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ETHNO MEDICINAL PLANT SURVEY OF VADACHENNIMALAI HILL ATTUR TALUK OF SALEM DISTRICT, TAMIL NADU, INDIA

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Abstract

Ethno medicinal plant research was conducted on a collection of plants in Vadachennimalai Hill, Salem district in Tamil Nadu, India. Vadachennimalai Hill is approximately 835 meters high above sea level. In this current collection identify 70 plant species of 61 species of 36 families. The highest number of plants is observed in the family Euphorbiaceae. An ethno-medicinal plant survey was conducted at Vadachennimalai Hill Attur taluk of Salem District, Tamilnadu, with the clear intention of identifying the types of medicinal plants used by the local people. It resulted in about 70 medicinal plants treating several diseases alone or in combination with other ingredients. Information about proper plant and family ownership, place name and the traditional practice of 70 plant species of 36 families are discussed here for treatment of various diseases. The plants used by the local people in Vadachennimalai are listed along with the parts of the plants used for their ethno medicinal value.

Keywords: Ethno-Medicine, Vadachennimalai Hill, Medicinal plants, Human diseases

INTRODUCTION

The plants have long been used in traditional medicine. Plant diversity is very rich in the Indian subcontinent in a variety of ecosystems. A few thousand species of plants have been reported to have medicinal properties and about 2,000 species have been listed in the literature. It is estimated that about 8,000 species of plants used in the Indian medical system and about 25,000 active plant species based on traditional medicinal plants (<http://www.envis.frlht.org.in>). Eighty percent of the world's population relies on plant-based medicines for their needs. Their basic health care as measured by the world health organization. In developed countries medicinal plants (25%) are based on plants and their

extracts and the use of medicinal plants among indigenous peoples in rural areas in many developing countries (Principle P. Monetizing2005). Botanical extracts from plants have played a major role in human societies throughout history and prehistory [Lewis WH, Elwin Lewis MP2003]. Ethno medical research is one of the most reliable sources of natural and synthetic drugs [Fabricant DS, Farnsworth NR.2001]. The ethno botanical use of this unique group is very important [Singh KK, Saha S, Maheshwari JK. 1998 Dhiman AK.1998]. India has a rich biodiversity and is one of the most diverse countries in the world. The Indians have used medicinal plants since ancient times and the Ayurvedic practices date back to 5000 BC [Kapoor LD. CRC1990]. These medicinal plants have a long history in many traditional communities and continue to provide useful tools for the treatment of various ailments [Kapoor LD. CRC2003]. There is also a renewed interest in natural plant products as this is biologically closely related to the system and there is little concern for toxic substances. According to the World Health Organization (WHO), about 80 percent of the world's population, especially those living in rural areas in developing countries, rely heavily on traditional medicine for basic health care [Kapoor LD. CRC2003]. Ethno medicinal plants are an anthropological method of botanical science that encompasses all possible communication between plants and human communities [Ahmad M, Khan MA, Qureshi RA.2003, Brij Lal, Singh KN 2008]. Writing traditional knowledge on ethno botanical studies is important for the conservation and use of biological resources. Several active compounds have been identified in plants based on ethno botanical knowledge and are used directly as patented drugs [Carney JR, Krenishky JM, Williamson RT, Luo J, Carlson TJ, Hsu VL et al1999]. As traditional cultures are closely monitored by tribes and other forest dwellers around the world, ethno botanical research is a necessity for any development plans related to the well-being of nations and their territories. This study aims to record information on traditional plant processes used for the purposes included to record plant name, family, place name, habitat, plant status and medicinal use of plants. In this objective study, only local people have knowledge of ethno botanical plants and make people aware of its future resources.

