Research Journal of Medicinal Plant

ISSN 1819-3455

Academic Journals Inc.

www.academicjournals.com

Research Journal of Medicinal Plant 1 (4): 128-133, 2007
ISSN 1819-3455

Ethnobotanical Studies on Medicinal Plants Used by the Chenchus of Nallamalais in Kurnool District, Andhra Pradesh, India

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Abstract: Ethnobotanical studies were carried out to collect information on the use of medicinal plants by the Chenchus who live in forests of Nallamalais in Kurnool district, Andhra Pradesh, India. Ethnomedicinal uses of 51 plant species along with local name, botanical name, family, part used, ailments for which the drug is administrated, mode of administration are presented. They belong to 48 genera and 33 angiospermous families. These plants use to cure 26 ailments. Most remedies were taken orally, accounting for 62% of medicinal use. Most of the remedies were reported to have been from herbs (37.3%) and tree (33.3%) species. The most widely sought after plant parts in the preparation of remedies in the areas are the root (14) and stem bark (12). Chenchus have high number of medicinal plant species for the treatment of fever and skin diseases.

Key words: Ethnomedicine, medicinal plants, chenchus, Nallamalais, Eastern Ghats, India

INTRODUCTION

India is well known for significant geographical diversity which has favoured the formation of different habitats and vegetation types. India is also home to many languages, cultures and beliefs which have in turn contributed to the high diversity of traditional knowledge. Traditional healing systems play an important role in maintaining the physical and psychological well being of the vast majority of tribal people in India. Today continued deforestation and environmental degradation in many parts of India brought about depletion of medicinal plants and associated knowledge.

The need for the integration of local indigenous knowledge for a sustainable management and conservation of natural resources receives more and more recognition (Posey, 1992). Moreover, an increased emphasis is being placed on possible economic benefits especially of the medicinal use of tropical forest products instead of pure timber harvesting (Pimbert and Pretty, 1995).

The Nallamalais form a series of parallel hill ranges in the Eastern Ghats of Andhra Pradesh, India. They are situated between 15°30'-16°30'N and 78°30-80°10'E and occupy about area of 6,740 km^2. The hills stretch across portions of Kurnool, Prakasham, Nalgonda, Guntur and Cuddapah districts. The altitude ranges from 200 to 950 m. From the Palnad basin in the north to Seshachalam in the south the Nallamalais run a distance of about 430 km, with an average width of 30 km. The Nallamalais hosts primarily tropical southern dry mixed deciduous and southern moist mixed deciduous forests (Champion and Seth, 1968).

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The Chenchus are the major tribes inhabiting in Nallamalais. The Chenchus (Telugu speaking food gathering tribe) were living in the interior parts of forests of Nallamalais. They choose faith healing first, traditional herbal medicine next and modern medicine only when the first two have failed. The population of Chenchus was 28,434 (Subramanyam, 2003). They have not made any changes in their life style or tried to adapt to modernity. Their meal is simple and usually consists of gruel made from jowar or maize and boiled tubers. They collect the firewood for marketing purpose.

The earlier study on the ethnobotany of Nallamalais are Reddy *et al*. (1988), Mohan and Bhiravamurthy (1992), Pullaiah and Kumar (1996), Vijaykumar and Pullaiah (1998), Thulsi Rao *et al*. (2007) and Jeevanram *et al*. (2007).

However, the Kurnool part of the Nallamalais is relatively unexplored and little work has been done in context of ethnobotany. So, the present study was undertaken. Information on ethnomedicinal plants used by Chenchus of Kurnool district, for the various ailments and disorders recorded by the authors during field trips has been documented in this study.

MATERIALS AND METHODS

The present data is outcome of field research carried out as part of floristic and ethnobotanical studies during 1999 to 2005. The ethnomedicinal information was gathered from tribes who practice and have experience in the use of phytomedicines. Of the 18 informants 14 are men and 4 are women, whose age ranged from 40 to 60 years. Interviews were conducted in a place where the informants were most comfortable. Information regarding gathering, preparation and use were collected. At the end of each interview, specimens of plants mentioned for their medicinal uses were collected and identified. Specimens were identified with the help of the Floras (Gamble and Fischer, 1915-1935; Ellis, 1987) and finally confirmed with the herbarium of Botanical Survey of India (BSI), Coimbatore. The voucher specimens are deposited in Medicinal Plants Conservation Centre, EPTRI, Hyderabad.

RESULTS AND DISCUSSION

During the present ethnobotanical study 51 plant species were reported by the informants for their medicinal uses under 48 genera and 33 angiospermous families (Table 1). Of the 33 families, 25 represent single species each. While the predominant families were Acanthaceae and Papilionaceae (each 5 species).

