



Journal of
Plant Sciences

ISSN 1816-4951



Academic
Journals Inc.

www.academicjournals.com

Rare and Little Known Medicinal Plants from Nallamalais of the Eastern Ghats, India

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Abstract: Ethnomedicinal applications of plants used by tribals of Nallamalais, a major part of Eastern Ghats in peninsular India, were assessed through a survey during 1995-2000. First-hand information on ethnomedicinal recipes, dosage and their mode of administration etc., was gathered from herbal practitioners of Chenchu, Yanadi and Yerukala tribes. Hitherto unreported applications of 53 plant species belonging to 31 families and 48 genera are presented in this paper. The study has brought to light some interesting data on plants which form a potential source of information for new bio-dynamic compounds of therapeutic value in phytochemical researches. As the exploitation of raw materials of these species is high in this area, there is an urgent need for their conservation.

Key words: Ethnomedicine, folklore information, Nallamalais

Introduction

Nallamalais form a series of parallel hill ranges oriented in a north-south direction towards the eastern portion of Peninsular India (Ellis, 1987). They are situated between 15°00' and 16°14' N and 78°20' and 80°10' E covering the Kurnool, Prakasam, Cuddapah, Mahboobnagar and a part of Guntur districts in Andhra Pradesh. They cover a forest area of 5,161 km² with 39% occurring in plains and 61% in hill ranges. Nallamalais, nucleus of Eastern Ghats, possess very rich plant diversity than other parts in Eastern Ghats (Rama Rao and Henry, 1996). The main tribes that inhabit Nallamalais are Chenchu, Yanadi and Yerukalas. It is a fact that despite many discoveries, the usable knowledge accumulated for the benefit and longevity of poor is very little in modern science (Kirtikar and Basu, 1975). Earlier workers conducted sporadic explorations in Nallamalais and reported information of some medicinal plants (Kumar and Pullaiah, 1998; Rama Rao and Henry, 1996; Venkataraju and Pullaiah, 1995; Vijaykumar and Pullaiah, 1998; Jeevan Ram and Venkata Raju, 2001; Jeevan Ram *et al.*, 2004). The present study mainly exposes the unrealized and unexplored hidden properties of medicinal plants and secret knowledge of folklorists from all levels of the society right from remote tribals to the village physicians surrounding the hill tract of Nallamalais.

Materials and Methods

An extensive ethno-medico-botanical survey was conducted during 1995-2000 in different parts of Nallamalais. First hand information on the plant species as crude drugs was gathered through repeated interviews with old traditional healers of each tribal group. The recorded folklore information was cross checked with the literature in order to evaluate the properties of crude drugs which were hitherto not reported by earlier workers. The preparation, dosage and mode of administration of herbal drugs were recorded. Voucher specimens were prepared (Jain and Rao, 1977), identified and deposited in the herbarium of Sri Krishnadevaraya University (SKU), Anantapur.

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Results

Plant species employed by tribal traditional healers are listed in alphabetical order by their botanical names together with respective families, vernacular names and voucher specimen numbers. A brief note on methods of preparing the drugs and their uses as revealed by the informants during the field trips are given for each species. The intensive explorations conducted during 1995-2000 in the forests of Nallamalais resulted about 500 drug yielding plants of which 53 plant species of medicinal importance, belonging to 31 families and 48 genera considered as rare and little known taxa are enumerated. The therapeutic properties of the enumerated taxa are hitherto not reported by earlier workers (Jain, 1991).

Acalypha indica L. (Euphorbiaceae) Pippinta, 18904

Insanity: Leaves along with musk ground into paste and given orally on empty stomach.

Alangium salvifolium L.f. (Alangiaceae) Ooduga, 18978

Menorrhoea: Stem bark along with that of *Azadirachta indica* and *Ficus racemosa* boiled in water and decoction given orally.

Aphrodisiac: Cotyledons powdered and one spoon of powder mixed with two spoons of honey given orally daily once for twenty days.

Albizia lebbek (L.) Willd. (Mimosaceae) Dirisena, 20697

Eye injury: Leaves ground with a little salt and the juice given as eye drops.

Aristolochia indica L. (Aristolochiaceae) Nalla eswari, 20404

Abortifacient: Root boiled in water and 50 mL of decoction given orally once. It works up to six months pregnancy.

Impetigo, Rash: Leaves ground in goat milk and paste applied as external application.

