CHAPTER 5

THE MEDICINAL PLANTS
OF THE MUTHUVANS
INTRODUCTION

After food, man's interest among plants was for medicine. Among them he sought the remedies for his injuries and ailments. All over the world, vast knowledge about the medicinal plants has been accumulated with the tribes. The knowledge about these plants exists as verbal information and is closely guarded as secrets within the respective communities. So only a small fraction is available to science. Till recently, people healed themselves with traditional medicine, which in many cases, by trial and error proved efficacious. In the recent past, one could notice a global trend in the revival of the traditional systems of medicines. The indigenous therapeutic system of India—Ayurveda—originated as a result of the observations and use of herbs by our indigenous people and experiences of scientifically minded Sages still remain unique with least side effects. Diverse ethnic groups and large number of plants with medicinal value make our country a treasure house of ethnomedical knowledge. The tribe living in the Western Ghats of Kerala use a number of medicinal plants for their ailments. But the crisis is that their knowledge is fast vanishing due to the infiltration of modern medicine and civilization. So there is an urgent need for its documentation. This chapter deals with the plants used by the Muthuvan tribe of Devikulam Taluk of Idukki District for medicinal purpose.

5.1 REVIEW OF LITERATURE

A number of studies have taken place throughout the world about the plants used by indigenous ethnic people for medicinal purpose. Possibly the great economic potential of Ethnobotany lies in the area of folk medicine. Annual worldwide sales of plant-derived pharmaceuticals currently total over $20 billion and a great many of these drugs were first discovered by traditional healers in folk contexts (Fransworth, 1988). Plants used in traditional medicine were also screened towards the benefit of modern medicine. The forests of tropical America have yielded scopolamine, cocaine, quinine and d-tubocurarine. An impressive 70%
of all plants known to have antitumour properties have been found in the tropical forest (Myers, 1983). Medicinal Ethnobotany of the Karnali Zone, Nepal, was studied by Bhattarai (1992). The study recorded the traditional Phytotherapy of the area with information on 62 plant species. Tamangs, one of the ethnic tribe of Nepal has a good association with plant resources. Manandhar (1991) studied the medicinal plants of Tamang tribe of Kabhrepalanchok District, Nepal, and reported 95 plant species used for the treatment of various ailments. Alam (1992) studied the medical ethnobotany of the Marmar tribe of Bangladesh and reported 90 plant species used against various ailments. Abbas et al. (1992) studied the herbal plants in the traditional medicine of Bahrain. Out of 52 species collected, 20 are indigenous and are being used in traditional herbal remedies for numerous afflictions. Thripathi (2000) recorded the valuable traditional practices of tribal areas of Rajasthan. Sweet Flag, Acorus calamus of Araceae, indigenous to India, spread throughout the world along trade routes is known for its medicinal values. Its ethnobotany was studied by Motley (1994).

Macrae et al. (1988) studied the pharmacological activity of some of the Amazonian Euphorbiaceae. Heinrich (2000) studied the role of Ethnobotany in drug development. The paper summarizes the result of various projects on Mexican-Indian ethnobotany and some of the subsequent pharmacological and phytochemical studies. Subramonium et al. (1999) reported the inhibition of antigen-induced degranulation of sensitized mast cells by Trichopus zeylanicus in mice and rat. Trichopus is considered as the gin-sang of the Kani tribe of Kerala. Siwakoti & Siwakoti (1999) studied the ethnomedicinal use of plants among the Saur tribe of Nepal and reported the use of 122 plant species belonging to 114 genera as medicine. Medicinal plants of Terai of Nepal was reported by Siwakoti and Varma (1996). This study enumerates 212 plant species used for medicinal purpose by native people of the area. Manandar (1996) in his study reports the folklore of 42 species of plants used traditionally for oral health care in Nepal. Singh and Kaushal (1999) made detailed study on Ethnotherapeutics of some medicinal plants used as antipyretic agents among the tribal people of India. Folk use of medicinal herbs of Maryalla hills National Park Islamabad, Pakistan was studied by Sinwari and Khan (2000). Folk and traditional medicinal practices
among the Nepalese settled in Assam was studied by Sharma (1999). Rahman (1999) has recorded some of the Ethno-medico-botanical knowledge among the tribes of Bangladesh. Afifi and Abu (2000) interviewed more than 100 herbalists throughout Jordan and evaluated the attitude of herbalists and medicinal herbs sold by them. Garg (2000) studied more than 100 plants belonging to 36 families used as antidote to snakebite by the rural and tribal people of different parts of India. Lev and Amar (2000) conducted ethnopharmacological survey of traditional drugs sold in Israel at the end of the 20th century. Out of the 310 medicinal materials identified, 264 were plant species and there existed a well-developed trade in these materials.

An ethnobotanical survey was carried out in the West Bank in Palestine by Alishtayeh et al. (2000) to evaluate the relative efficacy of the plants used to treat skin disease and prostrate cancer. 59 plants were claimed to be effective against cancer and prostrate disorders. Begum and Nath (2000) made an ethnobotanical review of medicinal plants used for skin diseases and related problems in North India. Out of the 275 plants examined, 224 have been used for treatment of specific human ailments such as allergies, burns, cuts and wounds, inflammations, leprosy, leucoderma, scabies, small pox and sexually transmitted diseases. Dam et al. (2000) studied the ethnomedical practices in the Thar Desert of Rajasthan. They reported a disease-wise preference for the use of ethnomedicine and more than 90% of the investigated 338 households of 11 villages are found satisfied with the use of ethnomedicine.

Dutta and Dutta (2001) recorded the Medico-ethnobotanical value of 83 plant species belonging to 76 genera used by Northeast tribes and ethnic communities settled in the Barak Valley, Assam. Rajan et al. (2001) recorded the ethnomedical use of the stem and bark of 24 flowering plants from 16 families by Irula and Paniya tribes of Nilgiri District, Tamil Nadu. Hosagoudar and Henry (1996a) studied the ethnobotany of Soligas in Rangana Betta, Mysore district of Karnataka. The study has brought to light several plants of ethnomedical significance. Bhandary et al. (1996) studied the ethnobotany of Gowris of Uthrankanta district, Karnataka and reported the ethnomedical use of 41 plant species. Gogoi (2004) reviewed 500 plants used as herbal remedies for various liver disorders with botanical name of the plant and active principles involved.
Latramghinglova (2001) presents the state-of-the-art of ethnomedicine and the plant resources in Mizoram. Out of the 400 medicinal plants reported so far from Mizoram, more than 200 plants are enumerated with parts used in combination, ethnoveterinary plants, threatened plants and new medicinal plants recorded from Mizoram. Medicinal use of 10 species of *Andrographis* among the Kadar, Malayali, Irula, Toda, Kota, Gouba, Badaga and Kurumba tribes of Tamilnadu was reported by Alagesaboopathi and Balu (1999). The scope and benefits of ethnomedicine, its historical background and present status were reviewed by Khare (1999). Mohanty and Rout (1999) reported the use of *Careya arborea* Roxb. for safe abortion of unwanted pregnancy among the tribes and rural people of Orissa. After an ethnobotanical study among the Kondh and Bhumias tribe of Koraput, Srivastava (1994) revealed the use of 25 plant species for the management of gynaecological problems. Vedavathy et al. (1995) reported the use of 35 plant species by the tribe and villagers in Chittoor District of Andhra Pradesh for birth control, ante and post partum services. Nath et al. (1997) reported 14 plants used by the women from the rural areas of Lucknow and Farrukhabad for inducing abortion. Merzouki et al. (2000) reported the use of *Cannabis sativa* along with other herbs for inducing abortion. The ethnobotany of *Cannabis sativa* in Kumaon region of Uttar Pradesh was studied and reported by Shah (1997). The tribes and traditional birth attendants of Ranchi District use twenty plants for gynaecological complaints. they have been enlisted with their botanical, common and family names (Topno, 1999). Zamir (2004) reports 17 plants used as herbal remedies for treatment of gynaecological morbidity in India.

Rama Rao et al. (1999) reported 32 plants and animal based crude drugs used in the traditional health care system among the tribes of Godavari valley and Nallamalais of Andhra Pradesh. Gosh and Maiti (1996) estimated that some 20 species of mammals have been proved as vital source of tribal medicine and about 21 diseases are known to be cured with the help of animal drugs. Joseph (1988, 1989) reports the role of ethnozoology in the tribal welfare of Madhya Pradesh and Orissa and ethnozoology of reptiles in relation to healthcare among the tribes in Madhya Pradesh.
Natarajan et al. (2000) compared the traditional knowledge of local women of Banjar Taluk of Kulu District, Himachal Pradesh with modern biological science. The information from scientific literature has been included in order to explain and justify the traditional medicinal use. Seetharam et al. (1999) studied the folk medicine and ethnomedicine of North Eastern Karnataka. Fifty-three plant species, all in crude form used for the treatment of various disorders like jaundice, fracture, fever and dysentery are described. Amirthalingam (2000) reported the ethnomedicinal and environmental significance of Indian butter tree, Madhuca sp., during his study of sacred groves of Tamilnadu. Ethno botanical studies among the Kondh of Koraput, Orissa, Srivastava and Rout (1998) recorded 18 plant species specifically prescribed for children by the local herbalist. Tribedi et al. (1998) recorded more than 100 medicinal plants from the Sunderbans, West Bengal and 43 of them are reported to be unknown or less known as medicinal plants. Santhal tribes of West Bengal use several flowers for medicinal purpose. Banerjee (1996) reported 24 plant species whose flowers are used as medicine by Santhals. Mathew et al. (1998) reported that out of 236 species of Pteridophytes of Kerala, many appear to have antiseptic, anti diarrhoeal, antifungus, antiviral and antipoisonous properties. They provided information about useful plants, method of preparation of crude drug and mode of treatment using ten Pteridophytes by the tribal people. Ethnomedicine practiced by the Malayan tribe of the Pocchi forest, Kerala was documented by Miniraj and Nybe (1998). They found that the majority of plants are used for skin disorders and rheumatism. Vijayan et al. (2003) made a study on anti fungal activity of Allium Sativum, Cleome viscosa and Pepper bettle. Phytochemicals of 32 plants used in different traditional systems of medicine was reported by Jayachandran (2004).

A comparative ethno botanical study between India and Latin America by Jain and Sikarwar (1999) has shown that about 600 plants are common to India and Latin America and of these, 300 are used as medicine by the folk of both the regions. A comparative analysis shows that 23 plants used among the Latin American tribal communities as contraceptive, abortifacient etc. do not seem to be prevalent among the tribal communities of India. Nayar et al. (1999) studied the psychoactive property of Rotula aquatica, used by the Kani tribe of
Kerala. It is used in many Ayurvedic preparations. Folklore medicinal claim of 44 plant species used by *Nicobarese* aboriginals were recorded by Dager and Dager (1996). Sixteen plants possessing both medicinal and sacred value are reported by Upadhye et al. (1997) during their medico-ethnobotanical survey in Western Maharashtra.

Folk veterinary medicinal practices in the Morababad district, Uttar Pradesh, have been recorded by Ali (1999). Based on the ethnobotanical survey of the area, 45 plant species belonging to 43 genera and 27 families used as folk drugs for treatment of domestic animals were enlisted. Chandra 2000 provided information about the common ethno-veterinary plants used in the country. Reddy and Raju (2000) studied the folklore biomedicine for the common veterinary disease in Nalgonda district in Andhra Pradesh and reported the use of 66 plant species involved in the crude drug preparation. Twenty-six plants used for ethnoveterinary medicine by *Kolli Malayalis* of Kolli hills of Tamilnadu was reported by Getha et al. (1996 a).

Jain (1995) studied the tattooing therapy among *Sahariya* tribes of Central India and reported the plants involved in making tattoo marks and staining. It had been observed that tattooing is generally done to get rid of body pain. The ethnobotanical diversity and use of *Zingiber* in India as spice and medicine was reported by Jain (1995). Mathew et al. (1994) collected and recorded 22 plant species used by the tribes of Wayanad, Malappuram and Palghat Districts of Kerala against ailments showing symptoms similar to those of cancer. Sasidharan (1994) reported the use of 75 medicinal plants from Attapadi Valley of Wayanad district of Kerala. The tribal groups studied were *Kurumba, Muduga* and *Irulas*. Medicinal plants used among the *Irulas* of Attapadi, Wayanad district and Boulvampetty forests in Nilgiri Biosphere reserve was reported by Balasubramanian and Prasad (1996). Sixty-three species used by *Irulas* with recipes are enumerated. Ethnobotany of the *Kanikkars* of South Tamilnadu was studied and reported by Prasad et al. (1996). The study enumerates 56 plants associated with the life of *Kanikkars* in various aspects like Medicine, food, shelter and artifacts.

