadrangularis*	Vitaceae
4. *Leucas aspera*	lamiaceae
5. *Leucas indica*	Lamiaceae
6. *Piper longum*	Piperaceae
7. *Zingiber officinale*	Zingiberaceae
3. Milk production	
1. *Diplocyclos palmatus*	Cucurbitaceae
2. *Ficus hispida*	Moraceae
3. *Polygala persicarifolia*	Polygalaceae
4. Mumps	
1. *Coccinia grandis*	Cucurbitaceae
5. Placenta release	
1. *Artocarpus heterophyllus*	Moraceae
2. *Bambusa bambos*	Poaceae
3. *Dendrocalamus strictus*	Poaceae
4. *Ficus hispida*	Moraceae
6. Rheumatism	
1. *Allophyllus cobbe*	Sapindaceae
2. *Pongamia pinnata*	Fabaceae
7. Ring worm	
1. *Sphaeranthus indicus*	Asteraceae
2. *Schefflera venulosa*	Araliaceae

Botanical name	Family
8. Wound infested with worms	
1. *Actiniopteris radiata*	Actniopteridaceae
2. *Cippadessa baccifera*	Meliaceae
3. *Datura metel*	Solanaceae
4. *Desmodium triflorum*	Fabaceae
5. *Erythrina verigata*	Fabaceae
6. *Ficus exasperata*	Moraceae
7. *Mangifera indica*	Anacrdiaceae
8. *Ochlandra scriptorea*	Poaceae
9. *Psidium guajava*	Myrtaceae
10. *Rubia cordifolia*	Rubiaceae
11. *Selaginella delicatula*	Selaginellaceae
12. *Trichiodesma indica*	Boraginaceae

Appendix 12. The doctrine of signature and medicinal plants

Sl No.	Botanical name	Family	Disease cured	Signatures attributed
1.	*Acampe praemorsa*	Orchidaceae	Ear ache	Overall appearance like an ear
2.	*Alstonia scholaris*	Apocynaceae	Worm trouble	Fruits resemble worms
3.	*Amorphophalus poenifolius var. poenifolius*	Aracceae	Piles	The fruits resemble piles growth
4.	*Anaphyllum wightii*	Araceae	Piels	The fruits resemble piles growth
5.	*Arisema leschenaultii*	Araceae	Snake bite	Flower resembles hood of snakes
6.	*Bulbophyllum sterile*	Orchidaceae	Burns	The bulb has the appearance of a blister.
7.	*Caesalpinia cucullta*	Fabaceae	Jaundice	Stem yellow in colour
8.	*Calophyllum polyanthum*	Clusiaceae	Scabies and itches	Bark resembles the affected skin
9.	*Canoparmelia pustulences*	Parmeliaceae	Skin infection, Scabies and itches	Thallus resembles the affected skin
10.	*Chenopodium ambresoides*	Chenopodiaceae	Scabies and itches	Thallus resembles the affected skin
11.	*Cissampelos pareira*	Menispermaceae	Snake bite	Flower resemble hood of snakes
12.	*Clitoria ternatea*	Fabaceae	Eye disease	Flower resemble an eye
13.	*Curculigo orchiodes*	Amaryllydaceae	Jaundice	Flowers yellow in colour
14.	*Curcuma longa*	Zingiberaceae	Jaundice	Rhizome yellow in colour
15.	*Curcuma neilgherrensis*	Zingiberaceae	Snake bite	Flower resembles the hood of snakes
16.	*Drynaria quercifolia*	Poypodiaceae	Ear ache and Snake bite	Leaf shape resembles ear or hood of snakes
17.	*Ficus benghalensis*	Moraceae	Nourishment of hair	The aerial roots resembles hairs
18.	*Frullania squarrosa*	Jubulaceae	Nourishment of hair	The plant body resembles hairs

Sl No.	Botanical name	Family	Disease cured	Signatures attributed
19.	*Ganoderma lucidum*	Ganodermataceae	Skin infection	Thallus resembles affected skin
20.	*Helicteres isora*	Sterculiaceae	Worm trouble	Fruits resembles worms
21.	*Huperzia phlegmaria*	Lycopodiaceae	Nourishment of hair	The twig resembles hairs
22.	*Hyphotrachena crenata*	Parmeliaceae	Skin infection	Thallus resembles affected skin
23.	*Leptogium cyanescens*	Collemataceae	Scabies and itches	Thallus resembles affected skin
24.	*Melia dubia*	Meliaceae	Crack in heals	The bark of the tree resembles Cracked heel
25.	*Momordica dioica*	Cucurbitaceae	Worm trouble	The bitterness kill the worm.
26.	*Oberonia brunoniana*	Orchidaceae	Ear ache	Leaves ear like
27.	*Opuntia stricta Haw. var. dillenii*	Cactaceae	Abscess and Burns	The fleshy stem
28.	*Parahemionitis cordata*	Hemionitidaceae	Ear ache	Leaves ear like
29.	*Parmotrema grayanum*	Parmeliaceae	Skin infection	Thallus resembles affected skin
30.	*Parmotrema reticulatum*	Parmeliaceae	Skin infection	Thallus resembles affected skin
31.	*Parmotrema tinctorum*	Parmeliaceae	Skin infection	Thallus resembles affected skin
32.	*Phyllanthus amarus*	Euphorbiaceae	Jaundice	The leaf paste deep yellow green
33.	*Pittosporum neelgherrence*	Pittosporaceae	Snake bite	Smell is too sharp
34.	*Plantago erosa*	Plantaginaceae	Ear ache	Leaves ear like
35.	*Porpax reticulata*	Orchidaceae	Scabies and itches	The plant body resembles blister like appearance
36.	*Portulaca oleracea*	Portulaccaceae	Burns	The fleshy stem
37.	*Pueraria tuberosa*	Fabaceae	Snake bite	Tuber resembles hood of snakes
38.	*Pyrosia lancelata*	Polypodiaceae	Ear ache	Overall appearance like an ear
39.	*Sansiveria rouxberghiana*	Liliaceae	Snake bite	Leaves hood of snakes
40.	*Selaginella involvens*	Sellaginellaceae	Nourishment of hair	The twig resembles hairs

Sl No.	Botanical name	Family	Disease cured	Signatures attributed
41.	*Spirogyra sp.*	Zygnemataceae	Skin infection	Thallus resembles affected skin
42.	*Targionia hypophylla*	Targionaceae	Skin infection, Scabies and itches	Thallus resembles affected skin
43.	*Thespesia lampas*	Malvaceae	Jaundice	Flowers yellow in colour
44.	*Thottea siliquosa*	Aristolochiaceae	Snake bite	Fruit resembles snakes
45.	*Tinospora sinensis*	Menispermaceae	Nourishment of hair	The aerial roots resembles hairs
46.	*Usnea subchaybaea*	Usneaceae	Nourishment of hair	Thallus resembles hairs
47.	*Vanda tesselata*	Orchidaceae	Ear ache	Overall appearance like an ear
48.	*Vanda thwiatesii*	Orchidaceae	Ear ache	Overall appearance like an ear
49.	*Zanthoxylum rhetsa*	Rutaceae	Scabies and itches	The bark resembles affected skin
50.	*Zeylanidium lichenoides*	Podostemaceae	Scabies and itches	The thallus resemble the same

Appendix 13. Number of plants used for miscellaneous aspects by each tribal group

Sl. No	Uses	Number of plants used by the tribal groups								
		ER	IR	KD	KR	MM	MS	MD	MT	Total
1.	Basketry	4	2	3	2	2	2	2	3	**8**
2.	Beliefs	9	9	8	13	7	9	22	17	**33**
3.	Brooms	3	4	2	3	2	2	3	3	**7**
4.	Brush	3	3	3	3	3	3	3	4	**4**
5.	Cleaning vessels	2	3	2	2	1	2	3	3	**3**
6.	Cloth	1	1	1	1	1	1	1	1	**1**
7.	Comb	0	0	1	0	0	0	0	1	**1**
8.	Decoration	3	3	2	3	1	2	2	2	**3**
9.	Ecological and soil binder	0	4	0	1	0	2	1	1	**6**
10.	Fiber	8	7	8	7	10	10	7	8	**14**
11.	Fish stupefaction	9	8	11	10	11	13	9	10	**16**
12.	House hold articles	3	3	2	3	2	2	2	4	**5**
13.	Hut making	3	7	6	7	5	4	5	7	**13**
14.	Milk coagulant	2	4	0	3	0	0	3	1	**4**
15.	Musical instruments	2	3	0	3	3	3	3	3	**4**
16.	Narcotics	2	3	3	3	2	3	3	4	**5**
17.	Ornaments	5	4	6	3	6	6	3	5	**7**
18.	Plants in Songs	3	4	2	4	2	2	3	2	**7**
19.	Plates	6	4	4	5	4	4	4	4	**8**
20.	Religious rituals Worships	5	5	3	5	3	6	7	5	**13**
21.	Repellents	6	10	8	12	7	9	14	9	**17**
22.	shampoo	4	4	2	5	2	4	6	4	**7**
23.	Soaps	2	2	2	2	2	2	2	2	**3**
24.	Tooth cleaner	2	2	1	3	1	2	2	1	**3**
25.	Torch	2	3	2	3	2	2	3	2	**5**
26.	Traditional marks	2	2	1	1	1	1	1	1	**3**
27.	Trap	1	3	2	1	2	2	2	3	**3**
28.	Utensils	1	2	3	1	2	2	2	3	**5**
29.	Water bottle	1	1	1	1	1	1	1	1	**1**
30.	Weapons	1	3	3	2	2	2	2	3	**4**

ER: Eravallans; **IR**: Irulas**; KD**: Kadars**; KR**: Kurumbars; **MM**: Malamalasars; **MS**: Malasars; **MD**: Mudugars**; MT**: Muthuvans.