MATERIAL AND METHODS

Description of the Learning Area The current Vadachennimalai hill research site is located in the Salem region of Tamil Nadu in South India (Figure A). Part of the hills is located between 11.17 ° N and 77.62 ° E at an altitude of 400 meters above sea level. The site is periodically visited to determine the diversity of vegetation. Southwest rainfall from June - September, as well as northeast monsoon in October and November brings rainfall to the region, and annual rainfall varies in the range from 86.80 cm to 670.60 cm. growing up there. The local people live in this hill area and in the surrounding areas they use different plants that grow here in their normal life due to the many ethno-medicinal principles that were common to their ancestors. These plants are collected in various parts of the mountain, identified by local names with the help of locals. Data on ethno-botanical use of plants was collected through regular discussion and questionnaires with local people. Photographs of these species were taken during a visit to the fields. Appropriate information about each plant species was collected by providing the name of the plant, family, place names, habitat, useful properties and medicinal uses.

Documentation

Data were collected from local people and healers living in Taluk of Attur in Salem district. In this study, data collection was based on medicinal plants, plant components, geographical names, economic value, and management method and time of year. Questions were asked by local people and medical practitioners. During that time, real applications were also seen during the field ministry. Each plant was assigned a field notebook and was labeled as Binomials and family, place name, partially used and medicinal use, portions of plants identified as used in ethno botany were collected, pressed, voucher samples were collected again. Identified by reference to common plants (Gamble 1936; Matthew, 1983). All voucher samples were stored at the Arignar Anna Government Arts College Attur Tamil Nadu (India). It was found that some of the information currently available is not yet available in the textbooks.

Fig 1. Eagle view of vadachennimalai hill



Fig 2. Front view of vadachennimalai hill



Discussion

In many cases, the active molecules of the medicinal plant reported here are unknown. Studying the biological and pharmacological features of extracted medicinal plants is a sensible approach when searching for new medicines. Phytochemical and pharmacological studies can lead to evidence of possible use of medicinal plants and the development of new drugs. Indigenous knowledge gathered by

local people plays an important role in this effort [Kumar S, Sharma SD, Kumar N.2015]. Of the 17,000 known species of angiosperms worldwide, about 5,000 occur in India. Of these, 3000 are medicinal plants in which root drugs form the largest number of species (680) followed by fruit drugs (450) [Vanila D, Ghanthikumar S, Manickam VS.2008]. Many researchers and scientists report on the traditional use of medicinal plants from various parts of India and the world [14 - 17]. More than 70 species of medicinal plants were collected during field research, all of which had ethnobotanical value. These species were 61 generations and 36 families. Of all the families Euphorbiaceae (5 generations and 8 species), Lamiaceae (5 species and 6 species) the dominant families are followed by the Apocynaceae (4th generation and 4 species), the Mimosaceae (2 genera and 4 species), Asclepiadaceae and Menispermaceae (3) genus 3 species, Solanaceae (2nd generation and 3 species), Amaranthaceae, Boraginaceae, Cactaceae, Convolvulaceae, Cucurbitaceae, Meliaceae, Verbenaceae, Sapindaceae (2 genera and 2), Moraceae, 2 Rhamnaceae and 1 species were represented by one generation and one species (Table 1). The most commonly used part of the plant was leaves (15 species), followed by leaves, foliage and roots, whole plants (9 species), roots (6 species), bark (4 species) , latex (3 types) and leaves

Results

Table 1: Family wise plant list of the Vadachennimalai hill

S. No.	Family Name	Genera	Species
1	Euphorbiaceae	six	eight
2	Lamiaceae	five	six
3	Apocyanaceae	four	four
4	Mimosaceae	two	four
5	Asclepiadaceae	three	three
6	Menispermaceae	three	three
7	Solanaceae	two	three
8	Amaranthaceae	two	two
9	Boraginaceae	two	two
10	Cactaceae	two	two
11	Convolvulaceae	two	two
12	Cucurbitaceae	two	two
13	Meliaceae	two	two
14	Moraceae	two	two
15	Verbenaceae	two	two
16	Rhamnaceae	two	two
17	Sapindaceae	two	two
18	Fabaceae	one	one
19	Papilionaceae	one	one
20	Arecaceae	one	one
21	Asteraceae	one	one
22	Caesalpiniaceae	one	one

