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## **FLORISTIC DIVERSITY OF MUKKUDAL REGION, TIRUNELVELI DISTRICT, TAMIL NADU, SOUTH INDIA AND THEIR MEDICINAL IMPORTANCE**

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### **ABSTRACT**

The scope of ethnobotany is increasing day by day as it has immense practical values on society. It is a science which is linking biology in one hand and the physical and social sciences on the other hand. Ethnobotanical knowledge gives us a profound understanding and appreciation of the richness and intimacy of relationships between humans and nature. The present study was conducted to study the diversity of Mukkudal flora, Tirunelveli District. Field studies were carried out to study the floral diversity and the specimens were identified using regional floras. The flora of Mukkudal plains include 230 species of 179 genera belonging to 52 families. Among the 230 species, 186 species belongs to dicotyledons and 44 species belongs monocotyledons. The most dominant family in the present study area is Poaceae with 32 species. Fabaceae comprises 25 species, Asteraceae includes 16 species, Amaranthaceae and Cyperaceae consist of 12 species, Acanthaceae contains 10 species and Malvaceae embraces 9 species.

**KEYWORDS:** Mukkudal, Biodiversity, Taxon and Medicinal uses

## INTRODUCTION

World Health Organization (WHO) has estimated that about 80% of the population of developing countries relies on traditional medicine, mostly plant drugs for their primary health care needs. In recent years, use of ethnobotanical information in medicinal plant research has gained considerable attention in segments of the scientific community (Heinrich, 2000). Interest in medicinal plants has been fuelled by the rising costs of drug prescription in the maintenance of personal health (Hoareau and DaSilva, 1999).

Angiosperms are the most diverse group of the plant kingdom comprising of about 2,50,000 species in 350 families. Flowering plants are the most numerous, diverse and successful extant plant group containing over 95% of all land plant species alive today (Simpson, 2006). In India, the vascular plants form the most dominant and conspicuous vegetation cover comprising over 17,500 species of angiosperms which represents more than 7% of the world's known flowering plant species (Karthikeyan, 2000). Dicots are represented by 2,282 genera and 12,750 species whereas monocots are represented by 702 genera and 4,250 species. Dicots account for 75% of flowering plants in terms of both genera and species. On the other hand, remaining 25% is contributed by monocots. Out of 511 recognized plant families (Brummit, 1992),

320 families with more than 4000 genera are represented in the Indian flora. In 1954, Botanical Survey of India revived with a view to make intensive studies of local flora especially to gather information on the identity, floristic diversity, distribution, ecological association, phenology, medicinal and economic uses of plants. According to their survey, 1500 species of plants are listed as threatened, 33 have gone extinct, 157 are endangered, 114 are vulnerable and 246 are rare (Anonymous, 1999).

The Indian subcontinent is a vast repository of medicinal plants that are used in traditional medical treatments (Ballabh and Chaurasia, 2007). In India, around 17000 medicinal plants have been recorded with concentrated spots in the region of Eastern Himalayas, Western Ghats, Eastern Ghats and Andaman & Nicobar Island (Nayar, 1987). However, traditional communities are using only 7000-7500 plants for curing different diseases (Perumal Samy and Ignacimuthu, 1998). Medicinal plants are listed in various indigenous systems such as Siddha (600), Ayurveda (700), Amchi (600), Unani (700) and Allopathy (30) plant species for different ailments (Rabe and Staden, 1997).

Previous works on the flora of south India reveals that efforts of the taxonomists were largely focussed on the mountain flora. It is understandable that the mountains, hills and associated forests harbour most of the

flora and represent hot spots of biodiversity with the endemics topping the scene. The flora of the plains has received a low priority in terms of systematic investigation (Vanila and Leon, 2012). Ethnobotany gives us a profound understanding and appreciation of the richness and intimacy of relationships between humans and nature. Tribal people are the ecosystem in which people live in harmony with the nature and maintain a close link between man and environment. The knowledge accumulated by them through a long series of observations from one generation to another is transmitted through oral communication for curing various diseases and ailments (Posey, 1992). Hence, the present study was intended to study the diversity of Mukkudal flora, Tirunelveli District.

## **MATERIALS AND METHODS**

The source of materials for this floristic research was the extensive and intensive field collections of specimens from the study area during the period from November 2012 to March 2013. Several field collections were undertaken to various parts of Mukkudal village. Collections were repeated till full data on flowering and fruiting were gathered. All the specimens are stored in Xavier's College Herbarium (XCH), St. Xavier's College, Palayamkottai. Apart from the herbarium specimens, the plants are documented through photography.

### **Methods of Collection**

During the field studies, complete specimens with three duplicates were collected. Characters and details that cannot be observed in a herbarium specimen such as height of the plant, nature of bark in case of trees, smell of the leaves / flowers, colour of the flowers/fruits, pubescence, secretions on the vegetative and reproductive parts and habit/habitat association were also documented. In case of small herbs, the whole plants with roots or underground parts were collected. The data such as date of collection, names of the family and species, uses, locality, habit frequency, habitat distribution, nature of stem, leaf, texture and colour of the flowers, fruits and other related notes were recorded in the field note book.

