



## Enumeration of Some Potential Medicinal plants of Palamalai in Salem District of Tamilnadu, India

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### Abstract

Palamalai is one of the most important hills ranges in Eastern Ghats, Salem, Tamil Nadu, India. It is a repertory for many medicinally useful plants. The present paper deals with the enumeration of plants exclusively on medicinal uses. A total of 54 potential medicinal plants were identified from 35 families. The rural population directly dependant on the plants for their primary health care needs in form of crude extracts along with some ingredients. The available medicinal plants are widely used to cure many diseases such as fever, cough, skin diseases, bone fracture, skin burns, dysentery, stomach pain, jaundice, tooth pain, snake-bite, wounding, eye diseases *etc.* Furthermore, the member of Euphorbiaceae, Apocyanaceae, Moraceae and Asclepidaceae were evenly distributed in this hills and observed as dominant vegetation. However *Cayratia pedata*, *Clematis gauriana*, *Cyclea peltata*, *Rubia cordifolia* and *Vitex altissima* were identified with little population and to conserve for future in Palamalai.

**Key words:** Medicinal plants, Palamalai, Eastern Ghats, Tamil Nadu

### Introduction

Plants have been used for the medicinal purpose throughout the world several thousands year. The knowledge of medicinal plants has been accumulated and documented in various *Siddha*, *Ayurveda* and *Unani*. Traditional knowledge (TK) on medicines has been a major source of health care in most of the developing countries around the world (Flatie *et al.*, 2009). As far as the value of medicinal properties is concerned potential phytochemical compounds that dispersed through out the plant body and even in some cases the whole have also taken for medicinal purpose. Many plants accumulate the chemical constituents only in their specific sites in organs such as root (*Saussurea*), tubers (*Gloriosa*), stem (*Camptotheca*), wood (*Santalum*), leaves (*Adhatoda*), flowers (*Jasminum*), fruits (*Solanum*), seed (*Plantago*) and whole plant (*Gymnema*) (Kokate *et al.*, 2005).

Nowadays medicinal plants constitute a group of industrially important crops which bring appreciable income to the country by way of valuable foreign exchange. The plants have become a never ending source for new bio-dynamic compounds of

potential, therapeutic values. Medicinal plants have attracted global interest as they constitute a rich treasure natural products, which provide health security to millions in rural communities. It also help to generate additional employment and income and also offer opportunities for processing enterprises which contribute to foreign exchange and supporting biodiversity and conservation objectives (Gupta *et al.*, 2004).

According to a World Health Organization estimate, approximately 80 per cent of indigenous population in developing countries depends on traditional medicine for primary health care needs, major portion of these involves the use of medicinal plants. At present, around 70% drugs used as medicines are modeled on natural compounds, yet these are derived from only plant species. World's increasing concern on herbal medicines causes many impact the investigation of medicinally useful plants through the traditional methods. India has rich traditional heritage and folklore information on the utilizing plants for medicine most of the modern researchers on the herbal medicines have hinged round traditional folklore medicines namely ethnomedicine (Jain, 1980). Traditional phytotherapy of South India in general could provide very interesting clues for further phytochemical and pharmacological research on lesser known plant sources of Indian flora. Now-a-days, there is an increasing demand for the production of health care medicines and cosmetic items from plant origin based on the ancient knowledge in folk remedies. The aim of present study is to evaluate the medicinal use of local plants in an unexplored and highly disturbed natural forest area of located in the fragmentary portion of Eastern Ghats (Tamil Nadu, India).

### Study area and methodology

The present medicinal plant survey was carried out in the Thimmampatti situated at Palamalai and is also known as Sidheswaran hills located in Salem District of Tamil Nadu (South India). It is present in-between Bhavani and Mettur (Figure 1). The study area is unique site because the forest and its vegetation represent as the members in buffer zone of Western and Eastern Ghats. However, the major portion of area included in Eastern Ghats. It has rich sources of medicinal plants. The area contains evergreen forest, thorny forest *etc.* This area has many small water bodies. The present survey of medicinal plant was carried out around 25 km radius and extended up to Periakulam, Echankadu, Nagampathi and Thuvarankadu also have rich in biodiversity.