Appendix 14. Plants involved in miscellaneous uses

Botanical name and miscellaneous uses	Part used
1. Basketry	
1. *Bambusa bambos*	Culm
2. *Borassus flabellifer*	Leaves and fibers from leaf, peduncle
3. *Corypha umbraculifera*	Leaves
4. *Ochlandra scriptoria*	Culms
5. *Ochlandra setigera*	Culms
6. *Ochlandra travancorica*	Culms
7. *Phyllanthus reticulatus*	Mature stem
8. *Teinostachyum wightii*	Culms
2. Beliefs and Plants	
1. *Aeridis macculosam*	Whole plant
2. *Alstonia scholaris*	Whole plant
3. *Angiopteris evecta*	Tender shoots
4. *Arisema tortosum*	Rhizomes
5. *Artocarpus heterophyllus*	Branches
6. *Azadirachta indica*	Whole plant
7. *Bambusa bambos*	Fresh culms
8. *Bolbitis appendiculata*	Whole plant
9. *Bolbitis subcrenata*	Whole plant
10. *Borassus flabellifer*	Whole plant
11. *Breynia retusa*	Fruiting twigs
12. *Cosciniun fenestratum*	Woody stem
13. *Curcuma aromatica*	Rhizome
14. *Curcuma longa*	Rhizome
15. *Dalbergia horrida*	Whole plant
16. *Dorstenia indica*	Whole plant
17. *Elatostemma acuminata*	Whole plant
18. *Equisetum ramosissimum sub sp. debile*	Whole plant
19. *Ficus benghalensis*	Whole plant
20. *Ficus racemosa*	Whole plant
21. *Ficus religiosa*	Whole plant
22. *Ficus tinctoria*	Whole plant
23. *Homonoia riparia*	Whole plant
24. *Mangifera indica*	Leaves
25. *Persicaria chinensis*	Twig
26. *Plantago erosa*	Whole plant
27. *Pongamia pinnata*	Whole plant
28. *Remusatia vivipara*	Rhizome

Botanical name and miscellaneous uses	Part used
29. *Schleichera oleosa*	Wood
30. *Striga angustifolia*	Whole plant
31. *Strobilanthes sp.*	Whole plant
3. Brooms	
1. *Bambusa bambos*	Culm fibers
2. *Borassus flabellifer*	Leaves
3. *Ochlandra travancorica*	Culm fibers
4. *Pennesetum hoheneckerii*	Whole plant
5. *Phoenix lourerii var. humilis*	Twig
6. *Sida cordifolia*	Whole plant
7. *Sida rhombifolia*	Whole plant
4. Brush	
1. *Acacia torta*	Bark
2. *Luffa acutangula var.acutangula*	Fruit fibers
3. *Luffa acutangula var.amara*	Fruit fibers
4. *Luffa cylindrica*	Fruit fibers
5. Cleaning vessels	
1. *Begonia malabarica*	Whole plant
2. *Ficus exasperata*	Leaves
3. Rubia cordifolia	Whole plant
6. Cloth	
1. *Aniaris toxicaria*	Bark
2. *Ochlandra travancorica*	Finely woven culm
7. Comb	
1. *Bambusa bambos*	Culms
9. Ecological and soil binder	
1. *Agave americana*	Whole plant
2. Agave sisalana	Whole plant
3. *Bambusa bambos*	Whole plant
4. *Vetiveria zizanioides*	Whole plant
5. *Bambusa bambos*	Whole plant
6. *Pongamia pinnata*	Whole plant
10.Fiber	
1. *Ampelocissus tomentosa*	Stem
2. *Bauhinia racemosa*	Bark
3. *Borassus flabellifer*	Leaf peduncle
4. *Caryota urens*	Infruitescence
5. *Ficus racemosa*	Bark
6. *Grewia tiliifolia*	Bark
7. *Helicteres isora*	Bark
8. *Ochlandra travancorica*	Culm
9. *Sterculia villosa*	Bark

Botanical name and miscellaneous uses	Part used
10. Teinostachyum wightii	Culm
11. Tetrastigma neelagiricum	Stem
12. Trema orientalis	Bark
11. Fish stupifaction	
1. Acacia sinuata	Stem, bark, fruits
2. Acacia torta	Stem, bark, fruits
3. Anamirta cocculus	Fruits
4. Bambusa bambos	Tender shoots
5. Canthium rheedei	Fruits
6. Caryota urens	Fruits
7. Catunaregam spinosum	Fruits
8. Chloroxylon swietenia	Leaves, fruits
9. Crataeva magna	Fruits
10. Cycas circinalis	Leaves
11. Dillenia pentagyna	Fruits
12. Diospyros cordifolia	Fruits
13. Gnidia gluaca	Fruits
14. Hydnocarpus pendandra	Fruits
15. Sapindus trifoliata	Fruits
16. Strychnos nuxvomica	Fruits
12. House hold articles	
1. Bambusa bambos	Culms
2. Gmelina arborea	Wood
3. Mallotus philippensis	Wood
4. Mesua ferrea	Wood
5. Ochlandra travancorica	Culms
6. Pterocarpus marsupium	Wood
13. Hut making	
1. Bambusa bambos	Culms
2. Borassus flabellifer	Leaves, Fibers, stem
3. Cymbopogon martinii	Whole plant
4. Dalbergia latifolia	Wood
5. Dalbergia sissoides	Wood
6. Imperta cylindrica	Whole plant
7. Mesua ferrea	Wood
8. Mesua thwaitesi	Wood
9. Ochlandra setigera	Culms
10. Ochlandra travancorica	Leaves, culms
11. Oxytenanthera bourdillonii	Culms
12. Pennisetum polystachyon	Whole plant
13. Tectona grandis	Leaves, wood

Botanical name and miscellaneous uses	Part used
14. Milk coagulants	
1. *Solanum indicum*	Fruits
2. *Tamarindus indica*	Fruits
3. *Wrightia tinctoria*	Milky latex from bark
15. Musical instruments	
1. *Dalbergia sissoides*	Wood
2. *Gmelina arborea*	Wood
3. *Ochlandra setigera*	Culms
4. *Pterocarpus marsupium*	Wood
16. Narcotic and masicators	
1. *Areca catechu*	Fruits
2. *Artocarpus gomzianus ssp.zeylanicua*	Bark
3. *Cannabis sativa ssp.indica*	Leaves
4. *Nicotiana tabacum*	Leaves
5. *Piper betel*	Leaves
6. *Rotula aquatica*	Leaves
17. Ornaments	
1. *Abrus precatorius*	Seeds
2. *Adenanthera pavonina*	Seeds
3. *Arenga wightii*	Leaves
4. *Bambusa bambos*	Culms
5. *Borassus flabellifer*	Leaves
6. *Coix lacryma-jobi*	Seeds
7. *Pandanus thwaitesii*	Leaves
18. Plants in songs	
1. *Azadirachta indica*	Whole plant
2. *Bambusa bambos*	Whole plant
3. *Cocos nucifera*	Whole plant
4. *Homonoia riparia*	Whole plant
5. *Albizia lebeck*	Whole plant
6. *Borassus flabellifer*	Whole plant
7. *Caryota urens*	Whole plant
19. Plates for serving food	
1. *Butea monosperma*	Leaves
2. *Dillenia pentagyna*	Leaves
3. *Ensete superbum*	Leaves
4. *Macaranga peltata*	Leaves
5. *Musa paradasiaca*	Leaves
6. *Musa rosacea*	Leaves
7. *Schumannianthus virgatus*	Leaves
8. *Tectona grandis*	Leaves

Botanical name and miscellaneous uses	Part used
20. Religious rituals and worships	
1. *Aerva lanata*	Whole plant
2. *Artocarpus heterophyllus*	Twig
3. *Azadirachta indica*	Leaves
4. *Bambusa bambos*	Culm
5. *Calamus vattayila*	Stem
6. Calotropis gigantea	Leaves
7. *Cocos nucifera*	Seed
8. *Curcuma longa*	Rhizome
9. *Dendrocalamus strictus*	Culms
10. *Imperta cylindrica*	Whole plant
11. *Mangifera indica*	Leaves
12. *Mastixia arborea*	Resin
21. Repellents	
1. *Acacia sinuata*	Bark
2. *Acacia torta*	Bark
3. *Anisochilus scaber*	Whole plant
4. *Briedelia scandens*	Bark
5. *Azadirachta indica*	Leaves, fruits, oil
6. *Canarium strictum*	Resin
7. *Capsicum frutescence*	Fruits
8. *Chenopodium ambresoides*	Whole plant
9. *Crotalaria pallida*	Seeds
10. *Cyclea peltata*	Roots
11. *Davallia bullata*	Whole plant
12. *Harpullia arborea*	Bark
13. *Nicotiana tabacum*	Leaves
14. *Sapindus trifoliata*	Bark, fruits
15. *Solanum virginianum*	Fruits
16. *Strychnos nuxvomica*	Leaves, bark, fruits
17. *Vateria indica*	Resin
18. *Zingiber officinale*	Rhizomes
22. Shampoo	
1. *Cyclea peltata*	Roots
2. *Grewia tiliifolia*	Bark
3. *Hibiscus rosasinensis*	Leaves
4. *Ipomoea alba*	Leaves
5. *Kydia calycina*	Bark
6. *Meremia umbellata*	Leaves
7. *Sida rhombifolia*	Whole plant
23. Soaps	
1. *Acacia sinuata*	Fruits
2. *Sapindus trifoliata*	Fruits

Botanical name and miscellaneous uses	Part used
24. Tooth cleaners	
1. *Azadirachta indica*	Stem
2. *Bambusa bambos*	Culm
3. *Mangifera indica*	Leaves
4. *Symplocos cochinchinensis*	Wood
25. Torch	
1. *Bambusa bambos*	Culms
2. *Jatropha curcus*	Seeds
3. *Ochlandra scriptorea*	Culms
4. *Ochlandra setigera*	Culms
5. *Ochlandra travancorica*	Culms
26. Traditional mark	
1. *Argyreia nervosa*	Milky exudate from stem
2. *Ipomoea carnea*	Milky exudate from stem
3. *Pterocarpus marsupium*	Resin
27. Trap	
1. *Bambusa bambos*	Culms
2. *Ochlandra setigera*	Culms
3. *Ochlandra travancorica*	Culms
4. *Teinostachyum wightii*	Culms
28. Utensils	
1. *Bambusa bambos*	Culms
2. *Cochlospermum religiosum*	Fruit
3. *Ochlandra travancorica*	Culms
4. *Oxytenanthera bourdillonii*	Culms
5. *Teinostachyum wightii*	Culms
29. Water bottles	
1. *Bambusa bambos*	Culms
30. Weapons	
1. *Bambusa bambos*	Culms
2. *Ochlandra scriptorea*	Culms
3. *Ochlandra travancorica*	Culms
4. *Teinostachyum wightii*	Culms

Appendix 15. Dominant Families and number of plants in the study area

Family	Number of plants represented
Fabaceae	56
Euphorbiaceae	29
Poaceae	25
Cucurbitaceae	15
Asteraceae	14
Moraceae	13
Rubiaceae	13
Solanaceae	13
Arecaceae	12
Zingiberaceae	12
Asclepiadaceae	11
Dioscoreaceae	11
Orchidaceae	11
Amaranthaceae	10
Malvaceae	10
Lamiaceae	9
Apocynaceae	7
Lentinaceae	7
Liliaceae	7
Menispermaceae	7
Acanthaceae	6
Convolvulaceae	6
Myrtaceae	6
Piperaceae	6
Rutaceae	6
Anacardiaceae	5
Apiaceae	5
Boraginaceae	5
Combretaceae	5
Parmeliaceae	5
Sapindaceae	5
Sterculiaceae	5

Appendix 16. Dominant Genera and number of species in the study area

Sl. No.	Genera	Number of species
1.	*Dioscorea*	12
2.	*Ficus*	7
3.	*Pleurotus*	6
4.	*Dalbergia*	5
5.	*Usnea*	5
6.	*Acacia*	4
7.	*Albizia*	4
8.	*Calamus*	4
9.	*Curcuma*	4
10.	*Ipomoea*	4
11.	*Piper nigrum*	4
12.	*Senna tora*	4
13.	*Solanum*	4
14.	*Sterculia villosa*	4
15.	*Syzygium*	4
16.	*Terminalia*	4
17.	*Termitomycets*	4