The large specimens were trimmed to the size of about 20 cm length and the excess of leaves and flowers were removed without altering the arrangement and position of leaves, flowers and fruits. The collected specimens were poisoned immediately after collection. This was done by dipping the whole plant in the denatured spirit. The specimens were pressed after spreading out of the leaves and flowers neatly. Some leaves were placed facing up and others facing down to show the characters on both surfaces.

### **Identification and Determination**

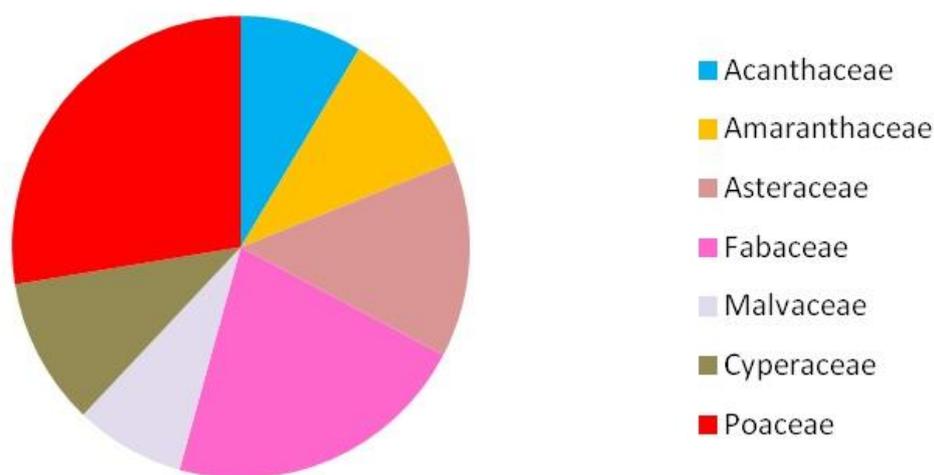
The characters of the plant were studied and checked with regional flora like Gamble, Flora of the Presidency of Madras

(FPM), Matthew's Flora of the Tamil Nadu Carnatic (FTC) and Hooker's flora of the British India (FBI) and the correct determinations were established.

## RESULTS

The results of flora of Mukkudal plains include 230 species of 179 genera belonging to 52 families. Among the 230 species, 186 species belongs to dicotyledons

and 44 species belongs monocotyledons. The most dominant family in the present study area is Poaceae with 32 species. Fabaceae comprises 25 species, Asteraceae includes 16 species, Amaranthaceae and Cyperaceae consist of 12 species, Acanthaceae contains 10 species and Malvaceae embraces 9 species. The detailed investigation of the flora of present study and their medicinal importance is represented in Table 1; Fig. 1.



**Fig. 1: Dominant families present in the study area**

## DISCUSSION

A perusal of the published works on floras of southern India (Gamble, 1967) reveals that efforts of the taxonomists were largely focused on the mountain flora. This is understandable as the mountains, hills and associated forests harbour most of the flora and represent hot spots of biodiversity with the endemics topping the scene. The floristic survey in the present study revealed that the most dominant family in the study area is Poaceae with 32 species. In addition the present study explained the medicinal importance of the plants present in the

Mukkudal region. Similar to the present investigation, medicinally important plants in the plains were also reported by some recent researchers (Nandagopalan *et al.*, 2011; Jeeva and Femila, 2012; Shanmugam *et al.*, 2012; Vanila and Leon, 2012). In the present study also, ethnobotanical information of medicinal plants in plains gives clear understanding of plants used to treat various diseases.

The present study area contains much diversity of medicinal plants. Majority of treatments mentioned above involve simple preparations from a single plant. In such cases one or more active principles may be

involved in curative property of diseases. Based on the present investigation, it is presumed that further phytochemical investigation is urgently required to know the active principle responsible for treating various diseases. Nowadays studies on herbal medicine are given top priority by the researchers. People are slowly awakening about the dangerous side effect of the allopathic medicines and are turning towards the neglected backyard plant for curing many of their ailments. People from various countries are using plant based medicines since many centuries; characterization of the bioactive compound from these plants is need of the time, so that people in other regions can also make uses of it. It is also understood that it is the correct time to conserve rare and endangered medicinally important plants.

## CONCLUSION

This study conducted in different levels of Mukkudal village reflects further scope of research and extension activities required to develop the usage of ethnomedicinal plants for the society. It is hoped that researchers will come soon and start the work in near future to fulfill the ethnobotanical aspects of the said vegetation as a whole to the public.

