

Ethnomedicinal Uses of Plants by Malayali Tribal Community in Kolli Hills of Namakkal District, Tamil Nadu

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Abstract

An ethno-pharmacological survey was carried out in 2012 to document the status and uses of the folk medicinal plants of Kolli hills and adjacent areas of Namakkal district, Tamil Nadu. The information on folk medicinal plants and their uses for treating various ailments have been gathered from the Malayali tribal people, inhabitant of Kolli hills and adjacent areas are presented. The study mainly focused on the wild plants used by the tribal and local peoples to cure various ailments. The Kolli hills is mainly occupied by the tribal community called Malayalis. The present study provides information on 41 plant species belonging to 37 genera and 26 families used by the Malayali tribal community of Kollimalai or Kolli hills and adjacent areas of Namakkal district, Tamil Nadu. Moreover the knowledge on the folklore uses of the medicinal plants used by the Malayali tribes may provide lead for the discovery of new drugs of plant origin.

Key Words: Ethnomedicine, Tribal, Traditional Knowledge, Kolli Hills

Introduction

India has a rich tradition plant and plant based knowledge on health care. A large number of plants or plant based extracts or decoctions or pastes are equally used by the tribal peoples in different region of India for the treatment of various ailments. (Sivalingam Ramamoorthy *et al.*, 2012). Documenting the indigenous knowledge through ethno botanical studies is important for the conservation and utilization of biological resources. According to the WHO as many as 80% of the world's people depend on traditional medicine for their primary healthcare needs (Arunachalam *et al.*, 2009). Indian sub-continent is being inhabited by over 53.8 million tribal people in 5000 forest dominated villages. The tribal communities in the Indian subcontinent comprising 15% of the total geographical area of Indian landmasses representing one of the greatest emporia of ethnobotanical wealth (Kuru Suresh *et al.*, 2011). There are 400 different tribal and other ethnic groups in India constituting about 7.5% of India's population. The Malayali tribal is one such little studied tribe of Kolli Hills in Eastern Ghats of Tamil Nadu, India. More over the information on the plant species used by the Malayali tribal group and their herbal knowledge should be documented because it may lose under the influence of modernization (Francis Xavier *et al.*, 2011). The tribal community of Malayalis is believed to have migrated from Conjeeveram probably in 1962 A.D. They are

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Tamil speaking hill tribes and are mostly agriculturists. Their population can be seen in Kollihills, Yercaud, Javaduhills, Yelagiri, and Bodemalai (Kuru Suresh *et al.*, 2011).

Medicinal plant sector has traditionally occupied an important position in the socio-cultural spiritual and medicinal arena of rural and tribal of Tamil Nadu. Millions of rural households use medicinal plants in self-help mode. Over 20,000 practitioners of Indian Systems of Medicine (ISM) in the oral and codified streams use medicinal plants in preventive and curative applications in Tamil Nadu. In view of the current rate of deforestation and concurrent loss of biodiversity, there is a need for accurate documentation of the knowledge and experience of the traditional herbalists (Grierson, 1999). Moreover plant exploration studies have been carried out in the Eastern Ghats region (Dwarkan *et al.*, 1994; Anand *et al.*, 2005; Udayan *et al.*, 2005; Sekar *et al.*, 2011) particularly on the folk medicinal plants and their uses. Considering the above facts, a study has been conducted to document the status and uses of the folk medicinal plants of Kolli hills of Namakkal district. In the present study the information on folk medicinal plants and their uses for treating various ailments gathered from the Malayali tribal people of Kolli hills and adjacent areas have been presented and may lead to new vistas of research in the clinical studies and discovery of new herbal medicines.

The Study Area

Namakkal district is consist of 5 taluks, namely, Namakkal, Rasipuram, Kollimalai, Tiruchengode and Paramathivelur and located between 11^o 00' and 11^o 360' North latitude and 77^o 280' and 78^o 300' East longitude. Namakkal forest division consists of 4 forest ranges, namely, Namakkal, Rasipuram, Kollimalai and Mullukurichi forest ranges. Kollihills or Kollimalai is a small mountain range located in the South Eastern part of Namakkal district, Central Tamil Nadu. It is part of Eastern Ghats of South India. The hill slopes are quite narrow with deep valleys. The average annual rainfall is about 1200mm and the temperature varies between 10° to 35° c. The vegetation of Kollihills is predominantly dry deciduous, evergreen, sholas, and scrub jungles. The other forest ranges are mostly covered with deciduous and scrub vegetations. The Kollihills is mainly occupied by the tribal community called Malayalis (Fig. 1).

