International Journal of Advanced Research in Biological Sciences
ISSN: 2348-8069
www.ijarbs.com
SJIF Impact Factor: 5.142 Volume 3, Issue 3 – 2016

Research Article

SOI: http://s-o-i.org/1.15/ijarbs-2016-3-3-13

Documentation of medicinal plants used by malayali tribes in Kolli Hills

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Abstract

Documentation survey of medicial plants used by malayali tribes was studied in the Kolli hills, Tamilnadu, India. Kolli Hills is small mountain range located in central Tamil Nadu in Namakkal district of India. The mountains are about 1000 to 1300 m in height and cover an area of approximately 280 km². The present investigation revealed that the medicinal plants are used to various diseases like, cure skin diseases, stomach problems, diabetes, urinary infections, fever, cough, cold, snakebites, earache, hair growth, headache, indigestion, itches, swellings, wounds and dental problems. Seventy five tribal medicinal plants species belonging to the different families were described in this study. The medicinal plant resources in Kolli hills continue to play a important role in human healthcare needs of malayali tribal community. The traditional knowledge of local tribal people on medicinal plants was collected through questionnaires and personal interview of local traditional practitioners during field trips. The collection and documentation of their practical knowledge preserve the valuable knowledge of malayali tribes in kolli hills.

Keywords: Documentation, Medicinal plants, Kolli hills, Malayali Tribes, Diseases.

Introduction

The vast majority of people on this planet still rely on their traditional medicinal plants and other materials for their everyday health care needs. It is also a fact that one quarter of all medical prescriptions are formulations based on substances derived from plants or plant-derived synthetic analogs, and according to the WHO, 80% of the world's population primarily those of developing countries rely on plant-derived medicines for their healthcare. It is likely that the profound knowledge of herbal remedies in traditional cultures developed through trial and error over many centuries, and that the most important cures were carefully passed on verbally from one generation to another.

South Indian tribes are blessed with rich biological diversity of plants and a high degree of traditional knowledge about medicinal plants and their uses for various ailments of human being. Plants have long been used in traditional medicine system for several thousand years and the tribal's indigenous knowledge about plants constitutes an important and basic resource for ethnobotanical research in many ways (Abu-Rabia (1). Medicinal and aromatic plants are recognized as a major but increasingly threatened global resource. Vast majority of medicinal plants are harvested from the wild, particularly from the tropical and subtropical regions of the world. About 50,000 plant species are known to be used in traditional

and modern systems of medicine across the world. In 1993, the Government of India (GoI) estimated that between 60-80% of India's population rely on medicinal plants for health care. Medicinal plants are particularly important to the rural poor, who are able to harvest these from the wild to meet their primary health care needs.

There are over 537 different native groups in India with extensive knowledge of ethno medicinal plants (2). Medicinal plants have a long standing history in many indigenous communities and continue to provide useful tools for treating various diseases (3).In developing countries, there is an increasing attempt to incorporate traditional medicines especially herbal preparations in the local healthcare system and a modernized people are increasingly turning to herbal medicine (4,5). In India ,medicinal plants are widely used by all sections of the population with an estimated 7,500 species of plants used by several ethnic communities and it is known that India has the second largest tribal population in the world after Africa (6,7).Even today ,tribal communities in India still collect and preserve locally available wild and cultivated plant species and practice herbal medicine to treat a variety of diseases and disorders (8).

India is the largest producer of medicinal plants and is rightly called the Botanical Garden of the world and has more than 43% of the total flowering plants are reported to be of medicinal importance (9). Ethnomedicinal knowledge on the utilization of plants for medicinal purposes in India has been documented long back in ancient literature (10,11). Tribal in Tamil Nadu commonly begin their training as children or teenagers working as assistants to their mother, father and to their relatives who are recognized healers. After having trained for number of years the apprentice will be ceremonially granted the authority to use a given treatment .Most of the tribes have a general knowledge of medicinal plants that are used for first aid remedies ,to treat headache, fever, cough, body pain, wounds, stomach problem, poisonous bites and other simple ailments (12). Kolli hills are historically famous for medicinal plants and heaven treasure, plants grow here acquire special value, to be more potent effective. Siddhas lived in caves and sacred grooves, they help to relieve people from various diseases and illness to use medicinal herbs without any side effects and improve human health. Tribal practioners follow siddhars lived in kolli hills , the traditional knowledge of medicinal plants handed over to generation to generation. Tribal people cultivate plantain, jack fruit, pineapple, orange, cardamom, coffee, pepper, guava, coriandrum, tapioca, are the main agricultural crops.