Atalantia monophylla (L.) Cor. (Rutaceae) Adavi nimma, 20642

Post natal complaints: Stem bark mixed with *Andrographis paniculata* leaf ground in honey, made into paste and given orally with rice water.

Barleria longiflora L.f. (Acanthaceae) Kosipoolu, 1769

Dropsy, Cystitis: Roots boiled in water and decoction given orally.

Blepharis repens (Vahl) Heyne ex Roth. (Acanthaceae) Nela parikal, 3161

Dysentery: Leaves along with jaggery (Sugarcane juice boiled and condensed into solid) ground into paste and given orally.

Caesalpinia bonduc (L.) Roxb. (Caesalpinaceae) Gachakaya, 20694

Hydrocele: Leaves roasted in castor oil and given as poultice.

Calotropis procera (Ait.) R.Br. (Asclepiadaceae) Tella gilledu, 20437

Migraine: Shoots roasted mixed with pepper and garlic, ground and infusion given as ear drops on Sunday and Thursday only.

Cassia absus L. (Caesalpinaceae) Chanubalavittulu, 20511

Conjunctivitis: Leaf juice (fresh) given as eye drops.

Cassia italica (Mill.) Lam (Caesalpinaceae) Nela thangedu, 18910

Jaundice: Leaves mixed with pepper and garlic, ground and infusion given orally.

Capparis sepiaria L. (Capparaceae) Nalla uppi, 8423

Failure of lactation in post-natal cases: Root bark chewed and the sap swallowed.

Capparis zeylanica L. (Capparaceae) Adonda, 18299

Jaundice: Root bark along with garlic and pepper ground and the infusion given orally followed by hot water.

Diet precaution: Boiled rice with red chilly powder and garlic

Urinary calculi: Stem bark along with that of *Cassia auriculata* crushed, soaked in water in a new earth pot and the infusion supplemented with sugar candy and elachi given orally.

- Carmona retusa* (Vahl) Masam (Cordiaceae) Pisikibeera, 8626
Wounds: Leaf decoction given orally and powder as external application.
- Cissampelos pareira* L. (Menispermaceae) Vishaboddi, 20565
Epilepsy: Leaves along with musk and turmeric ground into paste and applied externally.
- Cissus quadrangularis* L. (Vitaceae) Nalleru, 20415
Asthma: Roots (after burning the shoots) dried and powdered, made into paste with honey and given orally.
- Citrullus colocynthis* (L.) Schrad (Cucurbitaceae) Verripucha, 20684
Hysteria: Mesocarp of fruit mixed with garlic, pepper and turmeric, ground and infusion given orally.
- Clerodendron serratum* (L.) Moon (Verbenaceae) Gantu bharangi, 20635
Dropsy: Young shoot Juice given orally.
- Cocculus hirsutus* (L.) Diels (Menispermaceae) Dusara teega, 18902
Leucorrhoea: Leaves mixed with palm jaggery, ground and infusion given orally for 3times a day.
- Cyanotis tuberosa* (Roxb.) Schult. and Schult. f. (Commelinaceae) Eggogula gaddalu, 2523
Blood motions: Root tubers dried, powdered, made into paste with curd and given orally.
- Datura metel* L. (Solanaceae) Nalla ummetta, 20471
Asthma, Cough: Leaves dried in sun light, powdered and smoked as a cigarette.
- Dichrostachys cinerea* (L.) Wt. and Arn (Mimosaceae) Veluturuchettu, 20459
Leucorrhoea/Menorrhoea: Leaf juice (fresh) with sugar given orally.
- Elytraria acaulis* (L.f.) Lindau (Acanthaceae) Yeddu adugu, 20980
Abscess of mammary glands: Leaf paste mixed with honey and given orally.
- Euphorbia tirucalli* L. (Euphorbiaceae) Sanna kashi, 20696
Rheumatoid arthritis: Stem along with the leaves of *Enicostemma axillare* roasted in cow urine and applied over joints.
- Evolvulus alsinoides* (L.) L. (Convolvulaceae) Vishnu kranti, 20490
Conception: Roots dried, powdered, mixed in goat milk and given orally.
- Gmelina asiatica* L. (Verbenaceae) Gummudu, 1459
Dandruff: Fruit pulp as application to the hair.
- Grewia hirsuta* Vahl (Tiliaceae) Chittijana, 18937
Diarrhoea, Dysentery: Roots powdered, mixed in cow milk and given orally.
- Gymnema sylvestre* (Retz.) R. Br. (Asclepiadaceae) Podapatri, 18964
Biliousness: Leaves (fresh) chewed and the sap swallowed.
- Helicteres isora* L. (Sterculiaceae) Gubathada, 20497
Anti galactagogue: Roots powdered, mixed in water and given orally.
Fever: Dried fruits coated with turmeric, tie around neck .
- Leptadenia reticulata* (Retz.) Wt. and Arn (Asclepiadaceae) Mukku tummu teega, 8677
Asthma, Cough: Leaves chewed and the sap swallowed.
- Mimosa pudica* L. (Mimosaceae) Attipatti, 18926
Piles: Leaves ground into paste and the paste as poultice every day for a week.
- Mimusops elengi* L. (Sapotaceae) Pogada, 18995
Tuberculosis: Stem bark along with seeds of *Phoenix dactylifera* powdered and given orally.
- Morinda tomentosa* Heyne ex Roth. (Rubiaceae) Maddi, 20447
Mad dog bite (Anti Rabies): Stem bark boiled in water and decoction given orally.
- Naringi alata* (Wall. Ex Wt. and Arn.) (Rutaceae) Nalla munukudu, 8663
Post-natal complaints: Stem bark along with that of *Azadirachta indica* boiled in water and the decoction given orally.
- Pedaliium murex* L. (Pedaliaceae) Enugu palleru, 18955
Cystitis/Menorhoea: Leaves kept in water over night and the solidified infusion given orally.