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**Table 1: Floristic Diversity and Medicinal importance of Mukkudal Region**

Botanical name	Local name	Family	Medicinal uses
<i>Abutilon indicum</i> G.Don	Thutti	Malvaceae	Root: leprosy and cooling agent during high fever. Stem bark: diuretic and astringent. Leaves: Chronic bronchitis gonorrhoea, and check bleeding piles.
<i>Acacia nilotica</i>	Karuvelam	Mimosoideae	Bark: astringent, acrid, and cooling Gum: astringent, cooling and constipating.
<i>Acalypha indica</i> Linn.	Kuppaimeni	Euphorbiaceae	The whole plant: laxative and vermifungal properties.
<i>Acanthospermum hispidum</i> DC.	Kombu mul	Asteraceae	Used in dermatological affections.
<i>Achyranthes aspera</i> Linn.	Naayuruvi	Amaranthaceae	The plant is digestive, carminative, laxative, anodyne, and inflammatory. It is useful to treat cough, asthma, bronchitis, leprosy and many other skin diseases. The paste of fresh leaves is applied over insect bites.
<i>Aerva lanata</i> (L.) Juss.	Cerupulai	Amaranthaceae	The whole plant: astringent, cooling, vermifuge and diuretic.
<i>Aeschynomene aspera</i> Linn.	Aathunetti	Leguminosae	Young leaves and flowers are consumed in salad and used topically as a poultice. The crushed young shoot and leaves are taken orally as an anti-haemorrhagic during labour. The potential use of <i>A. aspera</i> as a fast-growing nitrogen source for wet-rice fields
<i>Ageratum conyzoides</i> Linn.	Pumpullu	Asteraceae	The whole plant: purgative, carminative, laxative, cough, asthma, bronchitis, leprosy, and many other skin diseases.
<i>Alternanthera pungens</i> Forsk.	Thevedialmul	Amaranthaceae	The whole plant: antiseptic property.
<i>Alternanthera sessilis</i> Forsk.	Ponnankanni keera	Amaranthaceae	The whole plant: purgative, carminative, laxative, cough, asthma, bronchitis, leprosy, and many other skin diseases.
<i>Alysicarpus vaginalis</i> DC.	Namapoond	Leguminosae	It is used to diuretic, leprosy and pulmonary troubles.
<i>Amaranthus spinosus</i> Linn.	Mullukeera	Amaranthaceae	Plant: fever; Leaves: eczema

<i>Amaranthus viridis</i> Linn.	Kuppai keerai	Amaranthaceae	The whole plant: toothache, dropsy.
<i>Amisophacelus axillaris</i>		Commelinaceae	Herb used in lympanitis mixed with oil externally in ascites.
<i>Ammannia baccifera</i> Linn.	Kallurvi	Lythraceae	Plant: Stomachic, laxative, antirheumatic, febrifuge. Leaves: used externally for ringworm, herpic eruptions and other skin diseases; rubefacient.
<i>Andrographis echioides</i> Nees.	Malaithangi	Acanthaceae	Febrifuge, diuretic.
<i>Anisomeles malabarica</i> R. Br.	Aruvaachadachi	Lamiaceae	Plant: Antispasmodic (used in dyspepsia, colic), antipyretic, diaphoretic, antiperiodic, emmenagogue, antirheumatic. The oil is used externally as an embrocation in rheumatic arthritis.
<i>Apluda mutica</i>	Moongil pul	Poaceae	The whole plant: diuretic, gonorrhoea.
<i>Argemone mexicana</i> Linn.	Piramathandu	Papaveraceae	Seed: responsible for epidemic dropsy. Causes diarrhoea and induces toxicity. Oil, leaf juice and root: used externally for indolent ulcers and skin diseases.
<i>Asystasia gangetica</i> T. and Lawiana, Dalz.	Valukakeerai	Acanthaceae	Leaves: fever and skin diseases Plant extract: anti bacterial
<i>Bacoba monnieri</i> (Linn.) Pennell	Neerpirami; Nilappachai	Scrophulariaceae	Root: Purgative; Bark with inflorescence: Snake bites
<i>Basilicum polystachyon</i> (L.) Moench.		Lamiaceae	Decoction for <u>epilepsy</u> , <u>heart palpitations</u> , <u>neuralgia</u> , convulsions.
<i>Bauhinia purpurea</i> Linn.	Mandari	Fabaceae	Bark: tumour in stomach Flower powder: laxative.
<i>Becium filamentosum</i>		Lamiaceae	The plant used against fever and colds.
<i>Biophytum sensitivum</i> (Linn.) DC.	Mukkutti popu	oxalidaceae	The whole plant: diuretic, expectorant, stimulant and tonic.
<i>Blepharis repens</i> Juss.		Acanthaceae	Used as an astringent to the bowels, aphrodisiac, urinary discharges, leucoderma, mental derangements and applied to wounds and ulcers. Seeds are considered attenuant, resolvent, diuretic & expectorant.
<i>Boerhaavia diffusa</i> Linn.	Padarmokkirattai	Nyctaginaceae	Root: jaundice; Leaves: child birth; The whole plant: liver 31 complaints.
<i>Boerhaavia erecta</i> Linn.	Mokkirattai	Nyctaginaceae	Dried plant powder is smoked as a cigarette once day for one month to get relief from asthma.
<i>Borreria hispida</i>	Nathai choori	Rubiaceae	Seeds as a confection are cooling and demulcent and are given in diarrhoea and dysentery.
<i>Brassia juncea</i> (Linn.) Czern. & Coss.	Kaduku	Brassicaceae	Seed oil: pneumonia.
<i>Bulbostylis barbata</i>		Cyperaceae	Herb boiled in water and brew given in dysentery.
<i>Calotropis gigantea</i> (Linn.) R.Br. ex.Ait.	Erukku	Asclepiadaceae	Flowers: stomachic, bechic, antiasthmatic. Milky juice: purgative (gastrointestinal irritant). Roots: used in lupus, tuberculous leprosy, syphilitic ulceration. Leaves: juice poisonous. Used in external swellings. All parts used against bronchitis and asthma.
<i>Cardiospermum halicacabum</i> Linn.	Mudakathan	Sapindaceae	Root decoction: emetic; Leaf juice: diabetes
<i>Carmona retusa</i> (Vahl)	Kuranguvethala	Boraginaceae	Used to treat <u>cough</u> , <u>colic</u> , <u>diarrhea</u> and <u>dysentery</u>

