



## A SURVEY OF TRADITIONAL MEDICINAL PLANTS FROM THE VELLORE DISTRICT, TAMILNADU, INDIA.

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### ABSTRACT

*Man has always made use of medicinal plants to cure sufferings and diseases. This review is not documented information of the various therapeutic applications of plants used in traditional medicine. The rural folk and old aged people have long been using plants for their various ailments. However this information related to traditional medicinal uses of plants is not well documented. There is an urgent need for documenting these folklore and traditional knowledge in some form before such valuable knowledge becomes inaccessible and extinct. A botanical survey was carried out among the various species of medicinal plants in Vellore district, Tamilnadu, India. Traditional uses of 124 plant species belonging to 40 families are described for their medicinal properties in the present study. The tribal people use these plants to treat skin allergy, dysentery, for anti-bacterial activity, diabetes, jaundice, asthma, fertility, antifertility, dental diseases, etc. The medicinal plants used by them are arranged alphabetically followed by family name, local name and their medicinal uses.*

**Key Words:** Medicinal plants, Conservation.

### INTRODUCTION

Indian systems of Medicine derive many of their curative tools from plants (Kumar *et al* 2005) which are used as drugs. Information about these is often found in old literature (*Atharveda, Charak Samhita, Sushruta Samhita, etc.*). In spite of the many achievements of allopathic medicines, the Indian Systems of Medicine still continue to provide medical care to majority of the people on account of their cheaper cost with no side effects (Kokate *et al* 2002). Herbal drugs obtained are safer in the treatment of various diseases (Ayyanar and Ignacimuthu, 2005, Sathyavathi *et al* 2011).

Medicinal plants play an important role in supporting healthcare system in India. According to the World Health Organization (WHO), 80% of the rural population in developing countries utilizes locally available medicinal plants for their primary healthcare needs. About 90% of the country's medicinal plants are found in forest habitats. Only 10% of the medicinal plants are distributed among other landscape sources like open grasslands, agricultural pastures and in and around fresh water bodies, etc. It may be noted that India is one amongst those nations which possess a historical track record of having made a significant global contribution by virtue of its traditional knowledge of the medicinal plants.

India has rich medicinal plant heritage of 8000 species and an estimated 40,000 herbal formulations. If conserved and sustainably utilized it has global relevance. Thus there is an urgent need to conserve the wild populations of medicinal plant diversity in prioritized forest regions of India. Conservation of medicinal plants will contribute to self-reliance of millions for India's own health needs ( Trivedi, P.C 2004).

The World Health Organization (WHO) has compiled a list of 20,000 medicinal plants used in different part of the globe. A large number of these species have local uses within the country or spread over several countries in a region. Amongst these, over 100 botanicals are reported to have consistently large demand and are traded in major drug markets in the world. The medicinal virtues of these raw materials including chemical contents and composition of these species have been well worked out to have merited inclusion in National Pharmacopoeias and official formularies in different countries (Govil et al 2002).

## **MATERIAL AND METHODS**

### **Study area**

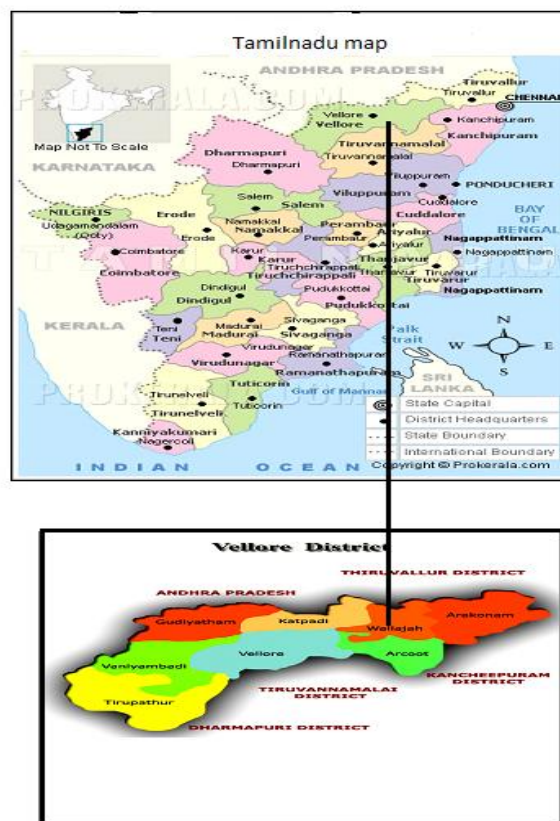
Vellore district has an area of 6077 km<sup>2</sup>. This district lies between 12° 15' to 13° 15' North latitudes and 78° 20' to 79° 50' East longitudes in Tamil Nadu State. The district is bounded on the northeast by Tiruvallur District, on the southeast by Kanchipuram District, on the south by Tiruvannamalai District, on the southwest by Krishnagiri District, and on the northwest and north by Andhra Pradesh state. Major towns in the district include Ambur, Arakkonam, Arcot, Yelagiri Hills, Jolarpet, Gudiyattam, Karigiri, Melvisharam, Ranipet, Sholinghur, Tiruppattur, Vaniyambadi, Vellore, Walajapet and Kaveripakkam in Vellore, Tamil Nadu. The average maximum temperature experienced in the plains is 39.5 degree Celsius and the average minimum temperature experienced is 15.6 degree Celsius. The region receives an average annual rainfall of 795 mm, out of which North East Monsoon contributes to 535 mm and the South West Monsoon contributes to 442 mm.

