

## Ethno-medicinal knowledge of Lambani community in Chikmagalur district of Karnataka, India

M B SHIVANNA\*, K R MANGALA AND PARINITHA MAHISHI

Department of P G Studies and Research in Applied Botany, Kuvempu University Jnanasahyadri, Shankaraghatta- 577 451, Shimoga District, Karnataka, India

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### ABSTRACT

An ethno-medico-botanical survey was carried out in selected Lambani 'thandas' in Chikmagalur district of Karnataka during 2004-05. The paper deals with 62 plant species of 58 genera and 40 families used for the treatment of different diseases and disorders by the Lambani community. Fifty nine plants are used to treat 37 human ailments and 15 for the treatment of 8 veterinary ailments. This includes 10 new claims on ethno-medicinal knowledge which are not reported elsewhere. The information about plants and their local names, part used, herbal formulations, dosage and duration was also documented using a modified questionnaire. Some of the noteworthy ethnomedicinal plants of interest are *Calotropis procera* is used for the treatment of menstrual problems, *Rauvolfia serpentina* for piles, *Memecylon umbellatum* for malaria, *Plumbago zeylanica* for gastritis, *Datura metel* for dog bite and *Tylophora asthmatica* for rickets.

**Key words:** Herbal knowledge, Lambani community, medicine men, Chikmagalur

### INTRODUCTION

Ethnic medicine, of late, is finding a lot of importance in alternative healthcare system in developing and underdeveloped countries, where most people still depend on plants and their products [14]. There are instances where modern medical practitioners recommend herbal drug formulations to treat certain chronic diseases. For example, formulations of *Rauvolfia serpentina* and *Artemisia annua* are very effective in treating blood pressure problems and cerebral malaria, respectively. Similarly, *Psoralea corylifolia* is used for vitiligo and skin diseases. The chemical compounds of these plants have been clinically tested for the above properties [6]. In this context, a systematic documentation of ethno-botanical information is required not only to alleviate human and animal diseases and disorders but also to conserve biodiversity and its sustainable utilization and the socio-economic development of a region. Documentation of ethnic/tribal/folk medicinal knowledge has been undertaken with

much interest, globally [1, 13, 19]. In India also, there are several reports of ethno-medicinal practices [3, 7, 11, 15, 16, 25, 26]. In Karnataka, certain communities have been studied for this purpose [4, 5, 10, 20, 21, 23].

Unlike other communities in Karnataka, Lambanis are certain nomadic communities who wander for food and employment and are known for their unique lifestyle. They seem to have accumulated a vast knowledge of medicinal plants and their therapeutic values from their experienced ancestors who traveled through different parts of India.

Lambani community rarely settles in any single place. However, in Karnataka, they have settled in groups called 'Thandas'. Their prominent settlements in four village hamlets – Bindiga, Ittagi, Karakucchi and Yerehalli - in Chikmagalur district were selected for the study. Total human population of Karakucchi, Ittagi, Yerehalli and Bindiga are 857, 650, 425 and 375, respectively. Their thandas were located in close proximity to forests. While Bindiga is a malnad region, all other village hamlets were semi-malnad regions. Semi-malnad regions receive less rain as compared malnad regions, as a result of which, floristic composition varied in these two regions. Vegetation pattern of Bindiga is semi-evergreen to evergreen type of forest, while in other three villages-Ittagi, Karakucchi and Yerehalli deciduous type of forest exists. In addition to farming and labour works, they practice herbal medicine and treat diseases of their own as well as of other communities and their veterinary animals. In the present study, an attempt has been made to collect and document their medicinal knowledge, which might fade away from their memories following modernization and globalization.