Appendix 17. Lower plants and Gymnosperms used by the tribal groups

Botanical name	Family	Uses	Part used	Name of tribal groups used
I. ALGAE				
1. *Spirogyra sp.*	*Zygnemataceae*	Medicine	Whole thallus	Mudugars
II. FUNGI				
1. *Auricularia sp.*	Auriculariaceae	Food	Pileus	All Groups
2. *Coprinus sp.*	Coprinaceae	Food	Pileus	Kurumbars
3. *Ganoderma lucidum*	Ganodermataceae	Medicine	Fruitng body	Mudugars
4. *Lentinus squarrosulus*	Lentinaceae	Food	Pileus	Kurumbars
5. *Lycoperdon sp.*	Lycoperdaceae	Food	Fruitng body	All groups
6. *Peziza sp.*	Pezizaceae	Food	Pileus	Kurumbras
7. *Pleurotus flaballatus*	Lentinaceae	Food	Pileus	Kurumbars, Mudugars
8. *Pleurotus sp.*	Lentinaceae	Food	Pileus	Kurumbars
9. *Pleurotus sp.*	Lentinaceae	Food	Pileus	Kurumbars
10. *Pleurotus sp.*	Lentinaceae	Medicine	Whole	Kadars
11. *Pleurotus sp.*	Lentinaceae	Food	Pileus	kurumbars
12. *Pleurotus tuber-regium*	Lentinaceae	Food	Pileus	Kadars, kurumbars
13. *Termitomyces clypeatus*	Pluteaceae	Food	Pileus	All groups
14. *Termitomyces eurhizus*	Pluteaceae	Food	Pileus	All groups
15. *Termitomyces microcarpus*	Pluteaceae	Food	Pileus	All groups
16. *Termitomyces heimi*	Pluteaceae	Food	Pileus	All groups
17. *Volveriella volvaceae*	Pluteaceae	Food	Pileus	All groups
III. LICHENS				
1. *Canoparmelia pustulences*	*Parmeliaceae*	Medicine	Whole thallus	Mudugars
2. *Coccocarpia erythroxyli*	*Coccocarpiaceae*	Medicine	Whole thallus	Mudugars
3. *Hypotrachena crenata*	*Parmeliaceae*	Medicine	Whole thallus	Mudugars
4. *Leptogium cyanescens*	*Collemataceae*	Medicine	Whole thallus	Mudugars

Botanical name	Family	Uses	Part used	Name of tribal groups used
5. *Parmotrema grayanum*	*Parmeliaceae*	Medicine	Whole thallus	Muthuvans
6. *Parmotrema reticulatum*	*Parmeliaceae*	Medicine	Whole thallus	Muthuvans
7. *Parmotrema tinctorum*	*Parmeliaceae*	Medicine	Whole thallus	Muthuvans
8. *Usnea nepalensis*	*Usneaceae*	Medicine	Whole thallus	Muthuvans
9. *Usnea nilgirica*	*Usneaceae*	Medicine	Whole thallus	Muthuvans
10. *Usnea picta*	*Usneaceae*	Medicine	Whole thallus	Muthuvans
11. *Usnea subchalybaea*	*Usneaceae*	Medicine	Whole thallus	Mudugars
12. *Usnea subfloridana*	*Usneaceae*	Medicine	Whole thallus	Muthuvans
13. *Ramalina celastri*	*Ramalinaceae*	Medicine	Whole thallus	Muthuvans
IV. BRYOPHYTES				
1. *Frullania squarrosa*	*Jubulacea*	Medicine	Whole thallus	Mudugars
2. *Targionia hypophylla*	*Targionaceae*	Medicine	Whole thallus	Irulars
V. PTERIDOPHYTES				
1. *Actiniopteris radiata*	Actiniopteridaceae	Medicine	Whole plant	Irulars, Kadars, Muthuvans
2. *Adiantum caudatum*	Adiantaceae	Medicine	Whole plant	Irulars
3. *Adiantum lunulatum*	Adiantaceae	Medicine	Whole plant	Mudugars
4. *Angiopteris evecta*	Marattiaceae	Food	Leaves	Mudugars, Muthuvans
5. *Asplenium phyllitidis*	Aspleniacea	Medicine	Whole plant	Kadars
6. *Bolbitis appendiculata*	Lomariopsidaceae	Beleifs	Whole plant	Muthuvans
7. *Bolbitis subcrenata*	Lomariopsidaceae	Beleifs	Whole plant	Mudugars
8. *Christella parasitica*	Thelipteridaceae	Food		Mudugars
9. *Davallia bullata*	Davalliaceae	Repellent	Whole plant	Mudugars
10. *Diplazium esculentum*	Athyriaceae	Food	Leaves	All groups

Botanical name	Family	Uses	Part used	Name of tribal groups used
11. Drynaria quercifolia	Polypodiaceae	Medicine	Whole plant	All groups
12. Equisetum ramosissimum sub sp. debile	Equisetaceae	Medicine	Whole plant	Mudugars
13. Huperzia phlegmaria	Lycopodiaceae	Medicine	Whole plant	Mudugars
14. Lygodium flexuosum	Schizaeaceae	Medicine	Whole plant	Malasars
15. Marselia minuta	Hemionitidaceae	Food, Medicine	Leaves	Eravallans, Irulars, Mudugars
16. Parahemionitis cordata	Pteridacea	Medicine	Whole plant	Eravallans, irulars,Kadars , Mudugars, Malasars, muthuvans
17. Pteris pellucida	Selaginellaceae	Medicine	Whole plant	Malamalasars
18. Pyrrosia lancelata	Selaginellaceae	Medicine	Whole plant	Kadars
19. Selaginella delicatula	Dryopteridaceae	Medicine	Whole plant	Kurumbars
20. Selaginella involvens	Polypodiaceae	Medicine	Whole plant	Mudugars
21. Tectaria coadunata	Marseliaceae	Medicine	Whole plant	Mudugars
VI. GYMNOSPERMS				
1. Cycas circinalis	Cycadaceae	Food, Miscellaneous	Seeds, leaves	All tribal groups
2. Gnetum edule	Gnetaceae	Medicine	Bark, seed	Kurumba

Appendix 18. Habitat, habit and conservation status of the plants used by the tribal groups

Sl.No	Botanical name	Family	Conservation status	Habitat	Micro habitat	Habit
1.	*Abelmoschus esculentus*	Malvaceae	LR	CV		HB
2.	*Abrus precatorius*	Fabaceae	LR	MDF		CL
3.	*Acacia nilotica*	Fabaceae	LR	DDF		LN
4.	*Acacia pennata*	Fabaceae	LR	MDF		LN
5.	*Acacia sinuata*	Fabaceae	LR	MDF		LN
6.	*Acacia torta*	Fabaceae	LR	MDF		LN
7.	*Acalypha fruticosa*	Euphorbiaceae	LR	MDF		SB
8.	*Acalypha indica*	Euphorbiaceae	LR	MDF & PL		HB
9.	*Acampe praemorsa*	Orchidaceae	LR	MDF	EPI	HB
10.	*Acanthospermum hispidum*	Asteraceae	LR	MDF and PL		HB
11.	*Achyranthes aspera*	Amaranthaceae	LR	MDF		HB
12.	*Acorus calamus*	Araceae	LR	CV		HB
13.	*Actiniopteris radiata*	Actiniopteridaceae	CD	DDF		HB
14.	*Adenia hondala*	Passifloraceae	CD	EG		HB
15.	*Adenanthera pavonina*	Fabaceae	LR	CV		TR
16.	*Adiantum caudatum*	Adiantaceae	LR	MDF		HB
17.	*Adiantum philippense*	Adiantaceae	LR	MDF		HB
18.	*Aeginetia indica*	Orobranchaceae	CD	SEG& MDF	PARA	HB
19.	*Aerides maculosum*	Orchidaceae	CD	MDF	EPI	HB
20.	*Aerva lanata*	Amaranthaceae	LR	CV		HB
21.	*Aeschynanthus perrottetii*	Gesneriaceae	LR	EG	EPI	HB
22.	*Agave americana*	Agavaceae	LR	CV		SB
23.	*Agave sisalana*	Agavaceae	LR	CV		SB
24.	*Ageratum conyzoides*	Asteraceae	LR	MDF& PL		HB
25.	*Alangium salvifolium ssp. salvifolium*	Alangiaceae	LR	DDF&PL		TR
26.	*Albizia amara*	Fabaceae	LR	MDF		TR
27.	*Albizia lebbeck*	Fabaceae	LR	MDF		TR
28.	*Albizia odoratissima*	Fabaceae	LR	MDF		TR
29.	*Albizia procera*	Fabaceae	LR	MDF		TR
30.	*Allium cepa*	Liliaceae	LR	CV		HB
31.	*Allium sativum*	Liliaceae	LR	CV		HB
32.	*Allmania nodiflora*	Amaranthaceae	LR	MDF&PL		HB
33.	*Allophylus cobbe*	Sapindaceae	LR	MDF&SEG		SB
34.	*Aloe vera*	Liliaceae	LR	CV		HB
35.	*Alpinia malaccensis*	Zingiberaceae	CD	MDF&SEG		HB
36.	*Alstonia scholaris*	Apocynaceae	LR	MDF		TR

Sl.No	Botanical name	Family	Conservation status	Habitat	Micro habitat	Habit
37.	*Alternanthera sessilis*	Amaranthaceae	LR	PL		HB
38.	*Amaranthus cruentus*	Amaranthaceae	LR	CV		HB
39.	*Amaranthus caudatus*	Amaranthaceae	LR	CV		HB
40.	*Amaranthus spinosus*	Amaranthaceae	LR	MDF&PL		HB
41.	*Amaranthus viridis*	Amaranthaceae	LR	MDF&PL		HB
42.	*Ammannia baccifera*	Lythraceae	LR	PL		HB
43.	*Amorphophallus paeoniifolius var. paeoniifolius*	Araceae	CD	MDF		HB
44.	*Ampelocissus tomentosa*	Vitaceae	LR	MDF		LN
45.	*Anacardium occidentale*	Anacardiaceae	LR	CV		TR
46.	*Anamirta cocculus*	Menispermaceae	LR	MDF		LN
47.	*Anaphyllum wightii**	Araceae	VUL	SEG&EG		HB
48.	*Andrographis paniculata*	Acanthaceae	CD	MDF		HB
49.	*Angiopteris evecta*	Marattiaceae	CD	EG		SB
50.	*Anisochilus scaber*	Lamiaceae	LR	MDF&PL		HB
51.	*Anisomeles indica*	Lamiaceae	LR	MDF&PL		HB
52.	*Annona squamosa*	Annonaceae	LR	CV		SB
53.	*Antiaris toxicaria*	Moraceae	CD	SEG		TR
54.	*Antidesma acidum*	Euphorbiaceae	LR	MDF		SB
55.	*Antidesma ghaesembilla*	Euphorbiaceae	LR	SEG		TR
56.	*Antidesma montanum*	Euphorbiaceae	LR	SEG		TR
57.	*Aporosa lindleyana*	Euphorbiaceae	LR	SEG		TR
58.	*Ardisia solanacea*	Myrsinaceae	LR	MDF&SEG		SB
59.	*Areca catechu*	Arecaceae	LR	CV		TR
60.	*Arenga wightii**	Arecaceae	VUL	EG		TR
61.	*Argemone mexicana*	Papaveraceae	LR	MDF&PL		HB
62.	*Argyreia nervosa*	Convolvulaceae	LR	MDF		CL
63.	*Arisaema leschenaultia**	Araceae	CD	EG & SHOLA		HB
64.	*Arisaema tortuosum*	Araceae	CD	EG & SHOLA		HB
65.	*Aristolochia indica*	Aristolochiaceae	VUL	MDF		CL
66.	*Aristolochia tagala*	Aristolochiaceae	VUL	MDF&SEG		CL
67.	*Artemisia nilagirica**	Asteraceae	LR	MDF		HB
68.	*Artocarpus gomezianus*	Moraceae	VUL	MDF&SEG		TR
69.	*Artocarpus heterophyllus*	Moraceae	LR	SEG&EG		TR
70.	*Artocarpus hirsutus**	Moraceae	LR	MDF&SEG		TR
71.	*Arundinaria wightian**	Poaceae	CD	SHOLA		SB
72.	*Asplenium phyllitidis*	Aspleniaceae	CD	SEG&EG	EPI	HB
73.	*Atalantia wightii*	Rutaceae	LR	MDF&SEG		SB