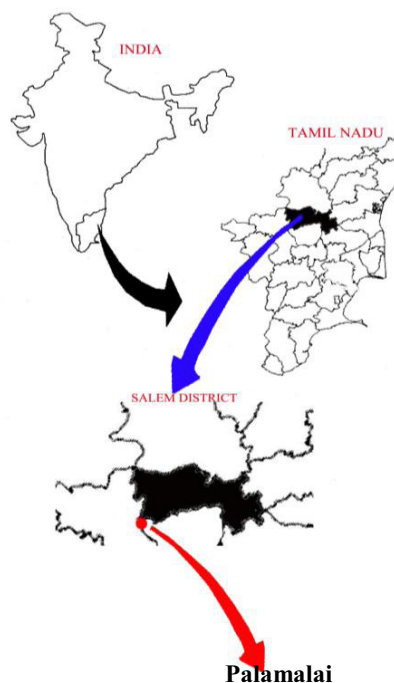


Figure 1. Location map of Palamalai hills in Eastern Ghats of Tamilnadu, Southern India

The survey of medicinal plants was done by four field trips and with the help of the local people. Among the total vegetation only medicinal plants were noted and collected for identification purpose. Further relevant informations on economical and medicinal uses were gathered from the local people. The collected plant samples were compared and authentically confirmed the species by using floras (Matthew, 1981, 1982 and 1983).

## Results and Discussion

Traditional medicine occupies an important place in the health care systems of developing countries. The people in developing countries depend on traditional medicine because it is cheaper and more accessible than Orthodox Medicine (Luoga *et al.*, 2000; World Health Organization, 2002). Traditional medicine is also acceptable than Orthodox Medicine because, it blends readily into the people's socio-cultural life (Tabuti *et al.*, 2003).

A list of medicinal plants with their Botanical name, Family name, Vernacular name (Tamil), English or Hindi name and a brief note on their medicinal and economic uses are presented in Table 1. The families of Euphorbiaceae, Rubiaceae, Apocyanaceae and Caesalpiniaceae were dominantly occupied in the study area. Euphorbiaceae, Apocyanaceae, Moraceae and Asclepidaceae members were thrived and evenly distributed throughout the hills because of the hill is commonly known as Palamalai (plants with milky latex population predominated in this hills).

Table 1. List of Ethnomedicinally important Medicinal Plants in Palamalai hills of Eastern Ghats, Tamil Nadu, India

S. No.	Botanical name, Family name	Vernacular (Tamil) name (English/Hindi name)	Medicinal and economic uses
1.	<i>Achyranthes aspera</i> L. Amaranthaceae	<i>Naaiuruvi</i> (Prickly chaff flower)	Paste of seed external applied for poisonous insect bites. It used as an green manure
2.	<i>Aerva javanica</i> (Burm. F.) Juss. Ex Schult. Amaranthaceae	<i>Perum pulappoo</i> (Pratanika)	Veterinary medicine
3.	<i>Ageratum conyzoides</i> L. Asteraceae	<i>Vadaichedi</i> (Goat weed)	Oil extracted and used for skin diseases.
4.	<i>Albizia lebbek</i> (L.) Benth. Mimosaceae	<i>Vagai</i> (Kokko)	Snakebite and scorpion sting.
5.	<i>Aloe vera</i> L. Liliaceae	<i>Kadralai</i> (Aloe)	Laxative, wound healing, skin burns and ulcer.
6.	<i>Anisomeles indica</i> (L.) O.Kuntze Lamiaceae	<i>Paimiratti</i> (Hennu thumb)	Juice of the leaves is administrated to children for colic, fevers, dyspepsia and rheumatism arthritis.
7.	<i>Argemone mexicana</i> L. Papaveraceae	<i>Pirammathandu</i> (Thorn poppy)	Externally applied for skin disease. The oil is used as an illuminant, lubricant.
8.	<i>Aristolochia indica</i> L. Aristolochiaceae	<i>Perumarunthu Kodi</i> (Isharmul)	Root is used for cure toothache.
9.	<i>Asparagus racemosus</i> Willd.	<i>Tannirvitan</i> <i>kizhangu</i>	Nervous and rheumatic complaints.