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<i>Cassia alata</i> L.	Vandu kollu	Caesalpiniaceae	Juice of leaves: skin troubles. Seeds: vermifuge.
<i>Cassia auriculata</i> Linn.	Aavarai	Caesalpiniaceae	Roots, leaves and flowers: diabetes and urinary troubles.
<i>Cassia occidentalis</i> Linn.	Paayavarai	Caesalpiniaceae	Purgative, diuretic, febrifugal, expectorant, stomachic. Leaves used internally and externally in scabies, ringworm and other skin diseases. A hot decoction is given as an antiperiodic. Seeds used for cough, whooping cough and convulsions.
<i>Catharanthus roseus</i>	Nithya kalyani	Apocynaceae	Root: leukemia, breast cancer and other related problems. Leaves: sedative and stomachache.
<i>Celosia argentea</i>	Pannaikerai	Amaranthaceae	Seeds: diarrhoea, diseases of eyes; The whole plant: antiprotozoal spasmolytic.
<i>Centella asiatica</i> Linn.	Vallaarai	Apiaceae	Leaves: diuretic, alternative, skin diseases, leprosy. Powdered leaves: improve memory power and concentration of mind.
<i>Citrullus colocynthis</i> Schrad.	Kumuttikai	Cucurbitaceae	Fruit and Seeds: jaundice and urinary diseases.
<i>Cleome felina</i> Linn.		Capparidaceae	The whole plant: vesicant and vermifuge.
<i>Cleome gynandra</i> Linn.	Nallavelai	Capparidaceae	Leaves and seeds: used in the same way as mustard. Bruised leaves: rubefacient and vesicant, used as counter-irritant in headache, neuralgia, rheumatic affections. Roots: decoction, febrifuge. Seeds: anthelmintic; externally counter-irritant.
<i>Cleome viscosa</i> Linn.	Naivelai; Naikadugu	Capparidaceae	Seeds: stimulant, carminative.
<i>Clerodendron inerme</i> Gaertn.	Peenaarichangu ; Sanganguppi	Verbenaceae	Leaves and roots: skin diseases.
<i>Clitoria ternatea</i> Linn.	Sangu pushpam	Leguminosae	Root: refrigerant, laxative and intellect promoting. Leaves: eruptions.
<i>Coccinia grandis</i> W.& A.	Kovai	Cucurbitaceae	Carminative, antipyretic, galactagogue. Powder of root is taken with water to stop vomiting. Juice of leaves: antispasmodic and expectorant. Root: antiprotozoal.
<i>Cocculus hirsutus</i> Diels.	Sirungattukodi	Menispermaceae	Root: laxative; Leaf juice: eczema
<i>Commelina benghalensis</i> Linn.	Kannom vazhai	Commelinaceae	The whole plant: haemorrhage and fever.
<i>Corchorus aestuans</i> L.	Chunchu	Tiliaceae	Leaves: leprosy, itching and rat poisoning.
<i>Corchorus trilocularis</i> Linn.	Perathi, Talakkaiipoond u or Pulichan	Tiliaceae	Plant macerated with water yields mucilage and used as a demulcent. Leaves are used to protect and promote liver function. Root is used to cure syphilis. Seeds are useful in fever and for cleaning bowels.
<i>Crotalaria juncea</i> Linn.	Sanarppai	Leguminosae	Leaves and Seeds: Blood disorders; Root: fever and dysentery
<i>Crotalaria retusa</i> Linn.	Thanthala kotti	Leguminosae	The whole plant: Scabies, astringent and expectorant; Seeds: digestive and skin diseases.
<i>Cucumis sativus</i> Linn.	Vellari	Cucurbitaceae	Leaves: fever; Fruit: whooping cough
<i>Cynodon dactylon</i>	Arugampul	Poaceae	Rhizomes used in genitor-urinary trouble.
<i>Cyperus iria</i>		Cyperaceae	Plant used as stimulant, astringent and stomachic.