The ethnic communities of the trans-Himalayan region in Jammu and Kashmir State use 22 plant species as traditional remedies against Asthma. This is observed by Singh
Almas and Al-Lafi (1995) reported 10 natural toothbrushes, their botanical sources, and discussed the properties and use of these plants in dental and oral health. Singh (1994) reported 11 plants used as remedies for worm infestation from Kashmir, Himalaya. People were found to use leaf extracts of seven, seed decoction of two and root extracts of two plants. Nautiyal et al. (2001) documented the indigenous knowledge systems of three sub-sects of Bhottiyas, viz., Tolchhas, Marchhas and Jadhas residing in Niti-Mana and Bhagirathi Valleys of Garhwal, Himalaya. They use 220 plant species, out of which 80% are for medicinal and aromatic purposes. Rajan et al. (2001) collected medico-ethnobotanical information from Paniya tribe of Tamil Nadu, settled around Gudalur Taluk. They have reported 21 medicinal plants and their therapeutic values. Detoxification techniques applied by the traditional physicians of Kerala on ten toxic herbal drugs to purify it, was studied and reported by Shanavaskhan et al. (1997). Less known 17 ethnomedicinal plant species traditionally used by the tribal communities of Kerala for various ailments and the need for their conservation was reported by Radhakrishnan et al. (1996). *Uleria salicifolia*, a monotypic species endemic to South Western Ghats and its Ethnobotanical significance were briefly reported by Radhakrishnan et al. (1998). Johncy et al. (2004) reported some of the single remedies and combination drugs used by *Muthuvan* tribes of Kerala.

5.2 OBSERVATIONS

*Muthuvans* use several plants, plant products, animal products, and inert materials for medicinal purpose. The observations recorded during the present investigation are given below.

5.2.1 SINGLE REMEDIES OF THE MUTHUVAN

The *Muthuvans* of Devikulam Taluk use a number of plants as single remedies for the treatment of various diseases/disorders. The botanical name of the plants, family, local name, uses and recipes are listed. Plants used in the single remedies of the *Muthuvans* are compared with the use of the same plants according to Indian Pharmacology (Dravya Guna
Sastra – Ayurveda) from Bhava Praksh Nighantu (Chunekar, 1999) and Indian Medicinal Plants (Kirthikar and Basu, 1987). The indications obtained are also included.

1) *Acacia concina* DC. (Fig-113)
   i. Family Mimosaceae.
   ii. Local name: Pulinch, Chevakayi.
   iii. Use and recipe: To control *Tharan* (Dandruff), applied on head as a shampoo. Pod with fruit is powdered and used instead of soap.
   iv. Ayurvedic indications: Is used in *Kushta* (Skin disorders including Leprosy) *Vrina* (external ulceration)

2) *Acacia intsia* W&A. (Fig-111)
   i. Family: Mimosaceae.
   ii. Local name: Incha.
   iii. Use and recipe: Used as a purgative by drinking the ground tender shoot tip diluted in water. For *Chory* (Scabies), bath in the water boiled with shoots.

3) *Achyranthusaspera* L.
   i. Family: Amaranthaceae.
   ii. Local name: Cherukadaladi.
   iii. Use and recipe: To control *Moothram chudiel* (Dysurea), grind in toto, extract the juice in hot water and drink. Mash and drink the extract without dilution against *Pambu visham* (snake poison).

4) *Achyranthus bidentata* Bl. (Fig-89)
   i. Family: Amaranthaceae.
   ii. Local name: Kattucheera.
   iii. Use and recipe: To control *Vatham* (Rheumatism). *Thoram* is prepared with the tender leaves of this plant and eaten.
   iv. Ayurvedic indications: Not available
5) *Acorus calamus* L.
   i. Family: Araceae.
   ii. Local name: Vayambu.
   iii. Use and recipe: To control *Vira* (Worm infestation). Grind the mature rhizome, dilute in water and drink for a week before going to sleep.
   iv. Ayurvedic indications: *Medhya* (Improves memory)

6) *Ageratum conyzoides* L. (Fig-155)
   i. Family: Compositae
   ii. Local name: Kummenjikkala.
   iii. Use and Recipe: Used against *Puzhukady* (Ring worm). The variegated leaves are collected and ground with a pinch of lime and applied on the affected part.
   iv. Ayurvedic indications: Not available.

7) *Allium cepa* L.
   i. Family: Liliaceae.
   ii. Local name: Chuvannully.
   iii. Use and recipe: Used against *Arshus* (piles). After removing the outer sheath make insertions on the bulb and keep in the rectum before going to sleep.

8) *Aloe vera* (L.) Burm.
   i. Family: Liliaceae.
   ii. Local name: Kattarvazha.
   iii. Use and recipe: To stop *Rakthampokku* (bleeding along with motion), sliced leaf boiled in water and taken in. Fresh leaf juice is applied on burns.
   iv. Ayurvedic indications: Hepatoprotective, *Daha* (burns) and skin disorders.

9) *Alstonia venenata* R.Br. (Fig-112)
   i. Family: Apocynaceae.
   ii. Local name: Analivegam, Kuttypala.
   iii. Use and recipe: Used against *Pambuvisham* (snake bite). Take the stem bark and after crushing with stone, grind and apply on the wound and drink the infusion.
iv. Ayurvedic indications: Fruit is tonic. Used in Syphilis, Insanity and Epilepsy.

10) *Andrographis paniculata* Nees.
   i. Family: Acanthaceae.
   ii. Local name: Nilavepu, Kiriath.
   iii. Use and recipe: Decoction in toto given against *Vatham* (Rheumatism) and *jaladhosham* (cold).
   iv. Ayurvedic indications: Used in *Kushta* and *Jwara*.

11) *Aporosa lindleyana* (Wt.) Baill. (Fig-103)
   i. Family: Euphorbiaceae.
   ii. Local name: Vetty.
   iii. Use and recipe: For *Manjapitham* (Jaundice), root bark is boiled in water and the resulting decoction given for 30 days to clear the urine.

12) *Argyria speciosa* Sweet.
   i. Family: Convolvulaceae.
   ii. Local name: Samudhrapacha, Kashappankayu.
   iii. Use and recipe: Chew and eat the mature seeds to cure *Moolakuru* (Piles).

13) *Aristolochia indica* L.
   i. Family: Aristolochiaceae.
   ii. Local name: Garudakodi.
   iii. Use and recipe: To control *Nenchuvedana* (Chest pain), extract the stem and leaf, prepare juice and drink. Mash the root and inhale it to cure *Jaladhosham* (Cold).
   iv. Ayurvedic indications: Strongest *Garbhashya Sankochaka* (uterine contractive), *Jwara* (fever) and *Visha* (against poison).
14) *Aerva lanata* Jes.
   i. Family: Amaranthaceae.
   ii. Local name: Cheruvula, Poolekkala.
   iii. Use and recipe: Used against *Moothramchudeel* (Dysurea). Decoction in toto is taken thrice a day.

15) *Asparagus racemosus* Willd.
   i. Family: Liliaceae.
   ii. Local name: Sathaveri.
   iii. Use and recipe: Used against *Puzhukady* (Ring worm) and prickly heat. Grind the tender stem and leaves and paste on the affected part.
   iv. Ayurvedic indications: Used as *Stanya janana* (Galactogogue) and *Moothra janana* (diuretic).

16) *Asystasia gangetica* T. And.
   i. Family: Acanthaceae.
   ii. Local name: Nayuruvi.
   iii. Use and recipe: Used against *Sandhivedana* (Joint pain). Mashed in toto and applied on the joints.

17) *Azadirachta indica* A. Jessu.
   i. Family: Meliaceae.
   ii. Local name: Veppu.
   iii. Use and recipe: Against *Theepollal* (Burns), mash the leaves, pack in a cloth and use as poultice. Seed oil applied for *Chettupunnu* or *Valamkady* (Farmers foot).
   iv. Ayurvedic indications: Used against *Kushta* (skin diseases including leprosy), *Krimi* and *Visha*.
18) *Bambusa arundinacea* Wild.
   i. Family: Poaceae.
   ii. Local name: Illy, Moongi.
   iii. Use and recipe: To control *Churna* (Cough), drink the water found in the hollow pseudostem. Boil the tender shoot tip in water and drink it to control pin worm.
   iv. Ayurvedic indications: Used in *Kasa* (cough), *Kshaya* (Tuberculosis) and *Jwara* (fever).

19) *Biophytum sensitivum* DC. (Fig-115)
   i. Family: Oxalidaceae.
   ii. Local name: Mukkutty.
   iii. Use and recipe: Used in *prasavam* (Delivery), *murivu* (cuts and wounds) and against *Visham* (poison). Ground in toto the paste is applied on the belly as well as the decoction in toto is given to drink for quick and painless delivery. Ground stems, leaves and flowers is applied on cuts and wounds. Ground in toto and applied externally against snake poison.
   iv. Ayurvedic indications: Used as Anthelmentic.

20) *Bombax ceiba* L.
   i. Family: Malvaceae.
   ii. Local name: Elavu.
   iii. Use and recipe: To control *Vayarukadi* (Diarrhoea), boil the fresh gum exuding from the stem with water and little common salt, cool, filter and drink.

21) *Boerhaavia difusa* L.
   i. Family: Nyctaginaceae.
   ii. Local name: Thazhuthama.
   iii. Use and recipe: Mature leaves and roots pasted and applied on swellings caused by bruise.
   iv. Ayurvedic indications: *Moothra janana* (Diuretic) and against *Ashmari* (Urinary calculi).
22) *Bridelia retusa* Spr.
   i. Family: Euphorbiaceae.
   ii. Local name: Mulluvenga.
   iii. Use and recipe: Bark decoction given to ladies before delivery to avoid complications.

23) *Bulbophyllum neilgherrense* W. (Fig-114)
   i. Family: Orchidaceae.
   ii. Local name: Kattathalli.
   iii. Use and recipe: The smashed bulb is applied over the wound or site where thorn or wood piece is pierced. This in turn will help to release the thorn or wooden piece blocked inside.
   iv. Ayurvedic indications: Not available.

24) *Caesalpinia mimosoides* Lam.
   i. Family: Caesalpiniaceae.
   ii. Local name: Koomullu, Theemullu.
   iii. Use and recipe: Used against *Valivu* (Wheezeing). The tender shoot tips are ground and extracted in luke warm water and taken for 15 days.
   iv. Ayurvedic indications: Not available.

25) *Calotropis gigantea* (R.) Br. (Fig-121)
   i. Family: Asclepiadaceae.
   ii. Local name: Erukku, Erukkolayan
   iii. Use and recipe: Latex from the stems and leaves given in small quantities for *Payee* (Hydrophobia) following mad dog bite. Patients with *Vatham* (Rheumatism) are allowed to sleep on a coat spread with its wilted leaves. Ground the roots and applied on body part with *Neeru* (Oedema).
26) *Cardiospermum halicacabum* L.
   i. Family: Sapindaceae.
   ii. Local name: Uzhinja.
   iii. Use and recipe: Used against *Tharan* (Dandruff). Grind the leaves and use as *Thali* (shampoo). Boil the stem and leaves and drink the decoction to get relief from *Malabandham* (Constipation).

27) *Carica papaya* L.
   i. Family: Caricaceae.
   ii. Local name: Pappaya.
   iii. Use and recipe: Latex is applied on the body part affected with *puzhukkady* (Ring worm).
   iv. Ayurvedic indications: Used as *Pachana* (improves digestion), *Youvana pidaka* (pimples).

28) *Celtis cinnamomea* Lindl.
   i. Family: Ulmaceae.
   ii. Local name: Poothiunarthi.
   iii. Use and recipe: The wood ground with water is applied on forehead for relief from *Thalavedana* (Headache).
   iv. Ayurvedic indications: Not available

29) *Centella asiatica* Urb.
   i. Family: Apiaceae.
   ii. Local name: Kudavan, Vattathupuluwetti.
   iii. Use and recipe: For *Neeru* (Oedema) drink the leaf juice and apply the leaf paste on affected part. Leaf paste applied for skin disease like *Chory* (Scabies).
   iv. Ayurvedic indications: Improves *Medhya* (Brain vitilizer), *Sirasoola* (head ache) and skin diseases.
30) *Ceraptotetis thalictroides* (L.) Brongn.

i. Family: Parkeriaceae.

ii. Local name: Thanniadagucheera.

iii. Use and recipe: Boil the leaves in water; extract the juice and drink just before going to bed. It will give relief from *Arshus* (Piles).

iv. Ayurvedic indications: Not available.

31) *Chenopodium ambrosoides* L.

i. Family: Chenopodiaceae.

ii. Local name: Mannanachedi.

iii. Use and recipe: Grind the stems and leaves and apply on the *Chory* (Scabies) and *Puzhukkadi* (Ring worm).

iv. Ayurvedic indications: Used as Anthelmintic and against *Daha* (burning sensation all over the body).

