

Ethnomedicinal studies of the woody species of Kalrayan & Shervarayan Hills, Eastern Ghats, Tamil Nadu

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Some ethnobotanical observations have been made amongst the aboriginals of the Shervarayan & Kalrayan hills of Eastern Ghats in Tamil Nadu. The paper describes ethnomedicinal importance of 60 woody species belonging to 51 genera and 34 families. Data are based on extensive survey, observations and discussions with tribal and rural people of this region. In forests of both Shervarayan & Kalrayan hills, locals have converted a substantial portion of forests into cultivated lands. The importance of recording the usage of plants in this region is imperative because of rapid loss of forest wealth and traditional wisdom. Intensive action plan need to be immediately implemented for sustainable use of forest resources together with the ethnobotanical knowledge base of the forest dwellers. In view of the various resources use, habitat uniqueness and anthropological pressure on the forest resources, the need for conservation is stressed.

Keywords: Ethnobotany, Ethnomedicine, Eastern Ghats, Tamil Nadu, *Kurumba gounder*, *Sadaya gounder*, *Ariyan*

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The tribal societies are closely linked to the forest ecosystem with which they traditionally live in harmony. Tribal population still derives their daily needs from various plants growing around them¹. A large part of such information is passed by verbal communication for generations. It is desirable to collect and record such information for proper scientific evaluation and also a common proposition arising from them was the need to find ways to make tropical forests economically attractive to these populations. It was assumed that with added economic incentives and proper scientific knowledge of sustainable use of forests, people would strengthen their resolve against other deforesting agents. Human influence on natural system has often been portrayed as destructive. It is only relatively recently that ecologists have started to appreciate how traditional people used their resources without destroying them². The objective of the paper is to focus primarily on the ethnomedicinal herbal drugs obtained from the woody species of 2 semi- evergreen tropical forests of the Eastern Ghats. Geographically, the Eastern Ghats consists of 3 discrete sections, the Northern (Ningiri, Orissa), the Central (Nallamalai to near Chennai) and the Southern section that runs in a West-Southwest

direction, meeting the Western Ghats in the Nilgiris Hills and on the Southeast Javadi hills, Melagiris, Shervarayan, Chitteri, Bodamalai, Kalrayan, Kolli hills and Pachamalai hills are located.

Methodology

The study was carried out in semi- evergreen forests (tropical forest) in Eastern Ghats, viz. Sanyasimalai R F Shervarayan hills (1300-1500m elevation) located in Salem district of Tamil Nadu (11°45' and 11°55' N Lat & 78°11' and 78°20' E Long) and in the Vellimali forest of Kalrayan hills (Fig.1) (600-900m elevation) located in Villupuram district of Tamil Nadu (11°38' and 12°01' N Lat. & 78°37' and 78°51' E Long.). The study is based on extensive survey and field observations as a part of quantitative inventory of all woody species ≥ 30 cm gbh in the study area, data on medicinal uses of various woody species by the tribes were gathered. The tribal communities inhabiting the study area are mainly *Kurumba gounder*, *Sadaya gounder* and *Ariyan*. The major livelihood of these tribes is cattle farming, agriculture, collection of fuel wood, minor forest produces and collection of medicinally important plants, etc. These tribes were using herbs and woody species as vegetables, fruits, beverages, fodder, building houses and thatching, religious

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ceremonies, for making agricultural implements, cordage, mats and baskets and medicines for various ailments of human beings and cattle. In the paper, only ethnobotanically and ethnomedicinally important woody species were considered. The species were identified with help of available literature³⁻¹⁰.

Results and discussion

The ethnobotanical study conducted in 2 semi-evergreen forests namely Shervarayan and Kalrayan hills of central Tamil Nadu, Eastern Ghats

