



Ethnobotanical Studies Among the Malasar Tribes in Saralapathi of Anaimalais, Western Ghats (Tamil Nadu)

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Abstract: There has been an increasing interest to document the plants used by the folk-healers and ethnic societies of the world. Tamil Nadu is inhabited by several ethnic tribes and the ethnic knowledge obtained from them can largely help the mankind to discover newer drugs for challenging diseases. In the present study, an attempt has been made to enumerate and document the ethnic herbs exploited by the malasar tribes in Saralapathi settlement in the Western Ghats and their medicinal values. Random survey has been conducted to collect the data about various types of medicinal plants used by the malasar tribes and their useful parts and the method they followed to prepare the medicines to cure various diseases. Thirty plant species belonging to 17 different families were recorded and the therapeutic potential of the 30 ethnic herbs was exploited by the malasars to cure different kinds of common ailments such as cold, cough, diarrhoea, digestive disorders, urinary disorders, skin diseases and wound healing etc. It is quite encouraging to know that some of the herbs are used to cure the metabolic disorders such as jaundice and diabetes. The use of herbs as hair tonic is commonly evidenced among the malasar tribes. The present study concludes that the Saralapathi village is a treasure trove of ethnic knowledge and the malasar tribes inhabiting this region is still following the traditional healing processes exploiting the ethnic herbs in their vicinity.

Keywords: Ethnobotany; malasar tribes; ethnic herbs; Anaimalai hills; Western ghats

I. Introduction

Population explosion threatens the humans by the inadequate supply of food. Malnutrition and polluted environment result in the prevalence of lots of communicable diseases and nutrient deficiency. Though the low income group in the slum areas of cities are getting adequate supply of allopathy medicine from Primary Health Centre (PHC), Government Hospitals and other Non Governmental organization, some people are not aware of treating the disease at the right time. Before the development of modern medicine, herbal medicines have been used directly or indirectly from time immemorial to enrich the physical and mental power [1]-[3]. Ancient literature of world on medicines also suggests that the primitive people of antiquity and those of earlier centuries have been using several kinds of food and medicinal plants for healthcare.

Realizing the wealth of herbal medicines, there has been an increasing interest to document the plants used by the folk-healers and ethnic societies of the world. Tamil Nadu is inhabited by several ethnic tribes such as Irular, Kattunayakan, Kota, Kurumba, Kadar, Malasar, Paniyan, Toda, Palliyan and Kanikkaran [4], [5]. The ethnic knowledge obtained from the tribal healers can largely help the mankind to discover newer drugs for challenging diseases. Several studies have been carried out to document the ethnic herbs and their medicinal values. Ethnobotanical studies in the Western Ghats part in Tamilnadu includes Ramachandran and Manian (1989), Gopalakrishnan and Kirshna Prasad (1992), Rajendran and Henry (1994), Senthilkumaret al., (2006 & 2013) and Geetha et al., (1996 & 2007) [6]-[12].

It is quite clear that the review of available literature identifies a gap in the enumeration of ethnic herbs in practice among the malasar tribes in Saralapathi settlement in the Western Ghats, Tamil Nadu. Hence an attempt has been made in the study to enumerate and document the ethnic herbs and their medicinal values in this region.

II. Materials and methods

Saralapathi is a village including several tribal settlements in Anaimalai block, Pollachi taluk, Tamilnadu. Saralapathi is located at 341 MSL in the Lat. 10.55° N; Long. 76.86° E and 35 km away from Pollachi (Fig. 1).

Tamil Nadu state has 36 types of tribal communities, and they are about 1.05% of state population [13]. Field survey was carried out in various tribal settlements of Saralapathi. Random survey has been used to collect the data from the study area. Information about various types of medicinal plants, their useful parts and the method of preparation of ethnic medicine were collected from the individuals residing in that area [14]- [15]. People with good knowledge about the settlements were approached to reach the tribes. The data were collected from the tribal people through interviews and questionnaire in their regional language. Further, the folk healers/practitioners (Vaidhyars) in each settlement explained well about the ethnomedicine, their preparations and list of diseases which are cured by them. The information gathered were recorded and documented.