32) *Chromolaena odorata* (L.) King. & Rob.

i. Family: Asteraceae.

ii. Local name: Communistpacha.

iii. Use and recipe: The leaves ground and applied on wounds for speedy healing.

iv. Ayurvedic indications: Used as haemostatic.

33) *Clematis gouriana* Roxb.

i. Family: Ranunculaceae.

ii. Local name: Garudakodi.

iii. Use and recipe: The roots are mashed, heated and inhaled for *Jaladhosham* (Cold).


34) *Clerodendron infortunatum* L. (Fig-151)

i. Family: Verbenaceae.

ii. Local name: Perengatulm.
iii. Use and recipe: Root decoction given for people to control Vayarilakkam (Diarrhoea). Boil the plant in toto and bath in that water to get rid of Vatham (Rheumatism).

iv. Ayurvedic indications: For fever, skin disorder, worms and Vatha.

35) *Colocasia esculenta* (L.) Schott.

i. Family: Aroideae.

ii. Local name: Kattuchembu.

iii. Use and recipe: Cut the petiole and apply the sap on the paravu (Abscess). It will gradually break and pus could be easily removed.

iv. Ayurvedic indications: Used against Hepatomegaly (Liver enlargement), Hemorrhoides (Piles).

36) *Coleus aromaticus* Benth.

i. Family: Lamiaceae.

ii. Local name: Panikoorka.

iii. Use and recipe: Crush the leaves and drink the juice to get relief from Pani (Fever).

iv. Ayurvedic indications: Used against Ajeernam (indigestion), Udara shoola (Abdominal pain) and Jeernakasa (Chronic cough).

37) *Coscinium fenestratum* Colebr.

i. Family: Menispermaceae.

ii. Local name: Manjakkodi, Maramanjal.

iii. Use and recipe: Bark is ground and applied externally for various skin diseases.

iv. Ayurvedic indications: Used in Twak roga (Skin disease) and Nethra roga (Eye disease), Rasanjanum is prepared with this plant.

38) *Costus speciosus* (Koeing) Sm.

i. Family: Zingiberaceae.

ii. Local name: Channakoova.

iii. Use and recipe: Rhizome is ground and applied over the paravu (Abscess). It will give a cooling effect. The abscess may shrink or burst.

39) *Cryptocoryne retropiralis* Kunth. (Fig-116)
   i. Family: Araceae.
   ii. Local name: Perumchoryvalakom.
   iii. Use and recipe: Used against *Kuzhinakam* (whitlow). Make an incision in the rhizome and insert the affected finger.
   iv. Ayurvedic indications: Not available.

40) *Curculigo orchioides* Garten. (Fig-118)
   i. Family: Amaryllidaceae.
   ii. Local name: Nilappana.
   iii. Use and recipe: Root decoction used against *Ushnam* (Venereal Diseases).

Grind in toto and apply for *Ulukku* (Sprain).
   iv. Ayurvedic indications: Used against *Kamala* (jaundice) and *Athisara* (diarrhoea and dysentery).

41) *Curcuma longa* L.
   i. Family: Zingiberaceae.
   ii. Local name: Manjal.
   iii. Use and recipe: Ground rhizome is applied for insect sting. Diluted in water and allowed to drink against insects, scorpion or centipede poisoning.
   iv. Ayurvedic indications: Used against *Kushta, Prameha*, Urinary disorders and *Yakrit vikara* (Liver disorder).

42) *Cyclea peltata* Diels. (Fig-117)
   i. Family: Menispermaceae.
   ii. Local name: Padakizhang, Padathali.
   iii. Use and recipe: Grind the tuber, dilute with water and drink it to control *Vayarukadi* (Diarrhoea).
   iv. Ayurvedic indications: Used against *Jwara and Udara shoola.*
43) *Cymbopogon citratus* Stapf. (Fig-120)
   i. Family: Poaceae.
   ii. Local name: Thylapulu.
   iii. Use and recipe: Leaf oil applied externally against *Meluvedana* (body pain), *Chuma* (cough) and *jaladhosham* (cold).

44) *Cynoglossum furcatum* Wall.
   i. Family: Boraginaceae.
   ii. Local name: Katheruram.
   iii. Use and recipe: Roots are ground and given to ladies immediately after menses against female sterility. Single root will give male child and branched ones female.
   iv. Ayurvedic indications: Not available.

45) *Dictyospermum montanum.* Wt.
   i. Family: Commelinaceae
   ii. Local name: Caynee.
   iii. Use and recipe: Used against the Insect stings. Ground into a paste and the paste is applied on wounds caused by snake, scorpion or centipede sting. It will neutralize the poison.
   iv. Ayurvedic indications: Not available.

46) *Dillinia pentagyna* Roxb.
   i. Family: Dilliniaceae.
   ii. Local name: Pattypunna.
   iii. Use and recipe: Used for sterilizing dogs. The bark is boiled with rice and given to the female dogs for birth control.

47) *Dioscorea wallichii* Hk.f. (Fig-119)
   i. Family: Dioscoreaceae.
   ii. Local name: Vallikizhangu.
iii. Use and recipe: Used against Karppan Chori (a type of Scabies) among children. The mucilage rich tuber is ground and the juice is applied on the affected part.

iv. Ayurvedic indications: Not available.

48) Drymaria cordata Willd. (Fig-154)
   i. Family: Caryophyllaceae.
   ii. Local name: Peenarikala.
   iii. Use and recipe: Applied against Chory (Scabies). Dry the leaves and stems in shade, powder it and apply the nice powder over the scabies.
   iv. Ayurvedic indications: Not available.

49) Elaeocarpus tuberculatus Roxb. (Fig-122)
   i. Family: Elaeocarpaceae
   ii. Local name: Utharasikkay
   iii. Use and recipe: Used against Thalavedhana (Headache). The mature seeds are grated on hard surface with water and applied on the forehead.
   iv. Ayurvedic indications: Not available.

50) Elephantopus scaber L.
   i. Family: Asteraceae.
   ii. Local name: Anachuvady, Anassavadi.
   iii. Use and recipe: Used against poison. Ground in toto and applied on the wound caused by scorpion, centipede and other poisonous insect stings.
   iv. Ayurvedic indications: Used against Jwara and Dysuria (difficulty in urination).

51) Elettaria cardamomum Maton.
   i. Family: Zingiberaceae.
   ii. Local name: Elam, Elakkaa.
   iii. Use and recipe: Used against stomach disorders. Seeds are mashed, extracted in hot water and given for kids. Seeds are extracted in arrack and taken by the adults for stomach disorders.
   iv. Ayurvedic indications: Used against Swasa (breathlessness), Kasa (cough) and Kshaya (tuberculosis).
52) *Emilia sonchifolia* DC.
   i. Family: Asteraceae.
   ii. Local name: Muyalchevian.
   iii. Use and recipe: Used against Conjunctivitis, worms, Oedema and Sprain. Mash the plant in toto, boil, filter, cool and use as an eye drop for *Kannilkedu* (Conjunctivities). Boil the leaves in water and drink the solution. This will control *Krimi* and *Vera* (Worm infestation). Ground the plant in toto and apply the paste on *Neeru* (Oedema). Ground the plant in toto and is applied externally for *Ulukku* (Sprain).
   iv. Ayurvedic indications: Used against night blindness, bowel complaints and eye infections.

53) *Eupatorium adenophorum* Spr. (Fig-123)
   i. Family: Asteraceae
   ii. Local name: Murikuttykala
   iii. Use and recipe: The leaves are ground and applied on wounds for speedy healing.
   iv. Ayurvedic indications : Not available.

54) *Euphorbia hirta* L.
   i. Family: Euphorbiaceae.
   ii. Local name: Palkala, Nilapala.
   iii. Use and recipe: Mash and boil the stems, leaves and fruits in water, filter and drink the decoction to control *Vayarilakkam* (Dysentery).
   iv. Ayurvedic indications: Used against *Krimi* and *Kushta*.

55) *Evolvulus alsinoides* L.
   i. Family: Convolvulaceae.
   ii. Local name: Krishnakaranthi, Vishnukranthi.
   iii. Use and recipe: Ground in toto mixed with rice water and taken in empty stomach to improve memory of ageing people.
56) *Ficus asperima* Roxb.

i. Family: Moraceae.

ii. Local name: Therakam.

iii. Use and recipe: The exudation from the stem cuttings is applied on skin affected with *Puzhukkadi* (Ring worm). Cut the stem and apply the exuding sap on wounds of animals for quick healing. Leaves are given for cows and goats after delivery for release of placenta.


57) *Ficus hispida* L.

i. Family: Moraceae.

ii. Local name: Thondi.

iii. Use and recipe: Used in veterinary medicine. The leaves are given for cows and goats after delivery for release of placenta.


58) *Flemingia strobilifera* R.Br.

i. Family: Papilionaceae

ii. Local name: Orela.

iii. Use and recipe: Decoction is prepared with leaves and inflorescence and taken two times a day for *Karappan Chory* (a type of Scabies).

iv. Ayurvedic indications: Used in Epilepsy and Insomnia.

59) *Girardinia leachenaulltiana* Dene.

i. Family: Urticaceae.

ii. Local name: Anachorian.

iii. Use and recipe: Grind the leaf, stem and root of this plant and apply the paste on the forehead against *Thalavedana* (Head ache).

iv. Ayurvedic indications: Not available.
60) *Glycosmis pentaphylla* Corr.
   
i. Family: Rutaceae.
   
ii. Local name: Pannal.
   
iii. Use and recipe: Leaves used as a bed for patients affected with *Pongan pani* (Chicken pox).
   
iv. Ayurvedic indications: Used against skin disorders.

61) *Grewia tiliaefolia* Vahl.
   
i. Family: Tiliaceae.
   
ii. Local name: Unnam.
   
iii. Use and recipe: Bark juice extracted and given to ladies for easy *Prasavam* (delivery).
   
iv. Ayurvedic indications: Used as *Balya* (Nerve tonic) and against *Astisanthanam* (fracture).

62) *Helicteres isora* L.
   
i. Family: Sterculiaceae.
   
ii. Local name: Edampiri Valampiri.
   
iii. Use and recipe: Fruit decoction for stomach pain. Leaf paste applied on *Murivu* (Wound/cut). Bark juice extracted, filtered and used against *Chevivedana* (Ear pain).
   
iv. Ayurvedic indications: Used against *Kasa* (cough) and *Raktha Vikaras* (blood disorders).

63) *Hemidesmus indicus* R. Br.
   
i. Family: Asclepiadaceae.
   
ii. Local name: Naruneendi, Nannari.
   
iii. Use and recipe: The tuber extracted in water and taken in to control *Vayarukady* (Dysentery).
   
iv. Ayurvedic indications: Used as *Raktha Shodhak* (Blood purifier) and for *Jwara* (fever).
64) Hemionites arifolia (Burm.f) Moore. (Fig-150)
   i. Family: Hemionitidaceae
   ii. Local name: Pattycheviyan, Nayeikkottarasi.
   iii. Use and recipe: Used to remove the Pandu (Scars / Discolouration of skin). Ground in toto and applied on the scars left after healing of burns for getting normal skin colour. Bath in the water boiled with leaves of the plants to restore the normal skin colour after being affected with small pox or chicken pox.
   iv. Ayurvedic indications: Not available.

65) Hydnocarpus alpina Wt. (Fig-124)
   i. Family: Bixaceae.
   ii. Local name: Neerotti.
   iii. Use and recipe: Mature seed is ground and the paste is applied on the wounds caused by Pattykady (Dog bite) for recovery and healing.
   iv. Ayurvedic indications: Not available.

66) Hydnocarpus pentandra (Buch-Ham.) Oken.
   i. Family: Bixaceae.
   ii. Local name: Marotti.
   iii. Use and recipe: Mature seed is ground and the paste is applied on the wounds caused by Pattykady (Dog bite) for recovery and healing.

67) Hydrocotyle javanica Thunb.
   i. Family: Apiaceae.
   ii. Local name: Vaitikala.
   iii. Use and recipe: Ground in toto and applied on Puzhukady (Ring worm) affected portion of the skin.
   iv. Ayurvedic indications: Improves Medhya (Brain vitalizer), against Sirasoola (head ache) and skin diseases.
68) *Ichnocarpus frutescens* R.Br.
   i. Family: Apocynaceae.
   ii. Local name: Palvally.
   iii. Use and recipe: Latex from the stem is collected, mixed with water and is taken in to control *Chuma* (Cough).
   iv. Ayurvedic indications: Used as a blood purifier and against fever.

69) *Impatiens grandis* Heyne.
   i. Family: Geraniaceae.
   ii. Local name: Thanmisthanadan.
   iii. Use and recipe: Drink the juice extracted from the fleshy stems and leaves for 20 days to become fat.
   iv. Ayurvedic indications: Used against Haematuria (urine with blood).

