

Ethnobotanical Knowledge of Malayali Tribes in Jawadhu Hills- An Analysis

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Abstract: The present investigation highlights the use of plants for various ailments by Malayali tribe living in Jawadhu hills, Thiruvannamalai district, Tamilnadu, India. A total of 40 traditional plant species used by them as herbal medicines to treat several common diseases such as cold, cough, fever, skin diseases, rheumatic problems, diabetic problems and various ailments were documented. During present study it has been observed that the ethno botanical systems and herbal medicines as therapeutic agents are of a paramount importance of addressing the health problems of traditional communities. The indigenous knowledge available with these people plays an important role in quick and proper identification of natural resources. **Methods:** The extensive field survey was carried out in the Jawadhu hills. The 124 Malayali tribes were selected in this study for collecting the ethnobotanical data through the questionnaires, discussions, and personal interviews during the regular field trips. **Results and discussion:** The study reveals that about 40 medicinal plants belonging to 27 families have been documented with the scientific name, family name, vernacular name (Tamil name) and various plant parts used by the Malayali local tribes of Jawadhu hills for the treatment of many diseases. **Conclusion:** We observed and analyzed that the documented ethno medicinal plants were used to cure various diseases such as cold, fever, jaundice, asthma, ulcer, diabetes, and cancer treatment by the local Malayali tribes of Jawadhu hills.

Keywords: Ethno botany, Malayali tribes, Jawadhu hills, Ethno botanical knowledge, Ethnomedicine

I. Introduction

The term "Ethnobotany" was coined by J.W. Harshberger in 1896 to indicate plants used by the aborigines: From "ethno"-study of people and "botany"-study of plants. Ethnobotany is considered as a branch of ethnobiology. It deals with the study and evaluation of plant human relations in all phases and the effect of plant environment on human society. Tamil Nadu has rich biodiversity consisting of a large number of plants, some of which are used for their medicinal value. Ethno botany is the study of how the people of a particular culture and regions makes the use of indigenous plants/while the ethno botanist explores how plants are used for food, shelter, medicine, clothing hunting and religious ceremonies. It is the relationship between a given society and its environment and in particular the plant world [1]. According to the world health organization (WHO) more than 80% of the world's population relies on traditional medicine for their primary health care needs. Use of herbal medicines in Asia represents a long history of human interactions with the environment. Plants used for traditional medicine contain a wide range of substances that can be used to treat chronic as well as infectious diseases. A vast knowledge of how to use the plants against different illnesses may be expected to have accumulated in areas where the use of plants is still of great importance [2].

The objective of the present study is to highlight the ethnobotanical knowledge of Malayali tribes in Jawadhu hills in the state of Tamilnadu, India. To analyse the various plant habits used for preparation of medicine. To document the natural resources use pattern of the study area and the ethnomedicinal, indigenous knowledge associated with them. To encourage the local community people to protect and conserve the medicinal plants in this study area.

1.1 Malayali Tribes

Malayalis (Mala = hill, ali = dwells or inhabits) were believed to have migrated from Kanchipuram. There is no unique opinion about the region of the Malayali tribe. Evidences regarding the movement of Malayali tribal to the Jawadhu hills were from Kanchipuram during the Pallava period. The myths connected to the migration of Malayali tribe into Jawadhu hills have been described by Thurston (1909). Actually these were the descriptions of some of the hereditary leaders like 'Pattakaran' Sathigoundan and Kangani. They are Tamil speaking hill tribes and all are mostly agriculturists. Their pure population can be seen in Kollihills, Yercaud, Jawadhu hills, Yelagiri, and Bodemalai. According to Thurston the word Malayali means the inhabitants of hills. Malayali is one of the 36 scheduled tribes of Tamilnadu and the population of Malayali tribes' forms

around 54% of total schedule tribe population of tamilnadu. Most of the malayali tribes have general knowledge of medicinal plants that are used for first aid remedies to various ailments.