### MATERIALS AND METHODS

Field visits were carried out during 2004 and 2005 to these village hamlets. First few visits were taken up to establish contact with leaders (nayakas) of the community in each village and appraised them of the importance of documenting their precious knowledge in publications. Following their

\* Author for correspondence; E-mail: mbshivanna@yahoo.co.uk

acceptance and consent, medicine men (vaidhyas) and elders were contacted subsequently. A modified questionnaire designed by Parinitha *et al.* [20] was used to document their knowledge of herbal drugs to treat diseases of humans and veterinary animals. Information about the plant species and their parts, method (s) used in drug formulation, adjuvants, dosage rate and administration, and specific precautions were collected from vaidhyas and elders. They were requested to identify medicinal plants by local names in its habitat and availability in different seasons. The people receiving, as well as those who received, the treatment previously, and their family members and associates were identified and interviewed. Only the consistent and unambiguous reveals of vaidyas throughout the study period were documented and subjected to confirmatory comparisons with those revealed by patients, their family members and associates.

Plants were identified with the help of published flora [8, 27] and by comparing voucher specimens with identified herbarium collections. Herbarial specimens were prepared and deposited in the herbaria center of the department of Applied Botany, Kuvempu University. Since extensive harvesting of medicinal plants is being done in forests around these village hamlets, plants were also assessed for their conservation status and criterion as per the requirement of IUCN [9, 24].

## RESULTS AND DISCUSSION

Medicine men of the study area depended mainly on fresh plant materials collected from forests around their village hamlets for herbal formulation. There were 67 vaidhyas (2.9 % of total population in all four hamlets) in the age group of 50-65 years (ca. 10% women) who treated human as well as veterinary diseases and disorders. Medicine men included 21 from Ittagi, 20 from Karakucchi, 15 from Yerehalli and 11 from Bindiga. Most cross-examined patients and villagers approved of the herbal treatments given to them by the medicine men. Also, the people of the neighbor villages were aware of the positive effects of herbal treatment given to people. Sixty two medicinal plant species (including adjuvants) of 58 genera and 40 families were used to treat 37 diseases and disorders of humans and 8 of veterinary animals (cattle and buffalo). Ten species of plants are recognized international commodities, while 23 are commonly used culinary plant species.

The ethno-medico-botanical data indicated that among 62 plants, there were 21, 7, 10 and 24 trees, shrubs, climbers and herbs, respectively. Leaf (42.42%) was the major plant part used for drug preparation followed by bark (19.19%), root (8.08%), fruit (6.06%), rhizome (5.05%), tender leaves (5.05%), seeds (5.05%), petiole (3.03%), and a few plant parts like bulbils, stem, fruit pulp, sap wood and twig (1.01%) were also used for drug preparation. Among the drug formulations, paste (34.40%) and decoction (23.65%) were commonly used over the juice (15.05%), raw form (10.75%), powder (10.75%), latex and mucilage (4.30%), oil (1.07%) and pills (1.07%).

Among 62 plants, 17 plant species of 16 genera used by this community are already reported for the same purposes as described in ayurveda and homeopathy [2, 17, 18] and 20 species of 19 genera in the existing literature on ethnobotany [12].

Some of the noteworthy observations in the present study, not reported elsewhere, are the utilization of certain plant species in specific human ailments (Table 1). For example, tender leaves of *Calotropis procera* is used for the treatment of menstrual problem, leaves of *Datura metel* for dog bite, roots of *Rauvolfia serpentina* for piles, leaves of *Rhynchostylis retusa* for conjunctivitis and burning of eye, leaves of *Memecylon umbellatum* for malaria, combination of bark of *Diospyros montana*, *Alangium salviifolium* and leaves of *Tylophora asthmatica* for snake bite, combination of roots of *Plumbago zeylanica*, *T. asthmatica*, leaves of *Leucas aspera* and *Ocimum tenuiflorum* for gastritis, leaves of *Stachytarpheta indica* for relieving migraine, roots of *Hemidesmus indicus* for colostrum.

Apart from this, the herbal drug preparations and their uses have always differed from region to region. For example, local folk healers in N.R. Pura taluk of Karnataka used *Calotropis procera* for dental problems [22], while bhil tribes of Madhya Pradesh used the same plant to cure backache and swelling [7]. However, the ethnic groups in Bidar district of Karnataka used *C. procera* for leucorrhoea and menorrhagia [23] where as Lambanis used it for Stomachache. Tribals of southern Rajasthan used *Hemidesmus indicus* for the treatment of rheumatism [3], where as traditional healers in Madurai district of Tamil Nadu used this plant for stomach pain [11]. On the other hand, Siddis in Uttara Kannada district of Karnataka used it to treat leucorrhoea [4] and Lambani community in the present study area used the same plant for colostrum.