70) *Kalanchoe laciniata* DC. (Fig-126)
   i. Family: Crassulaceae
   ii. Local name: Elamulachy.
   iii. Use and recipe: Smear the leaf and apply the paste on areas affected by *Theepollal* (Burns).
   iv. Ayurvedic indications: Used against Urinary calculi and Dysuria.

71) *Lantana camara* L.
   i. Family: Verbenaceae.
   ii. Local name: Kongani, Kokkumullu.
   iii. Use and recipe: Grind the roots and leaves and apply the paste on the forehead to get rid of *Thalavedana* (Headache).
   iv. Ayurvedic indications: Used as *Vrina ropaka* (Wound healer).

72) *Lepianthes subpeltata* Wild.
   i. Family: Piperaceae.
   ii. Local name: Thoppalotty.
   iii. Use and recipe: The fire wilted leaves are used to push in the large intestine protruding out through rectum *Kudalerakkom* (Rectum Prolapse).
iv. Ayurvedic indications: Not available.

73) *Leucas aspera* Spr.

i. Family: Labiatae.

ii. Local name: Thumba.

iii. Use and recipe: Whole plant is mashed and boiled in water. The decoction is taken in for *Vayarilekkam* (Dysentery).

iv. Ayurvedic indications: Used against fever and skin diseases.

74) *Leucas ciliata* Benth.

i. Family: Labiatae.

ii. Local name: Thumba.

iii. Use and recipe: Whole plant is mashed and boiled in water. The decoction is taken in for *Vayarilekkam* (Dysentery).

iv. Ayurvedic indications: Not available.

75) *Leucas hirta* Spr.

i. Family: Labiatae.

ii. Local name: Ucha pettykala.

iii. Use and recipe: Grind the plant in toto and apply on the bite scar for snake poisoning. Also drink the infusion.

iv. Ayurvedic indications: Not available.

76) *Lycianthes laevis* (Dunal.) Bitter. (Fig-93)

i. Family: Solanaceae.

ii. Local name: Suppadaku Cheera

iii. Use and recipe: Fruits are ground and applied on skin affected with *Vellapandu* (Leucoderma).

iv. Ayurvedic indications: Not available.

77) *Macaranga peltata* M.Arg.

i. Family: Euphorbiaceae.

ii. Local name: Vatta
iii. Use and recipe: The gum exuding from the stem after a cut is applied on wounds for healing.


78) *Mesua ferrea* L. (Fig-128)

i. Family: Guttiferae.

ii. Local name: Nanku.

iii. Use and recipe: Used for skin disease, rheumatism and cracks in feet. Seeds are ground and is applied on the affected part for skin disease and rheumatism.

Flowers are ground and applied against Kaalavindukeeral (cracks in the feet).

iv. Ayurvedic indications: Used as Raktha stambhaka (haemostatic) against Visarpa (herpetic) and Vishahara.

79) *Mimosa pudica* L. (Fig-149)

i. Family: Mimosaceae

ii. Local name: Thottavadi

iii. Use and recipe: Stems and leaves are ground and applied on cuts and wounds. The same is applied on forehead for headache.

iv. Ayurvedic indications: Used against Athisara (diarrhoea) and Rakthapiitha (bleeding disorder).

80) *Molineria trichocarpa* Baker.

i. Family: Amaryllidaceae

ii. Local name: Thenpoovu, Thalavalu.

iii. Use and recipe: Leaf used as Thali (shampoo) for healthy hair.

iv. Ayurvedic indications: Not available.

81) *Momordica dioica* Roxb. (Fig-125)

i. Family: Cucurbitaceae.

ii. Local name: Kattupaaval.

iii. Use and recipe: Used against skin disease. The decoction in toto is given to cure various skin diseases.
iv. Ayurvedic indications: Used against *Visarpa* (Herpis) and *Sarpa damstra* (Snake bite) and *Vandhyatva* (female sterility)

82) *Mukia madraspatana* (L.) Cong.
   i. Family: Cucurbitaceae.
   ii. Local name: Kasappankayyu.
   iii. Use and recipe: Drink the sap inside the fruit for recovery from *Valivu* (Wheezing).

83) *Musa paradisiaca* (L.) Jack. (Fig-107)
   i. Family: Musaceae.
   ii. Local name: Kattuvazha, Pranthanazha.
   iii. Use and recipe: Used against fever, dandruff, cuts & wounds. The person affected with *Pani* (Fever) is bathed in the juice extracted from the pseudo stem and a small quantity is allowed to drink. For *Tharan* (Dandruff) the juice from pseudo stem is extracted after wilting it over fire and is applied on head as a shampoo. Sap from inflorescence tip is applied for *murivu* (cuts and wounds) for early healing.

84) *Musa superba* Roxb. (Fig-127)
   i. Family: Musaceae.
   ii. Local name: Kalluvazha.
   iii. Use and recipe: Used against urinary infection, venereal disease and stomach disorders. The stone (seed) found inside the fruit is crushed and boiled in water and the decoction is drunk for controlling *Moothramchudeel* (Dysurea) and *Ushnam* (Venereal diseases). Also given for stomach disorders.
   iv. Ayurvedic indication: Not available.

85) *Mussuenda frondosa* L. (fig-153)
   i. Family: Rubiaceae.
   ii. Local name: Vellila.
   iii. Use and recipe: Used against eye disease. The flower with white bract is ground and the juice is filtered and used for *Chenkannu* (Conjunctivities).

86) *Naravelia zeylanica* DC.
   
i. Family: Ranunculaceae
   
ii. Local name: Vathakodi.
   
iii. Use and recipe: Used against joint pains. The plant in toto is ground and applied on aching joints.
   
iv. Ayurvedic indication: Used against rheumatism.

87) *Nervilia prainiana* (Kin. & Pant.) Seid. & Smt. (Fig-148)
   
i. Family: Orchidaceae
   
ii. Local name: Orilathamara.
   
iii. Use and recipe: Used for treating cracks in the feet. Leaves and tubers are ground and applied for *Kalu vindukeeral* (Farmer’s foot).
   
iv. Ayurvedic indication: Not available.

88) *Ochlandra travencorica* Gamb. (Fig-129)
   
i. Family: Poaceae
   
ii. Local name: Eeera, Eetta.
   
iii. Use and recipe: The powder scraped from the outer surface of the stem is used for dressing wounds.
   
iv. Ayurvedic indication: Not available.

89) *Ocimum basilicum* L.
   
i. Family: Labiatae.
   
ii. Local name: Ramathulasi.
   
iii. Use and recipe: Boil the leaves and tender stem in water and drink to keep away *Jaladosham* and *Pani* (cold and fever).
   
iv. Ayurvedic indication: Used as antipruritic (itching), and *Krimighne* (anthelmentic).

89) *Ocimum gratissimum* L.
   
i. Family: Labiatae.
   
ii. Local name: Ramathulasi.
iii. Use and recipe: Used against jaladosham (common cold). The leaves and stems are boiled in water and the emerging steam is inhaled.


90) Ocimum sanctum L.

i. Family: Labiatae.

ii. Local name: Thulasi.

iii. Use and recipe: Boil the leaves and tender stem in water and drink frequently as a preventive against Jaladosham and Pani (cold and fever.)

iv. Ayurvedic indication: Used against Kasa, Swasa (breathlessness), Dysuria and skin diseases.

91) Olea dioica Roxb.

i. Family: Oleaceae.

ii. Local name: Edana, Vidana.

iii. Use and recipe: Use against chest pain. Crush the root bark; drink the infusion for Nenjuvedana (Chest pain). Also smear this paste on the chest.

iv. Ayurvedic indication: Used against fever.

92) Ophiopogon intermedius Don.

i. Family: Liliaceae

ii. Local name: Thalavalu

iii. Use and recipe: Used as Thali (Shampoo). The leaf mashed and resulting shampoo is applied on head for one hour before taking bath for healthy hair growth among women.

iv. Ayurvedic indication: Not available.

93) Oxalis corniculata L.

i. Family: Geraniaceae.

ii. Local name: Puliyarila.

iii. Use and recipe: Mash in toto, dilute with water and drink for Vayaruvudana (Stomach Pain) and Arshus (Piles).
iv. Ayurvedic indication: Used against Arshus (Piles) and Athisaram (dysentery).

94) Oxalis dehradunensis Raiz.
   i. Family: Geraniaceae.
   ii. Local name: Puliyarila.
   iii. Use and recipe: Mash in toto, dilute with water and drink for Vayarvedana (Stomach Pain) and Arshus (Piles).
   iv. Ayurvedic indication: Not available.

95) Pancratium triflorum Roxb.
   i. Family: Liliaceae.
   ii. Local name: Kattulli.
   iii. Use and recipe: Used against Aani (Corn or Claws) The cooked bulb is pressed against the foot when it is hot.
   iv. Ayurvedic indication: Not available.

96) Peliosanthes teta Andr.
   i. Family: Liliaceae.
   ii. Local name: Thalavalu.
   iii. Use and recipe: The leaves are ground with water and used as Thali (shampoo) for healthy long hair.
   iv. Ayurvedic indication: Not available.

97) Phyllanthus kozhikodianus Sivar. & Mani. (Fig-138)
   i. Family: Euphorbiaceae.
   ii. Local name: Keezharnalli, Kattukeezhanelli.
   iii. Use and recipe: Decoction in toto for Manjapitham (Jaundice). The paste is applied on body for body pain.
   iv. Ayurvedic indication: Not available.

98) Phyllanthus niruri L.
   i. Family: Euphorbiaceae.
   ii. Local name: Keezhanelli.
iii. Use and recipe: Juice extracted from the whole plant is taken in two times a day for *Manjapitham* (Jaundice).

iv. Ayurvedic indication: Used against Hepato protective, *Vrina ropak* (Wound healer) and *Kshata* (bruise).

99) *Pinanga dicksonii* Bloom.

i. Family: Araceae.

ii. Local name: Kattukamuku.

iii. Use and recipe: Mature dry seeds are powdered, mixed with water and taken to control *Vayarilakkam* (Dysentry).


100) *Piper argyrophyllum* Ham. Ex. Mig. (Fig-134)

i. Family: Piperaceae.

ii. Local name: Kattumulaku, Valmulaku.

iii. Use and recipe: Mature berries ground and applied on forehead for *Thalavedana* (Headache).

iv. Ayurvedic indication: Not available.

101) *Piper betle* L.

i. Family: Piperaceae.

ii. Local name: Vettila.

iii. Use and recipe: Used against cuts and wounds. The leaf petiole is mashed and applied on the cuts and wounds.

iv. Ayurvedic indication: *Deepana* (improves appetite) and *Pachana* (digestive).

102) *Piper longum* L.

i. Family: Piperaceae.

ii. Local name: Thippaly.

iii. Use and recipe: Used against *chuma* (Cough) and *Vayaruvedana* (Stomach ache). The mature spike is eaten raw for control of cough. The spike decoction is taken in for controlling Stomach ache.

103) *Piper mullesua* Ham. Ex. D. Don. (Fig-135)

i. Family: Piperaceae.
ii. Local name: Undathepali.
iii. Use and recipe: The *sambar* (mixed vegetable curry) prepared with a lot of berries is given to pregnant ladies for easy delivery.
iv. Ayurvedic indication: Not available.

104) *Piper nigrum* L.

i. Family: Piperaceae.
ii. Local name: Kurumulaku.
iii. Use and recipe: Chew the dried pungent berries for *Chuma* (Cough).
iv. Ayurvedic indication: *Deepana* (improves appetite) and anthelmintic.

105) *Piper wightii* Miq. (Fig-136)

i. Family: Piperaceae.
ii. Local name: Kattukurumulaku.
iii. Use and recipe: The *sambar* (mixed vegetable curry) prepared with a lot of berries given to pregnant ladies for easy delivery. Serves as a source of income.
iv. Ayurvedic indication: Not available.

106) *Plantago asiatica* L.

i. Family: Plantaginaceae.
ii. Local name: Njeramboori.
iii. Use and recipe: Paste in toto applied to cure deep wounds where even the veins are cut.
iv. Ayurvedic indication: Used as *Rasayana* (Rejuvenator).

107) *Polygonum chinense* L.

i. Family: Polygonaceae.
ii. Local name: Thaundi.
iii. Use and recipe: Mature leaves are ground and the paste diluted in water is taken for controlling *Vayarozhichil* (Dysentery).
iv. Ayurvedic indication: Used as tonic and antiscorbotic.

108) *Pothos scandens* L. (Fig-133)
   
i. Family: Aroidae.
   
ii. Local name: Pulimurali
   
iii. Use and recipe: Used against *Pumpu Visham* (snake poison). Ground stem and leaves are applied on scare and surrounding area caused by snakebite.
   
iv. Ayurvedic indication: Not available.

109) *Pterocarpus marsupium* Roxb.
   
i. Family: Fabaceae.
   
ii. Local name: Venga.
   
iii. Use and recipe: Bark decoction taken for *Chatavu* (Bruise). For chronic bruise, the root bark is cooked with rice and taken two times a day.
   