II. Materials and Methods

Tamilnadu is situated in southern end of India, east of Kerala and south of Andhra Pradesh and Karnataka states. The area of investigation Jawadhu hills is located at Thiruvannamalai district, The hills has an area of 2405 sq.km and a population of 8,500 (98% tribals and others 2%) with 11 Panchayat unions and 229 mountainer villages in Jawadhu hills Taluk are Jawadhu hills, Kanmalai, Kovilur, Melsilambadi, Nammiyambat, Palamarathur, Puliyur, Thenmalai Athipatu, Veerapanur, Veeragoundur. It is bounded on the East of polur (43 Kms), on the West of Amirthi (33Kms), and on the North of Allangayam (25 Kms) in Thiruvannamalai district and a part of the Eastern ghats. The beautiful mountain lies at about 2315 to 3000 mts at the sea level. The jawadhu hill range comprises of hills running from the North to the south attaining a maximum length of 65 kms, and spread within the Districts of thiruvannamalai and Vellore. Temperature varies with in the altitude and ranged from 11 °c to 44 °c. The maximum temperature raises to in May 44 °c and minimum lies at 11 °c. The area is well known for excessive rainfall (≥ 1100 mm) and dry months are rare. The relative humidity remains high varies from 40 to 85 %. Jawadhu hills have many scenic spots. Places interest in the jawadhu hills are Beema Falls, Komutteri Lake, Kavalur observatory, Amirthi Forest, and the Glasshouse.

The data on medicinal plants was recorded through questionnaires, Discussions and personal interviews during the regular field trips with knowledgeable elder people (Malayali tribes) under the age group of 25 to 70 years. The ethno botanical survey was carried out during June 2012 to December 2012 among malayali population residing in this area. (Fig.1.) The information about plants and their local names, parts of plant used for preparation of drug and mode of administration were documented in the field survey. The collected plant species were identified with help of flora books, Voucher specimens are deposited in the herbarium of Botany Department, Government arts college, Kumbakonam.

III. Results and Discussion

The present investigation revealed that the malayali tribal of the jawadhu hills region were using 40 plant species belonging to 27 families for medicinal use. The most medicinally important plants species were observed in different families like Apiaceae, Euphorbiaceae, Poaceae, Moraceae, Verbenaceae, Myrtaceae, Meliaceae, Cucurbitaceae, Musaceae, Boraginaceae, Amaranthaceae, Solanaceae, Malvaceae, Araceae, Liliaceae, Aristolochiaceae, Fabaceae, Vitaceae, Rutaceae, Lamiaceae, Zingiberaceae, Rubiaceae, Apocynaceae, Sapotaceae. The ethno medicinal information of 40 plant species was collected and is enumerated below in the alphabetical order. For each species listed, correct botanical names followed by family name, vernacular name (VN) and medicinal uses are given. They were using these plants to cure disease like chest pain, wounds, pimples, dog bite and poisonous bites (snake, scorpion and insect) pimples, disorders of tooth, cold, cough, fever, jaundice, ulcer, cancer, tuberculosis, piles, diabetes, diarrhoea, asthmatic problems, digestive problems, Scabies, Measles. Most of the drugs are prepared from the wild plants a few interesting observations made in the present study are: the use of *Solanum trilobatum* and *ocimum tenuiflorum* for cancer, *Ricinnus communis* for jaundice, *Vitex negundo* for asthmatic complaints and poison killer, *Syzygium cumini* for fever and rheumatic pains, *Leucas aspera* and *Euphorbia hirta* for snake bites, *Aristolochia bracteolata* for skin diseases and syphilis. Although traditional medication is still practised in this area (Table 1).