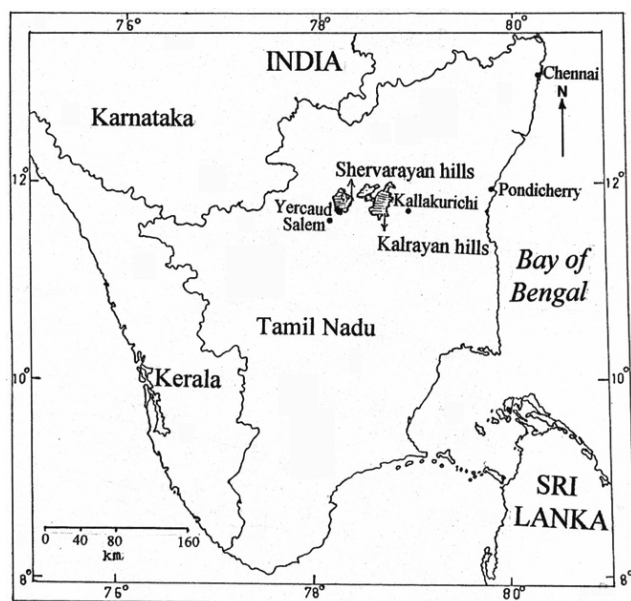


Fig. 1—Location map of the study area

documented a total of 60 woody species, 51 genera and 34 plant families (Table 1). Family wise, the taxa belonging to Papilionaceae, Moraceae and Euphorbiaceae were used extensively. Predominantly, as first hand information, the leaf extracts of *Erythrina stricta* is used instantly for curing cold and fever by tribes of Kalrayan hills. The leaf paste of *Ficus microcarpa* is used for throat infections and the seeds of *Syzygium cumini* for the treatment for diabetics by the tribes of Shervarayan hills. Interestingly, in the same area, the bark or leaf paste of *Buchanania lanzan* with the bark of *Diospyros melanxylon* triturated and mixed with a glass of water is given twice daily to treat snakebite¹¹. Seed oil of *Pongamia pinnata* is effectively used for treating seasonal eczema in Kalrayan hills, Tamil Nadu. Evidently, 2-3 tender leaf paste of *Terminalia bellerica* is given twice a day for one day to cure vomiting and loose motions followed dehydrations used by the same tribes¹². The roots of *Cassia fistula* and rice (*Oryza sativa*) made into a paste are applied on scrofula (tuberculosis in lymphatic nodes) by local tribes in Kalrayan hills as well as in Pendra district of Bilaspur Madhya Pradesh and in Kaljikhhal block of district Pauri Garhwal of Uttaranchal^{13,14}. Spermatorrohea is treated with fruit powders of *Terminalia chebula* and *Phyllanthus emblica* (5 gm) given with warm water twice a daily by the tribal practitioners in Kalrayan hills and also more or less similar method is used by the tribes of Kaljikhhal block of district Pauri Garhwal of Uttaranchal¹⁴.

Table 1—Ethnobotanical uses of the woody species

Plant names & Family	Local name	Parts used	Uses
<i>Acacia torta</i> (Roxb.) Crai Mimosaceae	<i>Singa kodi</i>	Tender leaves, oil	Anemia, as tonic, antiseptic
<i>Albizia amara</i> (Roxb.) Bovin Mimosaceae	<i>Usalai,</i> <i>Unjaa</i>	Leaves, Bark, fruit	Eye diseases, ulcer of mouth, purgative
<i>Atalantia racemosa</i> Wight&Arn. Rutaceae	<i>Kattunaragam</i>	fruits	Pickles by tribes
<i>Buchanania lanzan</i> Sprengal Anacardiaceae	<i>Kolamavu,</i> <i>Kattuma</i>	Bark Seeds	Pains, snakebite, mouth ulceration
<i>Callitris cupressiformis</i> Cupressaceae	<i>Sad savukku</i>	Leaf twig	As bouquet
<i>Cansjera rheedii</i> J. Gmelin. Opiliaceae	<i>Kalimannak-keerai</i>	Leaves	Leaves as vegetable
<i>Caryota urens</i> L. Arecaceae	<i>Koonthappanai</i>	Inflorescence Juice, nut, exudates,	Asthma, as vital sap, mild laxative, coolant, acrid