110) *Remusatia vivipara* Sch.
   
i. Family: Araceae
   
ii. Local name: Thotterchembu.
   
iii. Use and recipe: Used to cure abscess. The rhizome is ground and the paste is applied on abscess.
   
iv. Ayurvedic indication: Not available

111) *Rhyncoglossum notonianum* (Wall.) Burrt.
   
i. Family: Gesneriaceae.
   
ii. Local name: Caynee.
   
iii. Use and recipe: Used against poison. Stems and leaves are ground and applied on the bite scar.
   
iv. Ayurvedic indication: Not available

112) *Ricinus communis* L.
   
i. Family: Euphorbiaceae.
   
ii. Local name: Avanakku.
iii. Use and recipe: Used for abortion. The root extract of the plant is mixed with equal quantity of seed oil and allowed to drink for inducing abortion in early months of pregnancy.

iv. Ayurvedic indication: Used against \textit{Amavata} (Rheumatoid artheritis) and \textit{Udara roga} (Abdominal disorders).

\textbf{113) \textit{Rotula aquatica} Lour. (Fig-139)}

i. Family: Boraginaceae.

ii. Local name: Attuvanchy.

iii. Use and recipe: Decoction in toto for \textit{Muhrahil kallu} (Calculi). The leaf paste is diluted and drunk for controlling menstrual bleeding in women.

iv. Ayurvedic indication: Used against \textit{Ashmati} (urinary calculi).

\textbf{114) \textit{Ruta graveolens} L. (Fig-142)}

i. Family: Rutaceae.

ii. Local name: Aruta, Arvatha.

iii. Use and recipe: Used against poison. The leaves and fruits are ground to a paste and applied on the bite scar.

iv. Ayurvedic indication: Used against \textit{Twak roga} (skin diseases).

\textbf{115) \textit{Santalum album} L.}

i. Family: Santalaceae.

ii. Local name: Chandanam.

iii. Use and recipe: The woody root is ground and the paste mixed with water is taken for controlling \textit{Vayarukadi} (Dysentery).

iv. Ayurvedic indication: Used against \textit{Twak roga} (skin diseases), \textit{Visha} and \textit{Raktha vikaras} (impurity of blood).

\textbf{116) \textit{Sapindus laurifolius} Vahl. (Fig-140)}

i. Family: Sapindaceae.

ii. Local name: Sopenkayi.

iii. Use and recipe: Fruits used as a substitute for soap. It could be used for bathing and cleaning cloths.
iv. Ayurvedic indication: Used as *Vrana ropaka* (wound healer).

117) *Schleichera oleosa* (Lour.) Oken.

i. Family: Sapindaceae.

ii. Local name: Poovam.

iii. Use and recipe: Used for *Prasavam* (Delivery). A decoction from the bark is given for pregnant ladies when the labour pain begins.

iv. Ayurvedic indication: Not available.

118) *Schumannianthus virgatus* Rolfe.

i. Family: Marantaceae.

ii. Local name: Peethal.

iii. Use and recipe: Used for sterility. Roots and stems are ground and the extract mixed with hot water is given to ladies before going to bed.

iv. Ayurvedic indication: Not available.

119) *Selaginella deliceatula* (Desv. ex Poir) Alston.

i. Family: Selaginellaceae.

ii. Local name: Pannal.

iii. Use and recipe: Stems and leaves ground and applied on wounds for quick healing.

iv. Ayurvedic indication: Used against *Raktha pitha* (Purpura) and *Apasmara* (Epilepsy).

120) *Selaginella inaequalifolia* (Hk.&Grev.) Spr.

i. Family: Selaginellaceae.

ii. Local name: Pannal.

iii. Use and recipe: Stems and leaves are ground and applied on *Murivu* (wounds) for quick healing.

iv. Ayurvedic indication: Not available.

121) *Sida acuta* Burm.f.

i. Family: Malvaceae.

ii. Local name: Kurumthotty.
iii. Use and recipe: Leaves and roots are ground together and the paste is applied on the forehead to check headache.

iv. Ayurvedic indication: Used as Nervine tonic.

122) *Solanum anguivi* L.

i. Family: Solanaceae.

ii. Local name: Kashapanchunda.

iii. Use and recipe: Root decoction is used against all types of intestinal worms.

iv. Ayurvedic indication: Not available.

123) *Solanum indicum* L.

i. Family: Solanaceae.

ii. Local name: Putharichunda.

iii. Use and recipe: Mature seeds are eaten to control *Krimi* (Pin worm).

iv. Ayurvedic indication: Used against Kasa and Swasa.

124) *Solanum nigrum* L. (Fig-94)

i. Family: Solanaceae.

ii. Local name: Manithakkali.

iii. Use and recipe: Eat the mature fruits for *Vayilpunnu* (Boils in mouth).

iv. Ayurvedic indication: Used against *Shotha* (inflammation) and *Arshus* (piles).

125) *Solanum torvum* SW.

i. Family: Solanaceae.

ii. Local name: Chunda, Kattuchunda.

iii. Use and recipe: Raw fruits eaten for controlling *Krimi* (Pinworm).

iv. Ayurvedic indication: Used against *Kasa* and *Kushta*.

126) *Solanum xanthocarpum* Sch.& Wendl.

i. Family: Solanaceae.

ii. Local name: Kandakarichunda.

iii. Use and recipe: Root decoction will increase urine production. Crush the fruits, boil in water, gargle the solution; will give relief from *Pallavedana* (Tooth ache).

127) *Spilanthes calva* DC.

i. Family: Asteraceae.

ii. Local name: Palluvedanachedi.

iii. Use and recipe: The inflorescence is kept pressed in between the aching tooths.

iv. Ayurvedic indication: Not available.

128) *Stachytarpheta indica* Vahl.

i. Family: Verbenaceae.

ii. Local name: Elanthari.

iii. Use and recipe: Ground stems and leaves are applied on Chory (Scabies), which are prolonged and difficult to cure.

iv. Ayurvedic indication: Used against Skin diseases.

129) *Strobilanthes heyneanus* Nees.

i. Family: Acanthaceae.

ii. Local name: Karimkurinji

iii. Use and recipe: Decoction in toto given for Vatham (Rheumatism). Leaf paste applied for skin diseases.


130) *Strychnos colubrina* L. (Fig-137)

i. Family: Loganiaceae.

ii. Local name: Vallikanjiram.

iii. Use and recipe: Leaves and roots of young plants are steamed and the vapour is inhaled for Neerkettu (Chest infection) and Cold. Seeds boiled with rice given to the dogs for poisoning.

iv. Ayurvedic indication: Not available

131) *Strychnos nux-vomica* L.

i. Family: Loganiaceae.

ii. Local name: Kanjiram.
iii. Use and recipe: Seeds boiled with rice given to the dogs for poisoning.
iv. Ayurvedic indication: Used against *Vatha*.

132) *Tectona grandis* L.f.

i. Family: Verbenaceae.
ii. Local name: Thekku
iii. Use and recipe: Used against *Chory* (Scabies). The tender stem is roasted in coconut oil till it is dark in colour. It is then ground and applied on the affected portion.
iv. Ayurvedic indication: Used against *Rakthapitha* (bleeding disorders) and as diuretic.

133) *Terminalia crenulata* Roth.

i. Family: Combretaceae.
ii. Local name: Karimaruthu.
iii. Use and recipe: During delivery, if any complication arises, the bark of this plant is collected and the infusion is extracted and given to the expecting woman.
iv. Ayurvedic indication: Not available.

134) *Thottea siliquosa* Lam.

i. Family: Aristolochiaceae.
ii. Local name: Rasantham.
iii. Use and recipe: For *Thalavedana* (Head ache) ground leaf is applied on the forehead. For *Vayaruvedana* (Stomach pain) grind the roots, dilute in water and drink.
iv. Ayurvedic indication: Used against skin disorders and fever.

135) *Tinospora cordifolia* Mears.

i. Family: Menispermacae.
ii. Local name: Amarth, Ediyilkodikodi.
iii. Use and recipe: Used against *Odiiu* (Bone fracture). Grind the stem and apply the mucilaginous paste on the affected part and put the bandage.
iv. Ayurvedic indication: Used as *Rasayana* (rejuvenator), against *Jwara* and *Kamala*. 
136) *Tragia involucrata* L. (Fig-141)

i. Family: Euphorbiaceae.

ii. Local name: Kodithoova, Cherikanam.

iii. Use and recipe: The roots collected, wilted in fire, mashed, and applied for *Palluvedana* (Tooth ache).

iv. Ayurvedic indication: Used against fever and skin disease.

137) *Tribulus terrestris* L.

i. Family: Zygophyllaceae.

ii. Local name: Njerinjil.

iii. Use of recipe: The whole plant decoction is allowed to drink for *Ushnam* (Venerial diseases).

iv. Ayurvedic indication: Used as diuretic and against urinary calculi.

138) *Tridax procumbens* L.

i. Family: Asteraceae.

ii. Local name: Murikuttykala, Odiyanpachila

iii. Use and recipe: Leaf wilted, juice extracted and applied on cuts and wounds.

iv. Ayurvedic indication: Not available.

139) *Trichosanthes cucumerina* L.

i. Family: Cucurbitaceae.

ii. Local name: Kattupadavalam.

iii. Use and recipe: Leaf paste applied on *Paru* (Abscess) will help in quick bursting of the abscess and release of the puss. Root paste applied on forehead will reduce *Thalavedana* (Headache)

iv. Ayurvedic indication: Used against *Jwara* and *Shwitra Kushta* (Leucoderma).

140) *Vanda tessellata* Hk. (Fig-145)

i. Family: Orchidaceae.

ii. Local name: Maravazha.

iii. Use and recipe: Leaves wilted over fire, juice extracted, filtered and used as ear drops to check ear pain.

141) *Vernonia arborea* Ham.

i. Family: Asteraceae.

ii. Local name: Karuna.

iii. Use and recipe: Bark infusion extracted and given for controlling *Vayarilakkam* (Dysentery).

iv. Ayurvedic indication: Not available.

142) *Vitex altissima* L.f.

i. Family: Verbenaceae.

ii. Local name: Mylellu.

iii. Use and recipe: As a galactogogue for lactating mother. Eat rice cooked with its bark. For body pain, bath in water boiled with leaves.


143) *Wrightia tinctoria* (Roxb.) R.Br. (Fig-144)

i. Family: Apocynaceae.

ii. Local name: Danthapala, Vettupala.

iii. Use and recipe: Bark decoction is given for *Pani* (Fever). Bark and leaf decoction taken in against *Vatham* (Rheumatism).

iv. Ayurvedic indication: Used against *Athisara* (dysentery), skin diseases.

144) *Zanthoxylum rhetsa* (Roxb) DC.

i. Family: Rutaceae.

ii. Local name: Mullilem.

iii. Use and recipe: The spine collected from the tree is ground, diluted in water and given to patients with *Vayaril muzha* (tumour in stomach).

iv. Ayurvedic indication: Used against the skin disease, *Dantasoola* (tooth pain), to strengthen the gums.

145) *Zizyphus rugosa* Lam. (Fig-109)

i. Family: Rhamnaceae.
ii. Local name: Kattukottapazham.

iii. Use and recipe: Ground roots are applied on the abdominal portion of the pregnant women for easy delivery.

iv. Ayurvedic indication: Used as Raktha sthampaka (haemostatic) and Udarda prashamane (urticarial rashes).

5.2.2 PLANT COMBINATIONS USED FOR TREATMENT OF VARIOUS ILLNESS AND ITS RECEPIES

The Muthuvans of Devikulam taluk are well aware of the various medicinal plants around them. They use a number of plant combinations for the treatment of various illness. The names of the diseases/disorders and the recipes to cure are given below. Tables show the botanical name, family, local name and the parts used.

1. Apasmaram (Epilepsy)

➢ Prepare a decoction with the mature, crushed fruits of *Elaeocarpus tuberculatus* and sporophyll and rachis of the fern *Pteridium aquilinum*, drink the decoction twice a day for thirty days.

➢ Prepare a decoction by boiling the bark of *Vernonia arborea*, *Hydrocotyle javanica* with a small piece from *Strychnos nux-vomica* seed and drink once in a day for forty-five days.

