

# FLORISTIC STUDIES OF PACHAMALAI HILLS IN EMINENCE ON REMEDIAL VEGETATION

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## Abstract

To collect, identify and process the floristic elements and making permanent records of collected specimens of the study area for herbarium of the university. To enumerate, classify and categorize these plant species according to their potential uses with special emphasis on medicinal and aromatic plants along with documentation of local traditional knowledge. The total of 42 Families, 83 Genera and 99 Species collected from varies locations of pachamalai Hills in Tamilnadu . Some species are cure the dieses found to with the help of local tribes. The present study was collecting the spices and identifies the plants documentation. The selected study area in Pachaimalai Hills situated in Eastern Ghats of Tamil Nadu, India. The study was mainly focused on to prepare a floristic list of this region and document the traditional legends knowledge of the local people about the use of different plants or their products.

**Keywords:** Therapeutic plants, Malaiyali Tribe, Pachamalai Hills.

## I. INTRODUCTION

Pachamalai hills are a collection of hills in Eastern Ghats and are stretch across Salem and Tiruchirappalli districts of Tamil Nadu. The study is communications and associations between plants and people over time and space. This paper include the plants uses, identification of the spices, awareness, viewpoint, management systems, classification systems and verbal communication that both modern and traditional cultures have for plants and their associated global and aquatic ecosystems. This village enclosed by Eastern ghats of Pachamalai region in Trichy District. This villege mainly covered Shobanapuram, Top Sengattuppatty, Kancherimalai, Oduvampatti, Oduvampatti Pudur, Osarapalli, Reddykuttai and etc. The local people used in the lot of traditional medicine system of medicinal plants in surrounding area. The medicine is most important in fist aid and permanent diseases cured. The intimate knowledge of local tribal communities about their medicinal plants is clearly visible when we observe different local names by which these plants. The present study was undertaken to explore the medicinal plant use for various disease and disorders by gathering knowledge from the local Malayali tribes of Pachamalai hills in Tamilnadu.

## II. MATERIALS AND METHODS

### 2.1 Study Area

The present study was undertaken in the Pachamalai hills, located between the districts of Tiruchirappalli and Salem, Tamilnadu, South India. The hill is situated 2000 to 3000 feet above mean sea level and lies between 78.31' East and 11.28' North latitude. The total area is 14,122 sq. km. Pachamalai is green and natural hill range, just 80 km north of Tiruchirappalli via Thuraiyur.

### 2.2 Data collection

The data's are collected from the field study conducted an extensive field survey in the local tribal belts and other interior villages (Manalodi & Kinathur). First hand information was gathered through interactions with tribal and rural people including members of forest protection committees. During the field survey interact with traditional uses and Nattu vaithiyam about the local common diseases and using the drugs for those diseases. The ethno botanical data (local name,common name, useful parts, and medicinal uses) were collected through the tribal peoples in and around study area. In addition to the represent the plant families, genera and spices collected. The collected plant species were identified taxonomically medicinal plants and uses. The identified plants species were then confirmed to the Herbaria of Rapinet, St. Joseph's College, Trichirappallai. The plants are arranged alphabetically by common name, family, local name, useful part and medicinal uses for different diseases.

An ethnobotanical survey was carried out in Pachaimalai Hills, Trichirappalli District, Tamil Nadu, India. Pachaimalai Hill is a part of Eastern Ghats covered with tropical try deciduous vegetation.

### 2.3 Field visits

A Number of field visits were conducted in the study area every month, throughout the year of study. A Survey was conducted in the study area to gather information regarding medicinal properties of plants, their uses and local names. The information's were obtained from local inhabitants of various ethnic groups throughout fieldwork, questionnaires based interviews and conservation were held with aged nomads. Some information was also obtained from existing literature related to medicinal plants. Collected

plant materials was processed and identified at Rapinet Herbarium with help of flora of Tamil Nadu. The specimens were preserved in Rapinet Herbarium at Tiruchirappalli.