Ethnic people are highly knowledgeable about the vegetation and their economic and religious values, and one among them is their medicinal values. This knowledge is passed through oral communication from generation to generation and is still retained by various indigenous groups around the world. The World Health Organization estimates that about 80% of the population of most developing countries relies on herbal medicines for their primary health care needs Mukherjee and Wahil, (16). Hence, a survey was conducted to explore the nature and extent of knowledge possessed by local healers of Kolli hill Tracts, which is popularly known for its medicinal herbs.

Materials and Methods

Study area

Kolli hills are situated at the tail end of the Eastern Ghats in Namakkal district of Tamilnadu and has an area of 418.5 km latitudinal and longitudinal range of kollihills are 1110-1130 N latitude 7530 E longitude respectively. Kolli hill is a square shaped structure lies between eastern Ghats and western Ghats , include 280 sq km, 72 hairpin bends from the village of karavalli. The hills have deep ravines and high peaks .The elevation of the central region of the hills ranges from just under 1000m to 1350m above mean sea level . The region benefits from relatively low temperatures in the area such as compared to the remaining part of the state of Tamil Nadu. The area receives an average of 1440mm annual rainfall distributed fairly over the two seasons. The soil is red lomy soil black sandy soil suitable for the luxurious growth of many medicinal plants and cultivated crops .More than 95 percentage of the inhabitants are tribal people belonging to the Malayali community. The population density is 119 per km(2).Information was gathered through questionnaire, personal interviews and discussions among the tribal's of herbal medicine practitioners in their local language (Tamil).The questionnaire includes vernacular name, parts used, mode of preparation, and their medicinal uses of plants. Medicinal plant species were identified by Dr. S. John Britto, Director of The Rapinat Herbarium st Josephs college, Tiruchirapalli, Tamil Nadu, India.

Results and Discussion

The study indicates that the local inhabitants of tribes depend on local medicinal plant species for the treatment of many diseases. Most of the plant species are wild habitants, collected from tribes of Kolli hills in Namakkal District, Tamil Nadu,India. 75 medicinal plants used by malayali tribes of kolli hills have been documented (Table-1). Traditional kolli hills societies are ideal example of traditional knowledge system where small communities prevent incurable diseases through traditional methods, which are derived from their ancesters. The herbal practices contain many medicines for one ailment out of the various medicines one is selected against a particular disease according to the symptoms. Medicinal plant species belonging to 44 Families and 75 species with highest species from (5) Malvaceae, and Fabaceae. Four species from Rutaceae and Three from Mimosoideae , Verbenaceae, and Rubiaceae two species from Sapindaceae, Oleaceae, Acanthaceae, Menispermaceae, Solanaceae, Asteraceae, Plumbaginaceae, Meliaceae, Rhamnaceae, Euphorbiaceae, Poaceae, Marseliaceae and one species from Zingiberaceae, Asclepiadaceae, Caesalpinaceae,, Annonaceae, Basellaceae, Myrtaceae, Curcurbitaceae, Apocynaceae, Erythroxylaceae, Liliaceae, Nymphaceae, Balsiminaceae, Burseraceae, Cruciferaceae, Papavaraceae, Capparidaceae, Convolvulaceae, Lythraceae, Melastomataceae, Marrattiaceae, Pteridaceae, Moraceae, Polygalaceae, Lycopodiaceae, and Violaceae. Medicines were prepared mostly in the form of infusion, decoction, paste, powder, extract entire flower bud and leaf used as such. Different form of medicines used to cure fever, head ache, wounds, skin diseases, facial paralysis, bronchitis, uterus problem, dandruff, allergies snake bite, vomiting, cardiotonic. Mostly plant materials are used in fresh form rare species are make use in dry powder or parts are dried in shade whenever they need ,use the dried form of plant parts to cure diseases without any side effects. This is consistent with the general observations made earlier in relation to ethnobotanical studies on some of the other tribal communities of tamil nadu, *viz* Karthikeyani (13) on Irular tribe, Rajan et al (14) on Kattunayaka tribe, Anjalam et al (15) on malayali tribe. Recording of information on indigenous methods of treatment from traditional healers will go to long way in finding out locally available solutions for health care. This indigenous healthcare recipes with scientific refinement can be made accessible even to the poor people.