23	Commelinaceae	one	one
24	Erythroxylaceae	one	one
25	Gentianaceae	one	one
26	Liliaceae	one	one
27	Malvaceae	one	one
28	Molluginaceae	one	one
29	Moringaceae	one	one
30	Myrtaceae	one	one
31	Oleaceae	one	one
35	Passifloraceae	one	one
33	Poaceae	one	one
34	Rubiaceae	one	one
35	Santalaceae	one	one
36	Vitaceae	one	one

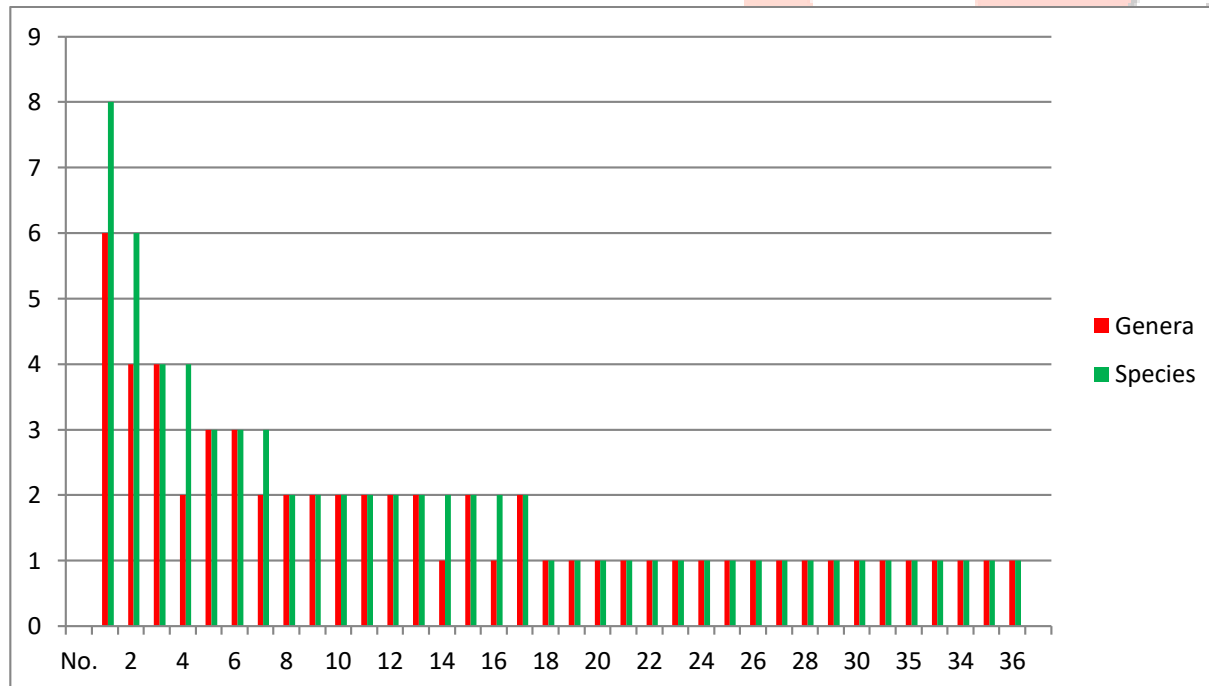


Fig 1: Family wise plant list of the Vadachennimalai hill

Among the identified medicinal plants, 28 were herbs (41.1%), 16 trees (23.5%), 14 shrubs (20.5%) and ten were weeds (14.7%) (Table 2). Different parts of the plant were used to treat various diseases / illnesses, colds and coughs, asthma, rheumatism, jaundice, ulcers, headaches, stomach problems, diarrhea, diabetes, wounds, skin problem, plies etc.