These 51 plant species were used to cure 26 ailments, i.e., abortifacient, anti-alcoholic agent, antiseptic, aphrodisiac, appetizer, baldness, body pains, bone fracture, cough, curry, dysentery, dyspepsia, fever, general debility, insect sting, jaundice, leucoderma, scorpion sting, skin diseases, snake bite, sprains, rheumatism, stomach-ache, tooth-ache, venereal diseases and wounds. Chenchus have high number of medicinal plant species for the treatment of fever and skin diseases (each 7 species).

Most remedies were taken orally, accounting for 62% of medicinal use, followed by external application (applied topically on skin). The mode of applications of two remedies do not fit into either of above categories, since they are meant for prevention and to maintain good health. To improve the acceptability of certain oral remedies, additives are frequently used. No side effects were reported by the informants as a result of the use of different remedies.

Most of the reported preparations in the area are drawn from a single plant; mixtures are used rarely. Most of the remedies were reported to have been from herbs (19) and tree (17) species. It was followed by shrubs (9), climbers (5) and epiphyte (1). The proportion of herbs and trees was accounted as 37.3 and 33.3%, respectively. It is interesting to note the use of tender tips of *Viscum articulatum*, parasitic epiphyte as an external application for insect sting. The most widely

Table 1: Ethnomedicinal uses of plants used by Chenchus of Nallamalais, Kurnool district Andhra Pradesh

Species name	Vern. name	Family	Part used	Disease	Mode of Administration
Alangium salvifolium (L.f.) Wang.	Oodugu	Alangiaceae	Root	Snake bite	5-6 mL of root bark decoction taken twice or thrice in a day
Albizia odoratissima (L.f.) Benth.	Telchinduga	Mimosaceae	Bark	Leucoderma	Stem bark paste mixed with turmeric and neem oil and used as an external application
Andrographis paniculata (Burm.f.) Wall.ex Nees	Naelemu	Acanthaceae	Leaves	Fever	2-3 teaspoons of leaf decoction taken twice or thrice in a day
Argemone mexicana L.	Datturi	Papavaraceae	Latex	Skin diseases	Latex used as an external application
Aristolochia indica L.	Neleswari	Aristolochiaceae	Root	Snake bite	2-3 inches of root crushed with sufficient quantity of pepper and garlic and extract given twice or thrice in a day and also root juice used as nasal drops and eardrops
Asparagus racemosus Willd.	Satavari	Liliaceae	Tuber	Aphrodisiac	Fresh tubers consumed daily once to 1-2 months
Blumea mollis (D.Don) Merr.	Kukka pogaaku	Asteraceae	Root	Cough	2-3 teaspoons of root decoction taken with a pinch of pepper powder
Buchanania lanzan Spreng.	Morli	Anacardiaceae	Gum	Body pains	Gum is used as an external application
Canscora diffusa (Vahl) R.Br.	Shankhupuhi	Gentianaceae	Whole plant	Insect sting	Aerial parts paste is rubbed over the sting area
Cassia auriculata L.	Tangedu	Caesalpiniaceae	Stamens	Dysentery	10-15 stamens are chewed and sap swallowed twice or thrice in a day
Cassia fistula L.	Rela	Caesalpiniaceae	Fruit	General debility	Fruit pulp taken orally
Celosia argentea L.	Gunugu	Amaranthaceae	Leaves	Curry	Leaves used as a curry for good health
Chloroxylon swietenia DC.	Billi	Flindersiaceae	Bark	Skin diseases	Stem bark paste with turmeric used as an external application
Cleome viscosa L.	Yerraemiti	Cleomaceae	Whole plant		Skin diseases Whole plant paste is used as an external application
Coldenia procumbens L.	Chiputataaku	Asteraceae	Leaves	Insect sting	Leaf paste applied over the bitten area
Dalbergia paniculata Roxb.	Pacchri	Papilionaceae	Bark	Baldness	Stem bark paste with neem oil used as an external application
Desmodium pulchellum (L.) Benth.	Dayyapu jada	Papilionaceae	Root	Scorpion sting	Root paste used as an external application
Diospyros melanoxylon Roxb.	Tunikaaku	Ebenaceae	Fruit	Dyspepsia	Fruit pulp taken orally
Elytraria acaulis (L.f.) Lindau	Nela marri	Acanthaceae	Root	Tooth-ache	Root paste kept on affected teeth during bedtime
*Erythroxylum monogynum*Roxb.	Devadari	Erythroxylaceae	Leaves	Curry	Leaves used as a curry for good health
Euphorbia hirta L.	Paala	Euphorbiaceae	Leaves	Wounds	Leaf juice used as a lotion
Evolvulus alsinoides (L.) L.	Vishukranta	Convolvulaceae	Root	Fever	4-5 teaspoons of root decoction taken daily twice to 2-3 days
Flemingia semialata Roxb.	Nallabaddu	Papilionaceae	Leaves	Insect sting	Leaf paste used as an external application
Gardenia resinifera Roth	Bikki	Rubiaceae	Bark	Body pains	Stem bark paste used as an external application
Hemidesmus indicus (L.) R.Br.	Sugandi paala	Asclepiadaceae	Root	Fever	4-5 teaspoons of root decoction taken daily twice to 2-3 days
Hemigraphis latebrosa (Heyne ex Roth) Nees	Kalupamoru	Acanthaceae	Root	Anti-alcoholic agent	Root juice is used as nasal drops
Holoptelea integrifolia (Roxb.) Planch.	Nemli nara	Ulmaceae	Bark	Sprains	Stem bark paste applied and tied with wet cloth bandage