Sl.No	Botanical name	Family	Conservation status	Habitat	Micro habitat	Habit
74.	*Auricularia sp.*	Auriculariaceae	CD	SEG&EG		OTH
75.	*Azadirachta indica*	Meliaceae	LR	MDF		TR
76.	*Baccaurea courtallensis**	Euphorbiaceae	LR	SEG&EG		TR
77.	*Balanophora fungosa ssp. indica*	Balanophoraceae	CD	SEG&EG	PARA	HB
78.	*Baliospermum montanum*	Euphorbiaceae	LR	MDF		HB
79.	*Bambusa bambos*	Poaceae	LR	MDF		TR
80.	*Basella alba*	Basellaceae	LR	CV		CL
81.	*Bauhinia racemosa*	Fabaceae	LR	MDF		TR
82.	*Begonia malabarica*	Begoniaceae	CD	MDF&SEG		HB
83.	*Benincasa hispida*	Cucurbitaceae	LR	CV		CL
84.	*Bidens pilosa var. minor*	Asteraceae	LR	MDF		HB
85.	*Biophytum reinwardtii*	Oxalidaceae	LR	MDF		HB
86.	*Boerhavia diffusa*	Nyctaginaceae	LR	MDF&PL		HB
87.	*Bolbitis appendiculata*	Lomariopsidaceae	CD	SEG		HB
88.	*Bolbitis subcrenata*	Lomariopsidaceae	CD	SEG		HB
89.	*Bombax insigne*	Bombacaceae	LR	MDF&SEG		TR
90.	*Borassus flabellifer*	Arecaceae	LR	CV		TR
91.	*Brassica juncea*	Brassicaceae	LR	CV		HB
92.	*Breynia retusa*	Euphorbiaceae	LR	MDF&SEG		SB
93.	*Briedelia retusa*	Euphorbiaceae	LR	MDF&SEG		TR
94.	*Briedelia scandens*	Euphorbiaceae	LR	MDF&SEG		LN
95.	*Bulbophyllum sterile*	Orchidaceae	CD	SEG&EG	EPI	HB
96.	*Butea monosperma*	Fabaceae	LR	MDF&DDF		TR
97.	*Caesalpinia bonduc*	Fabaceae	CD	MDF&SEG		LN
98.	*Caesalpinia cucullata*	Fabaceae	CD	MDF&SEG		LN
99.	*Caesalpinia mimosoides*	Fabaceae	CD	MDF&SEG		LN
100.	*Cajanus cajan*	Fabaceae	LR	CV		HB
101.	*Calamus gamblei**	Arecaceae	CD	MDF&SEG		LN
102.	*Calamus hookerianus**	Arecaceae	CD	MDF&SEG		LN
103.	*Calamus thwaitesii*	Arecaceae	CD	MDF&SEG		LN
104.	*Calamus vattayila**	Arecaceae	CD	MDF&SEG		LN
105.	*Callicarpa tomentosa*	Verbenaceae	LR	MDF&SEG		TR
106.	*Calophyllum polyanthum*	Clusiaceae	LR	EG		TR
107.	*Calotropis gigantea*	Asclepiadaceae	LR	PL		SB
108.	*Calycopteris floribunda*	Combretaceae	LR	MDF		LN
109.	*Canarium strictum*	Burseraceae	CD	SEG&EG		TR
110.	*Canavalia africana*	Fabaceae	LR	MDF&PL		CL
111.	*Cannabis sativa*	Cannabinaceae	LR	CV		HB
112.	*Canoparmelia pustulescens*	Parmeliaceae	CD	SEG&EG		OTH

Sl.No	Botanical name	Family	Conservation status	Habitat	Micro habitat	Habit
113.	*Canthium rheedei*	Rubiaceae	LR	MDF&SEG		SB
114.	*Capsicum annuum*	Solanaceae	LR	CV		HB
115.	*Capsicum frutescens*	Solanaceae	LR	CV		HB
116.	*Cardiospermum halicacabum*	Sapindaceae	LR	MDF&PL		CL
117.	*Careya arborea*	Lecithadaceae	LR	MDF&SEG		TR
118.	*Carica papaya*	Caricaceae	LR	CV		TR
119.	*Caryota urens*	Arecaceae	CD	MDF&SEG		TR
120.	*Cassia fistula*	Fabaceae	LR	MDF		TR
121.	*Catunaregam spinosa*	Rubiaceae	LR	MDF&SEG		TR
122.	*Cayratia pedata*	Vitaceae	LR	MDF&PL		CL
123.	*Cayratia trifolia*	Vitaceae	LR	SEG&EG		CL
124.	*Celastrus paniculatus*	Celastraceae	CD	MDF&SEG		LN
125.	*Celosia argentea*	Amaranthaceae	LR	MDF&PL		HB
126.	*Centella asiatica*	Apiaceae	LR	MDF&PL		HB
127.	*Cereus pterogonus*	Cactaceae	LR	DDF		SB
128.	*Ceropegia candelabrum*	Asclepiadaceae	CD	MDF&SEG		CL
129.	*Chamaecrista absus*	Fabaceae	CD	MDF&SEG		HB
130.	*Chenopodium ambrosioides*	Chenopodiaceae	LR	CV		HB
131.	*Chlorophytum nimmonii*	Liliaceae	LR	MDF&SEG		HB
132.	*Chloroxylon swietenia*	Flindersiaceae	CD	MDF&PL		TR
133.	*Christella parasitica*	Thelypteridaceae	LR	MDF&PL		HB
134.	*Chromolaena odorata*	Asteraceae	LR	MDF&SEG		HB
135.	*Cinnamomum malabatrum*	Lauraceae	LR	MDF&SEG		TR
136.	*Cipadessa baccifera*	Meliaceae	CD	MDF&SEG		SB
137.	*Cissampelos pareira var. hirsuta*	Menispermaceae	LR	MDF&SEG		CL
138.	*Cissus quadrangularis*	Vitaceae	LR	DDF		CL
139.	*Citrus limon*	Rutaceae	LR	CV		TR
140.	*Cleistanthus collinus*	Euphorbiaceae	LR	MDF		TR
141.	*Clematis gouriana*	Ranunculaceae	LR	MDF&SEG		CL
142.	*Cleome monophylla*	Capparaceae	LR	MDF		HB
143.	*Clerodendrum serratum*	Verbenaceae	CD	MDF&SEG		SB
144.	*Clerodendrum viscosum*	Verbenaceae	LR	MDF&SEG		SB
145.	*Clitoria ternatea*	Fabaceae	LR	MDF		CL
146.	*Coccinia grandis*	Cucurbitaceae	LR	CV		CL
147.	*Coccocarpia erythroxyli*	Coccocarpiaceae	CD	SEG&EG		OTH
148.	*Cochlospermum religiosum*	Cochlospermacea e	CD	MDF		TR
149.	*Cocos nucifera*	Arecaceae	LR	CV		TR
150.	*Coelogyne nervosa*	Orchidaceae	CD	SEG&EG		HB

Sl.No	Botanical name	Family	Conservation status	Habitat	Micro habitat	Habit
151.	*Coix lacryma-jobi*	Poaceae	LR	CV		HB
152.	*Colocasia esculenta*	Araceae	LR	MDF&SEG		HB
153.	*Commelina benghalensis*	Commelinaceae	LR	MDF&SEG		HB
154.	*Commelina erecta*	Commelinaceae	LR	MDF&SEG		HB
155.	*Coprinus sp.*	Coprinaceae	LR	MDF&SEG		OTH
156.	*Corchorus aestuans*	Tiliaceae	LR	MDF		HB
157.	*Cordia obliqua*	Boraginaceae	LR	MDF		TR
158.	*Cordia wallichii*	Boraginaceae	LR	MDF		TR
159.	*Coriandrum sativum*	Apiaceae	LR	CV		HB
160.	*Corypha umbraculifera**	Arecaceae	VUL	MDF		TR
161.	*Coscinium fenestratum*	Menispermaceae	EN	SEG		LN
162.	*Costus speciosus*	Zingiberaceae	LR	MDF&SEG		HB
163.	*Crataeva magna*	Capparaceae	CD	MDF&SEG		TR
164.	*Crotalaria pallida*	Fabaceae	LR	MDF&PL		HB
165.	*Cryptolepis buchananii*	Asclepiadaceae	LR	MDF&DDF		CL
166.	*Cucumella silentvalleyii**	Cucurbitaceae	CD	SEG&EG		CL
167.	*Cucumis prophetarum*	Cucurbitaceae	LR	MDF		CL
168.	*Cucumis sativus*	Cucurbitaceae	LR	CV		CL
169.	*Cucurbita maxima*	Cucurbitaceae	LR	CV		CL
170.	*Cullenia exarillata**	Culliniaceae	LR	EG		TR
171.	*Cuminum cyminum*	Apiaceae	LR	CV		HB
172.	*Curculigo orchioides*	Hypoxidaceae	LR	MDF		HB
173.	*Curcuma aromatica*	Zingiberaceae	CD	MDF&SEG		HB
174.	*Curcuma longa*	Zingiberaceae	LR	CV		HB
175.	*Curcuma neilgherrensis**	Zingiberaceae	CD	MDF		HB
176.	*Curcuma zedoaria*	Zingiberaceae	LR	MDF		HB
177.	*Cycas circinalis**	Cycadaceae	CD	MDF		TR
178.	*Cyclea peltata*	Menispermaceae	LR	MDF		CL
179.	*Cymbidium aloifolium*	Orchidaceae	LR	MDF&SEG	EPI	HB
180.	*Cymbopogon flexuosus*	Poaceae	LR	MDF		HB
181.	*Cymbopogon martinii*	Poaceae	LR	MDF		HB
182.	*Cynodon dactylon*	Poaceae	LR	MDF&PL		HB
183.	*Cyperus rotundus*	Cyperaceae	LR	MDF&PL		HB
184.	*Dalbergia horrida**	Fabaceae	VUL	MDF&SEG		LN
185.	*Dalbergia lanceolaria ssp. lanceolaria;*	Fabaceae	LR	MDF		TR
186.	*Dalbergia latifolia*	Fabaceae	LR	MDF		TR
187.	*Dalbergia sissoides*	Fabaceae	LR	MDF		TR
188.	*Dalbergia volubilis*	Fabaceae	LR	MDF		TR
189.	*Datura metel*	Solanaceae	LR	MDF&PL		HB