Table.1. List of plants used as ethano medicine by Malayali tribes in Kolli Hills

S. No.	Vernacular name	Common name	Botanical name	Family	Part used	Mode of use	Medicinal use
1	Kattu manjal	Nilgiri turmeric	*Curcuma neilgherrensis*	Zingiberaceae	Rhizome	Paste	Wounds
2	Virali	Florida hopbush	*Ptelea viscosa*	Sapindaceae	Leaves	Paste	Rheumatism
3	Siyakkai	Soap pod	*Acacia concinna*	Mimosoideae	Fruits	Powder	Dandruff, skin diseases
4	Mayiladi	Peacock chaste tree	*Vitex altissma*	Verbenaceae	Leaves	Infusion	Allergy, inflammation
5	Perukuruncha n	Sneeze wort	*Wattakaka volubilis*	Asclepiadaceae	Root	Juice	Snake bite
6	Nari miratti	Warted crotalaria	*Crotalaria verucosa*	Fabaceae	Leaf	Extract	Skin allergies
7	Eluthani poondu	Blue snake weed	*Stachytarphet a urticifolia*	Verbenaceae	Leaf	Boiled juice	Malarial fever
8	Maha vilvam	Elephant apple	*Naringi crenulata*	Rutaceae	Root	Extract	Vomiting
9	Mantharai	Butterfly tree	*Bauhinia purpurea*	Caesalpiniaceae	Leaves	Paste	Sore,Boils
10	Sernthadum pavai	Ban kapas	*Azanza lampas*	Malvaceae	Leaf	Infusion	Eye sight

11	Siru thekku		*Clerodendrum serratum*	Verbenaceae	Leaves	Decoction	Stimulant
12	Nettilingam	Ashok	*Polyalthia longifolia*	Annonceae	Bark	Infusion	Sore In foot
13	Pavala malli	Night jasmine	*Nyctanthus arbortritis*	Oleaceae	Tender leaf	Extract with ginger extract	Periodic fever
14	Murikootti	Cemetery plant	*Hemigraphis colorata*	Acanthaceae	Whole plant	Extract	Diarrhoea,kidney stones
15	Pasalai kodi	Indian spinach	*Basella alba*	Basellaceae	Leaves	Wholesome	Digestion, reduction in cholesterol absorption
16	Perun kattu kodi	Giant swallow wort	*Tiliacora acuminata*	Menispermaceae	Leaves	Paste	Antidote for snake bite
17	Kasthuri velan	Sponge wattle	*Acasia farnesiana*	Mimosoideae	Bark	Decoction	Astringent
18	Kirambu	Cloves	*Eugenia caryophyllata*	Myrtaceae	Dried flower bud	Infusion	Antiseptic, tooth ache
19	Sodukku thakkali	Cape goose berry	*Physalis peruviana*	Solanaceae	Entire plant	Extract	Skin diseases
20	Pungai	Indian beech tree	*Pongamia pinnata*	Fabaceae	Seeds	Decoction	Chest pain, burns
21	Seenthil kodi	Guduchi	*Tinospora cordifolia*	Menispermaceae	Whole plant	Juice	Gas trouble
22	Nila thuthi	Country mallow	*Sida cordifolia*	Malvaceae	Root, bark	Decoction	Fever, facial paralysis
23	Aruvatham patchai	Rue	*Ruta graveolens*	Rutaceae	Leaf	Paste	To prevent green color motion in children
24	Linga kovai	Lollipop climber	*Diplocyclos palmatus*	Cucurbitaceae	Leaf, flower	Infusion	Uterus problem
25	Thiruneetru pachai	Sweet basil	*Ocimum basilicum*	Lamiaceae	Flowers, leaves	Infusion	Brochitis,ear-ache
26	Chinna palai	Deil tree	*Alstonia venenata*	Apocynaceae	Ripe fruits	Infusion	Worms,syphilis
27	Devadaru	Red cedar	*Erythroxylon monogynum*	Erythroxylaceae	Leaves	Paste taken internally	Antiapetide
28	Kattu elumichai	Wild orange	*Atlantia monophylla*	Rutaceae	Fruits	Oil	Chronic rheumatism
29	Peramutti	Fragrant swamp mallow	*Pavonia odorata*	Malvaceae	Leaves	Juice with black peper	Dysentery in children
30	Pachambaram	White shrimp plant	*Justicia betonica*	Acanthaceae	Leaves	Juice	Relieve pain and swellings
31	Masipattari	Indian worm wood	*Artemisia nilagirica*	Astraceae	Leaves	Infusion	Antileprotic