As for as the veterinary practices are concerned, leaves of *Butea monosperma* and *Azadirachta indica* in combination are used to treat bone fracture, twigs of *Calotropis procera* and rhizome of *Acorus calamus* for gasial detention, *Holoptelea integrifolia* and *Piper argyrophyllum* in combination for high fever, bark of *Withania somnifera* to cure fever and *Tylophora asthmatica* for foot and mouth disease are some of the noteworthy claims of the study area (Table 2). Apart from this, Lambani practitioners of Chikmagalur taluk used *T. asthmatica* for foot and mouth disease and *Aegle marmelos* for dysentery, where as the folk healers of Uttara Kannada district used *Ervatamia heyneana* for dysentery and *Alseodaphne semecarpifolia* to treat both dysentery as well as foot and mouth disease [10]. Similarly *Zanthoxylum armatum* is used to treat fever by herbal practitioners of Himachal Pradesh [15], but in the study area, *W. somnifera* was used to treat fever. Lambani herbal healers used *B. monosperma*, while local community in Bhadra Wildlife

**Table 1. Herbal formulations by Lambani practitioners to treat diseases and disorders in people living in Lambani thandas of Chikmagalur district**

Sl. No.	Ailment	Botanical name (Family) Local name/common name	Herbal formulations and mode of use
1	Colostrum	<i>Hemidesmus indicus</i> (L.) R. Br. (Asclepiadaceae) Sogadae / Indian Sarsaparilla KU/BS/MG 001	One cup of root decoction is given orally, daily once for a week.
2	Conjunctivitis and burning of eye	<i>Rhynchosyilis retusa</i> (L.) Blume (Orchidaceae) Ratnajyothi KU/SD/MG 529	Leaf juice applied to eyes, also given with sugar orally.
3	Dog bite	<i>Datura metel</i> L. (Solanaceae) Datura / Thorn apple KU/SD/BT 400	One teaspoonful of leaf juice mixed with a cup of buttermilk, given orally, daily twice for 2-3 days.
4	Gastritis	<i>Plumbago zeylanica</i> L. (Plumbaginaceae) Chitraka / Chitramula KU/BS/MA 023	Roots of <i>P. zeylanica</i> ground and boiled with leaves of <i>Ocimum tenuiflorum</i> , <i>Leucas aspera</i> , roots of <i>Tylophora asthmatica</i> and rhizome of <i>Zingiber officinale</i> and few cloves of garlic in water, and made into decoction. Two spoonful of decoction is given orally with a cup of water, daily once for two weeks.
5	Migraine	<i>Stachytarpheta indica</i> (L.) Vahl (Verbenaceae) Kadu Uttarani / Brazilian Tea KU/SD/BT 544	Leaves ground and given orally with cow's milk, daily twice for one day.
6	Malaria	<i>Memecylon umbellatum</i> N. Burman (Melastomataceae) Archeti / Iron wood tree KU/SD/SR 552	Leaves boiled in water and made into decoction. Three teaspoonfuls of decoction given orally with a cup of cow's milk to drink for 2-3 days.
7	Menstrual problems (Stomach pain)	<i>Calotropis procera</i> (Ait.) R.Br. (Asclepiadaceae) Yekka / Arka KU/BS/GG 021	Tender leaf of <i>C. procera</i> with 2-3 drops of latex crushed with jaggery and given orally.
8	Piles	<i>Rauvolfia serpentina</i> (L.) Benth. ex Kurz. (Apocynaceae) Sarpagandhi / Serpentine KU/BS/HB 025	Roots boiled in water and made into decoction. Two teaspoonful of decoction taken orally with a cup of cow's milk, daily once for 1-2 week.
9	Rickets	<i>Tylophora asthmatica</i> Wight & Arn. (Asclepiadaceae) Adu muttadaballi / Emetic wallow-wort KU/BS/KH 042	Roots of <i>T. asthmatica</i> , petiole of <i>Piper betle</i> , seeds of <i>Piper nigrum</i> and few cloves of <i>Allium sativum</i> ground in human milk, given orally for 3 days.
10	Snake bite	<i>Diospyros montana</i> Roxb. (Ebenaceae) (Jagalaganti/ Mountain Persimmon) KU/SD/SH 312	Young leaves of <i>T. asthmatica</i> , bark of <i>D. montana</i> and <i>Alangium salviifolium</i> (L.) Wang. (Alangiaceae; Ankole) ground and made into a paste. One teaspoonful of paste is given orally.