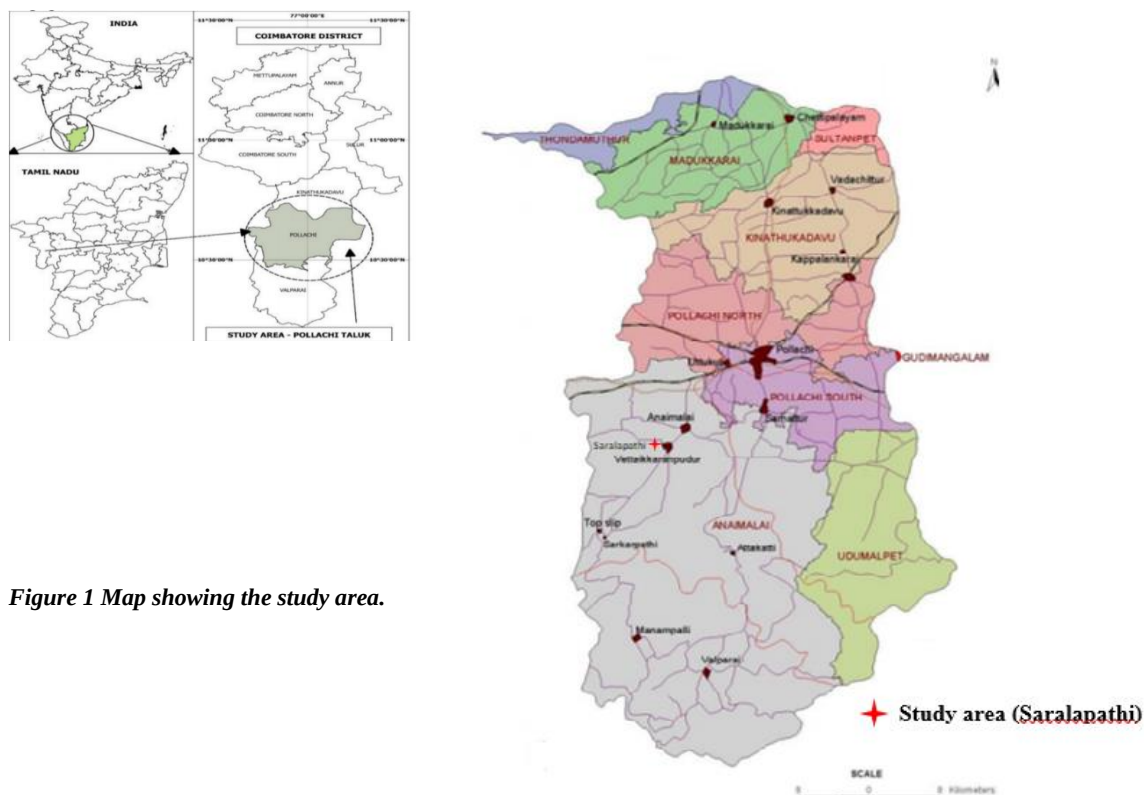


Figure 1 Map showing the study area.

III. Results and discussion

The data collected on the ethnic herbs used by the malasars are given in Table 1 and Fig. 2. Thirty plants belonging to 17 different families were recorded and all the 30 species were found to be used by the malasars of Saralapathi for various ailments. Herbalists (generally between the age group of 60 to 80 years) are diagnosing the diseases based on symptoms observed from patients as well as from the discomfort explained by the patients..

The herbal drugs are widely administered by the *malasar* tribes by oral injection, fresh juice, decoction, dry leaf powder, and fresh leaf paste are widely used by the tribes. One or two senior persons (recognised as *Vadhiyars* or *Maruthuvar*) were found in each settlement and they have sound knowledge of herbal medicine and their mode of application. Some of the diseases which are cured by herbal medicine and their method of preparation and the plant parts used are given in Table 2.

It is worth mentioning to document the ethnomedicinal properties of some medicinal plants used by the *malasar* tribes in the Saralapathi village. The therapeutic potential of the ethnic herbs was exploited to cure different kinds of common ailments such as cold, cough, diarrhoea, digestive disorders, urinary disorders, skin diseases and wound healing etc. It is quite surprising to know that some of the herbs were used by the traditional healers interviewed during the study to cure the challenging health defect such as jaundice and diabetes. The use of herbs as hair tonic is commonly evidenced among the *malasar* tribes.

Table I Ethnic herbs used by the Malasar tribes in Saralapathi of Anaimalais.

S No	Vernacular name	Binomial name	family
1	<i>Adathoda</i>	<i>Justicia adhatoda</i>	Acanthaceae
2	<i>Kooravaalchedi</i>	<i>Blepharis maderaspatensis</i>	Acanthaceae
3	<i>Naayuruvi</i>	<i>Achyranthes aspera</i>	Amaranthaceae