Sl.No	Botanical name	Family	Conservation status	Habitat	Micro habitat	Habit
190.	*Davallia bullata*	Davalliaceae	CD	EG&SHOLA	EPI	HB
191.	*Decalepis hamiltonii**	Asclepiadaceae	VUL	MDF&DDF		CL
192.	*Dendrocalamus strictus*	Poaceae	LR	MDF&DDF		TR
193.	*Dendrocnide sinuata*	Urticaceae	LR	EG		TR
194.	*Desmodium gangeticum*	Fabaceae	CD	MDF		HB
195.	*Desmodium laxiflorum*	Fabaceae	LR	MDF		HB
196.	*Desmodium triflorum*	Fabaceae	LR	MDF		HB
197.	*Didymocarpus tomentosa*	Gesneriaceae	LR	MDF		HB
198.	*Digera muricata*	Amaranthaceae	CD	MDF&DDF		HB
199.	*Dillenia pentagyna*	Dilliniaceae	LR	MDF		TR
200.	*Dioscorea alata*	Dioscoreaceae	LR	CV		CL
201.	*Dioscorea bulbifera*	Dioscoreaceae	CD	MDF		CL
202.	*Dioscorea esculenta*	Dioscoreaceae	LR	CV		CL
203.	*Dioscorea hamiltonii*	Dioscoreaceae	CD	MDF		CL
204.	*Dioscorea hispida*	Dioscoreaceae	CD			CL
205.	*Dioscorea intermedia*	Dioscoreaceae	CD	EG		CL
206.	*Dioscorea oppositifolia*	Dioscoreaceae	CD	MDF&SEG		CL
207.	*Dioscorea pentaphylla*	Dioscoreaceae	CD	MDF&SEG		CL
208.	*Dioscorea sp.*	Dioscoreaceae	CD	MDF&SEG		CL
209.	*Dioscorea spicata*	Dioscoreaceae	CD	SEG&SHOLA		CL
210.	*Dioscorea tomentosa*	Dioscoreaceae	CD	MDF&SEG		CL
211.	*Dioscorea wallichii*	Dioscoreaceae	CD	MDF&SEG		CL
212.	*Diospyros cordifolia*	Ebenaceae	LR	MDF&SEG		TR
213.	*Diplazium esculentum*	Athyriaceae	LR	MDF&SEG		HB
214.	*Diploclisia glaucescens*	Menispermaceae	CD	MDF&SEG		LN
215.	*Diplocyclos palmatus*	Cucurbitaceae	LR	MDF&SEG		CL
216.	*Dolichos trilobus*	Fabaceae	LR	CV		CL
217.	*Dorstenia indica*	Moraceae	CD	MDF&SEG		HB
218.	*Drymaria cordata ssp. diandra*	Caryophyllaceae	LR	MDF&SEG		HB
219.	*Drynaria quercifolia*	Polypodiaceae	LR	MDF	EPI	HB
220.	*Eclipta prostrata*	Asteraceae	LR	MDF&PL		HB
221.	*Elaeagnus conferta*	Elaeagnaceae	LR	SEG&EG	PARA	SB
222.	*Elaeocarpus glandulosus*	Elaeocarpaceae	LR	SEG&EG		TR
223.	*Elaeocarpus tuberculatus*	Elaeocarpaceae	LR	SEG&EG		TR
224.	*Elatostema acuminatum*	Urticaceae	LR	EG		HB
225.	*Elephantopus scaber*	Asteraceae	LR	MDF& PL		HB
226.	*Elettaria cardamomum*	Zingiberaceae	LR	EG&CV		HB
227.	*Eleusine coracana*	Poaceae	LR	CV		HB

Sl.No	Botanical name	Family	Conservation status	Habitat	Micro habitat	Habit
228.	*Eleusine indica*	Poaceae	LR	MDF&PL		HB
229.	*Emilia sonchifolia*	Asteraceae	LR	MDF& PL		HB
230.	*Ensete superbum**	Musaceae	VUL	MDF&SEG		HB
231.	*Entada rheedei*	Fabaceae	LR	MDF&SEG		LN
232.	*Equisetum ramosissimum**	Equisetaceae	CD	MDF&SEG		HB
233.	*Erythrina stricta*	Fabaceae	LR	MDF&SEG		TR
234.	*Erythrina variegata*	Fabaceae	LR	MDF&SEG		TR
235.	*Erythropalum scandens*	Erythropalaceae	LR	MDF&SEG		LN
236.	*Eugenia indica*	Myrtaceae	LR	MDF&SEG		TR
237.	*Euphorbia antiquorum*	Euphorbiaceae	LR	DDF		TR
238.	*Euphorbia hirta*	Euphorbiaceae	LR	MDF& PL		HB
239.	*Euphorbia thymifolia*	Euphorbiaceae	LR	MDF& PL		HB
240.	*Fagraea ceylanica*	Loganiaceae	CD	SEG&EG	EPI	SB
241.	*Ficus benghalensis*	Moraceae	LR	MDF&SEG		TR
242.	*Ficus drupacea var. pubescens*	Moraceae	LR	MDF&SEG		TR
243.	*Ficus exasperata*	Moraceae	LR	MDF&SEG		TR
244.	*Ficus hispida*	Moraceae	LR	MDF&SEG		TR
245.	*Ficus racemosa*	Moraceae	LR	MDF&SEG		TR
246.	*Ficus religiosa*	Moraceae	LR	MDF&SEG		TR
247.	*Ficus tinctoria G. Forst. ssp. parasitica*	Moraceae	LR	MDF&SEG		TR
248.	*Flacourtia montana*	Flacourtiaceae	LR	MDF&SEG		TR
249.	*Frullania squarrosa*	Jubulaceae	CD	MDF&SEG		TR
250.	*Ganoderma lucidum*	Ganodermataceae	CD	MDF&SEG		OTH
251.	*Garcinia gummi-gutta*	Clusiaceae	LR	EG&SHOLA		TR
252.	*Gardenia resinifera*	Rubiaceae	CD	SEG&EG		TR
253.	*Gaultheria fragrantissima*	Ericaceae	CD	SHOLA		SB
254.	*Givotia moluccana*	Euphorbiaceae	LR	MDF&SEG		TR
255.	*Gliricidia sepium*	Fabaceae	LR	CV		TR
256.	*Gloriosa superba*	Liliaceae	CD	MDF		HB
257.	*Glycosmis pentaphylla*	Rutaceae	LR	MDF		SB
258.	*Gmelina arborea*	Verbenaceae	LR	MDF		TR
259.	*Gnetum edule*	Gnetaceae	CD	SEG&EG		LN
260.	*Gnidia glauca*	Thymeliaceae	LR	EG&SHOLA		SB
261.	*Gossypium barbadense*	Malvaceae	LR	CV		HB
262.	*Grewia glabra*	Tiliaceae	LR	MDF		TR
263.	*Grewia tiliifolia*	Tiliaceae	LR	MDF		TR
264.	*Gymnema sylvestre*	Asclepiadaceae	CD	MDF&DDF		CL
265.	*Gynandropsis gynandra*	Capparaceae	LR	MDF		HB

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266.	*Haldina cordifolia*	Rubiaceae	LR	MDF		TR
267.	*Harpullia arborea*	Sapindaceae	LR	MDF&SEG		TR
268.	*Hedychium coronarium*	Zingiberaceae	CD	MDF&SEG		HB
269.	*Hedyotis corymbosa*	Rubiaceae	LR	MDF&PL		HB
270.	*Helicanthes elastica*	Oranthaceae	LR	MDF&SEG	PARA	HB
271.	*Helicteres isora*	Sterculiaceae	LR	MDF&SEG		SB
272.	*Helixanthera intermedia*	Loranthaceae	LR	MDF&SEG	PARA	HB
273.	*Hemidesmus indicus*	Asclepiadaceae	LR	MDF&SEG	PARA	CL
274.	*Heracleum candolleanum**	Apiaceae	VUL	EG&SHOLA		HB
275.	*Hibiscus rosa-sinensis*	Malvaceae	LR	CV		SB
276.	*Hibiscus surattensis*	Malvaceae	LR	MDF&SEG		HB
277.	*Holarrhena pubescens*	Apocynaceae	LR	MDF		TR
278.	*Holigarna arnottiana*	Anacardiaceae	CD	MDF&SEG		TR
279.	*Holoptelea integrifolia*	Ulmaceae	LR	MDF&DDF		TR
280.	*Holostemma ada-kodien*	Asclepiadaceae	CD	MDF		CL
281.	*Homonoia riparia*	Euphorbiaceae	LR	MDF&SEG		SB
282.	*Hopea ponga**	Dipterocarpaceae	CD	MDF&SEG		TR
283.	*Huperzia phlegmaria*	Lycopodiaceae	CD	SEG&EG		HB
284.	*Hydnocarpus alpina*	Flacourtiaceae	LR	SEG&EG		TR
285.	*Hydnocarpus pentandra**	Flacourtiaceae	CD	MDF&SEG		TR
286.	*Hygrophila schulli*	Acanthaceae	LR	PL		HB
287.	*Hypotrachyna crenata*	Parmeliaceae	CD	MDF&SEG		OTH
288.	*Hyptis suaveolens*	Lamiaceae	LR	MDF&SEG		HB
289.	*Imperata cylindrica*	Poaceae	CD			HB
290.	*Ipomoea alba*	Convolvulaceae	CD	MDF		CL
291.	*Ipomoea aquatica*	Convolvulaceae	LR	PL		CL
292.	*Ipomoea deccana*	Convolvulaceae	CD	MDF		CL
293.	*Ipomoea carnea ssp. fistulosa*	Convolvulaceae	CD	MDF		CL
294.	*Ixora coccinea*	Rubiaceae	LR	MDF&SEG		SB
295.	*Jasminum multiflorum*	Oleaceae	LR	MDF&SEG		SB
296.	*Jatropha curcas*	Euphorbiaceae	LR	MDF		TR
297.	*Justicia adhatoda*	Acanthaceae	LR	CV		SB
298.	*Justicia gendarussa*	Acanthaceae	LR	CV		SB
299.	*Kalanchoe laciniata*	Crassulaceae	LR	CV		HB
300.	*Kaempferia galanga*	Zingiberaceae	LR	CV		HB
301.	*Kydia calycina*	Malvaceae	CD	MDF&SEG		HB
302.	*Lablab purpureus*	Fabaceae	LR	CV		CL
303.	*Lagenaria siceraria*	Cucurbitaceae	LR	CV		CL
304.	*Lagerstroemia microcarpa*	Lythraceae	LR	MDF		TR