32	Kasthuri vendai	Musk mallow	*Hisbiscus abelmoschus*	Malvaceae	Petals	Tincture	Skin diseases
33	Janni maram	Japanese fern tree	*Filicium decipiens*	Sapindaceae	Leaves	Paste	Fits, paralysis
34	Kalyana murangai	Indian coral tree	*Erythrina indica*	Fabaceae	Leaves, fruits	Infusion	Rheumatism
35	Kattu malli		*Jasminum angustifolium*	Oleaceae	Leaves	Paste	Leprosy
36	Kattu vengayam	Indian squill	*Scilla indica*	Liliaceae	Bulb	Infusion	Cardiotonic
37	Karung kodi velli	Blue plumbago	*Plumbago capensis*	Plumbaginaceae	Root	Paste	Rheumatism
38	Alli	Blue water lily	*Nymphae nouchali*	Nymphaceae	Root	Paste with water	Uri nation problem in children
39	Kasi thumbai	Busy lizzie	*Impatiens balsamina*	Balsaminaceae	Leaves	Juice	Snake bite
40	Vellai kunkilium	Indian olibanum	*Boswellia serrata*	Burseraceae	Leaves	Juice	Skin diseases
41	Malai vembu	Presian lilac	*Melia dibia*	Meliaceae	Leaves	Paste	Small pox, skin diseases
42	Kattu illanthai	Indian plum	*Ziziphus mauritiana*	Rhamnaceae	Fruit	Infusion	Fever, ulcer
43	Sundaikai	Turkey berry	*Solanum tarvum*	Solanaceae	Fruits	Infusion	Spleenomegaly
44	Sevalai kodi	Indian madder	*Rubia cordifolia*	Rubiaceae	Root,stem	Infusion	Bitter tonic
45	Kadugu	Brown mustard	*Brassica juncea*	Cruciferaceae	Leaves	Juice	Ear wound
46	Rose mulli or Semmulli	Box-leaved	*Barleria buxfolia*	Acan	Leaves, roots	Juice	Cough, Bronchities
47	Thavasi keerai	Star goose berry	*Sauropus androgynus*	Euphorbiaceae	Root	Decoction	Urinary complaints
48	Pramma thandu	Mexican prickly poppy	*Argemone mexicana*	Papaveraceae	Root	Latex	Scorpion bite
49	Vizhuthi	Indian cadaba	*Cadaba fruticosa*	Capparadiaceae	Leaves	Paste mixed with coconut oil	Bone fracture
50	Vettiver	Khus khus grass	*Vetiveria zizanioides*	Poaceae	Rhizome	Decoction	Blood pressure,stomach ache
51	Mayil manicum	Cypress vine	*Quamoclit pinnata*	Convolvulaceae	Leaves	Juice	Abdominal pain, Bleeding piles
52	Kattathi	Fire flame bush	*Woodfordia fruticosa*	Lythraceae	Flowers	Extract	Diabetics
53	Kundumani	Coral bead vine	*Abrus precatorius*	Fabaceae	Root	Paste	Poisonous bite
54	Kattu thambatan	Jack bean	*Canavalia virosa*	Fabaceae	Flower,pod	Eaten with diet	Asthma
55	Nathai suri	Shaggy button weed	*Spermacoce hispida*	Rubiaceae	Whole plant,seed, root	Extract	Tonic,diarrhoea