<i>Cyperus rotundus</i> Linn		Cyperaceae	Anti inflammatory, antipyretic, analgesic
<i>Dactyloctenium aegypticum</i>	Kakka kalpul	Poaceae	The whole plant used in worm infestation and wounds. Seeds: kidney stones.
<i>Datura metel</i> Linn.	Umatthai	Solanaceae	The whole plant: rapid dog bites Leaves: whooping cough, bronchitis, heat dandruff and lice.
<i>Desmodium triflorum</i> (Linn.) DC.	Seruppadi	Fabaceae	Fresh leaves: used internally as galactagogue and for diarrhoea; applied externally to wounds and abscesses. Root: diuretic. Also used for cough, asthma.
<i>Digera muricata</i> DC.	Sunnambukeerai	Amaranthaceae	Plant decoction: laxative
<i>Diplocyclos palmata</i> Jess.	Iyaveli, Iyaviraali	Cucurbitaceae	Seeds: anti-inflammatory, spasmolytic. Used for vaginal dysfunctions, as a fertility promoting drug.
<i>Echinochloa colona</i>	Karumpul	Poaceae	Root paste: Burning pain on the skin.
<i>Eclipta alba</i> Hassk.	Kaiyaanthavarai	Asteraceae	Deobstruent, antihepatotoxic, anticatarrhal, febrifuge. Used in hepatitis, spleen enlargements, chronic skin diseases. Leaf promotes hair growth. Herb is used as an ingredient in shampoos.
<i>Eichhornia crassipes</i> Solms.	Aahaya thamarai	Pontederiaceae	Juice of leaves: chronic skin diseases.
<i>Elephantopus scaber</i> Linn.	Anachavadi	Asteraceae	Roots: skin diseases; Flowers: cough, swelling; Plant: astringent
<i>Emilia sonchifolia</i> DC.	Muyalchai	Asteraceae	Plant: cut wounds, fever, asthma; Root: diarrhoea
<i>Enicostemma littorale</i> Blume.	Vellaragu	Gentianaceae	The whole plant: digestive, carminative, stomachache and anti-inflammatory.
<i>Euphorbia hirta</i> Linn.	Amman pacharsi	Euphorbiaceae	Pectoral, antiasthmatic, antispasmodic. Used for asthma, laryngitis, chronic nasal and bronchial catarrh; diarrhoea, dysentery, intestinal parasitosis Also used in postnatal complaints, failure of lactation. Latex: vermifuge. Used in diseases of urogenital tract.
<i>Euphorbia thymifolia</i> Linn.	Chinnamman pacharisi	Euphorbiaceae	The whole plant: ring worm, wounds, asthma, skin diseases and leprosy.
<i>Evolvulus alsinoides</i> Linn.	Vishnukiranthi	Convolvulaceae	Tonic, alterative, febrifuge.
<i>Gloriosa superba</i> Linn.	Kalappaikizhan gu	Liliaceae	Rhizome: abortifacient, digestive, stomachache, leprosy, purgative and expectorant. Juice of the leaves: lice
<i>Gomphrena globosa</i> Linn.	Vadaamalligai	Amaranthaceae	Root: Cough
<i>Heliotropium indicum</i> Linn.	Thaelkodu kupp oondu	Boraginaceae	In fusion of the leaves and young shoots are used to treat nettle rash. Infusion of flowers taken in small doses regulates menstruation, where large doses are abortive. Decoctions of the leaves are used as a vermifuge. Juice of leaves is antiseptic and anti-inflammation and applied to wounds, sores, boils, gum-boils and pimples on the face.
<i>Hemidesmus indicus</i> var. <i>indicus</i> R. Br.	Nannaari; Suganthipaalaa	Asclepiadaceae	Root: demulcent, diaphoretic, diuretic, rheumatism Leaves: cut wounds, leukoderma.
<i>Hibiscus vitifolius</i> Linn.	Manjalthutti	Malvaceae	Leaf infusion is taken with 50 ml of milk twice day for 2 days to cure diarrhoea.
<i>Hybanthus enneaspermus</i> (Linn. f.) Muell.	Orilaitthamarai	Violaceae	Diuretic, antigonorrhoeic and demulcent. Root: given in urinary infections, for bowel complaints of children.