4	Ponnaganni	<i>Alternanthera sessilis</i>	Amaranthaceae
5	Toyyakkirai	<i>Digera muricata</i>	Amaranthaceae
6	Sirupoolai	<i>Aerva lanata</i>	Amaranthaceae
7	Earukku	<i>Calotropis gigantea</i>	Apocynaceae
8	Sotrukatalai	<i>Aloe vera</i>	Asphodelaceae
9	Karisalanganni	<i>Eclipta prostrata</i>	Asteraceae
10	Aavaarai	<i>Cassia auriculata</i>	Caesalpinioideae
11	chiruthalaichedi	<i>Ipomea obscura</i>	Convolvulaceae
12	Kovaihalai	<i>Coccinia grandis</i>	Cucurbitaceae
13	Kuppaimeni	<i>Acalypha indica</i>	Euphorbiaceae
14	Aamanakku	<i>Jatropha curcas</i>	Euphorbiaceae
15	Ammampaccharisi	<i>Euphorbia hirta</i>	Euphorbiaceae
16	Vendhaiyam	<i>Trigonella foenum graecum</i>	Fabaceae
17	Karpuravalli	<i>Plectranthus amboinicus</i>	Lamiaceae
18	Tulasi	<i>Ocimum tenuiflorum</i>	Lamiaceae
19	Thiruneetrapathini	<i>Ocimum basilicum</i>	Lamiaceae
20	Thumbai	<i>Leucas aspera</i>	Lamiaceae
21	Nocchi	<i>Vitex negundo</i>	Lamiaceae
22	Semparuthi	<i>Hibiscus rosasinensis</i>	Malvaceae
23	Mukkirattai	<i>Boerhavia diffusa</i>	Nyctaginaceae
24	Arugampul	<i>Cynodon dactylon</i>	Poaceae
25	Caruveppilai	<i>Murraya koenigii</i>	Rutaceae
26	Mudakkathan	<i>Cardiospermum helicacabum</i>	Sapindaceae
27	ManalThakkali	<i>Solanum nigrum</i>	Solanaceae
28	Oomathai	<i>Datura metel</i>	Solanaceae
29	Kandanqathri	<i>Solanum virginianum</i>	Solanaceae
30	Thudhuvalai	<i>Solanum trilobatum</i>	Solanaceae

Different parts of plants such as root, stem, leaves, flower and seeds are used for the preparation of herbal medicine. Leaves form the major part of medicine which are widely used to treat various diseases as the leaves are actively produce the secondary metabolite [16]. The extraction of drugs from leaves and tender stem are also much easier than other hard parts of the plant. It is known that the matured leaves store more quantity of secondary metabolites such as alkaloids, flavanoids and alcoholic substances. These secondary metabolites are proved nowadays as bioactive compounds and are used in the preparation of various drugs for differing diseases.

Figure 2 Medicinal plants studied.



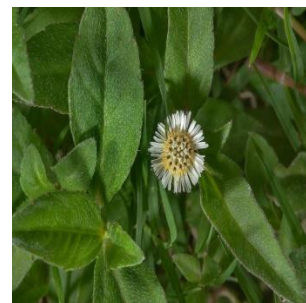
Figure 2. Contd....



Calotropis gigantea



Aloe vera



Eclipta prostrata



Cassia auriculata



Ipomea obscura



Coccinia grandis



Acalypha indica



Jatropha curcas



Euphorbia hirta



Trigonella foenum graecum



Ocimum tenuiflorum



Plectranthus amboinicus



Ocimum basilicum



Leucas aspera

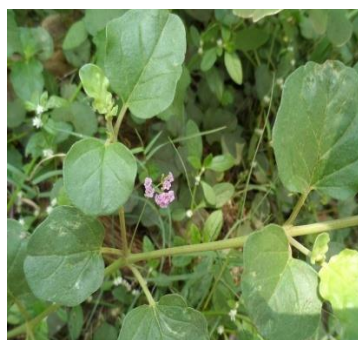


Vitex negundo

Figure 2. Contd....



Hibiscus rosasinensis



Boerhavia diffusa



Cynodon dactylon



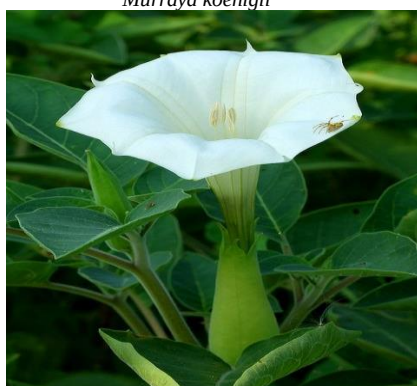
Murraya koenigii



Cardiospermum helicacabum



Solanum nigrum



Datura metal



Solanum virginianum



Solanum trilobatum

Table 2 Plant parts used and the method of preparation of drug and the diseases cured