---

<table>
<thead>
<tr>
<th>Plant Combination</th>
<th>Family</th>
<th>Local Name</th>
<th>Part Used</th>
</tr>
</thead>
<tbody>
<tr>
<td><em>Elaeocarpus tuberculatus</em> Roxb.</td>
<td><strong>Eleocarpaceae</strong></td>
<td>Utharasikai</td>
<td>Seed</td>
</tr>
<tr>
<td><em>Pteridium aquilinum</em> (L.) Kuhn.</td>
<td><strong>Pteridaceae</strong></td>
<td>Edaval</td>
<td>Sporophyll, rachis.</td>
</tr>
<tr>
<td><em>Vernonia arborea</em> Ham.</td>
<td><strong>Asteraceae</strong></td>
<td>Karuna</td>
<td>Bark</td>
</tr>
<tr>
<td><em>Hydrocotyle javanica</em> Thunb.</td>
<td><strong>Umbelliferae</strong></td>
<td>Thuppaluvatty</td>
<td>Whole plant</td>
</tr>
<tr>
<td><em>Strychnos nux-vomica</em> L.</td>
<td><strong>Loganaceae</strong></td>
<td>Kanjaram</td>
<td>Seed</td>
</tr>
</tbody>
</table>
2. *Arshus* (Piles)

➢ Prepare a decoction by boiling the crushed fruits of *Terminalia chebula* and the bark of *Ficus bengalensis* along with a few fruits of *Phyllanthus emblica* and drink before going to bed.

➢ Cook and eat the stem of *Cissus quadrangularis* in a decoction obtained by boiling the stem and leaves of *Ichnocarpus frutescens* and *Ceratopteris thalictroides*. Also drink the decoction.

<table>
<thead>
<tr>
<th>Terminalia chebula Retz.</th>
<th>Combretaceae</th>
<th>Kaducka</th>
<th>Fruit</th>
</tr>
</thead>
<tbody>
<tr>
<td><em>Ficus bengalensis</em> L.</td>
<td>Moraceae</td>
<td>Peral</td>
<td>Bark</td>
</tr>
<tr>
<td><em>Phyllanthus emblica</em> L.</td>
<td>Euphorbiaceae</td>
<td>Nelli</td>
<td>Fruit</td>
</tr>
<tr>
<td><em>Cissus quadrangularis</em> L.</td>
<td>Vitaceae</td>
<td>Kodikalli</td>
<td>Stem</td>
</tr>
<tr>
<td><em>Ichnocarpus frutescens</em> R.Br.</td>
<td>Apocynaceae</td>
<td>Palvally</td>
<td>Stem, leaf</td>
</tr>
<tr>
<td><em>Ceratopteris thalictroides</em> L.Bro.</td>
<td>Parkeriaceae</td>
<td>Thanniyedaku</td>
<td>Sporophyll, rachis</td>
</tr>
</tbody>
</table>

3. *Chory* (Scabies)

➢ Boil the bark and tender stem of *Acacia int sia*, the leaves of *Bidens pilosa* and the roots and leaves of *Cymbopogon cirtratus* and take bath in that water.

<table>
<thead>
<tr>
<th><em>Acacia int sia</em> W&amp;A.</th>
<th>Mimosaceae</th>
<th>Incha</th>
<th>Bark, tender stem</th>
</tr>
</thead>
<tbody>
<tr>
<td><em>Cymbopogon cirtratus</em> Stapf.</td>
<td>Gramineae</td>
<td>Thylapullu</td>
<td>Roots, leaves</td>
</tr>
<tr>
<td><em>Bidens pilosa</em> L.</td>
<td>Asteraceae</td>
<td>Kandonaekuthey</td>
<td>Leaves</td>
</tr>
</tbody>
</table>

$/ 113$
4. **Chuma** (Cough)

- Prepare a decoction by boiling the dried rhizome of *Zingiber officinale*, berries of *Piper argyrophyllum*, *Piper mullesua* and the leaves of *Ocimum gratissimum* and drink the decoction.

```
Zingiber officinale Rosc.  Zingiberaceae  Inchi  Rhizome
Piper argyrophyllum  Ham. Ex. Mig.  Piperaceae  Valmulaku  Berries
Piper mullesua  Ham. Ex. Don.  Piperaceae  Undathepaly  Berries
Ocimum gratissimum L.  Labiatae  Thulasi  Leaves
```

5. **Prasavam** (Delivery)

- If any complication arises at the time of delivery, a close relative of the woman collects a dried piduncle of *Artocarpus integrifolia* (it should be minimum three years old, properly preserved and dried) and grinds it along with *Molineria trichocarpa* in hot water and is given for drinking.

```
Artocarpus integrifolia L.f.  Moraceae  Plavu  Piduncle
Molineria trichocarpa Baker.  Liliaceae  Thenpoovu  Leaves and flowers
```

6. To increase Breast milk (as galacogogue)

- A decoction is prepared from the bark of *Vitex altissima* and *Aporosa lindleyana*. Rice is cooked in this decoction and is eaten.

```
Vitex altissima L.f.  Verbenaceae  Mylellu  Bark
Aporosa lindleyana Baill.  Euphorbiaceae  Vetty  Bark
Oryza sativa L.  Poaceae  Nellu  Fruit
```
7. **Ushnam** (Venereal disease)

➢ Prepare a decoction by boiling crushed seeds of *Musa superba*, *Tribulus terrestris* and *Solanum xanthocarpum* and drink two times a day for 60 days.

- **Musa superba** Roxb. **Musaceae** Kalluvazha Seed
- **Tribulus terrestris** L Zygophyllaceae Njerinjil Fruit
- **Solanum Xanthocarpum** Sch.& Wendl.
- **Solanum** Solanaceae Kandakarichunda Fruit

8. **Paru** (Abscess)

➢ Grind the fruits of *Solanum anguivi*, Rhizome of *Colacasia esculenta* found on tree trunks and the bulb of *Bulbophyllum neilgherrense* and apply on the abscess.

- **Solanum anguvi** L. Solanaceae Kasappan chunda Fruit
- **Colacassia esculenta** Aroidae Kattuchembu Rhizome (L.) Schoot.
- **Bulbophyllum neilgherrense** W. Orchidaceae Kattathally Bulb

9. **Moothram chudil** (Urinary infection)

➢ Prepare a decoction by boiling the stems and leaves of *Rotula aquatica* along with crushed seeds of *Musa superba* and *Sida acuta* and drink for 20-30 days.

- **Rotula aquatica** Boraginaceae Kallur vanchi Stem, leaf Lour.
- **Musa superba** Musaceae Kallu vazha Seed Roxb.
- **Sida acuta** Malvaceae Kurumthotty Stem, leaf, root Burm.f.
10. Vayil paru (Boils in mouth)

➢ Gargle the decoction obtained by boiling *Oxalis corniculata*, along with *Hydrocotyle javanica* and 2-3 leaves of *Cymbopogon citratus*.

*Oxalis corniculata* L. Geraniaceae Puliyarila Whole plant

*Hydrocotyle javanica* Thunb. Apiaceae Thuppaluvetty Whole plant

*Cymbopogon citratus* Stapf. Gramineae Thylapullu Leaves

11. Vayu (Gas trouble)

➢ Prepare a decoction by boiling dried Rhizome of *Zingiber Officinale* with fruits of *Piper argyrophyllum* and a small piece of the bark of *Canarium strictum* and drink.

*Zingiber Officinale* Rosc. Zingiberaceae Inchy Rhizome

*Piper argyrophyllum* Ham. Ex. Mig. Piperaceae Valmulaku Seeds

*Canarium strictum* Roxb. Burseraceae Karim-kunthirikkam Bark

12. Manjapitham (Jaundice)

➢ Prepare a decoction by boiling *Phyllanthus kozhikodianus* in toto with leaves of *Adathoda vasica*, leaves and stems of *Asystacia cheloneoides* and roots of *Thottea siliquosa* and consume three times a day till the urine is clear.

*Phyllanthus kozhikodianus* Siva&Manl. Euphorbiaceae Kizharnelly Whole plant

*Adathoda vasica* Nees. Acanthaceae Adalodakam Leaf

*Asystacia cheloneoides* Nees. Acanthaceae Nayuruvi Leaves& Stems

*Thottea siliquosa* Lam. Aristolochiaceae Rasanthum Roots
13. *Pampukady* (Snake bite)

➤ Prepare a decoction using the bark of *Alstonia venenata*, leaves and stems of *Leucas hirta* and leaves and stems of *Dictyospermum montanum* and drink 3 times a day. Apply the root-bark paste of *Alstonia venenata* on the wound.

➤ Grind the root of *Aristolochia indica* and Rhizome of *Acorus calamus* and drink.

<table>
<thead>
<tr>
<th>Plant Name</th>
<th>Family</th>
<th>Common Name</th>
<th>Part Used</th>
</tr>
</thead>
<tbody>
<tr>
<td><em>Alstonia venenata</em> R.Br.</td>
<td>Apocynaceae</td>
<td>Analivegam</td>
<td>Root, bark</td>
</tr>
<tr>
<td><em>Leucas hirta</em> Spr.</td>
<td>Labiatae</td>
<td>Uchapettykala</td>
<td>Leaf &amp; stem</td>
</tr>
<tr>
<td><em>Dictyospermum montanum</em> Wt.</td>
<td>Commelinaceae</td>
<td>Kaeynee</td>
<td>Leaf &amp; stem</td>
</tr>
<tr>
<td><em>Aristolochia indica</em> L.</td>
<td>Aristolochiaceae</td>
<td>Garudakkodi</td>
<td>Root</td>
</tr>
<tr>
<td><em>Acorus calamus</em> L.</td>
<td>Araceae</td>
<td>Vayambu</td>
<td>Rhizome</td>
</tr>
</tbody>
</table>


➤ Grind the leaves and tender stems of *Asparagus racemosus* with *Hydrocotyle javanica* or *Centella asiatica* and apply the paste on the affected part.

<table>
<thead>
<tr>
<th>Plant Name</th>
<th>Family</th>
<th>Common Name</th>
<th>Part Used</th>
</tr>
</thead>
<tbody>
<tr>
<td><em>Asparagus racemosus</em> Wild</td>
<td>Liliaceae</td>
<td>Sathaveri</td>
<td>Leaf and stem</td>
</tr>
<tr>
<td><em>Hydrocotyle javanica</em> Thunb.</td>
<td>Umbelliferae</td>
<td>Thuppaluvetty</td>
<td>Leaf</td>
</tr>
<tr>
<td><em>Centella asiatica</em> Urb.</td>
<td>Umbelliferae</td>
<td>Vattathuppaluvetty, Kudavan</td>
<td>Leaf</td>
</tr>
</tbody>
</table>
15. **Vayarelakam** (Diarrhoea with blood)

➢ Prepare a decoction by boiling the dry crushed seeds of *Terminalia chebula* along with the leaves and roots of *Emilia sonchifolia* and *Euphorbia hirta*. Add a pinch of salt and drink.

➢ Prepare a decoction by boiling the root bark of *Phyllanthus emblica*, *Syzygium cumini* and *Sterculia urens* and drink thrice a day.

<table>
<thead>
<tr>
<th>Plant Name</th>
<th>Family</th>
<th>Common Name</th>
<th>Part Used</th>
</tr>
</thead>
<tbody>
<tr>
<td><em>Terminalia chebula</em></td>
<td>Combretaceae</td>
<td>Kadukka</td>
<td>Seed</td>
</tr>
<tr>
<td><em>Emilia sonchifolia</em></td>
<td>Asteraceae</td>
<td>Panikala</td>
<td>Leaf stem and root</td>
</tr>
<tr>
<td><em>Euphorbia hirta</em></td>
<td>Euphorbiaceae</td>
<td>Palkala</td>
<td>Leaf stem and root</td>
</tr>
<tr>
<td><em>Phyllanthus emblica</em></td>
<td>Euphorbiaceae</td>
<td>Nelli</td>
<td>Root bark</td>
</tr>
<tr>
<td><em>Sterculia urens</em></td>
<td>Sterculiaceae</td>
<td>Thondy</td>
<td>Root bark</td>
</tr>
<tr>
<td><em>Syzygium cumini</em></td>
<td>Myrtaceae</td>
<td>Njaval</td>
<td>Root</td>
</tr>
</tbody>
</table>

16. **Nenchuvedana** (Chest pain)

➢ Prepare a decoction by boiling the leaves and stems of *Ichnocarpus frutescens*, tubers of *Hemidesmus indicus* and *Asparagus racemosus*. Add little *Cannabis sativa* just before taking out of the fireplace and drink at frequent intervals.

<table>
<thead>
<tr>
<th>Plant Name</th>
<th>Family</th>
<th>Common Name</th>
<th>Part Used</th>
</tr>
</thead>
<tbody>
<tr>
<td><em>Ichnocarpus frutescens</em></td>
<td>Apocynaceae</td>
<td>Palvally</td>
<td>Stem and leaf</td>
</tr>
<tr>
<td><em>Hemidesmus indicus</em></td>
<td>Asclepiadaceae</td>
<td>Narunendi</td>
<td>Tubers</td>
</tr>
<tr>
<td><em>Asparagus racemosus</em></td>
<td>Liliaceae</td>
<td>Sathaveri</td>
<td>Tubers</td>
</tr>
<tr>
<td><em>Cannabis sativa</em></td>
<td>Urticaceae</td>
<td>Ganja</td>
<td>Inflorescence</td>
</tr>
</tbody>
</table>
17. Thalavedana (Headache)

➢ Grind the leaf of Lantana camera, bulb of Allium sativa, seed of Brassica juncea and small quantity of Moringa olifera bark and apply the paste on the forehead.