Table 2: Plant Habitat of Vadachennimalai hill

Habitat	Habitat	Percentage %
Herb	28	41.17
Tree	16	23.5
Shrub	14	20.5
Climber	10	14.7

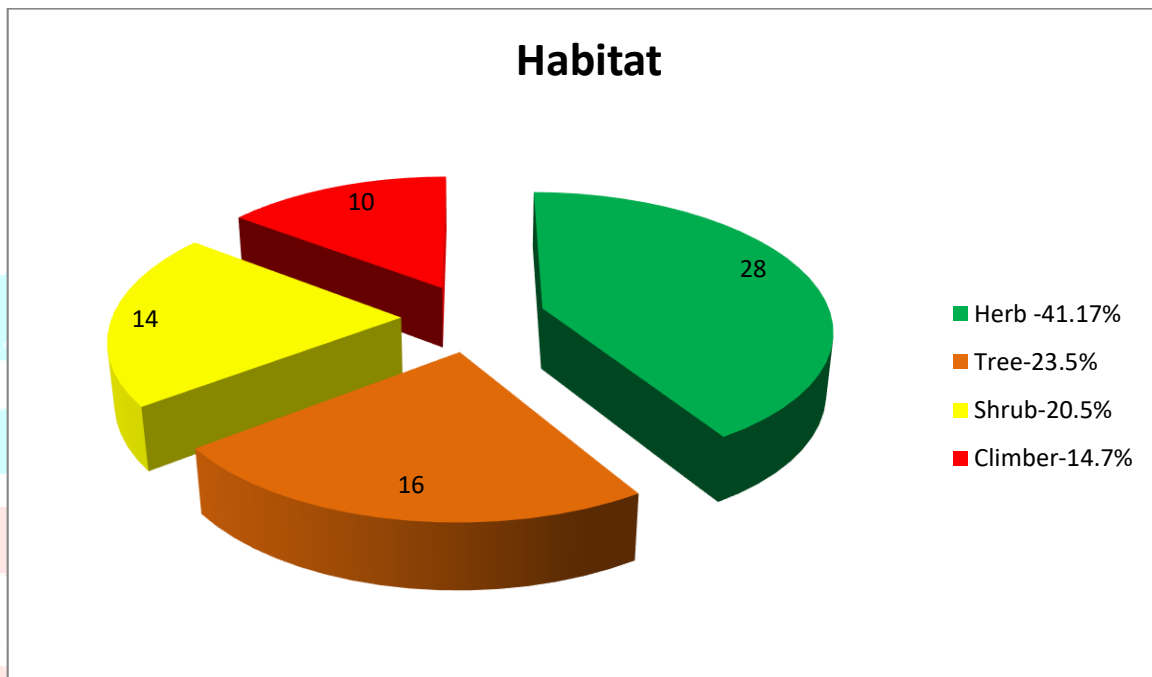
**Fig 2: Plant Habitat of Vadachennimalai hill**

Table 3: Detailed survey of plant diversity in Vadachennimalai hill

S. No	Botanical name	Family	Vernacular name	Habit
1	<i>Abrus precatorius</i> L.	Papilionaceae	Kundumani	Climber
2	<i>Abutilon indicum</i> (L.) Sweet	Malvaceae	Tutthi	Herb
3	<i>Acacia catechu</i> (L.) Willd.	Mimosaceae	Karunkali	Tree
4	<i>Acacia nilotica</i> L.	Mimosaceae	Karuvelam	Tree
5	<i>Acalypha indica</i> L.	Euphorbiaceae	Kuppaimeni	Herb
6	<i>Achyranthes aspera</i> L.	Amaranthaceae	Nayurvi	Herb
7	<i>Aerva lanata</i> (L.) A. L.	Amaranthaceae	sirupeelai	Herb
8	<i>Albizia amara</i> (Roxb.)	Mimosaceae	Usilai	Tree
9	<i>Albizia lebbek</i> (L.)	Mimosaceae	Vaagai	Tree
10	<i>Aloe vera</i>	Liliaceae	Choththukathalai	Herb
11	<i>Alstonia scholaris</i> R.Br.	Apocynaceae	Paalai	Tree
12	<i>Anisochilus carnosus</i>	Lamiaceae	Poochenthirapattai	Herb
13	<i>Anisomeles malabarica</i>	Lamiaceae	Peyameratti	Shrub
14	<i>Azadirachta indica</i> A.	Meliaceae	Vembu	Tree
15	<i>Bambusa arundinacea</i>	Poaceae	Moongil	Herb
16	<i>Cactus ficus-indica</i> L.	Cactaceae	Chapatikalli	Herb
17	<i>Calotropis procera</i>	Asclepiadaceae	Erukku	Shrub
18	<i>Cardiospermum halicacabum</i> L.	Sapindaceae	Mudakkattan	Climber
19	<i>Carissa carandas</i> L.	Apocynaceae	Kalaaka	Shrub
20	<i>Cassia auriculata</i> L.	Caesalpiniaceae	Avaram	Shrub
21	<i>Cestrum nocturnum</i> L.	Solanaceae	Therani	Shrub
22	<i>Cissampelos pareira</i> L.	Menispermaceae	Appatta	Herb
23	<i>Cissus quadrangularis</i> L.	Vitaceae	Pirandai	Shrub
24	<i>Coccinia indica</i> L.	Cucurbitaceae	Kovai	Climber
25	<i>Cocculus hirsutus</i> (L.)	Menispermaceae	Sirukattukodi	Climber