Table 1: Continued

Species name	Vern. name	Family	Part used	Disease	Mode of Administration
Indigofera cassioides Rottl. ex DC.	Konda neeli	Papilionaceae	Root	Scorpion sting	Root paste is used as an external application
Ixora arborea Roxb. ex Smith	Gorivi	Rubiaceae	Bark	Appetizer	2-3 glasses of stem bark decoction given orally
Lannea coromandelica (Houtt.) Merr.	Gumpidi	Anacardiaceae	Bark	Antiseptic	Stem bark paste used as a n external application
Lepidagathis cristata Willd.	Nakka peetiri	Acanthaceae	Root	Fever	Root is crushed and smells inhaled daily twice to 3-4 days
Litsea glutinosa (Lour.) Robins.	Nara mamidi	Lauraceae	Bark	Bone fracture	Stem bark paste applied and tied with bandage
Maerua oblongifolia (Forsskal) A. Rich.	Bhoochakra gadda	Capparaceae	Leaves	Rheumatism	Leaf paste is applied and tied with bandage
Maytenus emarginata (Willd.) Ding Hou	Danti	Celastraceae	Bark	Skin diseases	Stem bark paste is used as an external application
Hedyotis affinis Roem. and Schult.	Gorlaumu	Rubiaceae	Whole plant	Stomach-ache	1-2 teaspoons of whole plant decoction taken twice in a day
Paracalyx scariosus (Roxb.) Ali	Adavi kandi	Papilionaceae	Root	Scorpion sting	Root paste used as an external application
Pentanema indicum (L.) Ling	Konda chamanti	Asteraceae	Root	Abortifacient	10-15 mL of root decoction taken orally
Peristrophe paniculata (Forssk.) Brummitt	Chebira	Acanthaceae	Leaves	Skin diseases	Leaf paste is used as an external application
Phyllanthus amarus Schum. and Thom.	Nelusiri	Euphorbiaceae	Whole plant	Jaundice	Tender tips crushed with the pepper and garlic and juice used as nasal drops and eardrops
Phyllanthus emblica L.	Usiri	Euphorbiaceae	Fruit	Fever	The fruit pulp with those of *Terminalia chebula*, *Terminalia bellirica* are crushed and powder (1 teaspoon) taken daily twice to 4-5 days
Polygonum glabrum Willd.	Golusu chettu	Polygonaceae	Leaves	Skin diseases	Leaves crushed with turmeric and paste used as an external application
Premna tomentosa Willd.	Naguru	Verbenaceae	Bark	Rheumatism	Stem bark paste with turmeric used as an external application
Pupalia lappacea (L.) Juss.	Battantaaku	Amaranthaceae	Leaves	Scorpion sting	Leaf paste applied over the sting area
Schleichera oleosa (Lour.) Oken	Pusuku	Sapindaceae	Bark	Dyspepsia	Stem bark decoction given orally
Scoparia dulcis L.	Mrugandhi chettu	Scrophulariaceae	Whole plant	Venereal diseases	Whole plant crushed with pinch of pepper powder and extract taken daily once to 2-3 weeks
Strychnos nux-vomica L.	Visha musti	Loganiaceae	Bark	Snake Bite	1-2 g of stem bark paste taken with cow's urine
Terminalia bellirica (Gaertner) Roxb.	Tandra	Combretaceae	Fruit	Fever	The fruit pulp with those of *Terminalia chebula*, *Phyllanthus emblica* are crushed and powder (1 teaspoon) taken daily twice to 4-5 days.
Toddalia asiatica (L). Lam.var. *floribunda* Gamble	Konda nimma	Rutaceae	Leaves	Scorpion sting	Leaf paste is used as an external application
Vernonia cinerea (L.) Less.	Garatikoma	Asteraceae	Root	Fever	Root is crushed and smells inhaled daily twice to 3-4 days
Viscum articulatum Burm.f.	Vadanika	Loranthaceae	Tender tips	Insect sting	Tender tips paste used as an external application
Wrightia arborea (Dennst.) Mabb.	Pedda paala	Apocynaceae	Latex	Skin diseases	Latex used as an external application