<table>
<thead>
<tr>
<th>Plant</th>
<th>Family</th>
<th>Part</th>
</tr>
</thead>
<tbody>
<tr>
<td>Allium sativa L.</td>
<td>Liliaceae</td>
<td>Bulb</td>
</tr>
<tr>
<td>Lantana camera L.</td>
<td>Verbenaceae</td>
<td>Leaf</td>
</tr>
<tr>
<td>Brassica juncea</td>
<td>Brassicaceae</td>
<td>Seeds</td>
</tr>
<tr>
<td>Moringa olifera Lam.</td>
<td>Moringaceae</td>
<td>Bark</td>
</tr>
</tbody>
</table>

18. Chatavu (Bruise)

➢ Prepare a decoction with a small quantity of the underground tuber portion of Adenia hondala and tubers of Asparagus racemosus, and drink once in a day.

<table>
<thead>
<tr>
<th>Plant</th>
<th>Family</th>
<th>Part</th>
</tr>
</thead>
<tbody>
<tr>
<td>Adenia hondala</td>
<td>Passifloraceae</td>
<td>Underground stem</td>
</tr>
<tr>
<td>Asparagus racemosus</td>
<td>Liliaceae</td>
<td>Sathaveri</td>
</tr>
</tbody>
</table>

19. Vellapokku (Leucorrhoea)

➢ Prepare a pudding of Eleucine coracana in a decoction from mashed seeds of Musa superba and stems and leaves of Rotula aquatica. Eat the pudding once in a day.

<table>
<thead>
<tr>
<th>Plant</th>
<th>Family</th>
<th>Part</th>
</tr>
</thead>
<tbody>
<tr>
<td>Eleucine coracana</td>
<td>Poaceae</td>
<td>Keppa</td>
</tr>
<tr>
<td>Rotula aquatica Lour.</td>
<td>Boraginaceae</td>
<td>Kalloorvanchi</td>
</tr>
<tr>
<td>Musa superba Roxb.</td>
<td>Musaceae</td>
<td>Kalluvazha</td>
</tr>
</tbody>
</table>
20. Neeru (Oedema)
   ➢ Grind the root tubers of *Phoenix humilis* and inflorescence of *Cannabis sativa* and a little honey. Take one spoon before going to bed.

<table>
<thead>
<tr>
<th>Plant</th>
<th>Family</th>
<th>Name</th>
<th>Part</th>
</tr>
</thead>
<tbody>
<tr>
<td><em>Phoenix humilis</em> Royl.</td>
<td>Araceae</td>
<td>Katteenthu</td>
<td>Root tuber</td>
</tr>
<tr>
<td><em>Cannabis sativa</em> L.</td>
<td>Urticaceae</td>
<td>Ganja</td>
<td>Inflorescence</td>
</tr>
</tbody>
</table>

21. Odivu (Fracture)
   ➢ Prepare a paste from *Spirogyra* sp. and *Trigonella foenum-graecum* seeds and apply on the affected portion. The affected part is kept intact by enclosing in a frame made of *Bambusa arundinacea*.

<table>
<thead>
<tr>
<th>Plant</th>
<th>Family</th>
<th>Name</th>
<th>Part</th>
</tr>
</thead>
<tbody>
<tr>
<td><em>Spirogyra</em> sp.</td>
<td>Spirogyraceae</td>
<td>Payal</td>
<td>Filaments</td>
</tr>
<tr>
<td><em>Trigonella foenum-graecum</em> L.</td>
<td>Fabaceae</td>
<td>Uluva</td>
<td>Seeds</td>
</tr>
<tr>
<td><em>Bambusa arundinacea</em> Willd.</td>
<td>Poaceae</td>
<td>Elly</td>
<td>Stem</td>
</tr>
</tbody>
</table>

5.2.3 PLANT PRODUCTS USED FOR MEDICINE

*Muthuvans* use five plant products as single remedies as well as in combination medicines. The products used, name of the diseases/disorders and the mode of application are given below.

1. Coconut oil Sinusitis
   The leaves of *Azadirachta indica* and *Emilia sonchifolia* stem are boiled in coconut oil and applied to the scalp.

   Skin disease
   Heated oil is mixed with the leaf paste of *Centella asiatica* and is applied on the affected part.

   Falling of hair
   The faeces of bear is boiled in coconut oil or sesamum oil and applied on the scalp.
2. Sesamum oil  Dog bite  A paste is prepared by gently heating the oil with milky juice of *Calotropis gigantia* and is applied on the wound.

Child birth  The tubers of *Cyclea peltata* and stems and thr leaves of *Euphorbia hirta* are boiled in the oil and that oil is applied on the belly for easy delivery.

3. Rice water  Cannabis Poisoning  To become normal, cold or fermented rice water is taken.

Dysentery  Add a little salt, pepper powder and drink hot.

4. Rice bran  Leucorrhoea  The bran is cooked with some rice and powdered *Musa superba* seeds and is taken.

5. Palm  Urination  problem  Prepare a decoction of *Asystacia gangetica* and *Allium cepa* along with palm jaggery and drink.

5.2.4 ANIMAL PRODUCTS USED FOR MEDICINE

*Muthuvans* use eleven animal products for treatment of various diseases/disorders. The animal products used for medicinal purpose, name of the diseases and recipes are given below.

1. Buttermilk  Boils in mouth  Buttermilk is gargled after mixing it with a paste of *Oxalis corniculata* leaves.

Pinworm  The fruits and tender leaves of *Solanum xanthocarpum* is ground, mixed with buttermilk and is allowed to drink.

2. Breast milk  Headache  Grind the rhizome of *Alpinia galanga*, in breast milk and apply on the forehead.

3. Cow milk  Venereal disease  The root paste of *Curculigo orchioides* is mixed with boiled milk and is taken.

Delivery  Taken with a little root bark paste of *Strychnos nux-vomica* for easy delivery.

4. Goat Milk  Urinary Infection  Grind the tender shoot of *Polygonum chinense* mix with milk and drink.
5. Curd White spot
   Grind the ripe fruit of *Lycianthes laevis* in curd and apply on the spot.

6. Egg Cold
   Drink a mixture of egg, pepper powder and arrack.

7. Honey Leucorrhoea
   Powdered seeds of *Musa superba* is mixed with honey and is taken two times a day.
   Cold
   Take honey with pepper and ginger powder.
   Burns
   Applied directly on burns.
   Diarrhoea
   Drink after diluting in water and adding a pinch of salt.

8. Python fat Wound
   Applied over wounds for healing.

9. Scaly ant eater Fat Snake bite
   Taken against snake poison.
   Farmers foot
   Applied on the feet

10. Monitor Lizard Snake poison
    Taken against snake poison.

11. Snail, Urinary
    *Achatina* sp. Infection
    Prepare a decoction of Kakkapoovu, the flower *Torenia travancorica, Ichnocarpus frutescens, Calamus rotang* and the snail and take.

5.2.5 INERT MATERIALS USED FOR MEDICINE

Muthuvans use inert materials like coal, ash, stone, quick lime and salt against various disorders.

1. Coal Cleaning teeth
   Coal from *Palaquium ellepticum* is used for cleaning tooth.
   Burns
   Ground coal and *Hydnocarpus Pentandra* seeds are applied as an ointment. Coal of coconut shell is powdered and applied on burns.

2. Ash Dog bite
   Applied over wound after mixing with common salt.
   Wound
   Applied on wound after grinding with *Curcuma longa*.
   Gas trouble
   Taken after grinding with capsicum and diluting in water.
   Burns
   Ash from *Adiantum* sp. applied over burns.

3. Arrack Urine
   A glass of arrack taken along with crushed *Solanum xanthocarpum* seeds for urination.
4. Common Salt Dysentery Mix *Bombax ceba* gum and rice water with salt and take.

Stomach pain Grind salt, soot and *Piper betle* leaf, dilute in water and drink.

Stomach pain Extract bark juice of *Terminalia Paniculata*, mix with salt and drink.

Leech attack Used as repellent along with tobacco

5.2.6 PRELIMINARY PHYTOCHEMICAL STUDIES ON SELECTED MEDICINAL PLANTS

Preliminary phytochemical studies were carried out on selected plants for the detection of Steroids, Triterpene, Sugar, Alkaloid, Phenol, flavone, Catechin, Saponin and Tannin

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Table - 9 *Drimeria cordata*, whole plant

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Table - 10 *Cynoglossum furcatum*, Root
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**Table - 11** *Ichnocarpus frutescens*, Leaf and stem

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**Table - 12** *Chenapodium ambrosoides*, Leaf and stem

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**Table - 13** *Dioscorea wallichii*, tuber

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**Table - 14** *Schleicherea oleosa*, bark

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**Table - 18 Ageratum conyzoides, Stems and leaves**
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**Table - 19** *Ceratopteries thalictroides*, Whole plant

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**Table - 20** *Plantago asiatica*, Whole plant

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**Table - 21** *Caesalpinia mimosoides*, Tender stem and leaf

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**Table - 22** *Clerodendron infortunatum*, Stem and leaves
Many rural people throughout the world rely on medicinal plants because of their effectiveness, lack of modern health care alternatives and cultural preferences (Caniago and Siebert, 1998). Over 80% people of the developing countries are still dependent on traditional folk medicines obtained from natural resources (Fansworth et al., 1985). This indicates to the efficacy of tribal and folklore medicine. The Muthuvan tribes residing deep inside the forests of Devikulam taluk are rich in ethnomedical information. The present investigation has brought to light 145 plant species along with the recipes used as single remedies and 60 plant species.
in various combinations and their recipes to treat about 80 diseases and disorders. They also use five plant products, eleven animal products and four inert materials for the treatment of various ailments. In an era of fast modernization, allopathic medicine has taken the role of traditional practices. But the *Muthuvan* community remains unique by completely depending upon their own traditional medicine. The reasons observed by the investigator are:

1. *Muthuvans* live in groups in deep forests, isolated from the other tribes and locals.
2. They have good herbalists / Shaman with thorough knowledge of medicinal plants and methods of application.
3. Financial backwardness and reluctance to accept changes.

It is also observed that during the rainy season the streams will over flow, leeches will multiply, foot paths and forest roads will remain blocked by fallen trees and landslides. This makes it extremely difficult to carry a patient outside the hamlet.

The *Muthuvan* population in Devikulam taluk is concentrated in 29 settlements. It is interesting to note that they all have similar knowledge of medicinal plants and follow the same type of medicinal practices. This may be because of the common origin and interaction among the herbalists of various settlements. It is also seen that herbalist of one settlement visits the experienced herbalists of the other settlements for their advices in therapy. The service of the herbalists of the settlement is totally free and is accessible to anyone at anytime.

Some of the taboos restrict them from receiving gifts. It is also noted that the herbalists themselves collect the medicinal plants and give it to the patients or relatives. But the name of the plant or part used remains confidential. No written records are maintained about the plants, dosages or parts used. This seems to be the real crisis. As and when the herbalist becomes aged and his memory starts fading he will start teaching one selected member of the hamlet. By this time at least ten percent of the information will be lost. Since the information is orally transferred, chances of further loss of valuable information are high. The unrecorded valuable new experiences of the elder herbalists will also perish with their death. It is also observed that new herbalists will take some time to become experts in their field.
The **Muthuvan** tribes of Devikulam taluk have remedies for almost all common diseases. Cancer and heart related problems are rare among the **Muthuvans**. They use *Aristolochia indica* and *Olea dioica* as single remedies and decoction involving other four plants for chest pain. The use of *Cannabis sativa* as medicine is reported among several tribes (Nutiyal et al., 2001; Rana et al 1996; Das, 1997). **Muthuvans** use *Cannabis sativa* along with 3 other plants as a combination drug to control chest pain. Infant mortality is relatively high among them. The investigator believes that it is primarily because of the complications arising at the time of delivery followed by diarrhoea and dysentery. (The investigator could not observe obesity among them. They are lean and tall. Most of them walk more than twenty kilometers a day through the forest for collecting forest products, fire wood, tubers, fruits and other food items. Good physical work and consumption of raw and fibrous food may be the factors that keep them healthy.

The occurrence of diseases in different settlements varies considerably. Climatic conditions prevailing in different settlements may be the reason. Children affected with cold, fever, diarrhoea and adults affected with fever are quite common in settlements. It is observed that contagious diseases spread at a fast rate in hamlets and it is because of the poor sanitary conditions and unawareness about hygienic practices. However, they are able to check these diseases with their own traditional medicine, which offer further resistance. The present investigation has revealed 16 plants used to control diarrhoea and dysentery. The use of decoction obtained by boiling root bark of *Phyllanthus emblica*, *Syzigium cumini* by **Muthuvans** to control diarrhoea is unique. The use of *Euphorbia hirta* for Asthma and Diarrhoea by tribal people of Setrunjaya hills of Palitana, Gujarat was reported by Bhatt et al. (1999). For controlling fever, the **Muthuvans** use five plants of which *Coleus aromatic* and *Ocimum basilicum* are very common practice in the country side of Kerala.