According to the 2011 census Vellore district has a population of 3,928,106, roughly equal to the nation of Liberia or the US state of Oregon. This gives it a ranking of 62nd in India (out of a total of 640). The district has a population density of 646 inhabitants per square kilometer (1,670 /sq mi). Its population growth rate over the decade 2001-2011 was 12.96 %.

### **METHODOLOGY**

People of this region can easily understand Tamil and can also communicate in that language. In order to document the utilization of medicinal plants, a total field survey was carried out in this area. The investigation was carried out where the population was dense. During the trips the village heads, herbal practitioners, as well as elderly men and women of the different villages were interviewed. To know the uses of plants, different categories of people like family heads, elders, old, experienced and knowledgeable person were repeatedly interviewed. Specific question based Performa was designed and information recorded in the botanical field notebook along with important medicinal uses. Intensive botanical explorations were undertaken in selected places of Vellore district to find out various medicinal plants used for different ailments in the form of leaves, stems, flowers, fruits and seeds (Ismeet Kaur *et al* 2011).

Fig. 1- Location map of study area



## RESULTS AND DISCUSSION

In the study, a botanical survey was carried out in Vellore district, Tamilnadu, India. Traditional uses of 124 plant species spread over 40 families are described under this study. The tribes have used the plants to treat skin allergy, dysentery, anti-bacterial activity, diabetes, jaundice, asthma, fertility, antifertility, dental diseases, etc. The medicinal plants used by them are arranged alphabetically followed by family name, local name and medicinal uses (Table 1).

S.No	Name of the plant	Family	Local name (Tamil)	Part used	Therapeutic uses
1	<i>Adhatoda vasica</i>	Acanthaceae	Adathodai	Aerial part	Bronchitis, leprosy, heart troubles, asthma, cough sore eyes and gonorrhoea.
2	<i>Andrographis paniculata</i>	Acanthaceae	Seriyenangai Nilavempu	leaf	Snake bites and Liver disease.
3	<i>Blepharis maderaspatensis</i>	Acanthaceae	Nethirapoond u	leaf	wound healing
4	<i>Dipteracanthus patulus</i>	Acanthaceae	Nittinaviralk urittan	leaf	Eye sore
5	<i>Hygrophila auriculata</i>	Acanthaceae	Nirmulli	Leaf, seed	Used against cough, seeds used as aphrodisiac and increase male fertility.
6	<i>Indoneesiella echioides</i>	Acanthaceae	Pittumpai	leaf	Leaf juice boiled with coconut oil is applied on head to prevent falling and graying hair.
7	<i>Justicia tranquebariensis</i>	Acanthaceae	Sivanarvemb u	leaf	Swelling and snake bites.
8	<i>Rhinacanthus nasutus</i>	Acanthaceae	Nagamalli	leaf	Leaves boiled with gingelly oil are applied to treat toothache
9	<i>Furcraea foetida</i>	Agavaceae	Annaikatraiei	leaf	Anti-inflammatory and wound healing.