<i>Hygrophila auriculata</i> R. Br.	Kazhudhaimullu; Neermulli	Acanthaceae	Seeds and roots: urino-genital system troubles.
<i>Hyptis suaveolens</i> Poit.	Narachappai	Lamiaceae	Leaves colic disorders; Root: stomachache.
<i>Imperata cylindrica</i> (L.) Raeusch.		Poaceae	Culms diuretic, used in dysentery and menorrhagia.
<i>Indigofera linnaei</i>	Seppunerinji	Leguminosae	The whole plant: diuretic and venereal diseases.
<i>Indigofera tinctoria</i> Linn.	Attipurashadam	Leguminosae	Plant: antiseptic, hepatoprotective, hypoglycaemic, nervine tonic. Used in enlargement of liver and spleen, skin diseases, leucoderma, burns, ulcers, piles, nervous disorders, epilepsy, asthma, lumbago, gout.
<i>Ipomoea aquatica</i> Forsk.	Vellaikeerai	Convolvulaceae	Emetic and purgative. Used as an antidote to arsenical or opium poisoning. Plant juice is used for liver complaints; buds for ringworm.
<i>Ipomoea pestigridis</i> Linn.		Convolvulaceae	Leaves: sores and pimples; Root: Purgative
<i>Jatropha glandulifera</i> Roxb.	Adalaichedi	Euphorbiaceae	Root and oil from seed: purgative. Oil: antirheumatic, antiparalytic. Used externally on ringworm and chronic ulcers. Root: used for glandular swellings. Latex: applied to warts and tumours.
<i>Justicia simplex</i> J. Don	Oduodukki	Acanthaceae	The plant is diuretic, stomachic, expectorant, anthelmintic, diaphoretic and aperients; removes indigestion, biliousness, fever and burning of the body; strengthens the lungs, the teeth, stops vomiting; good in diseases of the spleen
<i>Kyllinga brevifolia</i>		Cyperaceae	Leaves used in diarrhoea.
<i>Lannea coromandelica</i> (Houtt.) Merr.	Udhiramaram	Anacardiaceae	Leaves: stop bleeding from cuts. Bark: Anticancer
<i>Lantana camera</i> Linn.	Unnichedi	Verbenaceae	Leaves: antiphlogistic, anti-dermatoses and have a cooling effect. The decoctions of dried roots are used for gonorrhoea, cough, mumps, malaria and influenza.
<i>Lawsonia inermis</i> Linn.	Maruthaani; Aivanam	Lythraceae	Leaves: skin troubles.
<i>Leucas aspera</i> Spreng.	Thumbai	Lamiaceae	It is a laxative, expectorant, stimulant, and emmenagogue. It is also used as a remedy for fever, worm infestation, skin diseases and poisonous bites. It is also used in the treatment of eye diseases, sinusitis and asthma.
<i>Leucas biflora</i> R. Br.	Kodithulasi	Lamiaceae	Cough.
<i>Lippia nodiflora</i> Mich.		Verbenaceae	Herb diuretic and febrifuge, used in ischuria and stoppage of bowels. Paste or poultice of fresh plant applied to boils, swollen cervical glands, erysipelas and chronic indolent ulcers.
<i>Lycopersicon esculentum</i>	Thakkaali	Solanaceae	Mild aperient, blood purifier, cholagogue, digestive. Used in homoeopathy for treating rheumatic conditions, colds, chills, digestive disorders, diabetes, obesity, leucorrhoea, metrorrhagia.
<i>Martynia annua</i> L.	Puli Nagam	Pedaliaceae	The leaves are used to treat epilepsy and are applied to cure tuberculosis. The leaf juice is used as a gargle to relieve sore throat.
<i>Melochia corchorifolia</i> Linn.	Pinnakkupundu	Sterculiaceae	Leaf and root: antidysenteric and laxative. Leaf: applied as poultice for swellings of abdomen and sores.
<i>Memordica charantia</i> Linn.	Pavakkay	Cucurbitaceae	Root: astringent and ophthalmic. Leaves: emetic, anthelmintic and purgative. Fruits: stimulant.

<i>Merremia emarginata</i> Hallier f.	Elikaadhukeera i	Convolvulaceae	Leaf extract is given to drink with 50 ml of honey for 2 days to get relief from cold and cough.
<i>Merremia tridentata</i> Hallier f.	Mudhiyaarkoon dhal	Convolvulaceae	The whole plant: astringent, laxative and tonic.
<i>Mimosa pudica</i> Linn.	Thottal surungi	Mimosoideae	Root: astringent, cooling, diuretic and constipating. Leaves: tonic, wounds and hemorrhages.
<i>Mollugo nudicaulis</i> Lam.	Parpaadagam	Aizoaceae	Leaves: boils
<i>Mollugo pentaphylla</i> Linn.	Seerakappoond u	Aizoaceae	The whole plant: antiseptic and sores.
<i>Mukia madraspatana</i>	Mosumosukkai	Cucurbitaceae	The whole plant: expectorant, carminative and refrigerant.
<i>Nelumbogo nucifera</i> Gaertn.	Thaamarai, Ambel	Nymphaceae	Filament: astringent and haemostatic. Prescribed for bleeding piles and menorrhagia. Flowers: decoction is given in cholera, fever, strangury, palpitation of heart. Rhizomes: given in piles, chronic dyspepsia and dysentery; applied externally to cutaneous eruptions, scabies and ringworm. Root: astringent, diuretic, antiemetic, cooling.
<i>Ocimum canum</i> Sims.	Naai thulasi	Lamiaceae	Plant: stimulant, carminative, diaphoretic. Leaf: bechic, febrifuge; used in cold, bronchitis, catarrh, externally in skin diseases. Essential oil: antifungal. Seeds: hypoglycaemic; also used in the treatment of leucorrhoea and other diseases of urino-genital system.
<i>Oldenlandia umbellata</i> Linn.	Saayavaer	Rubiaceae	Leaves and roots: used in bronchitis, asthma, consumption.
<i>Oxystelma esculentum</i> R. Br.	Kulappaalai	Asclepiadaceae	Herb antiseptic, depurative and galactagogue. Decoction used as gargle. Latex used as a vulnerary. Fresh root prescribed in jaundice.
<i>Panicum psilopodium</i>	Kodaikanari	Poaceae	Anthers used in blood disorder and juice: febrifuge.
<i>Parthenium hysterophorus</i>		Asteraceae	Roots: febrifuge and dysentery.
<i>Passiflora foetida</i> Linn.	Mosukkattaa; Poonaipiduku	Passifloraceae	Fruits emetic, fruit decoction used in asthma and biliousness. Leaf decoction and roots emmenagogue, used in hysteria.
<i>Pavonia zeylanica</i> Cav.	Thengaiipoond u	Malvaceae	It is used as a febrifuge and anthelmintic.
<i>Pentatropis capensis</i> R. Br.		Asclepiadaceae	Alternative and referigerant.
<i>Pedaliium murex</i>	Yanai neringil	Pedaliaceae	Mucilaginous infusion demulcent, diuretic and tonic used in dysuria, gonorrhoea and other urinogenitol disorders. Root decoction antibilious. Fruit aphrodisiac, decoction given in incontinence of urine, nocturnal emissions, spermatohhoea and impotence.
<i>Pergularia daemia</i> R. Br.	Vaelipparuthi; Seendhalkodi	Asclepiadaceae	The plant is astringent, acrid, thermogenic, expectorant, emmenagogue, anthelmintic, antipyretic and laxative. It is useful in the treatment of cough, asthma, inflammations, and leukoderma.
<i>Peristrophe bicalyculata</i> Nees.		Acanthaceae	Root: Filariasis, skin diseases, worm infestation, wounds indigestion and intermittent fever.
<i>Phyllanthus niruri</i> Linn.	Keelanelli	Euphorbiaceae	It is used to treat jaundice, constipation, stomachache, dyspepsia and dysentery.
<i>Phyllanthus maderaspatensis</i> Linn.	Melanelli	Euphorbiaceae	Seeds: headache. Leaves: carminative and diuretic.