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305.	*Lantana camara var. aculeata*	Verbenaceae	LR	MDF		SB
306.	*Laportea interrupta*	Urticaceae	LR	MDF&PL		HB
307.	*Lawsonia inermis*	Lythraceae	LR	CV		SB
308.	*Leea indica*	Vitaceae	LR	MDF&SEG		SB
309.	*Lentinus squarrosulus*	Lentinaceae	CD	MDF&SEG		OTH
310.	*Lepianthes umbellata*	Piperaceae	CD	MDF&SEG		HB
311.	*Leptogium cyanescens*	Collemataceae	CD	SEG&EG		OTH
312.	*Leucas aspera*	Lamiaceae	LR	MDF&PL		HB
313.	*Leucas indica*	Lamiaceae	LR	MDF&PL		HB
314.	*Lobelia dichotoma*	Companulaceae	LR	MDF		HB
315.	*Lobelia nicotianifolia var. trichandra*	Companulaceae	LR	MDF&SEG		HB
316.	*Ludwigia peruviana*	Onagraceae	LR	MDF&SEG		SB
317.	*Luffa acutangula*	Cucurbitaceae	LR	MDF		CL
318.	*Luffa acutangula var. amara*	Cucurbitaceae	LR	CV		CL
319.	*Luffa cylindrica*	Cucurbitaceae	LR	MDF		CL
320.	*Lycoperdon sp.*	Lycoperdaceae	CD	MDF&SEG		OTH
321.	*Lycopersicon esculentum*	Solanaceae	LR	CV		HB
322.	*Lygodium flexuosum*	Schizaeceae	CD	MDF&SEG		CL
323.	*Macaranga peltata*	Euphorbiaceae	LR	MDF&SEG		TR
324.	*Mecardonia procumbens*	Scrophulariaceae	CD	MDF&SEG		HB
325.	*Madhuca indica*	Sapotaceae	CD	MDF&SEG		TR
326.	*Maesa indica*	Myrsinaceae	LR			SB
327.	*Mallotus philippensis*	Euphorbiaceae	LR	MDF&SEG		TR
328.	*328. Mallotus tetracoccus*	Euphorbiaceae	LR	MDF&SEG		TR
329.	*Mangifera indica*	Anacardiaceae	LR	MDF&SEG		TR
330.	*Manihot esculenta*	Euphorbiaceae	LR	CV		SB
331.	*Marsilea minuta*	Marseliaceae	LR	MDF&SEG		HB
332.	*Martynia annua*	Pedaliaceae	LR	MDF&PL		HB
333.	*Mastixia arborea. ssp. meziana*	Cornaceae	CD	MDF&SEG		TR
334.	*Melia dubia*	Meliaceae	LR	MDF&SEG		TR
335.	*Merremia umbellata*	Convolvulaceae	LR	MDF		CL
336.	*Mesua ferrea*	Clusiaceae	CD	SEG&EG		TR
337.	*Mesua thwaitesii*	Clusiaceae	CD	SEG&EG		TR
338.	*Mimosa pudica*	Fabaceae	LR	MDF&PL		HB
339.	*Mimusops elengi*	Sapaotaceae	LR	MDF&SEG		TR
340.	*Mitragyna parvifolia*	Rubiceae	LR			TR
341.	*Mollugo pentaphylla*	Molluginaceae	LR	MDF&PL		HB
342.	*Momordica charantia*	Cucurbitaceae	LR	CV		CL

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343.	*Momordica dioica*	Cucurbitaceae	CD	MDF&SEG		CL
344.	*Moringa pterygosperma*	Moringaceae	LR	CV		TR
345.	*Mucuna pruriens*	Fabaceae	CD	MDF&SEG		CL
346.	*Mukia maderaspatana*	Cucurbitaceae	LR	MDF&SEG		CL
347.	*Murdannia semiteres*	Commelinaceae	LR	MDF&PL		HB
348.	*Murraya paniculata*	Rutaceae	LR	MDF		SB
349.	*Musa paradisiaca*	Musaceae	LR	CV		HB
350.	*Musa rosacea*	Musaceae	CD	SEG&EG		HB
351.	*Mussaenda belilla*	Rubiaceae	CD	MDF&SEG		SB
352.	*Myristica beddomei*	Myristicaceae	LR	SEG&EG		TR
353.	*Myristica fragrans*	Myristicaceae	LR	CV		TR
354.	*Naravelia zeylanica*	Ranunculaceae	LR	MDF		CL
355.	*Naringi crenulata*	Rutaceae	LR	MDF		TR
356.	*Nelumbo nucifera*	Nelumbonaceae	CD	PL		HB
357.	*Neolamarckia cadamba*	Rubiaceae	CD	MDF&SEG		TR
358.	*Nervilia plicata*	Orchidaceae	CD	MDF&SEG		HB
359.	*Nicandra physalodes*	Solanaceae	LR	CV		HB
360.	*Nicotiana tabacum*	Solanaceae	LR	CV		HB
361.	*Nymphaea pubescens*	Nymphaeaceae	CD	PL		HB
362.	*Oberonia brunoniana*	Orchidaceae	CD	MDF&SEG	EPI	HB
363.	*Ochlandra scriptoria**	Poaceae	LR	MDF&SEG		SB
364.	*Ochlandra setigera**	Poaceae	LR	MDF&SEG		SB
365.	*Ochlandra travancorica**	Poaceae	LR	MDF&SEG		SB
366.	*Ocimum basilicum*	Lamiaceae	LR	CV		HB
367.	*Ocimum gratissimum*	Lamiaceae	LR	MDF		HB
368.	*Ocimum tenuiiflorum*	Lamiaceae	LR	CV		HB
369.	*Opuntia stricta var. dillenii*	Cactaceae	LR	DDF		SB
370.	*Oroxylum indicum*	Bignoniacea	CD	MDF&SEG		TR
371.	*Oryza meyeriana subsp. granulate*	Poaceae	CD	MDF&SEG		HB
372.	*Oryza sativa*	Poaceae	LR	CV		HB
373.	*Oxalis corniculata*	Oxalidaceae	LR	MDF&PL		HB
374.	*Oxytenanthera bourdillonii**	Poaceae	VUL	MDF&SEG		TR
375.	*Oxytenanthera monadelpha*	Poaceae	CD	SEG&EG		SB
376.	*Palaquium ellipticum**	Sapotaceae	LR	SEG&EG		TR
377.	*Pandanus thwaitesii*	Pandanaceae	CD	MDF&SEG		TR
378.	*Panicum sumatrense*	Poaceae	LR	CV		HB
379.	*Parahemionitis cordata*	Hemionitidaceae	CD	MDF&SEG		HB
380.	*Parmotrema grayanum*	Parmeliaceae	CD	MDF&SEG		OTH
381.	*Parmotrema reticulatum*	Parmeliaceae	CD	MDF&SEG		OTH

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382.	*Parmotrema tinctorum*	Parmeliaceae	CD	MDF&SEG		OTH
383.	*Pavetta tomentosa*	Rubiaceae	LR	MDF&SEG		SB
384.	*Pennisetum hohenackeri*	Poaceae	CD	MDF&PL		SB
385.	*Pennisetum polystachyon*	Poaceae	LR	MDF&PL		SB
386.	*Peperomia portulacoides*	Piperaceae	CD	SEG&EG		HB
387.	*Pergularia daemia*	Asclepiadaceae	LR	MDF		CL
388.	*Persea macrantha*	Luaraceae	LR	MDF&SEG		TR
389.	*Persicaria chinensis*	Polygonaceae	LR	MDF&SEG		TR
390.	*Peziza sp.*	Pezizaceae	LR	MDF&SEG		OTH
391.	*Phoenix loureirii*	Arecaceae	CD	MDF&SEG		SB
392.	*Pholidota imbricata*	Orchidaceae	LR	MDF&SEG	EPI	HB
393.	*Phyllanthus amarus*	Euphorbiaceae	LR	MDF&PL		HB
394.	*Phyllanthus emblica*	Euphorbiaceae	LR	MDF&SEG		TR
395.	*Phyllanthus reticulatus*	Euphorbiaceae	LR	MDF		SB
396.	*Physalis angulata*	Solanaceae	LR	MDF&PL		HB
397.	*Physalis peruviana*	Solanaceae	LR	MDF&PL		HB
398.	*Pimpinella heyneana*	Apiaceae	CD	SEG		HB
399.	*Pinanga dicksonii**	Arecaceae	VUL	SEG&EG		TR
400.	*Piper betle*	Piperaceae	LR	CV		CL
401.	*Piper longum*	Piperaceae	LR	MDF&SEG		CL
402.	*Piper mullesua*	Piperaceae	CD	SEG&EG		CL
403.	*Piper nigrum*	Piperaceae	LR	SEG&EG		CL
404.	*Pithecellobium dulce*	Fabaceae	LR	MDF		TR
405.	*Pittosporum neelgherrense**	Pittosporaceae	CD	EG&SHOLA		TR
406.	*Plantago erosa*	Plantaginaceae	CD	MDF&SEG		HB
407.	*Pleurotus flabellatus*	Lentinaceae	CD	MDF&SEG		OTH
408.	*Pleurotus sp.*	Lentinaceae	CD	MDF&SEG		OTH
409.	*Pleurotus sp.*	Lentinaceae	CD	MDF&SEG		OTH
410.	*Pleurotus sp.*	Lentinaceae	CD	MDF&SEG		OTH
411.	*Pleurotus sp.*	Lentinaceae	CD	MDF&SEG		OTH
412.	*Pleurotus tuberreginum*	Lentinaceae	CD	MDF&SEG		OTH
413.	*Plumbago indica*	Plumbaginaceae	LR	CV		HB
414.	*Plumbago zeylanica*	Plumbaginaceae	LR	MDF&SEG		SB
415.	*Pogostemon paniculatus*	Lamiaceae	CD	MDF&SEG		HB
416.	*Polyalthia coffeoides*	Annonaceae	LR	MDF&SEG		TR
417.	*Polyalthia fragrans*	Annonaceae	LR	MDF&SEG		TR
418.	*Polycarpaea corymbosa*	Caryophyllaceae	LR	MDF		HB
419.	*Polygala persicariifolia*	Polygalaceae	LR	MDF		HB
420.	*Polypleurum dichotomum*	Podostemaceae	CD	SEG		HB

