

*Ethnobotanical Leaflets* 12: 948-53. 2008.

## **A Survey of the Ethnomedicinal Flora of the Sirumalai Hills, Dindugul District, India**

**Vikneshwaran D.,\* Viji M.\*\* and Raja Lakshmi K.\*\*\***

\*Periyar Institute of Distance Education, Periyar University, Salem-636011

\*\*Madurai Kamaraj University, Madurai-625021

\*\*\*Department of Botany, Madura College, Madurai

**Issued 08 November 2008**

### **ABSTRACT**

The present study is mainly focused on the ethnomedicinal botany of the tribe Paliyars a dominant ethnic group inhabiting the Western Ghats (Off Shoots) of Sirumalai Hills, Dindigul district, Tamil Nadu. In the present study the focus is on survey, documentation and enumeration of the medicinal plants practiced by the tribal Paliyars. As an outcome of the present investigations 25 plants have been identified and documented.

### **INTRODUCTION**

Ethnobotany deals with studies among the tribals and rural people for recording their unique knowledge about plant wealth and for search of new sources of herbal drugs, edible plants and other aspects of plants (Jain and Mudgal, 1999). Plant medicines were regarded as highly important in the lives of our ancestors.

The science of ethnobotany is concerned with the relationships between man and vegetation involving man's dependence upon vegetation as well as the tremendous influence man has had on vegetation (King, 1974).

Among the Eighteen hot spots known for rich flora in the world, two are located in India. They are the Eastern Himalayas and the Western Ghats (Khoshoo, 1996). The hill chain of Western ghats recognized as a region of high level of biodiversity is under threat of rapid loss of genetic resources (Gadgil, 1996).

The present study is an attempt made for the survey, documentation and enumeration of wild medicinal plants in the study area. The Paliyars are the dominant tribal group inhabiting this locality. The present study focuses on the dependence of the Paliyars on herbal medicines and attempt to analyse the therapeutic values of such medicinal plants.

### **MATERIALS AND METHODS**

#### **Study Site**

Frequent field trips were carried out to the Sirumalai hill range (off-shoots) of Western Ghats and situated about 28 kilometers on the south of Dindigul District, Tamil Nadu. Information regarding the medicinal plants usage by Paliyars were gathered after developing a good rapport with the community and winning their confidence. It is interesting to note that the Paliyar community is opening up gradually after the interventions made by scientists and non-governmental organizations.

After eliciting detailed information regarding the wild medicinal plants (Table-1), they were carefully brought to the laboratory for identification.

## Paliyars - A Unique Tribal Community in Western Ghats

Survey of the hill tribe Paliyars shows that they are widely distributed in Sirumalai hills, Periyar hills, Palani hills, Varusanad valley, Kandamanayakkanur, Ayyanarkoil, Sadhuragiri hills. Since the period of investigation was only 10 months, the present ethnomedicinal studies with reference to the paliyars settled in the forest area of Sirumalai hill range is a part of (off-shoots) Western Ghats, Dindigul district, Tamilnadu.

### The life style of the Paliyar tribe

The tribal people of India mostly live in the forests, hills and plateau. Naturally isolated regions are differently termed as Adivasi (Original settlers), Adimniwasi (Oldest ethnological sectors of population), Adimjatti (Primitive caste) Aboriginal (indigenous) Girijan (hillman).

There are altogether 427 tribal communities all over the world. It is estimated that the predominant tribal areas comprise about 15% of the total geographical area of the country (Gupta, 1987).

Paliyans / Paliyars are typical hill tribals inhabiting all over the hill tracts of South India, in small pockets of isolated groups. A good account of Paliyans and of Travancore was given by Krishna Iyer (1939) and of Palani hills tops by Nambiyar (1964). The socio economic conditions of Paliyars of Madras province were studied by Chatterjee and kumar in 1957.

The Paliyars are predominant hill tribes and familiar with several herbs to cure various ailments. The ethnic groups, Paliyars a scheduled tribe are a primitive type and belong to the pre Dravidian era according to the census 1961.

Paliyars are placed at 32<sup>nd</sup> position of the total population of the scheduled tribe in Tamil Nadu (5,74,194), the Paliyar tribe accounts for 1890, which ranks 20<sup>th</sup> among the tribal population. (Muthukumarasamy, et. al., 2004).

The Paliyars are short, dark complexioned, curly haired with thick protruding lips and blunt nose with wide nostrils. They live in huts thatched with the fronds of *Cymbopogon polyneuros*, *Cymbopogon citrates*, or the leaves of *cocos nucifera*. The paliyars as a tribe do not possess much cohesiveness. The language spoken by the Paliyars is a highly corrupt form of Tamil and has a peculiar accent of its own.