Table 1—Ethnobotanical uses of the woody species—Contd

Plant names & Family	Local name	Parts used	Uses
<i>Cassia fistula</i> L. Caesalpinaceae	<i>Sharakkonnai</i>	Pod(Fruit) Roots Leaves	Purgative, scrofula, worm infestations in children, snakebite
<i>Chionanthus malaelengi</i> (Den.) P.S Green Oleaceae	-----	Wood	Used as cheap wood for tools handles
<i>Clausena dentate</i> (Willd) M.Roem Rutaceae	<i>Kongi,</i> <i>Aanaichhadi</i>	Fruits	Rarely edible
<i>Combretum albidum</i> G.Don Combretaceae	<i>Not known</i>	Wiry-stem, seed oil, root	Juice in eye problems, eczema, antimalarial
<i>Derris scandens</i> (Roxb.) Benth. Papilionaceae (Very rare distribution)	<i>Karadi</i> <i>veppanang kodi</i>	Bark, stem	Treatment of cancer like wounds and tumor in throat
<i>Diospyros ebenum</i> Koen. Ebenaceae	<i>Karunkali</i>	Stem	Wood for making tool handles
<i>Diospyros ferrea</i> (Willd) Bakl. ver. <i>buccifolia</i> (Rottb.) Bakl Ebenaceae	<i>Irumvalli</i>	Fruits	Diarrhoea, internal bleeding, kidney stones, sore throats
<i>Diospyros montana</i> Roxb. Ebenaceae	<i>Kaatupula</i>	Bark	Liver disorders, fever
<i>Eriobotrya japonica</i> (Thunb.) Lindle Rosaceae	<i>Lakkota</i>	Fruits	Freshly eatable, good laxative
<i>Erythrina stricta</i> Roxb. Papilionaceae	<i>Mulmurungai</i>	Flowers, leaves	Leaves extract for cold
<i>Erythrina variegata</i> LinN. Papilionaceae	-----	Bark, seed oil	Antihelmintic, paralysis
<i>Euodia lunu-ankenda</i> (Gaertn.) Merr Rutaceae	<i>Theekuchi maram</i>	Leaves, root bark	Fever, fairness of skin
<i>Euphorbia antiquorum</i> L. Euphorbiaceae	<i>Kalli</i>	Root, latex	Rheumatism, inflammation, swellings on breast, purgative
<i>Ficus benghalensis</i> L. Moraceae	<i>Aalamaram</i>	Bark, leaves	Diabetes, impotency, leucorrhoea
<i>Ficus microcarpa</i> L. Moraceae	<i>Kal athi</i>	Leaves	Tumour, throat infections
<i>Ficus religiosa</i> L. Moraceae	<i>Arasu</i>	Leaves, bark, seed	Passing blood in urea, bleeding piles, boils, contraceptive
<i>Ficus tsjahela</i> Rheed ex Burm.f. Moraceae	<i>Esili</i>	Bark	Veterinary medicine
<i>Flacourtia indica</i> (Burm.f)Mers Flacourtiaceae	<i>Sela</i>	Fruits, bark	Jaundice, snake bite, rheumatism, eczema
<i>Gardenia resinifera</i> Roth. Rubiaceae	<i>Kambilpisin</i>	Leaves, gum	Liver disorders,fever, colitis, anthelmintic
<i>Gmilina arborea</i> Roxb. Verbenaceae	<i>K umala</i>	Root bark	Impotency, prolong coitus time
<i>Hiptage benghalensis</i> (L.) Kurz. Malpighiaceae	<i>Vasanthi</i>	Leaves	Antiseptic, asthma, rheumatism, insecticidal
<i>Ixora brachiata</i> Roxb.ex DC. Rubiaceae	<i>Thetti</i>	Root bark	Root bark paste with coconut pulp applied for inflammation
<i>Lannea coromandelica</i> (Houtt.) Merr. Anacardiaceae	<i>Odian</i>	Bark, leaves	Vaginal complaint, toothache, dysentery, elephantiasis

Table 1—Ethnobotanical uses of the woody species—*Contd*

Plant names & Family	Local name	Parts used	Uses
<i>Lepisanthes tetraphylla</i> (Vahl) Radlk Sapindaceae	-----	Soft wood	Wood for carving toys
<i>Macaranga peltata</i> (Roxb.) Muell.Arg. Euphorbiaceae	<i>Vattkanni</i>	Wood	As cheap timber
<i>Madhuca longifolia</i> (Koen.) Macbr Sapotaceae	<i>Illupai</i>	Bark, seed oil, leaves	Antiseptic, snake bite, rheumatism, inflammation of testis
<i>Mallotus philippensis</i> (Lam.) Muell. Arg Euphorbiaceae	<i>Trisulli</i>	Bark, root, fruit	Impotency, tonic, spermatorrhoea, bleeding, purgative
<i>Mangifera indica</i> L. Anacardiaceae	<i>Mamaram</i>	Bark, seeds	Astringent, gonorrhoea, asthma, prolongs ejaculation, anthelmintic
<i>Melia azedarach</i> L. Meliaceae	<i>Malai vembu</i>	Leaves, seeds oil, bark	Small pox, viral fever, skin infections, bark extracts to control women hormone problems, antiseptic
<i>Melia dubia</i> Cav. Meliaceae	<i>Masa vembu</i>	Bark	Bark extract for menses problems
<i>Melastoma malabathrium</i> Linn. Melastomataceae	-----	Root, leaves	Jaundice, small pox, leucorrhoea, toothache
<i>Mimusops elengi</i> L. Sapotaceae	<i>Magudam</i>	Fruit, flower, leaves	Astringent, cough, cold, snakebite
<i>Murraya koenigii</i> (L.) Spreng Rutaceae	<i>Karuveppillai</i>	Leaves, bark	Dysentery, digestive, vomiting, febrifuge, tonic, skin diseases
<i>Murraya paniculata</i> (L.) Jack, Rutaceae	<i>Kaatu karivppilai</i>	Root, leaves	Dropsy, bodyache, fever, inflammation
<i>Phyllanthus emblica</i> L. Euphorbiaceae	<i>Nellikai</i>	Leaves, fruit	Jaundice, improving eyesight, inflammation
<i>Plecosperrum spinosum</i> Trec., Moraceae	<i>Ekkimullu</i>	Stem thorn	Checks cholera (in belief)
<i>Pongamia pinnata</i> (L.) Piere Papilionaceae	<i>Pungan</i>	Root, bark, flower, fruit, leaves, seed	Infections, bleeding piles, diabetes, leprosy, dyspepsia, skin diseases, jaundice, diphtheria
<i>Santalum album</i> Linn. Santalaceae	<i>Chandanum</i>	Wood & oil	Diuretic, burns, leprosy, prolonged ejaculation, dysuria fever, skin diseases, inflammations
<i>Schefflera stellata</i> (Gaertn) Harms Araliaceae	<i>Peyi miratti</i>	Bark	Bark ash for to control evil spirits (only belief)
<i>Scolopia crenata</i> (Wight & Arn) Clos Flacourtiaceae	<i>Elumutti</i>	Leaves	Musco-skeletal pain
<i>Scutia myrtina</i> (Burm.f) Kurz. Rhamnaceae	<i>Thorattimull</i>	Fruit	Rarely eaten wood used as making tools handles
<i>Sesbania sesban</i> (L.) Merr Papilionaceae	<i>Agathi</i>	Root Leaves Bark	Burning urination Promotes lactation, laxative Blood dysentery
<i>Spondias pinnata</i> (L.f) Kurz Anacardiaceae	<i>Mampulicchi, Kattumavu</i>	Raw Fruit Bark	Chutney for digestion Dysentery, irregular periods