	Liliaceae	(Satawar)	
10.	<i>Azadirachta indica</i> Juss. Meliaceae	<i>Vempu</i> (Neem)	Malarial fever and stomachic. Oil cake is useful as fertilizer.
11.	<i>Bauhinia tomentosa</i> L. Caesalpinaceae	<i>Malai mantharai</i> (Kachnar)	Cure blood vomiting.
12.	<i>Carissa carandas</i> L. Apocyanaceae	<i>Cirukala</i> (Karanda)	The unripe fruits are used in pickles making.
13.	<i>Cassia auriculata</i> L. Caesalpinaceae	<i>Avaram</i> (Tarwar)	Petals promote hair growth. The bark is used in tanneries and paint manufacture.
14.	<i>Cassia obovata</i> Collod. Caesalpinaceae	<i>Nilavagai</i> (Sanae)	Seeds are used in ophthalmic and skin troubles.
15.	<i>Cassytha filiformis</i> L. Lauraceae	<i>Andhrakkodi</i> (Amarbeli)	It is used as gonorrhoea, kidney, ointments and diuretic.
16.	<i>Cayratia pedata</i> Juss. Vitaceae	<i>Iyenthilaikkodi</i> (Suvaha)	Useful for burning wounds and ulcers.
17.	<i>Cissampelos pareira</i> L. Menispermaceae	<i>Appatta</i> (False pareira root)	Whole plant is used for cure diarrhoea and stomach disorders.
18.	<i>Cissus quadrangularis</i> L. Vitaceae	<i>Perandai</i> (Hadjod)	Stem and leaf are used to cure bone fracture
19.	<i>Clematis gauriana</i> Roxb. Ranunculaceae	<i>Aattu meesaikkodi</i> (Dehra)	Used as remedy for leprosy and blood disease
20.	<i>Coccinia indica</i> Wight. Cucurbitaceae	<i>Kovai</i> (Kanduri)	The leaves are used for cure skin diseases. The fruits are edible.
21.	<i>Commiphora caudata</i> (Wight & Arn.) Engl. Burseraceae	<i>Paccaikkiluvai</i> (Kondamavu)	The bark yields a gum resin which is used to prepare medicines in antiviral properties.
22.	<i>Crinum asiaticum</i> L. Amaryllidaceae	<i>Vishamungil</i> (Chindar)	The seeds are used as purgative and tonic. The juice of leaves is useful in ear and skin diseases.
23.	<i>Cyclea peltata</i> (Lam.) Hook. f. & Thomson Menispermaceae	<i>Patchi</i> (Pathi)	Root powder cures ulcer.
24.	<i>Dendrophthoe falcata</i> (L.f.) Etting Loranthaceae	<i>Pulluruvi</i> (Banda)	The stem used antiviral and cure low blood pressure. Bark is used as a narcotic agent.
25.	<i>Emblica officinalis</i> Gaertn. Euphorbiaceae	<i>Nellikai</i> (Amla)	It cures cough, diabetes, and cold, used as laxative.
26.	<i>Euphorbia hirta</i> L. Euphorbiaceae	<i>Ammanpaccharisi</i> (Dudhi)	It is used to control dysentery.
27.	<i>Ficus bengalensis</i> L. Moraceae	<i>Aalamaram</i> (Banyan)	It is cure teeth diseases and tongue pain.
28.	<i>Gymnema sylvestre</i> R.Br. Asclepiadaceae	<i>Chirukurinchan</i> (Gudmar)	The plant is stomachic, stimulant, laxative and diuretic and is useful in cough and sore eyes.
29.	<i>Hemidesmus indicus</i> (L.) Schult. Asclepiadaceae	<i>Nannari</i> Indian sarasparilla	They are sweet, demulcent, alternative, blood purifier, diuretic, tonic and diaphoretic.
30.	<i>Hybanthus enneaspermus</i> (L.f.) Muell. Violaceae	<i>Oorithal Thamarai</i> (Ranapurur)	The roots are used in gonorrhoea, urinary affections and bone complaints of children.
31.	<i>Indigofera trita</i> L. f. Fabaceae	<i>Malaimurukai</i> (Hill drumstick)	It is used for cure skin diseases, diarrhoea.
32.	<i>Ipomoea sepiaria</i> Roxb. Convolvulaceae	<i>Talikkodi</i> (Bankalmi)	Plant juice is used as diuretic.
33.	<i>Justicia betonica</i> L. Acanthaceae	<i>Veelimoongil</i> (Sahacarah)	Leaf used as antitodes, and it cures diarrhoea, swelling, gout, generally