10	<i>Gisekia pharnaceoides</i>	Aizoaceae	Manalikkirai	Aerial part	Antibacterial properties.
11	<i>Gilinus lotoides</i>	Aizoaceae	Seruserupada i	leaf	antispasmodic and ecboic properties.
12	<i>Mollugo cerviana</i>	Aizoaceae	Porpadakam	Aerial part	Treat fever.
13	<i>Trianthema portulacastrum</i>	Aizoaceae	Saruvelai	Leaf	Antioxidant and hepatoprotective activities.
14	<i>Alangium salvifolium</i>	Alangiaceae	Ayengel	Aerial part	Antioxidant and antimicrobial activities.
15	<i>Achyranthes aspera</i>	Amaranthaceae	Naivooruvi	leaf	Wounds
16	<i>Aerva lanata</i>	–	Sirupolai	aerial part	Leaf juice applied externally on bitten area and applied externally to cure chronic wounds.
17	<i>Alternanthera sessilis</i>	Amaranthaceae	Ponnakanni	leaf	Burning sensation, diarrhoea, leprosy, skin diseases and fever.
18	<i>Amaranthus graecizans</i>	Amaranthaceae	Serukeerai	Aerial part	Antimicrobial activity.
19	<i>Amaranthus spinosus</i>	Amaranthaceae	Mullikkirai	Aerial part	Leprosy, eczema, nausea, fever and anaemia.
20	<i>Lannea coromandelica</i>	Anacardiaceae	Anaikarai	leaf	Wounds, bruises, ulcer, ophthalmia, odontalgia, diarrhoea and dysentery.
21	<i>Mangifera indica</i>	Anacardiaceae	Ma	Leaf, seed	Dysentery and diarrhea.
22	<i>Annona squamosa</i>	Annonaceae	Setha	fruits	Intestinal worms.
23	<i>Polyalthia longifolia</i>	Annonaceae	Nettilinkam	leaf	Fever, gonorrhoea, uterus aliment, leucorrhoea, mouth ulcer heart problem, blood pressure and stimulated respiration.
24	<i>Centella asiatica</i>	Apiaceae	Vallarai, parni	Aerial part	Increasing memory power
25	<i>Catharanthus roseus</i>	Apocyanaceae	Nithyakalyan i Sudukadumal li	Aerial part	Dry park powder is used for cancer therapy.
26	<i>Carissa spinarum</i>	Apocyanaceae	Sirukila, Kala		Snake bites, rheumatism and worms.
27	<i>Ervatamia divaricata</i>	Apocyanaceae	Nantiyavartta m	leaf	Antibacterial and antifungal properties.
28	<i>Holorrhena antidysenterica</i>	Apocyanaceae	Kutasappalai	Aerial part	Hypoglycemic and anti-protozoal activities.
29	<i>Plumeria rubra</i>	Apocyanaceae	Segappu arali	leaf	Ulcers, pruritus, leprosy, and vitiated conditions of Vata and Kapha.
30	<i>Pistia stragiotetes</i>	Araceae	Akayat-tamarai	Aerial part	Bladder complaints, kidney afflictions, diabetes, hematuria, dysentery, and anemia.
31	<i>Typhonium trilobatum</i>	Araceae	Karunai	All part	Antibacterial activity.
32	<i>Aristolochia indica</i>	Aristolochiaceae	Perumarunth u	leaf	The leaf juice of the plants three days to relieve stomach pain.
33	<i>Aristolochia bracteolata</i>	Aristolochiaceae	Atutintappala i	leaf	Leaf paste applied over the scalp to relieve Dandruff and fungal infection.
34	<i>Calotropis gigantean</i>	Asclepiadaceae	Erukkam	Leaf, milk	Cure rheumatic Joints pain and swellings.
35	<i>Gymnema sylvestre</i>	Asclepiadaceae	kurintai	leaf	Diabetes