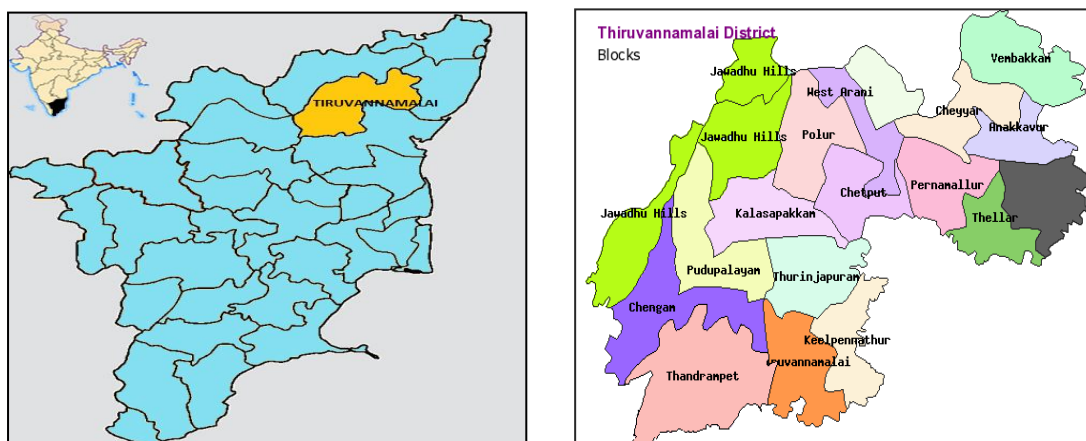


Fig.1: The map shows Jawadhu Hills in Thiruvannamalai District

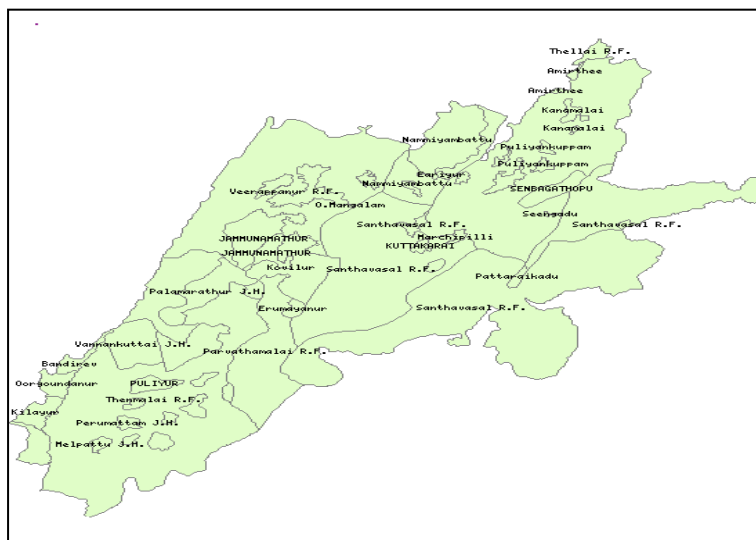


Fig.2: Area map showing the location of Jawadhu Hills in Tamilnadu, India

Table 1: Medicinal plants used for the treatment of various diseases by local people