### III. METHODOLOGY

This section deals with methodology adopted for the field surveys, data collection and analysis of the information collected as per the requirements of the study. The methodology mainly carried out Systematic survey and collection of floristic elements, Documentation of local traditional knowledge, Enumeration of Medicinal and Aromatic plants.

### IV. RESULTS AND DISCUSSION

The First Table 1 deals with the information of systematic enumeration of plant species.

**Table 1. Taxa, Family, Genera and Species wise enumeration of collected Plant Specimens**

Taxa	Family	Genera	Species
Angiosperms			
Dicotyledons	42	65	77
Monocotyledons	07	13	16
Gymnosperms	03	03	04
Pteridophytes	02	02	02
Total	42	83	99

In total 42 Families, 83 Genera and 99 Species represented the floristic composition of the study area.

The Second Table 2 deals with the information of most represented genera along with number of species.

**Table 2. Represent Families and Genera.**

S.No.	Name of the Family	No. of Genera	No. of Species	Most represented genera (No. of species)
<b>DICOTYLEDONS</b>				
1	Ranunculaceae	1	1	<i>Aconitum</i> (1)
2	Schisandraceae	1	1	<i>Illicium</i> (1)
3	Menispermaceae	1	1	<i>Tinospora</i> (1)
4	Capparidaceae	1	1	<i>Crataeva</i> (1)
5	Violaceae	1	1	<i>Hybanthus</i> (1)
6	Malvaceae	2	1	<i>Abutilon</i> (1), <i>Bombax</i> (1)
7	Meliaceae	2	2	<i>Azadiracta</i> (1), <i>Melia</i> (1)
8	Vitaceae	1	1	<i>Cissus</i> (1)
9	Sapindaceae	2	2	<i>Sapindus</i> (1), <i>Cardiospermum</i> (1)
10	Caesalpiniaceae	7	8	<i>Cassia</i> (2), <i>Tamarindus</i> (1), <i>Saraca</i> (1), <i>Senna</i> (1), <i>Peltophorum</i> (1), <i>Bauhinia</i> (1), <i>Delonix</i> (1)
11	Mimosaceae	4	8	<i>Mimosa</i> (1), <i>Albizia</i> (5), <i>Adenanthera</i> (1), <i>Xylia</i> (1)
12	Rosaceae	2	2	<i>Prunus</i> (1), <i>Rosa</i> (1)
13	Melastomataceae	1	1	<i>Memecylon</i> (1)
14	Lythraceae	1	1	<i>Lawsonia</i> (1)
15	Passifloraceae	1	1	<i>Passiflora</i> (1)
16	Caricaceae	1	1	<i>Carica</i> (1)
17	Cucurbitaceae	4	5	<i>Cucumis</i> (2), <i>Diplocyclos</i> (1), <i>Trichosanthes</i> (1), <i>Coccinia</i> (1)
18	Molluginaceae	1	1	<i>Mollugo</i> (1)
19	Rubiaceae	3	3	<i>Ixora</i> (1), <i>Morinda</i> (1),