36	<i>Hemidesmus indicus</i>	Asclepiadaceae	Nannari	Aerial part	Fever and skin diseases.
37	<i>Pentatropis capensis</i>	Asclepiadaceae	Upilankodi	leaf	Constipation, colic and diarrhea.
38	<i>Pergularia daemia</i>	Asclepiadaceae	Uttamani	leaf	Bath with leaf decoction is taken to cure body pain.
39	<i>Tylophora indica</i>	Asclepiadaceae	kaakittam	Aerial part	Asthma, bronchitis, whooping cough, dysentery, diarrhoea, Wounds and ulcers.
40	<i>Eclipta prostrata</i>	Compositae	Karisalankanni	Leaf	Eye diseases
41	<i>Eclipta procera</i>	Asteraceae	Mangel karisalankanni	leaf	Jaundice
42	<i>Ceiba pentandra</i>	Bombacaceae	Ilavam	Aerial part	Diuretic, antipyretic, tonic, gonorrhoea, dysuria, acrid, bitter, thermogenic febrifuge, emetic tonic and tumours.
43	<i>Bombax ceiba</i>	Bombacaceae	Ilavu	Aerial part	Sweet, cooling, stimulant, tonic demulcent and dysentery.
44	<i>Brassica juncea</i>	Cruciferae	katuku	Seed, leaves	Eye diseases (white patches in pupil)
45	<i>Cassia auriculata</i>	Cesalpinoideae	Avarai	stem	Stem decoction mixed with garlic and powdered pepper is given to cattle as purgative.
46	<i>Cassia tora</i>	Cesalpinoideae	Tagarai	Aerial part	Malaria, ring worm, chronic inflammation of the skin and other skin diseases.
47	<i>Caesalpinia bonduc</i>	Cesalpinoideae	kaccakkay	Aerial part	Fever, cough, worms, flatulence, dyspepsia, jaundice, arthritis, splenomegaly and diabetes.
48	<i>Cassia fistula</i>	Cesalpinoideae	Sarakondrai, Konnei	Aerial part	Bark decoction mixed with garlic and powdered pepper is given to cattle as purgative.
49	<i>Cassia alata</i>	Cesalpinoideae	Seemaiakathi	leaf	Ringworm patches, cough and eczema.
50	<i>Cassia roxburghii</i>	Cesalpinoideae	Sennkondrai	leaf	Hepatoprotective activity.
51	<i>Cassia obtusa</i>	Cesalpinoideae	Nilaavarai	leaf	Antimicrobial activity.
52	<i>Tamarindus indica</i>	Cesalpinoideae	Puli	fruit	Fresh fruit pulp paste mixed with lime is applied on the painful muscle swelling.
53	<i>Cassia senna</i>	Cesalpinoideae	Nelavakai	leaf	Abdominal disorders, leprosy, skin disease, jaundice Leucoderma, cough, bronchitis, typhoid fever, anaemia and Tumours.
54	<i>Delonix elata</i>	Cesalpinoideae	Vatanarayana n	leaf	Antimicrobial and antioxidant properties.
55	<i>Crateva adansonii</i>	Capparaceae	Mavelangam	leaf	Fever, acrid and cough
56	<i>Cleome viscosa</i>	Capparaceae	Kattu-katuku	leaf	Acrid, thermogenic, antiscorbutic, anthelmintic and sudorific. The roots are stimulant, and vermifuge.
57	<i>Cleome gynandra</i>	Capparaceae	Nalvelai	leaf	Toothache.
58	<i>Capparis zeylanica</i>	Capparaceae	Adondai	leaf	Boils, swelling and appetite
59	<i>Cadaba fruticosa</i>	Capparaceae	Narivili	leaf	Snake bite.
60	<i>Carica papaya</i>	Caricaceae	Pappali	Leaf, fruits	Tuberculosis and promotes menstrual flow.
61	<i>Commelina</i>	Commelinaceae	kanankolai	leaf	Rabies