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421.	*Pongamia pinnata*	Fabaceae	LR	MDF&SEG		TR
422.	*Porpax reticulata*	Orchidaceae	CD	MDF&SEG	EPI	HB
423.	*Portulaca oleracea*	Portulacaceae	LR	MDF&PL		HB
424.	*Pothos scandens*	Araceae	LR	MDF&SEG		CL
425.	*Pouzolzia zeylanica*	Urticaceae	LR	MDF&SEG		HB
426.	*Protasparagus racemosus*	Liliaceae	CD	MDF&SEG		CL
427.	*Prunus ceylanica*	Rosaceae	CD	MDF&SEG		TR
428.	*Pseudarthria viscida**	Fabaceae	CD	MDF&SEG		HB
429.	*Psidium guajava*	Myrtaceae	LR	CV		TR
430.	*Pteris pellucida*	Pteridaceae	CD	MDF&SEG		HB
431.	*Pterocarpus marsupium*	Fabaceae	LR	MDF		TR
432.	*Pterocarpus santalinus*	Fabaceae	CD	MDF		TR
433.	*Pueraria tuberosa*	Fabaceae	CD	MDF&SEG		CL
434.	*Punica granatum*	Punicaceae	LR	CV		SB
435.	*Pyrrosia lanceolata*	Polypodiaceae	CD	MDF&SEG		HB
436.	*Radermachera xylocarpa*	Bignoniaceae	LR	MDF		TR
437.	*Ramalina celastri*	Ramalinaceae	CD	SEG&EG		OTH
438.	*Rhaphidophora pertusa*	Araceae	LR	MDF&SEG		CL
439.	*Rauvolfia serpentina*	Apocynaceae	EN	MDF		HB
440.	*Remusatia vivipara*	Araceae	LR	SEG&EG	EPI	HB
441.	*Ricinus communis*	Euphorbiaceae	LR	CV		SB
442.	*Rotula aquatica*	Boraginaceae	CD	SEG&EG		SB
443.	*Rubia cordifolia*	Rubaiaceae	LR	SEG&EG		CL
444.	*Rubus glomeratus*	Rosaceae	CD	SEG&EG		SB
445.	*Rubus indicus*	Rosaceae	CD	SEG&EG		SB
446.	*Salix tetrasperma*	Saliccaceae	CD	MDF&SEG		TR
447.	*Sansevieria roxburghiana*	Liliaceae	LR	CV		HB
448.	*Santalum album*	Santalaceae	CD	DDF&MDF		TR
449.	*Sapindus trifoliata*	Sapindaceae	LR	MDF		TR
450.	*Sauropus androgynus*	Euphorbiaceae	LR	CV		SB
451.	*Sauropus quadrangularis*	Euphorbiaceae	LR	MDF		SB
452.	*Schefflera venulosa*	Araliaceae	CD	SEG&EG	EPI	SB
453.	*Schleichera oleosa*	Sapindaceae	LR	MDF&SEG		TR
454.	*Scilla hyacinthina*	Liliaceae	CD	MDF		HB
455.	*Scolopia crenata*	Flacourtiaceae	CD	MDF		TR
456.	*Scoparia dulcis*	Scrophulariaceae	LR	MDF&PL		HB
457.	*Selaginella delicatula*	Selaginellacaeae	LR	MDF		HB
458.	*Selaginella involvens*	Selaginellacaeae	LR	EG &SEG	EPI	HB
459.	*Semecarpus anacardium*	Anacardiaceae	LR	MDF		TR

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460.	*Senna alata*	Fabaceae	LR	MDF&PL		HB
461.	*Senna auriculata*	Fabaceae	LR	MDF&PL		HB
462.	*Senna tora*	Fabaceae	LR	MDF&PL		HB
463.	*Senna occidentalis*	Fabaceae	LR	MDF&PL		HB
464.	*Sesbania grandiflora*	Fabaceae	LR	CV		TR
465.	*Setaria italica*	Poaceae	LR	CV		HB
466.	*Sorghum bicolor*	Poaceae	LR	CV		HB
467.	*Schumannianthus virgatus*	Marantaceae	LR	EG &SEG		SB
468.	*Sida cordifolia*	Malvaceae	LR	MDF&PL		HB
469.	*Sida rhombifolia*	Malavaceae	LR	MDF&PL		HB
470.	*Solanum americanum*	Solanaceae	LR	MDF&PL		HB
471.	*Solanum torvum*	Solanaceae	LR	MDF&PL		HB
472.	*Solanum viarum*	Solanaceae	LR	MDF&PL		HB
473.	*Solanum virginianum*	Solanaceae	LR	MDF&PL		HB
474.	*Spatholobus parviflorus*	Fabaceae	LR	MDF		LN
475.	*Sphaeranthus indicus*	Asteraceae	LR	PL		HB
476.	*Spilanthes clava*	Asteraceae	LR	MDF&PL		HB
477.	*Spirogyra sp.*	Zygnemaceae	LR	MDF&PL		OTH
478.	*Sterculia foetida*	Sterculiaceae	LR	MDF&SEG		TR
479.	*Sterculia guttata*	Sterculiaceae	LR	MDF&SEG		TR
480.	*Sterculia urens*	Sterculiaceae	LR	MDF&SEG		TR
481.	*Sterculia villosa*	Sterculiaceae	LR	MDF&SEG		TR
482.	*Stereospermum colais*	Bignoniaceae	LR	MDF&SEG		TR
483.	*Streblus asper*	Moraceae	LR	MDF&SEG		TR
484.	*Striga angustifolia*	Scrophulariaceae	CD	MDF&SEG		HB
485.	*Strobilanthes sp.*	Acanthaceae	CD	EG &SEG		SB
486.	*Strychnos nux-vomica*	Loganiaceae	LR	MDF		TR
487.	*Symplocos cochinchinensis ssp. Laurina*	Symplocaceae	LR	MDF&SEG		TR
488.	*Syzygium caryophyllatum*	Myrtaceae	LR	MDF&SEG		TR
489.	*Syzygium cumini*	Myrtaceae	LR	MDF&SEG		TR
490.	*Syzygium densiflorum**	Myrtaceae	VUL	MDF&SEG		TR
491.	*Syzygium mundagam*	Myrtaceae	LR	MDF&SEG		TR
492.	*Tabernaemontana divaricata*	Apocynaceae	LR	CV		SB
493.	*Tabernaemontana heyneana**	Apocynaceae	LR	MDF&SEG		TR
494.	*Tamarindus indica*	Fabaceae	LR	CV		TR
495.	*Tamilnadia uliginosa*	Rubiaceae	CD	MDF&SEG		TR
496.	*Tarenna asiatica*	Rubiaceae	LR	MDF&DDF		SB
497.	*Targionia hypophylla*	Targioniaceae	CD	MDF&SEG		OTH

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498.	*Tectaria coadunata*	Dryopteridaceae	CD	MDF&SEG		HB
499.	*Tectona grandis*	Verbenaceae	LR	MDF&DDF		TR
500.	*Teinostachyum wightii**	Poaceae	CD	SEG		SB
501.	*Terminalia bellirica*	Combretaceae	LR	MDF		TR
502.	*Terminalia elliptica*	Combretaceae	LR	MDF		TR
503.	*Terminalia paniculata*	Combretaceae	LR	MDF		TR
504.	*Terminalia travancorensis**	Combretaceae	CD	MDF&SEG		TR
505.	*Termitomyces clypeatus*	Pluteaceae	LR	MDF		OTH
506.	*Termitomyces eurrhizus*	Pluteaceae	LR	MDF		OTH
507.	*Termitomyces heimii*	Pluteaceae	LR	MDF		OTH
508.	*Termitomyces microcarpus*	Pluteaceae	LR	MDF		OTH
509.	*Tetrastigma nilagiricum*	Vitaceae	LR	MDF		LN
510.	*Tephrosia purpurea*	Fabaceae	LR	MDF		HB
511.	*Thespesia lampas*	Malvaceae	LR	MDF		SB
512.	*Thevetia peruviana*	Apocynaceae	LR	CV		SB
513.	*Thottea siliquosa*	Aristolochiaceae	CD	SEG&EG		HB
514.	*Thunbergia fragrans*	Acanthaceae	CD	MDF		CL
515.	*Tinospora cordifolia*	Menispermaceae	LR	MDF&SEG		CL
516.	*Tinospora sinensis*	Menispermaceae	LR	MDF&SEG		CL
517.	*Toddalia asiatica*	Rutaceae	LR	MDF&SEG		LN
518.	*Tragia involucrata*	Euphorbiaceae	LR	MDF&SEG		CL
519.	*Trema orientalis*	Ulmaceae	LR	PL		HB
520.	*Trianthema portulacastrum*	Aizoaceae	LR	MDF&SEG		TR
521.	*Tribulus terrestris*	Zygophyllaceae	LR	MDF&DDF		HB
522.	*Trichodesma indicum*	Boraginaceae	LR	MDF		HB
523.	*Trichodesma zeylanicum*	Boraginaceae	LR	MDF		HB
524.	*Tridax procumbens*	Asteraceae	LR	MDF&PL		HB
525.	*Trigonella foenum-graecum*	Fabaceae	LR	CV		HB
526.	*Triumfetta pilosa*	Tiliaceae	LR	MDF		HB
527.	*Triumfetta rhomboidea*	Tiliaceae	LR	MDF		HB
528.	*Urena lobata*	Malvaceae	LR	MDF		HB
529.	*Usnea nepalensis*	Usneaceae	CD	SEG&EG		OTH
530.	*Usnea nilgirica**	Usneaceae	CD	SEG&EG		OTH
531.	*Usnea picta*	Usneaceae	CD	SEG&EG		OTH
532.	*Usnea subchalybaea*	Usneaceae	CD	SEG&EG		OTH
533.	*Usnea subfloridana*	Usneaceae	CD	SEG&EG		OTH
534.	*Utleria salicifolia**	Asclepiadaceae	EN	MDF&SEG		SB
535.	*Vaccinium neilgherrense**	Vacciniaceae	CD	SEG&EG		TR
536.	*Vanda tessellata*	Orchidaceae	CD	MDF&SEG	EPI	HB

Sl.No	Botanical name	Family	Conservation status	Habitat	Micro habitat	Habit
537.	*Vanda thwaitesii*	Orchidaceae	CD	MDF&SEG	EPI	HB
538.	*Vateria indica**	Dipterocarpaceae	CD	SEG&EG		TR
539.	*Vernonia anthelmintica*	Asteraceae	LR	CV		HB
540.	*Vernonia cinerea*	Asteraceae	LR	MDF&PL		HB
541.	*Vetiveria zizanioides*	Poaceae	LR	CV		HB
542.	*Vigna mungo*	Fabaceae	LR	CV		HB
543.	*Vigna radiata*	Fabaceae	LR	CV		HB
544.	*Vigna unguiculata*	Fabaceae	LR	CV		HB
545.	*Viscum orientale*	Viscaceae	CD	MDF&SEG	PARA	HB
546.	*Vitex negundo*	Verbenaceae	LR	MDF&SEG		TR
547.	*Volvariella volvaceae*	Pluteaceae	LR	PL		OTH
548.	*Wattakaka volubilis*	Asclepiadaceae	LR	MDF&SEG		CL
549.	*Wrightia tinctoria*	Apocynaceae	LR	MDF&DDF		TR
550.	*Xylia xylocarpa*	Fabaceae	LR	MDF		TR
551.	*Zanthoxylum rhetsa*	Rutaceae	LR	MDF		TR
552.	*Zea mays*	Poaceae	LR	CV		HB
553.	*Zehneria scabra*	Cucurbitaceae	LR	MDF&SEG		HB
554.	*Zeylanidium lichenoides*	Podostemaceae	CD	MDF&SEG		HB
555.	*Zingiber neesanum*	Zingiberaceae	CD	MDF&SEG		HB
556.	*Zingiber officinale*	Zingiberaceae	LR	CV		HB
557.	*Zingiber zerumbet*	Zingiberaceae	CD	MDF&SEG		HB
558.	*Zizyphus mauritiana*	Rhamnaceae	LR	MDF&SEG		TR
559.	*Zizyphus oenoplia*	Rhamnaceae	LR	MDF&SEG		TR
560.	*Zizyphus rugosa*	Rhamnaceae	LR	MDF&SEG		TR

CL: Climbers ; **CD:** Conservation dependent; **CV:** Cultivated; **DDF:** Dry deciduous forest; **EN**: Endangered; **EPI** : Epiphytes; **EG** : Evergreen forest; **HB:** Herbs; **LN:** Lianas ; **LR:** Lower risk; **MDF**: Moist deciduous forest **SHOLA** : Montane wet temperate forests; **OTH**: Others(Algae, Fungi, Lichens and Bryophytes); **PL** : Planes and paddy fields; **SEG:** Semi Evergreen; **SH** : Shrubs **TR:** Trees; **V:** Vulnerable; * indicates endemic plants.