			healing and skin diseases.
34.	<i>Mimosa pudica</i> L. Mimosaceae	<i>Thottalsurungi</i> (Sensitive plant)	Pinch of leaf paste is applied topically to treat cuts and wound.
35.	<i>Mollugo nudicaulis</i> Lam. Molluginaceae	<i>Parppadaham</i> (Jima)	The plant is bitter and considered pectoral. It is used in whooping cough, leaves are applied to boils to draw out pus.
36.	<i>Morinda tinctoria</i> Roxb. Rubiaceae	<i>Nunaa</i> (Kleeeba)	The roots yield a red dye which is used for dyeing linen and woolens.
37.	<i>Mukia maderaspatana</i> (L.) M. Roemer. Cucurbitaceae	<i>Musumusukkai</i> (Bilari)	The roots of the plant relieve toothache.
38.	<i>Ocimum canum</i> Sims. Lamiaceae	<i>Naathulasi</i> (Hoary basil)	Used for cure cough and cold.
39.	<i>Phyllanthus amarus</i> Schum. & Thenn. Euphorbiaceae	<i>Vaguni</i> (Jaramla)	Best remedy for anemic, jaundice, dropsy
40.	<i>Plumbago zeylanica</i> L. Plumbaginaceae	<i>Cittramulam</i> (Rosy leadwort)	The root is stimulant, diaphoretic, stomachic, vesicant. It is given in fever, piles, diarrhoea and skin diseases.
41.	<i>Polycarpaea corymbosa</i> Lam. Caryophyllaceae	<i>Pallippoodu</i> (Parpata)	Treat for inflammatory by swellings and in treatment of jaundice.
42.	<i>Punica granatum</i> L. Punicaceae	<i>Mathulai</i> (Pomegranate)	The peel of the fruit is used medicinally in dysentery and diarrhoea.
43.	<i>Rubia cordifolia</i> L. Rubiaceae	<i>Ottukkodi</i> (Indian madder)	The leaves are using for skin diseases. The roots are the source of a dye.
44.	<i>Solanum torvum</i> Swartz. Solanaceae	<i>Chundai</i> (Tit-baigun)	Used for enlarged spleen, bronchitis, cold and antitode.
45.	<i>Solanum xanthocarpum</i> Schrad & Wendl. Solanaceae	<i>Kandankattiri</i> (Satyanasi)	Its decoction is given in fevers, coughs, asthma, dropsy, flatulence and heart disease.
46.	<i>Sterculia urens</i> Roxb. Sterculiaceae	<i>Senthanukkai</i> (Kutira gum)	Leaves are applying for wound, fractures, cracked skins. It is also used to cure throat infection.
47.	<i>Strychnos nux-vomica</i> L. Loganaceae	<i>Ettikkottaimaram</i> (Nux-vomica)	Bark juice used to cholera, dysentery.
48.	<i>Tarenna asiatica</i> Kunt. Rubiaceae	<i>Therani</i> (Charanile)	Crushed leaves are applied for wounds and cuts.
49.	<i>Terminalia chebula</i> Retz. & Willd. Combretaceae	<i>Kadukkaai</i> (Myrobalans)	Used for wound, ulcer, leprosy, inflammation, cough It provide valuable timber used in construction work.
50.	<i>Tragia involucrata</i> L. Euphorbiaceae	<i>Chenthatti</i> (Barhanta)	Leaves are applying for wound, fractures, cracked skins.
51.	<i>Tridax procumbens</i> L. Asteraceae	<i>Vettukkaya Poondu</i> (Coatbuttons)	It is applied for cut wounds.
52.	<i>Vinca rosea</i> L. Apocyanaceae	<i>Niithyakalyaani</i> (Periwinkle)	Used to cure leukamia and commercial source for anti-cancer compound.
53.	<i>Vitex altissima</i> L. f. Verbenaceae	<i>Mayilatinocchi</i> (Myrole)	It is used to promote growth of hair. Flowers are used to cure cholera, diarrhoea and fever.
54.	<i>Wrightia tinctoria</i> R.Br. Apocyanaceae	<i>Nilapalai</i> (Dudai)	Leaves juice is used to cure jaundice and stomach pain. It relieves toothache.