Table 1—Ethnobotanical uses of the woody species —Contd

Plant names & Family	Local name	Parts used	Uses
<i>Streblus taxoides</i> (Heyne ex Roth) Kurz Moraceae	-----	Bark Latex root	Elephantiasis Leucoderma Glandular swellings
<i>Strychnos nux-vomica</i> L. Loganiaceae	Yetti	Root Bark Seed Stem-leaf	Constipation, fever Epilepsy, fever, Antivenom, dog bite Ash for healing wounds
<i>Syzygium cumini</i> (L.) Skeels Myrtaceae	Naval	Bark, seeds Leaves Seed	Dysentery, sore throat, diabetics Anthelmintic, fever Diabetes
<i>Tamarindus indica</i> L. Caesalpinaceae	Puli	Fruit Leaves Seeds	Digestive, laxative, lever disorders, stimulant Anthelmintic, swelling, pains, boils Impotency, Astringent
<i>Terminalia bellirica</i> (Gaertn) Roxb. Combretaceae	Thandi	Fruit	Indigestion, acidity and to improve functions of stomach and intestine, piles, astringent, vomiting
<i>Terminalia chebula</i> Retz. Combretaceae	Kaddukkay	Fruit, bark	Ulcers, wounds, astringent, toothache, laxative, diarrhoea, Spermatrohoea, cardiotonic, fever, diuretic, asthma
<i>Tinospora cordifolia</i> (Willd.) Miers ex Hook. Menispermaceae	Sindal, Amrudam	Stem, root	Diuretic, fever snakebite
<i>Uvaria narum</i> (Dunal) Wall ex Wt. Annonaceae	Malaikozhinjan	Root	Antimalarial
<i>Wrightia tinctoria</i> (Roxb.) R.Br. Apocynaceae	Vetpalai	Bark Seed	As tonic, dysentery Aphrodisiac, astringent, coagulant
<i>Zizyphus xylopyrus</i> (Retz.) Willd. Rhamnaceae	Kottai ilandai	Stem, leaves	Hysteria, antiseptic, headache, antidote to pox

Tribal and rural people of the area have strong faith in their system of treatment and observe positive effects of their preparations⁹. Ecological disturbances have been particularly notable in the forest ecosystem due to deforestation and poorly planned harvest procedures⁷. Habitual distraction caused by human activities is viewed as the leading threat to the biodiversity¹⁵. In Kalrayan hills, locals have converted a substantial portion of forests sites into cultivated lands (for tapioca, *Bajra* and pearl millet cultivation); once in 3 yrs, a new area of forest is selected as shifting cultivation, while in Shervarayan hills, various plantations (pineapple, orange and coffee cultivations) and quarrying for the extraction of bauxite ores is done. A number of non-woody forest products along with crude drugs have been collected by villagers¹⁰. Recently, the efforts of biodiversity on ecosystem process have received

much attention because of the growing concern that loss of biodiversity may impair ecosystem functioning¹⁶. Specific action programs need to be implemented for sustainable use of these resources together with ethno-medico-biological knowledge base of the tribes and forest dwellers. In view of various resources use, habitat uniqueness and human pressure on the forest resources, the need for conservation of both the Kalrayan and Shervarayan hill sites is stressed.

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