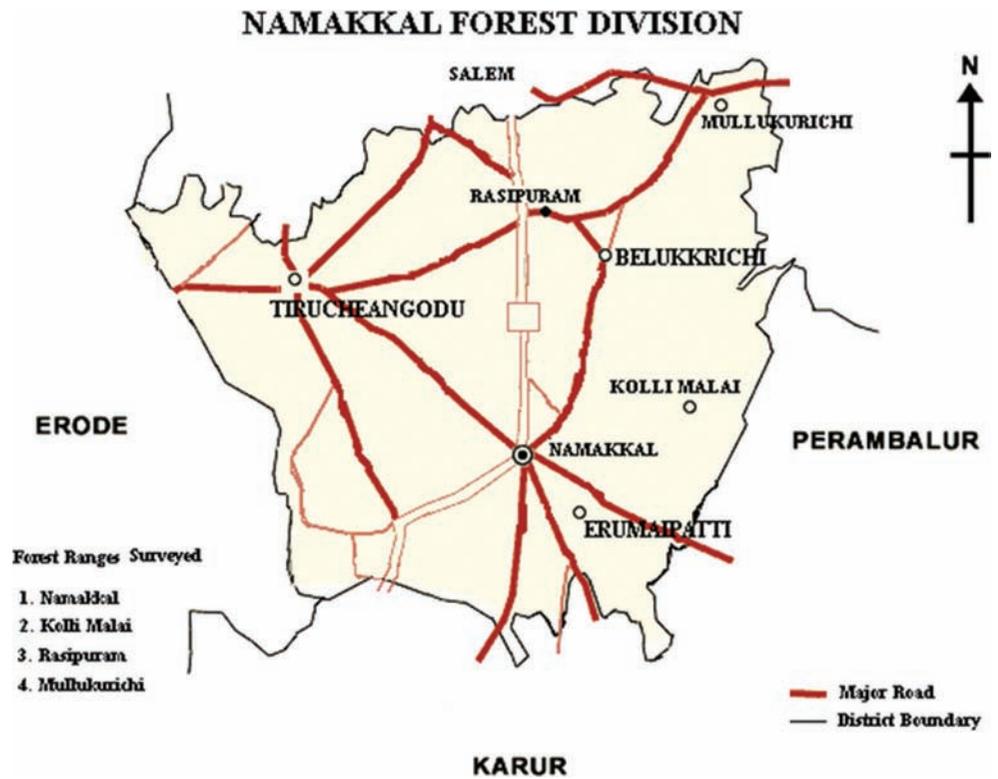


Fig. 1 : The study area

Ethnomedicine of the Malayali Tribal Community of Kolli Hills, Tamil Nadu



Fig. 1 & 2 : Survey team collecting ethno-medicinal informations from Malayali tribal peoples



Fig. 3 : *Asparagus racemosus* Willd



Fig. 4 : *Helicteres isora* L.



Fig. 5 : *Anogeissus latifolia*
(Roxb. ex DC.) Wall.



Fig. 6 : *Catunarega spinosa*
(Thunb.) Triv.

Methodology

An ethno-pharmacological survey was conducted in July-August 2012 to document the status and uses of the folk medicinal plants of Kolli hills and adjacent areas of Namakkal district, Tamil Nadu. During the study the information such as medicinal uses, local names, recipe and mode of application on various plants were collected. The plants which are having folk medicinal uses were collected. All the plant species are taxonomically identified through the modern floras (Gamble, 1928; Mathew, 1983; Nair, 1983) and herbarium consultation in Botanical Survey of India, Coimbatore. All the specimens have been processed for herbarium documentation. Information on folk medicinal claims provide botanical name, family, local name, part used and mode of applications (Table 1).

Table 1 : Medicinal Plants Used by Malayali Tribal Community in Kolli Hills, Tamil Nadu, India

Sl. No.	Botanical Name	Family	Local Name	Part used and Mode of application
1	<i>Acalypha indica</i> L. (10662)	Euphorbiaceae	Kuppaimeni	Fresh leaves are made into paste with turmeric and externally applied on Scabies.
2	<i>Adhatoda zeylanica</i> Medicus. (10539)	Acanthaceae	Adhathoda	50 ml of decoction of the dried leaves are orally given for cough twice daily.