26	<i>Commelina benghalensis</i> L.	Commelinaceae	Adutinnapai	Herb
27	<i>Corallocarpus epigaeus</i>	Cucurbitaceae	Kollankovai	Climber
28	<i>Cuscuta reflexa</i> Roxb.	Convolvulaceae	Moodillathalli	Climber
29	<i>Dodonaea viscosa</i> Jacq.	Sapindaceae	Virali	Tree
30	<i>Enicostemma axillare</i>	Gentianaceae	Vellaragu	Herb
31	<i>Erythroxylum monogynum</i>	Erythroxylaceae	Sempulichan	Herb
32	<i>Euphorbia heterophylla</i> L.	Euphorbiaceae	Palperuki	Herb
33	<i>Euphorbia hirta</i> L.	Euphorbiaceae	Amman Pachcharsi	Herb
34	<i>Euphorbia tirucalli</i> L.	Euphorbiaceae	Kodikalli	Shrub
35	<i>Evolvulus alsinoides</i> (L.)	Convolvulaceae	Vishnu kiranthi	Herb
36	<i>Ficus benghalensis</i> L.	Moraceae	AlamMaram	Tree
37	<i>Ficus carica</i> L.	Moraceae	Athi	Tree
38	<i>Gmelina arborea</i>	Verbenaceae	Kumalaamaram	Tree
39	<i>Heliotropium indicum</i> L.	Boraginaceae	Elkudukupoond u	Herb
40	<i>Hemidesmus indicus</i> (L.)	Asclepiadaceae	Nannari	Herb
41	<i>Jasminum angustifolium</i> (L.)	Oleaceae	Kaattumalligai	Shrub
42	<i>Jatropha curcas</i> L.	Euphorbiaceae	Kaatuamanku	Shrub
43	<i>Lantana camara</i> L.	Verbenaceae	Unnichi	Shrub
44	<i>Leucas aspera</i> (Willd.)	Lamiaceae	Tumbai	Herb
45	<i>Mollugo nudicaulis</i>	Molluginaceae	Parpadagam	Herb
46	<i>Moringa concanensis</i>	Moringaceae	Kattumurangai	Tree
47	<i>Ocimum americanum</i> L.	Lamiaceae	Nayitulasi	Herb
48	<i>Ocimum tenuiflorum</i> L.	Lamiaceae	Nallatulasi	Herb
49	<i>Opuntia dillenii</i>	Cactaceae	SappathiKalli	Shrub
50	<i>Passiflora foetida</i> L.	Passifloraceae	Siruppunakilli	Climber
51	<i>Pavetta tomentosa</i> Roxb. ex sm.	Rubiaceae	Iherani	Shrub
52	<i>Pergularia daemia</i>	Asclepiadaceae	Velipparuthi	Climber
53	<i>Phoenix sylvestris</i> (L.)	Arecaceae	Icham	Tree
54	<i>Phyllanthus amarus</i> Schum.	Euphorbiaceae	Kizhanelli	Herb
55	<i>Phyllanthus emblica</i> L.	Euphorbiaceae	Malainelli	Tree
56	<i>Pongamia glabra</i> L.	Fabaceae	Pungam	Tree
57	<i>Santalum album</i> L.	Santalaceae	Santhanamaram	Tree
58	<i>Solanum nigrum</i> L.	Solanaceae	Manathakkali	Herb