				<i>Pavetta</i> (1)
20	Asteraceae	3	4	<i>Sphagneticola</i> (2), <i>Tridax</i> (1), <i>Eclipta</i> (1)
21	Asclepiadaceae	2	2	<i>Hemidesmus</i> (1), <i>Mangifera</i> (1)
22	Loganiaceae	1	2	<i>Strychnos</i> (2)
23	Solanaceae	2	4	<i>Solanum</i> (3), <i>Withania</i> (1)
24	Scrophulariaceae	2	2	<i>Bacopa</i> (1), <i>Scoparia</i> (1)
25	Bignoniaceae	1	1	<i>Dolichandrone</i> (1)
26	Pedaliaceae	2	2	<i>Pedanium</i> (1), <i>Sesamum</i> (1)
27	Verbenaceae	7	8	<i>Gmelina</i> (1), <i>Lantana</i> (1), <i>Pongamia</i> (1), <i>Phyla</i> (1), <i>Stachytarpheta</i> (1), <i>Tectona</i> (1), <i>Vitex</i> (2)
28	Aristolochiaceae	2	2	<i>Aristolochia</i> (1), <i>Ceiba</i> (1)
29	Euphorbiaceae	5	7	<i>Acalypha</i> (1), <i>Cleistanthus</i> (1), <i>Euphorbia</i> (3), <i>Jatropha</i> (1), <i>Phyllanthus</i> (1)
30	Cannabaceae	1	1	<i>Trema</i> (1)
<b>MONOCOTYLEDONS</b>				
31	Zingiberaceae	2	3	<i>Curcuma</i> (2), <i>Zingiber</i> (1)
32	Bromeliaceae	1	1	<i>Ananas</i> (1)
33	Liliaceae	1	1	<i>Gloriosa</i> (1)
34	Alliaceae	1	2	<i>Allium</i> (2)
35	Commelinaceae	1	1	<i>Commelina</i> (1)
36	Arecaceae	2	2	<i>Cocos</i> (1), <i>Phoenix</i> (1)
37	Poaceae	5	6	<i>Chrysopogon</i> (1), <i>Heteropogon</i> (1), <i>Panicum</i> (1), <i>Pennisetum</i> (1), <i>Setaria</i> (1)
<b>GYMNOSPERMS</b>				
38	Cycadaceae	1	2	<i>Cycas</i> (1)
39	Pinaceae	1	1	<i>Pinus</i> (1)
40	Podocarpaceae	1	1	<i>Podocarpus</i> (1)
<b>PTERIDOPHYTES</b>				
41	Lycopodiaceae	1	1	<i>Lycopodium</i> (1)
42	Adiantaceae	1	1	<i>Adiantum</i> (1)

Table 3. Important Medicinal Plants Uses

Botanical name	Common Name	Official Part(s)	Uses
<i>Annona squamosa</i> L.	Custard Apple	Whole plants	Sedative to heart, ant bilious, antiemetic, expectorant, ulcers, diarrhoea and dysentery.
<i>Annona reticulata</i> L.	Netted custard apple	Leaves, fruits and seeds	anthelmintic, analgesic, anti-inflammatory, antipyretic, wound healing and cytotoxic effects.
<i>Artabotrys hexapetalus</i> (L.F.) Bhandrai	Ilang-ilang	Fruit	tape worms, earth worms and round worms. Blood and heart diseases, itching, sweating, foul breath, thirst and headache.
<i>Crataeva adansonii</i> Forst. F.	Caper tree	Roots and leaves	Headache, swellings and remedy against carbuncles and anthrax.