sought after plant parts in the preparation of remedies in the areas are the root (14) and stem bark (12). The popularity of roots including tubers has grave consequences from ecological point of view and for the survival of species. There is no threat to the medicinal plants from trade, as the roots are harvested for local use in small quantities. The stem bark of *Litsea glutinosa* used to cure bone fracture was under high commercial exploitation and which was insists Conservation Assessment and Management Planning to put the species under Critically Endangered category in Andhra Pradesh (Jadhav *et al*., 2001).

It may be understood that the use of four naturalised exotic species (*Argemone mexicana*, *Blumea mollis*, *Celosia argentea*, *Cleome viscosa*) in ethnomedical use however, represents a highly dynamic, evolving process, where new knowledge is constantly being obtained and linked to traditional practices.

The data was presented in a tabular form which includes the botanical name, Vernacular name, Family of the species, Part used, Disease and mode of administration of the medicinal plant.

CONCLUSIONS

Knowledge about the healing system is transferred orally from generation to generation without any written documentation and many of the traditional methods have a superstitious element. Moreover, lack of documentation of traditional healing methods has resulted in confusion amongst users. Thus, the present study has strongly recommended the necessity of proper documentation of the actual healing methods, along with the main characteristic features of the medicinal plants.

ACKNOWLEDGMENTS

We thank Field Director, Nagarjunasagar and Srisailam Tiger Reserve Andhra Pradesh, Shri Ganga Raju, Chairman, Laila Impex, Vijayawada, Head, Forestry and Ecology Division, National Remote Sensing Agency for constant encouragement and facilities.

REFERENCES

Champion, H.G. and S.K. Seth, 1968. A Revised Survey of the Forest Types of India. Govt. of India Press, Delhi.

Ellis, J.L., 1987. Flora of Nallamalais. Vol. 1 and II. Botanical Survey of India, Calcutta.

Gamble, J.S. and C.E.C. Fischer, 1915-1935. Flora of the Presidency of Madras. London. (Rep. Edn., 1957: BSI, Calcutta).

Jadhav, S.N., D.K. Ved, U. Ghate, K.N. Reddy and C.S. Reddy, 2001. Proceedings of the workshop on Conservation Assessment and Management Planning (CAMP) for Medicinal Plants of Andhra Pradesh. FRLHT, Bangalore.

Jeevanram, A., R.V. Reddy, A.M. Chary and R.R.V. Raju, 2007. Rare and little known medicinal plants from Nallamalais of the Eastern Ghats, India. J. Plant Sci., 2: 113-117.

Mohan, K.R. and P.V. Bhiravamurthy, 1992. Plants used in traditional medicine by tribes of Prakasham district Andhra Pradesh. Ancient Sci. Life, 11: 176-181.

Pimbert, M. and J. Pretty, 1995. Parks, People and Professionals: Putting Participation into Protected Area Management. UNRISD Discussion Paper 57, Geneva.

Posey, D., 1992. Traditional Knowledge, Conservation and the Rain Forest Harvest. In: Sustainable Harbest and Marketing of Rain Forest Products. Plotkin, M. and L. Famolare (Eds.), Island Press, Washington DC., pp: 46-50.

Pullaiah, T. and T.D.C. Kumar, 1996. Herbal plants in Mannanur forest, Mahabubnagar district Andhra Pradesh. J. Econ. Tax. Bot. Add. Ser., 12: 218-220.

Reddy, M.B., K.R. Reddy and M.N. Reddy, 1988. A survey of medicinal plants of Chenchu tribes of Andhra Pradesh. Int. J. Crude Drug Res., 26: 89-196.

Subramanyam, V., 2003. Ecology, technology and resources management among the tribes of Eastern Ghats: An anthropological study. Conference on Livelihood Strategies Among Forest Related Tribal Groups of South India. Mysore, October, 17-19.

Thulsi Rao, K., K.N. Reddy, C. Pattanaik and C.S. Reddy, 2007. Ethnomedicinal Importance of Pteridophytes used by Chenchus of Nallamalais Andhra Pradesh, India. Ethnobotanical Leaflets, pp: 1-5.

Vijaykumar, R. and T. Pullaiah, 1998. Medicinal plants used by the tribals of Prakasham district Andhra Pradesh. Ethnobotany, 10: 97-102.