59	<i>Solanum trilobatum L.</i>	Solanaceae	Toothuvalai	Climber
60	<i>Syzygium cumini (L.)</i>	Myrtaceae	Naavalmaram	Tree
61	<i>Thevetia nerifolia Juss.</i>	Apocynaceae	Manja arali	Shrub



Figure 1



Figure 2



Figure 3



Figure 4



Figure 5



Figure 6



Figure 7



Figure 8



Figure 9



Figure 10



Figure 11

Figure 12

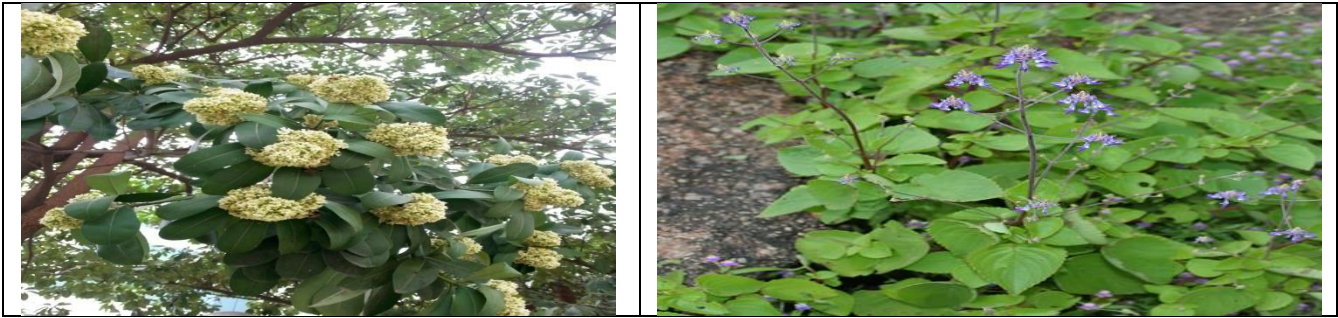


Figure 13



Figure 14



Figure 15



Figure 16



Figure 17



Figure 18



Figure 19



Figure 20



Figure 21



Figure 22



Figure 23

Figure 24



Figure 25



Figure 26



Figure 27



Figure 28



Figure 29



Figure 30



Figure 31



Figure 32



Figure 33



Figure 34



Figure 35

Figure 36



Figure 37



Figure 38



Figure 39



Figure 40



Figure 41



Figure 42



Figure 43



Figure 44



Figure 45



Figure 46



Figure 47



Figure 48



Figure 49



Figure 50



Figure 51



Figure 52



Figure 53



Figure 54



Figure 55



Figure 56



Figure 57



Figure 58



Figure 59



Figure 60



Conclusion

Thus, the present study helped us to understand the Indigenous Plant Knowledge of the people of Vadachennimalai. In addition, they should be trained and sensitized on the conservation of this biodiversity. Therefore, the conservation of medicinal plants for the diversity of these trees is critical to the in-situ conservation and cultivation of these species. The decline of wildlife in the area should be blamed on population stress and overgrazing. The demand for medicinal plants is growing day by day both inside and outside the country and strong and effective measures are needed to meet the challenge. Therefore, there is an urgent need for a local list of medicinal plants, in order to identify suitable species for initiation and development of a formula for conservation and planting of these species. The information collected from local people is useful to additional researchers in the field of ethno-medico-botany, taxonomy and pharmacological studies. This study provides a model for studying the relationship between plants and humans, within the context of the traditional medical system. The purpose of establishing traditional remedies is clearly to ensure effective treatment. The value of using ethno medical information to initiate drug discovery efforts. The study also produced extensive information on medicinal plants used by local people. Plants with a high degree of reliability and quantity used in current research may indicate the potential for significant phytochemical compounds and require a search for new potential drugs.

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