The collected medicinal plants were used for cure various diseases viz. fever (*Plumbago zeylanica*), cough (*Mollugo nudicaulis*), malaria (*Azadirachta indica*), dysentery (*Waltheria indica*), stomach pain (*Cissampelos pareira*), jaundice (*Phyllanthus amarus*), tooth pain (*Aristolochia indica*), snake-bite (*Albizia lebbek*), wounding (*Aloe vera*, *Cayratia pedata*), eye diseases (*Gymnema sylvestre*) etc. Most of the plants used in medicines are either mixed with other ingredients or single. While doing this there are reports of phytotoxicity which needs to be monitored (Gilani *et al.*, 2010). The regional people had significant information about the species and suitable period of collection. There are considerable economic benefits in the progress of indigenous medications and in the use of medicinal plants for the treatment of several ailments (Francis Xavier *et al.*, 2011).

Similar type of research work has been carried out in other regions of Tamil Nadu include Vallan-Kadu and Pollachi of Coimbatore district (Rajaram, 2004), Bodamalai, Namakkal district of Tamil Nadu (Anand and Jeyachandran, 2008), Derashe and Kucha Districts of South Ethiopia (Balemie and Kebebew, 2006), Kancheepuram district of Tamil Nadu (Muthu *et al.*, 2006), Wayanand district of Kerala (Silja *et al.*, 2008) and in central Yunnan (Chunlin Long *et al.*, 2009). All these studies uniformly found out the useful medicinal plants that has been used by local people and knowledge derived from the traditional medicinal system.

It is of utmost importance that the diversity of these medicinal plants should be conserved for future use. For this, efforts should be devoted to the preservation of types in natural habitats. Awareness should be enhanced among the local people and tribal communities through common meetings. They should be engaged at every stage in the programmes planned to improve the natural resources and biodiversity. A broad base and long-term strategy should be formulated for the conservation of medicinal plants especially under the threatened category. In addition to that to encourage the preservation of culture, tradition, conservation and sustainable utilization medicinally useful plants for further uses. The identified medicinal plants as mentioned in the table are recommended for further phytochemical and pharmacological studies in order to find out the valuable phytodrugs. This study would provide some basic clues of medicinal properties of plants of Palamalai hills in Tamilnadu

**Author's Contribution:** *Mr. Posarasan* (Student) conducted the field survey, *Dr. S.P. Anand* (Assistant Professor) contributed in questionnaire development, tabulation corresponding author of manuscript, *Dr. V.Nandagopalan* (Associate professor) provide valuable ideas and *Mr. A. Doss* (Research Scholar) contributed in editing of manuscript.

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