Sl. No.	Botanical Name	Family	Local Name	Part used and Mode of application
3	<i>Aerva lanata</i> (L.) Juss. (10507)	Amaranthaceae	Poolaipoo	50 ml of decoction of whole plant is orally given twice daily for urinary irritations.
4	<i>Andrographis paniculata</i> (Burm.f.)Wall.ex Nees (10642)	Acanthaceae	Siriyangai	10 ml decoction of leaves orally given for fever twice daily.
5	<i>Anogeissus latifolia</i> (DC.) Wall ex Bedd. (10533)	Combretaceae	Vekkali	50ml of decoction of bark is orally given twice daily for urinary infections.
6	<i>Artocarpus heterophyllus</i> Lam. (10496)	Moraceae	Pala	Nut resin externally applied on foot for foot crack.
7	<i>Asclepias curassavica</i> L. (10468)	Asclepiadaceae	Rathapoo	5 ml of leaf extraction is orally given twice daily for dysentery.
8	<i>Asparagus racemosus</i> Willd. (10495)	Liliaceae	Thaneervitan kizhangu	5 g of powder of tubers are orally given along with milk at bed time for general weakness.
9	<i>Boerhaavia diffusa</i> L. (10505)	Nyctaginaceae	Mukkarattai	Leaf paste is externally applied on swellings due to tumor.
10	<i>Caesalpinia crista</i> L. (10534)	Caesalpinaceae	Kalachikai	5 g of powder of seed kernel is orally given along with hot water on empty stomach for diabetics.

Sl. No.	Botanical Name	Family	Local Name	Part used and Mode of application
11	<i>Calotropis gigantea</i> (L.) R. Br. (10497)	Asclepiadaceae	Erukku	Leaf paste is mixed with coconut oil and externally applied on leucoderma patches.
12	<i>Cardiospermum halicacabum</i> L. (10439)	Sapindaceae	Mudakathan	10g of leaf paste mixed with garlic paste is orally given for gastric problems.
13	<i>Cassia fistula</i> L. (10483)	Caesalpiaceae	Amaltas	50 ml of decoction of fruit is orally given twice daily for urinary infections.
14	<i>Cassia occidentalis</i> L.(10503)	Caesalpiaceae	Kosondi	Leaves made into paste along with turmeric and externally applied on skin diseases (Scabies).
15	<i>Catharanthus roseus</i> (L.) G. Don. (10482)	Apocynaceae	Nithyakalyani	10 g of leaf powder is orally given with hot water in empty stomach for leukemia. 5 g of flower are orally given twice daily for diabetics.
16	<i>Catunarega spinosa</i> (Thunb.) Trive. (10498)	Rubiaceae	Karai	Fruits are made in to paste with neem oil and externally applied on skin diseases (Itching).

Sl. No.	Botanical Name	Family	Local Name	Part used and Mode of application
17	<i>Centella asiatica</i> (L.) Urban. (10457)	Apiaceae	Vallarai	5 ml of leaf extract is orally given as general tonic for children.
18	<i>Cleome gynandra</i> L.(10508)	Cleomaceae	Naivelai	Leaf paste is externally applied on swellings due to rheumatism.
19	<i>Croton lacciferus</i> L. (10479)	Euphorbiaceae	Tepadi	Leaf paste externally applied on boils.
20	<i>Datura metal</i> L. (10523)	Solanaceae	Oomathai	Leaf paste mixed with gingili oil is externally applied on swellings.
21	<i>Drynaria quercifolia</i> (L.) J.Sm.	Polypodiaceae	Mudavan Attukaal	Dried rhizome is used one of the ingredients in the preparation of the herbal soup which is very commercial in Kolli hills by the tribal peoples.
22	<i>Eucalyptus globulus</i> Labill. (10538)	Myrtaceae	Thilamaram	Leaves are boiled in water before to take bath for body pain.
23	<i>Euphorbia hirta</i> L. (10544)	Euphorbiaceae	Ammanpachai	Equal part of leaves of <i>Piper nigrum</i> L. and <i>Cuminum cimum</i> L. are made into paste and 10 gms orally given along with hot water for indigestion.