Sanctuary used *Holarrhena pubescens* to treat bone fracture [20].

It is surprising to note that two communities situated

wide apart use different species for treating the same disease although the chemical compounds of these plant species are different. This kind of relations is well documented in the literature [6].

**Table 2. Herbal formulations by Lambani practitioners to treat diseases and disorders in veterinary animals in Lambani thandas of Chikmagalur district**

Sl. No.	Ailment	Botanical name (Family) Local name/Common name	Herbal formulations and mode of use
1	Bone fracture	<i>Butea monosperma</i> (Lam.) Taubert (Papilionaceae) Muttuga / Flame of the forest BU/BS/V 063	Leaves of <i>B. monosperma</i> and <i>Azadirachta indica</i> A. Juss. (Meliaceae; Bevu / Neem) tied to fractured part using bamboo support, egg yolk of chicken, given orally.
2	Fever	<i>Withania somnifera</i> Dunal (Solanaceae) Hiraemaddina gida / Ashwagandha KU/SG/NS 072	Two teaspoonful of bark powder given orally with a cup of water, daily twice for 2-3 days.
	High Fever	<i>Holoptelea integrifolia</i> Planch. (Ulmaceae) Tapasi / Indian elm KU/SD/SM 506	Bark of <i>H. integrifolia</i> , seeds of <i>P. argyrophyllum</i> (Piperaceae; Kadu menasu / Wild pepper), and few cloves of garlic made into paste with out adding water. Two teaspoonful of paste put in hot water, given orally.
3	Foot and Mouth disease	<i>Tylophora asthmatica</i> Wight & Arn. (Asclepiadaceae) Adu muttadaballi / Emetic swallow-wort KU/BS/KH 042	Leaves of <i>T. asthmatica</i> , cloves of <i>A. sativum</i> , seeds of <i>P. nigrum</i> , crushed and decoction prepared with water. Two cups of decoction given orally, daily twice for 2-3 days.
4	Gasial detention	<i>Acorus calamus</i> L. (Araceae) Baje / Sweet Flag KU/SD/SR 513	Rhizome of baje, petiole of <i>P. betle</i> and fecal matter of rabbit ground and mixed with human infant's urine, given orally 2-3 times a day. Chicken egg yolk given orally after 10 minutes.
		<i>Calotropis procera</i> (Ait.) R. Br. (Asclepiadaceae) Yekka / Arka KU/BS/GG 021	Two handfuls of leaves with stem piece given orally for 1-2 days.

Among plant species used by the herbal healers of Lambanis, *Acorus calamus* is extinct in the wild, while *Holarrhena pubescens* and *Rauvolfia serpentina* have become endangered species where as, *Holoptelea integrifolia*, *Santalum album* and *Aegle marmelos* are recognized as vulnerable species, and *Aloe barbedensis* and *Piper nigrum*, under lower risk category in the Western Ghats of Karnataka and the study region lies in this part of Karnataka [9, 24].

Medicinal formulations for humans, based on ten plant species, by Lambanis are new reveals and they are used to treat diseases and disorders like colostrum, conjunctivitis of eye, dog bite, gastritis, malaria, menstrual problems, piles, rickets and snake bite. More scientific knowledge is required for their acceptance as herbal drugs to treat human ailments. Survey of traditional herbal healers will help in exploring and documenting their information to treat diseases and disorders in humans and animals.

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