S. No	Scientific name	Family	Local name	Mode of action
1	<i>Acalypha indica</i> L.	Euphorbiaceae	Kuppamaeni	Whole plant is used in poison killer for insect bites
2	<i>Azadirachta indica</i> , A.Juss.	Meliaceae	Vembu	Plant parts are made in powder and mixed with jaggery taken orally to cure female sterility.
3	<i>Achyranthus aspera</i> , L.	Amaranthaceae	Nayuruvi	Paste of leaves is applied on the Ringworm, and young shoot with onion paste used for Dog bite, teeth problems
4	<i>Abutilon indicum</i> , L.	Malvaceae	Thuthi	Juice of the leaves cure Fever, allergy, piles
5	<i>Acorus calamus</i> , L.	Araceae	Vasambu	The ash of the rhizome is mixed with water or milk to cure Indigestion.
6	<i>Adathoda vasika</i> , Nees.	Acanthaceae	Adathoda	Paste of the leaves is applied on the wounds.
7	<i>Aloe vera</i> , L.	Liliaceae	Sothukathalai	Fresh leaves or juice of the leaves used as Body heat and ulcer problems.
8	<i>Aristolochia bracteolata</i> , Lam.	Aristolochiaceae	Adutheendapalai	Powder with honey is cure Syphilis, Powder with castor oil cure Skin diseases
9	<i>Artocarpus integrifolia</i> , L.	Moraceae	Palamaram	The stems of this plant used to Toothbrush.
10	<i>Bauhinia recemopsa</i> , Lam.	Fabaceae	Malai Aathi	The stems of this plant used to Toothbrush.
11	<i>Coccinia grandis</i> , L.	Cucurbitaceae	Koovai	Leaves juice taken internally for ulcer, diarrhoea
12	<i>Centella asiatica</i> L.	Apiaceae	Vallarai	Crushed Leaves are applied externally for wounds
13	<i>Cassia auriculata</i> , L.	Ceasalpiaceae	Avaram	The flower juice is used to treat heart pain.
14	<i>Cissus quadrangularis</i> , L.	Vitaceae	Perandai	Stem juice for cure Asthma.
15	<i>Citrus aurantifolia</i> , L.	Rutaceae	Elumichai	Fresh fruit juice for indigestion and body heat.
16	<i>Coccinia indica</i> , L.	Cucurbitaceae	Covai	Paste of the leaves internally used to cure diarrhoea.
17	<i>Coleus aromaticus</i> , Benth.	Lamiaceae	Karpuravalli	The leaf Juices are used to treat Cold, Cough, Headache and Asthma.
18	<i>Curcuma longa</i> , L.	Zingiberaceae	Manjal	Leaf Paste used to cure Skin inflammation, Wounds, Chicken pox, Measles, Scabies.
19	<i>Cyanodon dactylon</i> (L) pers	Poaceae	Arugampule	Juices of this plant used for digestive problems
20	<i>Euphorbia hirta</i> , L.	Euphorbiaceae	Ammanpacharisi	Decoction of plant used for Snake bites.
21	<i>Ficus benghalensis</i> , L.	Moraceae	Alamaram	Oil extract is applied for Dandruff and Cracks on the foot.
22	<i>Ficus glomerata</i> , Roxb.	Moraceae	Attimaram	Plant parts are made in powder and mixed with milk to drink orally to cure Menorrhoea.
23	<i>Hibiscus rosasinensis</i> , L.	Malvaceae	Semparuthi	Root decoction for Venereal disease, Flower decoction for Arterial hypertension, and Anti fertility, Oil extract of flower for Blackening hair.
24	<i>Heliotropium indicum</i> , L.	Boraginaceae	Thel kodukkai	Paste of leaves applied externally on the Ringworm, Pimples problems
25	<i>Ixora coccinea</i> , L.	Rubiaceae	Idlipoo	Oil extract is curing Eczema.
26	<i>Justica acaulis</i> , L.	Acanthaceae	Nilakadambu	Decoction for Deworming.

27	<i>Jatropha curcus</i> , L.	Euphorbiaceae	Kattamanakku	Leave paste applied externally for Scabies, Ringworm infection
28	<i>Leucas aspera</i> , L.	Lamiaceae	Thumbai	Juice for Snakebite, Scorpion bite.
29	<i>Mimosa pudica</i> , L.	Fabaceae	Thottalsurungi	Decoction for Anti fertility, Paste for Cuts and wounds.
30	<i>Mimusops elengi</i> , L.	Sapotaceae	Magliam	Decoction of leaves used for Dental diseases.
31	<i>Musa paradisiaca</i> L.	Musaceae	Vazhai	Stem are boiled and taken internally for kidney trouble and bark used for burn wound treatment
32	<i>Momardica charantia</i> , L.	Cucurbitaceae	Pagarkai	Fruits is used to cure reduce blood sugar level.
33	<i>Melia azedarach</i> , L.	Meliaceae	Malai vembu	Flowers and seeds used for the treatment of diabetes
34	<i>Ocimum tenuiflorum</i> L.	Lamiaceae	Thulasi	Leaves crushed with pepper and mixed with curd applied internally for cancer.
35	<i>Ocimum basilicum</i> , L.	Lamiaceae	Karunthulasi	Oil extract of the leaves is curing Eczema, Scabies, and ear-ache.
36	<i>Ricinnus communis</i> L.	Euphorbiaceae	Amanaku	Leaves with pepper used for the treatment of jaundice
37	<i>Syzygium cumini</i> (L) Skeels.	Myrtaceae	Navalmaram	Bark ground with Neem bark boiled in water taken internally to get relief from fever and rheumatic pains
38	<i>Solanum trilobatum</i> , L.	Solanaceae	Tudhuvallai	Leaf juice used for Cough, fever, cancer, Tuberculosis problem
39	<i>Vitex negundo</i> , L.	Verbenaceae	Notchi	Leaves boiled in water taken as inhalation for asthmatic complaints and used in poison killer.
40	<i>Vinca rosea</i> , L.	Apocynaceae	Nithyakalyani	Juice with hot water used for Diabetes.