<i>Hybanthus enneaspermus</i> (L.) F.v.	Spade flower	Whole plant	Urinary tract, treat bowel complains.
<i>Abutilon indicum</i> L.	Thuthi	Root, bark and seed	Digestive, laxative, expectorant, diuretic, astringent and analgesic.
<i>Bombax ceiba</i> L.	Silk cotton tree	Bark, flowers and leaves	Leucorrhoea, gonorrhoea and to regularize menstruation, urinary problems and as a tonic.
<i>Citrus aurantium</i> L.	Orange	Leaf and fruit	lence, cardiovascular, anti-cancer and treatment of stroke.
<i>Murraya koenigii</i> (L.) Spreng.	Curry leaf	Leaves	Antidysentric, diabetes mellitus.
<i>Pergularia daemia</i> (Forssk.) Chiov.	Pergularia	Leaves and Roots	Infantile diarrhea, asthma, catarrhal affection, rheumatism and amenorrhoea.
<i>Abrus precatorius</i> L.	Gunj	Stem, root and leaves	cure fever, cough and cold.
<i>Clitoria ternatea</i> L.	Butterfly pea	Root, leaves and flowers	cooling, laxative, diuretic, anthelmintic.
<i>Indigofera tinctoria</i> L.	True Indigo	Leaves	Ascites, splenomegaly, liver disorders.
<i>Tamarindus indica</i> L.	Tamarind	Fruit	Anemia, promotes eye sight, cures scurvy and thyroid disorders.
<i>Adenanthera pavonina</i> L.	Red bead tree	Leaves and seeds	Antiseptic paste.
<i>Adenanthera pavonina</i> Spreng.	Sea Bean	Seeds	Jjaundice, toothache, ulcers and muscular-skeletal problems.
<i>Psidium guajava</i> L.	Guava	Whole plants	Stomachache and diarrhea.
<i>Eclipta prostrata</i>	False daisy	Whole plant	Skin disorders, and rejuvenator and liver tonic.
<i>Wrightia tinctoria</i> R.Br.	Sweet Indrajao	Bark, seed and leaves.	Psoriasis, stomach pains, toothache, and dysentery.
<i>Solanum trilobatum</i> L.	Thuthuvalai	Root and leaves	Asthma, vomiting of blood and rheumatism.
<i>Andrographis paniculata</i> (Burm. fil.) Nees.	Kariyat, Creat	Whole plant	Combination with Orthosiphon aristatus, as a remedy for diabetes.
<i>Vitex negundo</i> L.	Nocchi	Root, stem and leaves	Colds, coughs, rheumatic difficulties.
<i>Piper longum</i> L.	Long pepper	Fruits	Aromatic, hot and stimulant. Digestion and has decongestant, antibiotic and analgesic effects.
<i>Myristica fragrans</i> Houtt.	Nutmeg	Seed	Stimulant, carminative and aphrodisiac properties.
<i>Curcuma aromatica</i> L.	Wild turmeric	Rhizome	Jaundice, nosebleeds, haemorrhage, painful menstruation, shock, chest pains.

The information gathered from the local traditional healers are useful for further researchers in the field of ethno botany, Taxonomy and development of new drug from natural resources. This study also offers a model for studying the relationship between plants and people, within the context of traditional remedies is obviously ensure therapeutically efficacy. Plant based traditional knowledge has become a recognized tool in search for new sources of drugs and Nutraceutical. Dissemination of the knowledge of medicinal plants and their usage would also improve the socioeconomic status of the tribes.

The plant species are arranged in alphabetical order. Each plant is followed by its scientific name, family, vernacular name (Tamil) and common name, medicinal used. The medicinal uses are described with details such as the part(s) used singly, combination with other ingredients or mixed with other plants, methods of preparation and mode of administration. The people of Pachaimalai Hills, Tamil Nadu has been using numerous herbs of therapeutic purpose since time immemorial. Villagers chiefly depend on the herbs for all diseases. They are aware of the plant remedies for common ailments like diarrhea, jaundice, rheumatism, dyspepsia, asthma, diabetes, dysentery, antipyretic, gonorrhoea and skin diseases. This study will generate wide interest regarding the conservation of medicinal flora of the region, its sustainable uses and preservation of folk knowledge. This work will help greatly about local knowledge of people regarding the medicinal use of plants and will help to understand that how



local people of Pachamalai hills make use of these plants for the cure of different ailments and the indigenous names of plants provided by local inhabitants will help to study and understand the plants of this area for future studies.

## V. CONCLUSION

This Paper concluded total of 99 species belonging to 83 genera and 42 families have been collected from the study area of Pachamalai Hills of Eastern Ghats, Tamil Nadu. It is represented plants are Dicotyledons families 30, Genera 65 and Species 77. Monocotyledons referred to 7 families, 13 Genera and 16 Species Gymnosperms referred to 3 Families, 3 Genera and 4 Species. Pteridophytes referred to 2 Families, 2 Genera and 2 Species. Totally this paper concluded 42 Families, 83 Genera 99 Species and important Plants used in particular disease. This study was a very important positive step in order to understand the vegetational wealth of the area vis-a-vis man-plant relationship and to usher a new era. So possibilities of propagation and cultivation of these plants in this area should be explored to achieve the goal of sustainable development. Also further research on the medicinal plants mentioned in this study might provide some potential leads to fulfil the needs of search for bioactive compounds and the discovery of new drugs to fight diseases.

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