**Muthuvans**, living inside the forest, doing a lot of physical work usually get injured with cuts, wounds, and even bone fractures. They use nine plant species for cuts and wounds and a combination of three plants for bone fracture. Sometimes *Tinospora cordifolia* alone is used for bone fracture. The use of *Plantago asiatica*, which they call Njaramburi, is claimed to cure cuts involving veins. They use python fat to cure cuts, wounds and burns.
They are also aware of preparing decoctions. The preparation and use of decoctions can be considered as an advanced method of therapy. The use of the fat of *Udumbu*, the Monitor lizard (*Varanus versicolor*) and that of *Enampechi*, Scaly ant eater (*Manis* sp.) for poison is observed among the *Muthuvans*.

Abortion is rare among *Muthuvans*. The investigator has identified the role of *Ricinus communis* as abortificant in early months of pregnancy. Vedavathy et al. (1995) reported the use of *Ricinus communis* with *Tragia involucrata* among the tribal women of Chittor district for permanent sterilization. *Muthuvans* claim that they are aware of the use of plants as contraceptives for men and women. But even after much compulsion they are reluctant to show the plants or tell the recipes. They skip away from the subject and speak of taboos that restrict them from telling it. The investigator has observed the use of *Cynoglossum furcatum* for treating infertility in women. Further investigations are suggested to find out the plants used for these purposes.

Diabetes is rare among the *Muthuvans*. Their herbalists are aware of the problem. The investigator could not locate any plants specifically used against diabetes. They treat jaundice with a decoction prepared from four plants. Single remedies involving *Phyllanthus niruri* and *Phyllanthus kozhikodianus*; another with *Aporosa lindleyana* are also used for the purpose. The fruits of *Argyreia speciosa* are used for piles. The use of decoction for piles is common. These people are aware of the plants used against various diseases and disorders like Dysurea, Rheumatism, Ring worm, Burns, Wheezing, Hydrophobia, Constipation, Headache, Oedema, Abscess, Dandruff, Sprain, Whitlow, Conjunctivitis, Chickenpox, Cough, Rectum prolapse, Venereal diseases, Corn, Renal calculi etc. They use a number of plants for easy delivery. *Biophytum sensitivum* decoction is taken in for this purpose. It is also ground in toto and applied on the belly. Bark juice of *Grewia tiliaefolia*, decoction using *Cyclea peltata*, *Euphorbia hirta*, another with peduncle of *Artocarpus indegrifolia* and *Molinaria trichocarpa* are some of them. They are also familiar with galactogous plants. *Vitex altissima* and *Aporosa lindleyana* are used for the purpose besides the special food after delivery. *Muthuva* ladies use a rare combination of *Eleucine coracana*, *Rotula aquatica*, and *Musa superba*, for Leucorrhoea. Another combination of *Musa superba* seeds and honey is also used for the same purpose.
Various types of scabies are a common sight among the children and adults. They use five plants for curing scabies and the common ones are Tectona grandis, Drimeria cordata and Centella asiatica. Muthuvans interests in dogs are well known. They use to keep 3-4 dogs in huts and dogs are the playmates of their children. They treat hydrophobia with Calotropis gigantea. They sterilise the female dog using Dillinia pentagyna and kill the dogs using Strychnos colubrina and Strychnos nux-vomica. They give Ficus hispida to domesticated animals for the release of placenta after delivery. Wounds in animals are treated with Ficus asperima. These veterinary practices are common in the village areas of Kerala and might be acquired along with the domestication of animals. These people use six species of Pepper found in the forest to treat various diseases. But the local people depend mostly on Piper nigrum. The investigator could not identify any medicinal plants used by the Muthuvans for mental disorders. They depend on Shaman and his magic for treating Psychiatric disorders.

The Muthuvan tribes during their long stay in the forests of western ghats have developed their own sustainable system of medicine which is capable of satisfying almost all their requirements. It has no similarity with Ayurveda or any other traditional medicine. Several plants are used in raw form. The investigator believes that the social isolation imposed by them and the restricting taboos kept the purity of ethnomedical knowledge. It is suggested that attempts should be done to promote tribal medicine by creating awareness among the tribals and local people about the good effects of this time tested practice. Comprehensive and systematic studies and documentation followed by thorough clinical and pharmacological studies are required to preserve this valuable information.

The universal role of plants in the treatment of diseases is exemplified by their employment in the major systems of medicine irrespective of the underlying philosophical premise. In Ayurvedic, Unani and Oriental (China, Japan and Tibet) systems, the role of plants as source of drugs are imminent. The curative property of herbs is due to the presence of bio-active compounds in them. In the modern medicine, herbs used in traditional systems is screened for the phytochemicals with potential to restore the disordered physiology. Then it may be tried to synthesize in a commercial level. Once the structure of the compound is known, similar mimetic
molecules may be also tried for curing the disease. Nevertheless there are instances where chemist fail to synthesize such natural products or even if synthesized, it need not be commercially viable. Moreover the modern world has an increased fascination for naturally occurring compounds. Large number of naturally occurring phytochemicals are added to the list of drugs every year. Compounds such as artemesine, taxol, prostratin etc are new additions of this list.

Phytochemical principles like Steroids, Triterpenes, Alkaloids, Phenols, Flavones, Catechin, Saponins and Tannin are responsible for various curative properties of the herbs. Siddique et al. (1995) isolated seven pentacyclic triterpenoides from aerial parts of Lantana camera. Khan and Malic (1989) isolated new sterol compound procesterol from Calotropis procera, which is used to cure skin diseases, cough, and asthma. Chopra et al. (1958) isolated a flavone from Euphorbia thymifolia and the flavonoid is the best remedy for snakebite and skin diseases. The qualitative screening test conducted for these compounds revealed their presence in various plants (Tables-9 to 25). Further detailed studies are required to identify the exact compounds responsible for the Pharmacological effect. The data generated through preliminary screening could be used for further detailed studies.

Plants used in the single remedies of Muthuvans were compared for its use in Dravya Guna Sasthra of Ayurveda. Out of 145 plants used as single remedies only 19 showed similarity with its use in Ayurveda and 84 showed entirely different use. They use 42 plants not mentioned in Ayurveda. This clearly shows that the folk remedies of Muthuvans have no similarity with the traditional medicine, the Ayurveda. The difference in use suggests that both the systems have originated and evolved from different schools of thought. From the available literature, it is evident that Muthuvan's medicinal plants, their diversity and methods of application are unique and there are no parallels among the other tribals of South India. Amazingly, the following plants have similar use in Ayurvedic system of medicine and the traditional system of the Muthuvans.
<table>
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<td>Used against snake poison</td>
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<td>Jaundice</td>
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<td><em>Aerva lanata</em></td>
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<td>Urinary infections</td>
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<td>Rheumatism</td>
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<td>Kushta</td>
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<td><em>Bambusa arundinaceae</em></td>
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<td>Kasa</td>
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<td><em>Centella asiatica</em></td>
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<td>Rakthasthambaka</td>
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Otherwise this indigenous system has neither similarity in preparation nor in formulation. In Ayurveda there are five major types of preparations known as *Panchavidha Kashaya Kalpana*. They are *Swarasa* (expressed juice), *Kalka* (paste), *Kwatha* (decoction), *Hima* (coled infusion), *Phanta* (hot infusion). But no such organized systems of preparations are available in the traditional system of the Muthuvans. Their preparations are in the form of paste and decoctions. A survey on the medicinal plants also revealed that they are not using any endemic plants of this region for the medicinal purposes. This also indirectly support the view that these people might have migrated from some other place and are not original inhabitants of this geographical area. The common culture, festivals and other practices of these people residing in various hamlets underline their common descendence.
PLATE - 14

Fig. 110 - Njarala (Cissus repens Lam.) sap from the stem is collected and drank during journeys.

Fig. 111 - Incha (Acacia instia W&A.) bark used for cleaning body.

Fig. 112 - Analivegam (Alstonia venenata R.Br.) bark used against snake poison.

Fig. 113 - Cheevakaya (Acacia concina DC.) fruit powder used as shampoo.

Fig. 114 - Kattathalli (Bulbophyllum neilgherrense W.) bulbs medicinal.

Fig. 115 - Mukkutti (Biophytum sensitivum DC.) used for delivery.

Fig. 116 - Chorivalakam (Cryptocoryne retrospiralis Kunth.) used against witlow.

Fig. 117 - Padathali (Cyclea peltata Hk.&Th.) used to control diarrhoea.

Fig. 118 - Nilappana (Curculigo orchoides Garten.) used against venerial disease.

Fig. 119 - Valey (Dioscorea wallichii Hk.f.) rhizome used against scabies.
PLATE - 15

Fig. 120 - Lemon grass (*Cymbopogon citratus* Stapf.) oil used against body pain.

Fig. 121 - *Eruku* - *Calotropis gigantea* (R.) Br. latex used against hydrophobia.

Fig. 122 - *Utharasikkayu* (*Elaeocarpus tuberculatus* Roxb.) used against headache.

Fig. 123 - *Murikutty* (*Eupatorium adenophorus* Spr.) used for curing cuts and wounds.

Fig. 124 - *Neerotti* (*Hydnocarpus alpina* Wt.) ground seeds used for curing cuts and wounds.

Fig. 125 - *Kattupaval* (*Momordica dioica* Roxb.) used against skin diseases.

Fig. 126 - *Elamulachi* - *Kalanchoe pinnata* (Lam.) Per. used against burns.

Fig. 127 - *Kaluvazha* (*Musa superba* Roxb.) used against urinary infection.

Fig. 128 - *Nangu* (*Mesua ferrea* L.) used against skin diseases.

Fig. 129 - *Eetta* (*Ochlandra travancorica* Gamb.) used for dressing wounds.
PLATE - 16

Fig. 130 - *Edaval - Pteridium aquilinum* (L.) Kuhn. used in epilepsy.

Fig. 131 - *Kattulli* (*Pancratium triflorum* Roxb.) used against Corn.

Fig. 132 - *Vathakody* (*Naravelia zeylanica* DC.) used against joint pain.

Fig. 133 - *Pulimurali* (*Pothos scandens* L.) used against snake bite.

Fig. 134 - *Valmulaku* (*Piper argyrophyllum* Ham. Ex. Mig.) used for headache.

Fig. 135 - *Undathippali* (*Piper mullesua* Ham. Ex. Mig.) used in delivery.

Fig. 136 - *Kattumulaku* (*Piper wightii* Miq.) used against cough.

Fig. 137 - *Vallikanjiram* (*Strychnos colubrina* L.) used against chest infection.

Fig. 138 - *Kattukeezharnelli* (*Phyllanthus kozhikodianus* Sivar.&Mani.) used against jaundice.
Fig. 139 - *Kalloorvanchi* (*Rotula aquatica* Lour.) used in urinary infections.

Fig. 140 - *Sopinkayu* (*Sapindus laurifolius* Vahl.) used for cleaning body parts.

Fig. 141 - *Kodithoova* (*Tragia involucrata* L.) used for tooth pain.

Fig. 142 - *Arootha* (*Ruta graveolens* L.) used against poison.

Fig. 143 - *Peethal* (*Schumannianthus virgatus* Rolfe.) used in *poojas*.

Fig. 144 - *Dhandapala - Wrightia tinctoria* (*Roxb.*) R.Br. used against rheumatic fever.

Fig. 145 - *Maravazha* (*Vanda tessellata* Hk.) used against ear infections.

Fig. 146 - *Thotturchembu* (*Remusitta vivipara* Schot.) used against abscess.

Fig. 147 - *Caynee - Rhyncoglossum notonianum* (Wall.) Burrt. used against poison.

Fig. 148 - *Orilathamara* (*Nervilia prainiana* Seid.& Smt.) used against cracks in the feet.
Fig. 149 - *Thottavadi* (*Mimosa pudica* L.) used against cuts and wounds.

Fig. 150 - *Nayakottarasi - Hemionites arifolia* (Burm.f.) Moore. used against discolouration of skin.

Fig. 151 - *Peringalam* (*Clerodendron infortunatum* L.) used against diarrhoea.

Fig. 152 - *Kandonekuthy* (*Bidens pilosa* L) used against scabies.

Fig. 153 - *Vellila* (*Mussaenda frondosa* L.) used against eye infections.

Fig. 154 - *Penarikala* (*Drymaria cordata* Willd.) used against scabies.

Fig. 155 - *Kummenjikkala* (*Ageratum conyzoides* L.) used against ring worms.