Sl. No.	Botanical Name	Family	Local Name	Part used and Mode of application
24	<i>Gymnema sylvestre</i> (Retz.) R. Br. ex. Roemer & Schultes (10486)	Asclepiadaceae	Sirukurinjan	Equal part of leaves and bark powder of <i>Terminalia chebula</i> Retz. is orally given in empty stomach for diabetic.
25	<i>Helicteres isora</i> L. (10696)	Sterculiaceae	Idampuri Valampuri	Fruit powder mixed with gingili oil and 5 gms orally given along with hot water thrice daily for indigestion.
26	<i>Lawsonia inermis</i> L. (10543)	Lythraceae	Maruthani	Leaf paste externally applied on foot cracks and wounds.
27	<i>Mimosa pudica</i> L. (10522)	Mimosaceae	Thottasurungi	Leaves are made into paste with turmeric and externally applied on cut injuries.
28	<i>Moringa oleifera</i> Lam. (10572)	Moringaceae	Murungai	10 g of Resin powder/flower powder mixed with cow milk is orally given at bed time for general weakness.
29	<i>Plumbago zeylanica</i> L. (10509)	Plumbaginaceae	Kodiveli	10ml of the decoction of root is orally given for indigestion.
30	<i>Pongamia pinnata</i> (L.) Pierre. (10537)	Fabaceae	Pungam	Fruit paste is externally applied on skin diseases.

Sl. No.	Botanical Name	Family	Local Name	Part used and Mode of application
31	<i>Psidium guajava</i> L. (10449)	Myrtaceae	Koiya	10 g of young leaves are orally given for diabetics twice daily. Fruits are orally given for indigestion.
32	<i>Ricinus communis</i> L. (10443)	Euphorbiaceae	Amanakku	Seed oil is applied on hair and covered with the palmate leaves of <i>Ricinus communis</i> L. to reduce heat.
33	<i>Santalum album</i> L. (10562)	Santalaceae	Santhanam	Paste of the Heart wood is externally applied on skin diseases. The paste is also applied on forehead for headache.
34	<i>Solanum nigrum</i> L. (10540)	Solanaceae	Manathakkali	Leaves cooked as green vegetable and orally given for ulcers. 10 ml of leaf extract is orally given for intestinal ulcers.
35	<i>Solanum torvum</i> Sw. (10452)	Solanaceae	Sundai	Decoction of fruit is orally given for stomach pain.
36	<i>Stachytarpheta jamaicensis</i> (L.) Vahl (10504)	Verbanaceae	Vettukayachedi	Leaf paste is externally applied on cut injuries.
37	<i>Tamarindus indica</i> L. (10526)	Caesalpiaceae	Puli	50 ml of decoction of leaves is orally given in empty stomach for bleeding piles.

Sl. No.	Botanical Name	Family	Local Name	Part used and Mode of application
38	<i>Terminalia bellirica</i> (Gaertn.) Roxb. (10542)	Combretaceae	Thandri	50 ml of decoction of fruit is orally given for asthma.
39	<i>Terminalia chebula</i> Retz. (10525)	Combretaceae	Kadukai	5g of fruit powder is orally given at bed time with hot water for constipation.
40	<i>Vitex negundo</i> L. (10502)	Verbenaceae	Notchi	Leaf extract boiled with coconut oil and externally applied on forehead for head ache.
41	<i>Wrightia tinctoria</i> (Roxb.) R.Br. (10559)	Apocynaceae	Veppalai	Latex and leaf paste is externally applied on wounds. Leaf paste is kept up on the aching teeth for tooth ache.

Results and Discussion

During the ethno-botanical survey 41 plant species belonging to 37 genera and 26 families were identified as medicinally important and used in the tribal community for their primary health care needs and few of them are exemplified (Fig.1-6). The most common forms of preparing crude drugs from plants are fresh juice, powder, paste and decoction. Moreover the diseases such as skin diseases, stomach related diseases (indigestion, gastric problems, constipation etc.), wounds, cuts and injuries, are found common among the tribal people of the Kolli hills. Apart from this the diseases like tooth problems, urinary disorders and general weakness are also recorded from the tribal community of the study areas. The study clearly revealed that most of the peoples inhabiting Kolli hills depends on the traditional folk medicines for their health care problems. These traditional technology of the treatment based on the medicinal plants are still an important part of their life. The survey indicated that the

study area was rich in medicinal plants useful to treat a wide range of human ailments. The study also revealed that the tribal people of the area possess good knowledge of herbal drug preparations and their uses to cure various ailments. Such studies may produce valuable information to phytochemists and pharmacologists in an efforts to develop new drugs for various human ailments.

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