The dominant families with more number of medicinal plants in the present study are Euphorbiaceae and Lamiaceae with 4 species and followed by Moraceae and Cucurbitaceae (each of three species).In the four families (Fabaceae (Leguminaceae), Acanthaceae, Malvaceae and Meliaceae) were documented 2 species of each. The rest are represented with one species each (Fig.3).

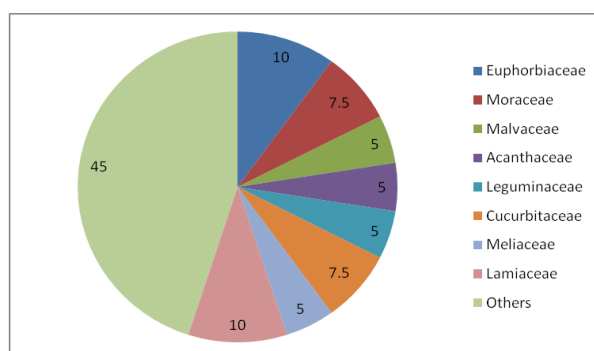


Fig.3. Percentile Analysis for distribution of plant families

Among the different plant habit used for the preparation of medicine, herb(47.5%) were found to be the most frequently used plant habits in the preparation of medicine followed by shrubs (30%), Climbers (12.5%) and Trees(10%). The herb and shrub are the two major plant habits which are frequently used for the treatment of various diseases by the Malayali tribe Jawaduhills (Fig.4).

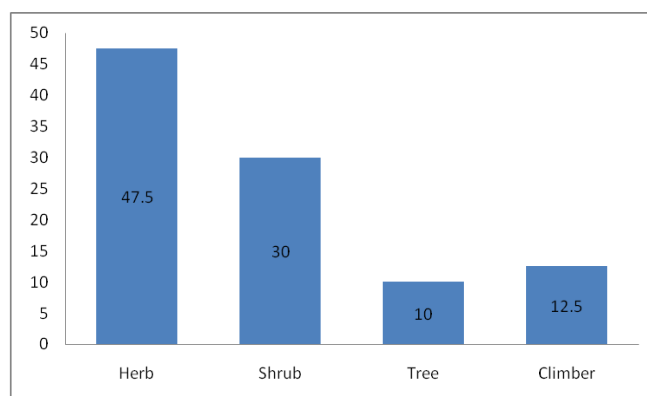


Fig.4. Analysis of plant habit with respect to preparation of medicine

IV. Conclusion

There is always a hunt for rich ethno botanical knowledge for ethno botanical studies of medicinal plants. The information gathered from the tribal is useful for the future researchers, biologist and scientist in the field of ethno botany and pharmacology. The present study reveals that the malayali tribes of the study area possess rich knowledge on the medicinal plants and their utilization. Lack of interest and awareness among the younger generation of malayali tribes we face the high risk of losing this vibrant knowledge in the near future. The study shows that knowledge and usage of herbal medicine for the treatment of various ailments among the malayali tribals, is still a major part of their life and culture of the villagers.

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