	<i>benghalensis</i>				
62	<i>Tridax procumbens</i>	Rubiaceae	Kenatrupasan , Vettukkaya puntu	leaf	Leaf juice is applied externally for healing wounds.
63	<i>Launaea sarmentosa</i>	Rubiaceae	Eluthanipoon du	leaf	Antibacterial properties.
64	<i>Ipomoea obscura</i>	Convolvulaceae	Cirutali	leaf	Leaf past mixed with castor oil is applied on wound.
65	<i>Merremia emarginata</i>	Convolvulaceae	Musakaparni	leaf	Nephropathy, uropathy, pneumonosis, cardiac diseases, fever, anaemia, and rat bite.
66	<i>Citrullus colocynthis</i>	Cucurbitaceae	Peyt-tumatti	Leaf, fruits	Tumours, leucoderma, ulcers, asthma, bronchitis, jaundice, elephantiasis, tubercular glands of the neck and splenomegaly.
67	<i>Coccinia grandis</i>	Cucurbitaceae	Kovai	leaf	Eye diseases
68	<i>Cucumis sativus</i>	Cucurbitaceae	Vellari	Leaf, fruits	Fever Insomnia, bronchitis, jaundice, haemorrhages Strangury and general debility.
69	<i>Cucurbita moschata</i>	Cucurbitaceae	Poosani	Fruits, leaf	Burns, scalds, inflammations, abscesses, boils, migraine and Neuralgia
70	<i>Lagenaria siceraria</i>	Cucurbitaceae	Sorakkai	leaf	Cough, bronchitis, asthma, fever, inflammations, Leprosy, skin diseases, jaundice, decaying teeth, flatulence and baldness.
71	<i>Mukia maderaspatana</i>	Cucurbitaceae	Musumusuka i	leaf	Burning sensation, dipsia, flatulence, colic Consumption, ulcers, cough, asthma, neuralgia, notalgia, odontalgia and vertigo.
72	<i>Cyperus rotundus</i>	Cyperaceae	Muttakkacu	Aerial part	Wounds, fevers and digestive system disorders.
73	<i>Acalypha indica</i>	Euphorbiaceae	Kuppai meni	leaf	Leaf juice is applied externally for curing body itching.
74	<i>Croton bonplandianus</i>	Euphorbiaceae	Attupuntu	Aerial part	Plant latex is used to cure wounds.
75	<i>Euphorbia heterophylla</i>	Euphorbiaceae	Amman paccarici	Aerial part	Remove Intestinal worms.
76	<i>Euphorbia hirta</i>	Euphorbiaceae	Cututurattic eti	Entire plant	Entire plant paste in goat milk taken internally for stomach Upset.
77	<i>Jatropha gossypifolia</i>	Euphorbiaceae	Kadalamanak ku	Entire plant	Toothache and angular stomatitis, plant latex is used to cure Headache.
78	<i>Phyllanthus amarus</i>	Euphorbiaceae	Kilanelli	Aerial part	Plant extract is used to cure jaundice.
79	<i>Phyllanthus emblica</i>	Euphorbiaceae	Nelli	fruits	Decoction of fruits along with green gram is given to treat blood Pressure.
80	<i>Ricinus communis</i>	Euphorbiaceae	Amanakku	seed	Seed oil is used for cooling the body during fever.
81	<i>Ocimum basilicum</i>	Labiatae	Capja	leaf	Leaf juice is used as drops in ear pain.
82	<i>Leucas aspera</i>	Labiatae	Thumbai	leaf	Leaf juice is given with honey to treat bronchitis in children.
83	<i>Ocimum tenuiflorum</i>	Labiatae	Thulasi	leaf	Leaf juice is mixed with cumin is given to cure the dry cough.
84	<i>Ocimum canum</i>	Labiatae	pakli	Aerial part	Colds, fevers and parasitic infestations.

85	<i>Anisomeles malabarica</i>	Labiatae	peruntumpai	Aerial part	The plant is useful halitosis, amentia, intestinal worms and fever arising from teething in children.
86	<i>Aloe vera</i>	Liliaceae	Nali, Thazhai	Aerial part	Promotes menstrual flow, heals wounds and fresh cuts, eye diseases, asthma, leprosy and jaundice.
87	<i>Asparagus recemosus</i>	Liliaceae	Catavari	Aerial part	Nervous disorders, diarrhoea, dysentery, tumours, and control vata and pitta, cough throat infections and scalding of urine.
88	<i>Abutilon indicum</i>	Malvaceae	Thuththi	leaf	Fever
89	<i>Hibiscus cannabinus</i>	Malvaceae	Kaccakkirai	leaf	Antihypertensive
90	<i>Hibiscus Rosasinensis</i>	Malvaceae	Semparuthi	Leaf, flower	Hair growth and Cooling effect.
91	<i>Thespesia populnea</i>	Malvaceae	Puvaracu	leaf	Skin disease
92	<i>Melia azedarach</i>	Rutaceae	Malaiyembu	leaf	Leprosy skin diseases, wounds, ulcers, cough, asthma and intermittent fevers.
93	<i>Tinospora Cordifolia</i>	Menispermaceae	Seenthil	leaf	Treat piles
94	<i>Acacia nilotica</i>	Mimosoideae	Tiritapicam	leaf	Astringent, acrid, cooling, stypic, aphrodisiac, vulnerary, Anthelmintic, constipating, depurgative, diuretic, expectorant, alexeteric and nutritive.
95	<i>Acacia pennata</i>	Mimosoideae	Indu	Aerial part	Antimicrobial and antioxidant properties.
96	<i>Albizia amara</i>	Mimosoideae	Oosillai	Stem	Stem bark paste is applied externally for healing wounds.
97	<i>Albizia lebeck</i>	Mimosoideae	Siridam	leaf	Rheumatic joint pain.
98	<i>Mimosa pudica</i>	Mimosoideae	Tottalvati	leaf	Liver disease, constipation, dysentery and kidney problems.
99	<i>Acacia dealbata</i>	Mimosaceae	Seegai	Bark, leaf and wood	Cuts and wounds.
100	<i>Ficus benghalensis</i>	Moraceae	Alam	Latex	Latex is given to children in fever and dullness.
101	<i>Ficus racemosa</i>	Moraceae	Atthi	fruits	Dysentery
102	<i>Ficus religiosa</i>	Moraceae	Arasu	leaf	Antibacterial activity.
103	<i>Ficus virens</i>	Moraceae	Nakaiyal	leaf	Antibacterial activity.
104	<i>Moringa oleifera</i>	Moringaceae	Murungai	leaf	Powdered stem bark is taken orally as an antidote to poisonous bites.
105	<i>Musa paradisiaca</i>	Musaceae	Valai, tatam	stem	Juice is obtained from pseudostem is taken orally to dissolve the Kidney stone.
106	<i>Lablab purpureus</i>	Papilionoideae	Avarai	leaf	Alexipharmic, Emmenagogue, Astringent, diuretic, anaphrodisiac, stomachic and anti-spasmodic.
107	<i>Pongamia pinnata</i>	Papilionoideae	ponka	Bark leaf	Bark and leaf powder is given orally to cattle for better digestion.
108	<i>Pterocarpus marsupium</i>	Papilionoideae	Vengai	Aerial part	Astringent, bitter, acrid, cooling, anti-inflammatory union-promoter, depurative, urinary astringent, alterant, rejuvenating. leprosy, fractures, skin diseases, diabetes cough, asthma and graying hair.
109	<i>Sesbania grandiflora</i>	Papilionoideae	Agathei	leaf	Cooked leaves are taken to get cooling effect to infected eyes.