**Table 1.** List of collected and documented Ethnomedicinal plants.

S. No.	Botanical Name	Family	Venacular Name	Plant Parts used
1.	<i>Abrus precatorius</i> L.	Fabaceae	Kundumani	Leaf / Seeds
2.	<i>Acalypha indica</i> L.	Euphorbiaceae	Kuppaimeni	Leaf
3.	<i>Achyranthes aspera</i> L. var. <i>aspera</i> .	Amaranthaceae	Nayurivi	Leaf
4.	<i>Adhatoda vasica</i> Nees.	Acanthaceae	Adathoda	Leaf
5.	<i>Aegle marmelos</i> (L.) <i>Correa</i> Roxb.	Rutaceae	Vilvam	Leaf /fruit
6.	<i>Alangium salvifolium</i> (L.f) Wagerin	Alangiaceae	Alingi	Fruit
7.	<i>Aloe vera</i> (L.) Burm f.	Liliaceae	Sotrukatali	Leaf
	<i>Alpinia calcaratta</i>			

8.	Roscoe.	Zingiberaceae	Chitrathai	Rhizome
9.	<i>Alstonia scholaris</i> (L.) R.Br.	Apocyanaceae	Ezhilalai palai	Leaf and Latex
10.	<i>Andrographis paniculata</i> (Burm.f) Wallich ex Nees	Acanthaceae	Siriyangai	Leaf
11.	<i>Argemone mexicana</i> L.	Papaveraceae	Premathandu	Root
12.	<i>Aristolochia indica</i> L.	Aristolochiaceae	Karudakodi	Leaf/Root
13.	<i>Asparagus racemosus</i> willd.	Liliaceae	Sathamulam	Tuber
14.	<i>Azadirachta indica</i> A.Juss	Meliaceae	Vaambu	Leaf/Stem
15.	<i>Azima tetraantha</i> Lam.	Salvadoraceae	Sangumul	Leaf
16.	<i>Bambusa vulgaris</i> schrad willd	Poaceae	Mungil	Leaf and Terminal bud.
17.	<i>Bacopa monnieri</i> (L) Wettstein	Scrophulariaceae	Neer brambi	Whole plant
18.	<i>Boerhaavia diffusa</i> L.	Nyctaginaceae	Mukkarathai	Root
19.	<i>Calotropis gigantea</i> (L.) R.Br.	Asclepiadaceae	Erukku	Latex
20.	<i>Canthium parviflorum</i> Lam	Rubiaceae	Karai chedi	Leaf
21.	<i>Cardiospermum</i> <i>canescens</i> L.	Sapindaceae	Periya mutakkathan	Leaf
22.	<i>Cardiospermum</i> <i>halicacabum</i> L.	Sapindaceae	Siriya mutakkathan	Leaf
23.	<i>Cassia auriculata</i> L.	Caesalpiniaceae	Avarai	Leaf
24.	<i>Catharanthus roseus</i> (G.) Bom.	Apocyanaceae	Nithyakalyani	Leaf/Root
25.	<i>Cassia tora</i> L.	Caesalpiniaceae	Thakarai	Leaf

## RESULTS AND DISCUSSION

The tribal's knowledge of indigenous uses of native medicinal plants before exodus into the urban areas to join the mainstream life needs to be studied and documented. In the present study 25 medicinal plants were collected and documented (Table 1). The study focuses the extensive usage of as many as 25 medicinal plants by the Paliyars tribe inhabiting the study area (South off shoots) Western Ghats. Dindigul district, Tamil Nadu.

This study revealed that medicinal plants still play a vital role in the primary health care. This study offers a model for studying the relationship between plants and people, within context of traditional medicinal system. The value of using ethnomedicinal information is to initiate drug discovery efforts. The purpose of standardizing

traditional remedies is obviously to ensure therapeutically efficacy. This study also generated a broad spectrum of information concerning medicinal plants used by tribals.

Traditional medicines also have the potential to form the basis of pharmaceutical drugs for the treatment of wide range of diseases. Thus, the present documentation of these potentially valuable genetic resources ultimately can serve as a baseline for further research that can lead to bioprospecting of these traditional medicines.

## **ENUMERATION**

### ***Abrus precatorius* L. (Fabaceae) “Kundumani”**

Two or three grams of fresh roots of the above plant with seeds are made into paste and consumed along with cold water or cow’s milk two times a day for five to seven days to cure any poisonous bite.

### ***Acalypha indica* L. (Euphorbiaceae) “Kuppaimeni”**

The juice prepared from ten to fifteen grams of fresh leaves with 50ml of water is taken orally two times a day for two days to get relief from indigestion.

### ***Achyranthus aspera* (Amaranthaceae) “Nayuruvi”**

Five to ten grams of leaves are made into paste with little water. This paste is mixed with a small amount of lime and is applied externally on the spot once a day for three days for treating dog bite.