Appendix 19. Credibility rating for ethnobotanical information

Category	Rating	Hypothetical example
Collector uses or directly observed use	1	Dr. Smith saw these *Orbignya* cohune leaves being used as thatch in Belize
Informant uses or directly observed use	2	Maya healer, Don Elijio, told Dr. Smith he uses these *Piper* amalago roots for snakebite.
Informant heard/knew from a further source	3	Ethnographer on the Sioux reservation heard that the Sioux used the Aster for menstruation problems.
Use reported from the literature	4	As for the IEB teaching collection, where uses will be gathered from the literature and summarized on the use label
Common knowledge	5	As, for example, a collection of a cultivar of coffee from a coffee plantation with a reported use as a stimulant beverage.
Credibility of use information unknown	6	New field botanist neglected to write down any information about his informant.

(Based on Balick, M. J. 1996)

Appendix 20. Vital ethnic plants with maximum uses among the tribal groups

Sl. No.	Botanical name	Family	Cumulative uses	Uses
1.	*Bambusa bambos*	Poaceae	143	Food, medicine, fodder, stupefying agent, beliefs and material culture,
2.	*Curcuma longa*	Zingiberaceae	63	Food, medicine, magico-religious and beliefs
3.	*Ensete superbum*	Musaceae	41	Food, Medicine, plates and decoration
4.	*Cocos nucifera*	Arecaceae	37	Food, medicine and material culture
5.	*Mangifera indica*	Anacardiaceae	36	Food, medicine and religious rituals
6.	*Ficus racemosa*	Moraceae	35	Food, fodder, medicine, fiber and beliefs
7.	*Caryota urens*	Arecaceae	33	Food, fiber, fish stupefaction and material culture
8.	*Cycas circinalis*	Cycadaceae	31	Food, medicine and fish stupefaction
9.	*Artocarpus heterophyllus*	Moraceae	29	Food, fodder, medicine and beliefs
10.	*Azadirachta indica*	Meliaceae	27	Medicine, repellents worships and beliefs
11.	*Pterocarpus marsupium*	Fabaceae	25	Medicine, artifact
12.	*Sapindus trifoliata*	Sapindaceae	25	Medicine, stupefying agent repellant and soap
13.	*Grewia tiliiifolia*	Tiliaceae	24	Food, Medicine, Fiber, shampoo,
14.	*Naravelia zeylanica*	Ranunculaceae	24	Medicine
15.	*Tamarindus indica*	Fabaceae	24	Food, medicine

Appendix 21. Food plants* newly recorded during the present study

Sl No	Botanical name	Vernacular name	Family	Part used	Tribal group used
1.	*Acacia pennata*	Seenkaidag	Fabaceae	Leaves	Kurumbars, Mudugars
2.	*Calamus gamblei*	Chooral	Arecaceae	Fruits	Irular, Kurumbar, Mudugars
3.	*Christella parasitica*	Pattisuruli	Thelypteridaceae	Leaves	Mudugars
4.	*Coprinus sp.*	Coprinaceae	Coprinaceae	Pileus	Kurumbars
5.	*Corchorus aestuans*	Ilippukaidagu	Tiliaceae	Leaves	Irular, Kurumbar, Mudugars
6.	*Cucumella silentvalleyii*	Pillan kovai	Cucurbitaceae	Fruits	Mudugars
7.	*Cullinia exarillata*	Karani	Culliniaceae	Seeds	Kadars, Malamalasars
8.	*Dolichos trilobus*	Kattavarai	Fabaceae	Pod	Malasars
9.	*Lobelia dichotoma*	Mankeerai			
10.	*Maesa indica*	Mirimpuli	Myrsinaceae	Fruits	Kurumbars
11.	*Nicandra physaloides*	Doramottai	Solanaceae	Fruits	Mudugars
12.	*Oxytenanthera bourdillonii*	Kamen	Poaceae	New shoots	Kadars
13.	*Peziza sp.*	Ennampay, Apiampay	Pezizaceae	Fruiting body	Kurumbars
14.	*Pleurotus sp.*	Marayampe	Plutiaceae	Fruiting body	Kurumbars
15.	*Pleurotus sp.*	Marayampe	Plutiaceae	Fruiting body	Kurumbars
16.	*Zehneria scabra*	Sialappiri	Cucurbitaceae	Leaves	Mudugars

(*The plants that are not recorded as food plants in the relevant literature like, CSIR, 1948-1992; Jain, 1991; Arora and Pandey, 1996).

Appendix 22. Newly recorded* medicinal plants from the study area

Sl No.	Botanical name	Vernacular name	Family	Disease cured	Part used	Tribal groups
1.	*Aeschynanthus perottottii*	Maraminji	Gesneraiaceae	Bruise due to hitting objects	Whole plant	Kurumbars
2.	*Arundinaria wightiana*	Cholamoongal	Poaceae	Wound healing , body pain	Young shoots, peeling of culm	Kurumbars
3.	*Bulbophyllum sterile*	Pollathandu	Orchidaceae	Burns and wound haeling	Whole plant	Malamalasars
4.	*Calophyllum polyanthum*	Malampunna	Clusiaceae	Scabies	Bark	Malamalasars
5.	*Canoparmelia pustulensces*	Vellapulli	Parmeliaceae	Scurf, scabies& itches	Whole plant	Mudugars
6.	*Coelogyne nervosa*	Kodikaya	Orchidaceae	Inflammation on scrotal sac	Whole plant	Mudugars
7.	*Coccocarpia erythroxyli*	Karimbulli	Coccocarpiaceae	Skin disease	Whole plant	Mudugars
8.	*Frullania squarrosa*	Marapasam	Jubulaceae	Hair lies and hair nourishment	Whole plant	Mudugars
9.	*Helixanthera intermedia*	Ottamarottu	Loranthaceae	Scabies and itches	Whole plant	Mudugars
10.	*Huperzia phlegmaria*	Marajadai	Lycopodiaceae	Pediculosis and hair nourishment	Whole plant	Mudugars
11.	*Hyphotrachena crenata*	Marapasam	Parmeliaceae	Skin infection,old wound & boils	Whole plant	Mudugars
12.	*Ipomoea alba*	Pakante	Convolvulaceae	Skin disease, cleaning agent	Whole plant	Mudugars
13.	*Ipomoea deccana*	Mooval kodi	Convolvulaceae	Furuncles	Leaves	Malasars
14.	*Leptogium cyanescens*	Karimpsam	Collemataceae	Scurf, scabies& itches	Whole plant	Mudugars
15.	*Mecardonia procumbens*	Manjapoochedi	Scrophulariaceae	Leucorrhea	Whole plant	Malasars
16.	*Murdannia semiteres*	Vellathandanpullu	Commelinaceae	Inflammation	Whole plant	Eravallans
17.	*Nervilia plicata*	Nilathamara	Orchidaceae	Itches	Rhizomes	Mudugars
18.	*Nicandra physaloides*	Doramottai	Solanaceae	Mother care	Fruits	Mudugars
19.	*Oberonia brunoniana*	Marayola	Orchidaceae	Ear ache	Whole plant	Malamalasars
20.	*Oryza meyeriana*	Kattunellu	Poaceae	Smoothening delivery	Seeds	Muthuvans

Sl No.	Botanical name	Vernacular name	Family	Disease cured	Part used	Tribal groups
21.	*Oxytenanthera monadelpha*	Vallimoongil	Poaceae	Rheumatism, Joint pain, wound healing	Young shoots, rhizome, culm peeling	Kurumbars
22.	*Parmotrema grayanum*	Kalpasam	Parmeliaceae	Skin infection	Whole plant	Mudugars
23.	*Parmotrema reticulatum*	Kannavettu panna	Parmeliaceae	Skin disease	Whole plant	Muthuvans
24.	*Parmotrema tinctorum*	Perim kannavettu panna	Parmeliaceae	Skin disease	Whole plant	Muthuvans
25.	*Peperomia portulaccoides*	Kalthamarai	Piperaceae	Scabies and itches	Whole plant	Mudugars
26.	*Pleurotus sp.*	Marakkumman	Lentinaceae	Burns and wounds	Pileus	Kadars
27.	*Polycarpea corymbosa*	Parapullu	Caryophyllaceae	Rhuematism	Whole plant	Eravallans
28.	*Polypleurum dichotomum*	Pasaru	Podostemaceae	Epilepsi	Whole plant	Kurumbars
29.	*Porpax reticulata*	Parottu	Orchidaceae	Scabies and abcess	Whole plant	Kurumbars
30.	*Prunus ceylanica*	Narakengamaram	Rosaceae	Piels	Bark	Muthuvans
31.	*Ramalina celastri*	Marapanna	Ramalinaceae	Inflammation	Whole plant	Muthuvans
32.	*Schefflera venulosa*	Malaimaruly	Araliaceae	Ring worm in livestock	Tender leaves and bark	Mudugars
33.	*Spirogyra sp.*	Pachapsaru	Zygnemataceae	Skin infection	Thallus	Mudugars
34.	*Targionia hypophylla*	Kallusinna	Targionaceae	Scbies and ithes	Whole plant	Irulars
35.	*Terminalia travancorensis*	Kattu kaukka	Combretaceae	Head ache	Seeds	Malamalasars
36.	*Usnea nepalensis*	Marajadapanna	Usneaceae	Wound healing	Whole plant	Muthuvans
37.	*Usnea nilgirica*	Marajadapanna	Usneaceae	Wound healing	Whole plant	Muthuvans
38.	*Usnea picta*	Marajadapanna	Usneaceae	Wound healing	Whole plant	Muthuvans
39.	*Usnea subchaybaea*	Maraganji	Usneaceae	Hair lies and nourishment	Whole plant	Mudugars
40.	*Usnea subfloridana*	Marajadapanna	Usneaceae	Wound healing	Whole plant	Muthuvans
41.	*Zeylanidium lichenoides*	Parapacha	Podostemaceae	Scabies and itches	Whole plant	Malamalasars

(*The plants that are earlier not reported as medicinal plants in relevant literature like CSIR, 1948-1992; Jain, 1991; Jain& Srivastava, 1999; Warrier *et al*, 1994; Parotta, 2001 and selected URLs on medicinal plants)