<i>Physalis minima</i> Linn.	Sodakkuthakka ali	Solanaceae	Fruits and leaves used in tonic, diuretic, purgative.
<i>Pithecolobium dulce</i> Benth.	Kodukkapuli	Mimosoideae	Root bark: dystentery.
<i>Plumbago zeylanica</i>	Kodivaeli; chithiramoolam	Plumbaginaceae	Root abortifacient, vesicant and diuretic, used in dyspepsia, piles, anasarca, diarrhoea and skin diseases. Root paste applied for opening abscesses.
<i>Polygonum barbatum</i> Linn.	Neerialari	Polygonaceae	Whole plant- ulcers, stomachache, diarrhoea, cooling, carminative.
<i>Polygonum glabrum</i>	Aatharali	Polygonaceae	Plant paste is mixed with oil and applied on the Cuts & Wounds.
<i>Pseudarthria viscida</i>		Leguminosae	Decoction of roots on their powder used in biliousness, rheumatism, diarrhoea, asthma, cardiac troubles, worm infestation and piles.
<i>Rivea hypocrateriformis</i> Choisy.	Kodiottai	Convolvulaceae	Fresh root: boils Root decoction: sex weakness.
<i>Ruellia tuberosa</i> Linn.		Acanthaceae	Emetic, used as a substitute for Ipecac.
<i>Saccharum spontaneum</i>		Poaceae	Roots used in urinary disorders, wasting diseases, diarrhoea, haemorrhage, eye disease and urinary calculi.
<i>Santalum album</i>	Santhanam	Santalaceae	Sources of sandal wood oil, wood and oil are diuretic, diaphoretic, refrigerant and expectorant.
<i>Scoparia dulcis</i> Linn.	Sarakkothhini	Scrophulariaceae	Infusion of leaves used in fever, cough, bronchitis and as a gargle for toothache. Decoction of plant used for gravel and other renal troubles. Amellin - an antidiabetic compound in leaves is useful in albuminuria, ketonuria and other diabetic complications.
<i>Sesamum indicum</i>	Yellu	Pedaliaceae	Seeds emollient, lactagogue, diuretic, seed paste is applied to piles. Seeds yield fatty oil called sesame oil, gingelly oil or til oil, also yields volatile oil, fresh leaves used in ophthalmic and cutaneous complaints.
<i>Sebastiania chamaela</i> Muell.		Euphorbiaceae	Decoction given with ghee as a tonic; also applied to vertigo. Juice used in diarrhoea.
<i>Setaria verticillata</i>	Burpul	Poaceae	Roots: septic wounds.
<i>Sida acuta</i> Burm.	Arivamunai Ponda	Malvaceae	Leaves: diuretic and elephantiasis. Root: tonic and stomach ache.
<i>Sida cordata</i> Linn.	Nilathuthi	Malvaceae	Tonic and astringent, used in fevers and urinary complaints. Root bark used in leucorrhoea, micturition and gonorrhoea. Herb used in arthritis swellings in experimental animals. Leaves given to pregnant women to stop diarrhoea. Flowers and fruits given with sugar for relief from burning sensation in cases of micturition.
<i>Sida cordifolia</i> Linn.	Palampasi	Malvaceae	Root: urinary diseases and disorder of blood and bile. Seeds: bleeding piles, blood dysentery, nervous diseases, paralysis and asthma.
<i>Sida rhombifolia</i> Linn.	Kurunthattai	Malvaceae	Stem: rheumatism, tuberculosis and diuretic.
<i>Solanum trilobatum</i> Linn.	Thoothuvalai	Solanaceae	Root: expectorant. Fruits: carminative. Juice of leaves: rheumatism.
<i>Solanum torvum</i> Swartz.	Sundai	Solanaceae	It is useful in liver as well as spleen enlargement. Decoction gives in cough. Herb sedative, diuretic and digestive. Roots used in poultices applied for cracks in the feet.
<i>Solanum surattense</i>	Kandan kathirikai	Solanaceae	The whole plant: astringent, diuretic, expectorant, bitter, stomachache and heart diseases.