S.No	Binominal name	Parts used	Method of preparation	Disease cured
1.	<i>Justicia adhatoda</i>	Leaves	Leaf paste with honey.	Cures Jaundice
2.	<i>Blepharis maderaspatensis</i>	Seeds and leaves	Dry seed powder Leaf paste	Cures urinary diseases. To treat bone fracture and skin diseases.
3.	<i>Achyranthes aspera</i>	Leaves	Leaf paste with turmeric	Cures skin diseases and to treat scorpion bites.
4.	<i>Alternanthera sessilis</i>	Leaves	Green vegetable	Treat dysuria, hepatitis and used as hair tonic.
5.	<i>Digera muricata</i>	Leaves	Cooked leaves	Used to treat digestive disorder. Laxative.
6.	<i>Aerva lanata</i>	Leaves and flowers	Leaf paste & flower decoction	Antibacterial and reduce fever.
7.	<i>Calotropis gigantea</i>	Leaves	Latex obtain from leaves	Used for the treatment of skin diseases and wound healing.
8.	<i>Aloe vera</i>	Succulent leaves	External application Internal injection	Antibacterial activity cures skin diseases and accelerates the healing of burns. Kills intestinal worms
9.	<i>Eclipta prostrate</i>	Leaves and stem	Leaf paste	Treatment of gastro intestinal disorders and hair loss.
10.	<i>Cassia auriculata</i>	Flowers and leaves	Decoction from leaves or flowers.	used to treat diabetes and urinary diseases.
11.	<i>Ipomea obscura</i>	Root and leaves	Root extract Leaf paste	To treat dysentery. Used to set bones of live stocks.
12.	<i>Coccinia grandis</i>	Leaves	Leaf paste or leaf extract	Cures ulceric wounds in intestine.

13.	<i>Acalypha indica</i>	Leaves	Decoction or fresh juice extracted from leaves	Cures cold and external application cures scabies and other skin diseases.
14.	<i>Jatropha curcas</i>	Seeds and Leaves	Seed oil Latex from small twigs	Purgative. Strengthen gum and reduce gum bleeding.
15.	<i>Euphorbia hirta</i>	Leaves	Leaf decoction/paste	Increases lactation in nursing mothers. leaf paste cures skin disease.
16.	<i>Trigonella foenum graecum.</i>	Seeds and leaves	Sprouted seeds Leaves	Controls blood sugar and regulates menstrual discomfort. Boosting milk production in breast feeding mother. Leaves raise haemoglobin level.
17.	<i>Ocimum tenuiflorum</i>	Leaves	Fresh leaf extract with or without honey	Cures cold and cough
18.	<i>Plactranthus amboinicus</i>	Leaves	Leaf extract	Antimicrobial and cures skin irritation. Best medicine for cough.
19.	<i>Ocimum basilicum</i>	Leaves	Leaf paste	Cures skin diseases
20.	<i>Leucas aspera</i>	Leaves and flowers	Leaf paste	Leaves and flowers are used as anti microbial, insecticidal, fever reducing agent. cures digestive disorders in cattle. External application for scorpion bite.
21.	<i>Vitex negundo</i>	Leaves	Leaf extract / fumigation with dry leaf powder. Leaf decoction	Cures cold and cough. Muscle relaxant.
22.	<i>Hibiscus rosasinensis</i>	Leaves and flowers	Leaf extract And Flower decoction	Stimulates hair growth. Cough treatment and used as laxative.
23.	<i>Boerhavia diffusa</i>	Leaves and stem.	Paste	Cures inflammatory diseases and eye diseases.
24.	<i>Cynodon dactylon</i>	Leaves	Leaf extract	Laxative, coolant and capacity to purify blood.
25.	<i>Murraya koenigii</i>	Leaves	Homemade hair oil prepared with coconut oil. Fresh leaves Dry leaf powder	Reduce hair fall Reduce vomiting and dysentery. Enhancing blood circulation.
26.	<i>Cardiospermum helicacabum</i>	Leaves	Paste/decoction/extract	Used to treat joint pain, fever, and constipation.
27.	<i>Solanum nigrum</i>	Leaves and Berries	Fresh leaves and berries taken orally	Cure mouth and intestinal ulcer.
28.	<i>Datura metel</i>	Leaves	Leaf extract Leaf paste	Cures joint pain Applied over the area to relieve pain
29.	<i>Solanum virginianum</i>	Roots and seeds	Decoction Dried Seed powder	Cures respiratory diseases. Tooth ache.
30.	<i>Solanum trilobatum</i>	Leaves and fruits.	Decoction/ fresh juice extracted from leaves or fruits.	Cures throat congestion and cough.

IV. Conclusion

The tribal people without any scientific knowledge discovered the potential of the herbs in healing several health problems over the years. They may adapt the empirical or heuristic approach to discover a drug. But it is true that those approaches are helping in modern times to design a drug with rational approach by getting the knowledge about the target (disease) and the lead (drug). The present study also vouches that the Saralpathi village is a treasure trove of ethnic knowledge and the malasar tribes inhabiting this region is still following the traditional healing processes exploiting the ethnic herbs in their vicinity.

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