56	Nari ilanthai	Jackal jujube	*Ziziphus oeophila*	Rhamnaceae	Leaves Bark	Dressing Infusion	Wounds Sore throats
57	Sarkarai vilvam	Iron wood tree	*Memecylon umbellatum*	Melastomataceae	Leaves	Paste	Pimples disappear
58	Yanai vanangi	Giant fern	*Angiopteris evecta*	Marrattiaceae	Leaves	Decoction with lemon juice	Ulcer, stomach ache
59	Velam	White bark Acasia	*Acacia leucophloea*	Mimosoideae	Leaves	Juice	Fever, stomach
60	Saavasedi	Ray fern	*Actiniopteris radiata*	Pteridaceae	Stem	Juice	Diarrhoea, fever
61	Naai thulasi	Basil	*Ocimum canum*	Lamiaceae	Leaves	Juice	Cold, cough, fever
62	Aarai keerai	Four leaf clover	*Marselia quadrifolia*	Marseliaceae	Leaves with pepper	Paste	Cold, cough
63	Milakaranai	Orange climber	*Toddalia asiatica*	Rutaceae	Fruit, whole plant	Infusion	Fever,diarrhoea wound
64	Arasamaram	Bodhi tree	*Ficus religiosa*	Moraceae	Leaves Bark	Paste Powder	Skin diseases Anti inflammatory agent
65	Citramutti	White lead wort	*Pavonia zeylanica*	Plumbaginaceae	Entire plant	Infusion	Purgative,expel worms
66	Pullipan chedi	Ranabili	*Cipadessa baccifera*	Meliaceae	Leaves	Paste	Diarrhoea
67	Aamanakku	Castor oil plant	*Ricinus communis*	Euphorbiaceae	Leaves	Decoction	Eye infection
68	Nuna	Indian mulberry	*Morinda tinctoria*	Rubiaceae	Leaves Fruits	Decoction Decoction with black pepper	Tonic Ulcer
69	Poovarasu	Portia tree	*Thespesia populnea*	Malvaceae	Flowers with turmeric	Paste	Itching,soreasis
70	Kakurthothi	Senega	*Polygala chinensis*	Polygalaceae	Leaves	Infusion	Expectorant,stimulant
71	Easwaran	Tassel fern	*Huperzia phlegmaria*	Lycopodiaceae	Whole plant	Paste	Wound
72	Aarai	Dwarf water clover	*Marselia minuta*	Marseliaceae	Leaves	Powder	Cough, bronchitis
73	Marikollunthu	Calendula	*Calendula officinalis*	Astraceae	Flower	Juice	Stomach ache
74	Kuruthu pillu	Swollen finger grass	*Chloris barbata*	Poaceae	Leaves	Paste Juice	Skin diseases Fever,diabetics
75	Orithal thamarai	Spade flower	*Hybanthus ennaspermus*	Violaceae	Leaves	Decoction	Fever

Conclusion

Malayali tribes use many wild plants, flowers , weeds, seeds, bark, root, leaves in their traditional treatment. Tribes possess rich traditional knowledge and documentation of this knowledge has provided novel information from the area. This could help in creating mass awareness regarding the need for conservation and preservation of such medicinal plants . And also the present investigation revealed that medicinal plants still play a vital role in the primary health care of the people. The information gathered from the tribal is useful for further researchers in the field of ethno-medico botany, taxonomy and pharmocology.

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How to cite this article:
A. Anjalam, S. Kalpana, D. Vijai and S. Premalatha. (2016). Documentation of medicinal plants used by malayali tribes in Kolli Hills. Int. J. Adv. Res. Biol. Sci. 3(3): 101-107.