<i>Sopubia delphinifolia</i> G. Don		Scrophulariaceae	Juice applied on sores on feet, caused by exposure to moisture.
<i>Spermocoe hispida</i>	Natthaichoori	Rubiaceae	Extract of leaves used in haemorrhoids and gall stones. Seeds demulcent, used in diarrhoea and dysentery.
<i>Sphaeranthus indicus</i> Linn.	Kottaikaranthai	Asteraceae	Leaves and flowers: tonic. Seeds and Root: cough and chest troubles.
<i>Stachytarpheta indica</i> Vahl.		Verbenaceae	Febrifuge, anti-inflammatory. In Brazil, the plant is externally used for purulent ulcers and internally for rheumatic inflammations and fever. An infusion of the bark is used against diarrhoea and dysentery.
<i>Striga lutea</i> Lour.	Pallipoondu	Scrophulariaceae	Plants given to improve appetite.
<i>Synedrella nodiflora</i> Gaertn.		Asteraceae	Leaves: laxative and rheumatism.
<i>Tagetes erecta</i>	Chendumalli;V edipunaaripoo	Asteraceae	Infusion of herb used in rheumatism, cold and bronchitis. Roots extract laxative. Leaves used in renal troubles and muscular pains and applied to boils and carbuncles. Leaves and florets used as emmenagogue; their infusion used as a carminative, diuretic and vermifuge.
<i>Tephrosia purpurea</i> Pers.	kaattukolingi,A vuri	Leguminosae	The whole plant: skin diseases, elephantiasis, asthma, bronchitis and pectoral diseases.
<i>Thevetia peruviana</i>	Ponnaralli	Apocynaceae	Bark and leaves: bitter cathartic, emetic; poisonous. Roots: a plaster is applied to tumours.
<i>Tinospora cordifolia</i> Miers.	Seendil; Sallaikkodi	Menispermaceae	Stem: bone fracture. Stem decoction: fever.
<i>Trianthema portulacastrum</i> Linn.	Mookaratai; Saranai	Aizoaceae	Roots cathartic, irritant and abortifacient used in asthma, amenorrhoea and obstruction of the liver. Leaves diuretic, used in dropsy, oedema, ascites. Decoction of herb used as an antidote to alcohol poisoning, also used in rheumatism and as a vermifuge.
<i>Tribulus terrestris</i> L.	Nerinjil	Zygophyllaceae	Fruits tonic and diuretic, used in painful micturition and calculous affections; also prescribed in Bright's disease. Leaves stomachic, used as lithotriptic. Roots aperients.
<i>Trichodesma indicum</i> R. Br.	Kalludaithumba i	Boraginaceae	The whole plant: carminative, anti-inflammatory, constipating, diuretic, diarrhoea and dysentery.
<i>Tridax procumbens</i> L.	Thatta poovu	Asteraceae	Leaves: diarrhoea and dysentery. Leaf juice: haemorrhage.
<i>Vernonia cinerea</i> Less.		Asteraceae	Root: diarrhoea, cough and inflammations. Leaves: eczema, ring worm and elephantiasis. Seeds: cough, chronic, skin diseases and colic.
<i>Vicoa indica</i> DC.		Asteraceae	The whole plant: antifertility activity. Root: used in scorpion sting. Inflorescence: throat disorders.
<i>Vigna munga</i>	Ulundu	Fabaceae	Pulse used in rheumatism, nervous disorders and hepatic diseases also in dropsy and cephalgia as a diuretic. Root narcotic, used during aching bones.
<i>Vigna trilobata</i>	Naripayaru	Fabaceae	Leaves sedative, used in cataplasm for weak eyes; also used in irregular fever in the form of decoction.
<i>Vitex negundo</i> Linn.	Nallanochi	Verbenaceae	Leaves tonic and vermifuge; smoked for relief in catarrh and headache; their decoction employed in medicinal baths for catarrhal and rheumatic affections. Flowers also used in diarrhoea, fever and lever complaints.

<i>Walteria indica</i> Linn.	Sengalipoondu	Sterculiaceae	Plant febrifuge, purgative, emollient. Roots chewed to control internal haemorrhages; their decoction used for the same purpose and to induce fecundity in women. Flowers and root barks used against thrush.
<i>Wattakka volubilis</i>	Kurinjaa; Kaattuaavaaran kodi	Asclepiadaceae	Plant juice used as a sternutatory. Roots and tender stalks emetic and purgative. Leaves used in application for boils and abscesses.
<i>Xanthium strumarium</i> Linn.	Maruloomathu m	Asteraceae	Seeds: venereal diseases.
<i>Zizyphus jujuba</i> Lamk.	Ilandai	Rhamnaceae	Fruits of wild trees considered cooling, anodyne and tonic.
<i>Zizyphus oenoplia</i> Mill.	Sooraimullu	Rhamnaceae	Roots used in hyperacidity and Ascaris function. Fruit preparations used in stomachache.
<i>Zornia diphylla</i> Pers.		Leguminosae	Herb used in dysentery and root given to children as a soporific.