110	<i>Vigna mungo</i>	Papilionoideae	Oolunthu	Aerial part	Rheumatism, Nervous diseases, Liver diseases, Diuretic, Dropsy and Cephalalgia.
111	<i>Punica granatum</i>	Punicaceae	Matulai	fruits	Elimination of kidney stones from carrying mothers.
112	<i>Ziziphus mauritiana</i>	Rhamnaceae	Munnatimatu	Fruits, seeds	Treat piles
113	<i>Ixora coccinea</i>	Rubiaceae	Vetci	leaf	Cough, fever, conorrhoea, diarrhoea, dysentery, sores, ulcers and skin diseases.
114	<i>Morinda coreia</i>	Rubiaceae	Nuna	leaf	Antibacterial properties
115	<i>Canthium parviflorum</i>	Rubiaceae	Karai	leaf	hermogenic, diuretic, febrifuge, constipating and anthelmintic tonic.
116	<i>Spermacoce hispida</i>	Rubiaceae	Taruni	Aerial part	Dyspepsia, colic, flatulence and general debility.
117	<i>Aegle marmelos</i>	Rutaceae	Vilvam	fruit	Ripened fruit pulp paste is applied on head to get cooling effect to eyes.
118	<i>Citrus medica</i>	Rutaceae	Campalam	fruits	Foul breath, scurvy, nausea and vomiting.
119	<i>Murraya koenigii</i>	Rutaceae	Kariveppilai	leaf	Dysentery, bloodpurifier, tuberculosis and burning pain.
120	<i>Vitex negundo</i>	Verbenaceae	Nochi	leaf	Headache, sinus problem.
121	<i>Cissus quadrangularis</i>	Vitaceae	Perandai	Areal part	Heart diseases, diabetes and metabolic syndrome
122	<i>Solanum torvum</i>	Solanaceae	Cuntai	Aerial part	Skin diseases, inflammations, colic, flatulence, rheumatoid arthritis, cough, fever, asthma, bronchitis, urinary retention and kidney stones.
123	<i>Solanum trilobatum</i>	Solanaceae	Thuthulai	Leaf	Leaf extract is taken orally to cure cough.
124	<i>Solanum nigrum</i>	Solanaceae	Manathakkali	Aerial part	Inhibits growth of cervical carcinoma.

The plants documented in this survey belong to the families such as Asteraceae, Acanthaceae, Berberidaceae, Cannabinaceae, Poaceae, Gentianaceae, Liliaceae, Lamiaceae, Ranunculaceae, Plumbaginaceae, Polygonaceae, Rosaceae, Rutaceae etc., (Chopra *et al.*, 1956, Khare, 2007).

## CONCLUSION

Through these investigations many medicinal plants have been verified. We suggest that these plants can be used as drugs by pharmacologically unexplored areas of India, which may be utilized for the better human health. In such cases laboratory investigations and clinical trials are suggested to validate the therapeutic properties of these herbal preparations for effective and safe use.

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