### ***Adhatoda vasica* Nees (Acanthaceae) “Adathoda”**

Young leaves are ground and a half glass of the leaf juice is mixed with honey and taken orally as remedy for cough. It is also a digestive and good for bronchitis.

### ***Aegle marmelos* (L.) Correa (Rutaceae) “Vilvam”**

Five to ten gram of leaf is made into paste with few drops of water. This paste is applied externally on the affected skin twice a day for a period of two to three days to get relief from itches.

### ***Alangium salvifolium* (L.f) Wagerin (Alangiaceae)**

Fresh fruit juice is taken for eye disease.

### ***Aloe vera* (L.) Burm. f. (Liliaceae) “Sotrukatalai”**

Leaves are used to check leucorrhoea and venereal diseases. Leaf juice applied externally soothes burns, wounds and cuts. Leaf paste also applied externally on the legs of a pregnant lady to promote coolness.

### ***Alpinia calcaratta* Roscoe (Zingiberaceae) “Chittarathai”**

The infusion of rhizome is given in for fever, rheumatism, catarrhal affects. Rhizome of this plant, Inji (*Zingiber officinale* Rosc) and bark of Mulmurunkai (*Erythrina variegata* Linn.) are boiled in water and the extract is given for cholera.

### ***Alstonia scholaris* (L.) R. Br. (Apocyanaceae) “Ezhilaipalai”**

One teaspoonful of the powder made from the shade dried leaves is orally administered with water or with a few drops of the stem latex of the same plant, once a day for a period of one month to get relief from asthma.

### ***Andrographis paniculata* (Burm. f.) Wallich ex Nees. (Acanthaceae) “Sirianangai”**

Leaf paste mixed with hot water when taken four time acts as antivenom for Cobra bite. It also arrests excess menstruation.

### ***Argemone mexicana* L. (Papaveraceae) “Premathandu”**

Ten to twenty gram of root bark extract is taken along with cow’s ghee once in the morning, and continued for two weeks for spermatorrhoea. Usually, the older plants are prepared for the medicine.

### ***Aristolochia indica* L. (Aristolochiaceae) “Karuda kodi”**

The leaf juice is an antinode to snake bite and scorpion sting powdered root is given with honey for leucoderma.

**Azadirachta indica A. Juss. (Meliaceae) “Vaambu”**

The juice prepared from ten gram of fresh young leaves and stem bark with water is taken orally in empty stomach for a period of 2 days in a single close to get relief from indigestion and to destroy intestinal worms.

**Azima tetracantha Lam (Salvadoraceae) “Sangumul”**

The juice prepared from five to ten gram of leaf with 200ml of water is taken orally for one day in a single dose to arrest vomiting.

**Bacopa monnieri (L.) Wettstein (Scrophulariaceae) “Neerbrahmi”**

The plant powder mixed with milk it is used as a brain tonic.

**Bambusa arundinacea Willd (Poaceae) “Mungil”**

Leaves ground along with gingelly oil and mixed with chicken soup which cures chest pain.

**Bacopa monnieri (L.) Wettstein (Scrophulariaceae) “Neerbrahmi”**

The plant powder mixed with milk it is used as a brain tonic.

**Boerhaavia diffusa L. (Nyctaginaceae) “Mukkarattai”**

The water extracts of root powder is applied externally 2 times a day for a period of 3 days to get relief from rheumatic pain.

**Calotrophis gigantea (L.) R.Br. (Asclepiadaceae) “Erukku”**

Leaves in the form of paste are applied in boils and cancerous wounds. Three to five drops of leaf latex and 10 drops of honey are mixed and is given to expel worms. The leaf paste is given as an antinode for snake poisoning and insect bites.

**Canthium parviflorum Lam. (Rubiaceae) “Karaichedi”**

The leaves are used to reduce inflammation and swelling of the body. Leaves are also used to treat dysentery.

**Cardiospermum canescens L. (Sapindaceae) “Periya mudakathan”**

Leaf juice mixed with cumin is consumed to relieve pain in the joint and at the time of delivery.

**Cardiospermum halicacabum L. (Sapindaceae) “Mudakathan”**

The leaf extracts reduces body pain. Leaves coated with castor oil are applied to rheumatic joints, and swellings.

**Cassia auriculata L. (Caesalpiniaceae) “Avarai”**

Leaves reduce obesity. Leaf powdered made into a paste is used as hair shampoo.

**Catharanthus roseus (G) Bom. (Apocyanaceae) Nithyakalyani.** Ten to twenty grams of fresh roots are ground and the extract is taken orally.

**Cassia tora L. (Caesalpiniaceae) “Thagarai”** Leaves are mixed with *Allium sativum* after grinding and are used as remedy for skin diseases.

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