- Pergularia daemia* (Forssk.) Chiov. (Asclepiadaceae) Dushtapaku, 18961
Antifertility: Leaf juice supplemented with a little calcium powder and given orally.
- Phyllanthus reticulatus* Poir. (Euphorbiaceae) Nalla puli, 20517
Bone fractures: Leaves along with seeds of *Vigna mungo*, *Trigonella foenum-graecum*, white of hen's egg, calcium and turmeric ground and the mixture applied and bandaged.
- Plumbago zeylanica* L. (Plumbaginaceae) Chitramulamu, 18959
Tumors and ulcers in the stomach and intestine: Roots along with the leaves of *Bambusa arundinacea*, seeds of *Ricinus communis*, a little Ammonium chloride and palm jaggery, ground, made into pills and taken orally on alternate days for three months.
- Premna tomentosa* Willd. (Verbenaceae) Narava, 18969
Biliousness: Leaf juice applied all over the surface of the body followed by a bath with the leaf decoction.
- Rhinacanthus nasutus* (L.) Kurz. (Acanthaceae) Nagamalli, 8100
Eczema, Ringworm: Root paste as external application.
- Rhus mysorensis* G. Don (Anacardiaceae) Sundarakampa, 20690
Antifertility: Seeds along with that of *Crotalaria juncea* and *Dodonaea viscosa* roasted in buffalo ghee, crushed, made into small pills and given orally after menses/delivery.
- Schleichera oleosa* (Lour.) Oken. (Sapindaceae) Sati-kukati, 3061
Dropsy: Stem bark along with that of *Commiphora caudata* boiled in water and decoction given orally.
- Solanum nigrum* L. (Solanaceae) Kamanchi, 20488
Bleeding piles: Leaves and fruits cooked as curry and given orally.
- Solanum surattense* (Solanaceae) Nelamulaka, 18903
Leprosy: Roots boiled in Neem and Pongamia oils in a new earthen pot and infusion as external application.
- Strychnos nux-vomica* L. (Loganiaceae) Nagamushti, 18951
Hypertension: Root bark powdered, mixed in honey and given orally daily for 90 days.
- Strychnos potatorum* L.f. (Loganiaceae) Chilla, 20574
Spermatorrhoea: Seeds soaked in the leaf extract of *Eclipta prostrata*, boiled in milk, dried, powdered, mixed in honey and given orally once daily for 20 days.
- Syzygium alternifolium* (Wt.) Walp (Myrtaceae) Konda neredu, 18950
Diabetes: Seeds powdered, mixed in hot milk and given orally once daily for 15 days.
- Terminalia chebula* Retz. (Combretaceae) Karaka, 2592
Piles: Fruit powder mixed in butter milk orally once daily for a week.
- Trianthema decandra* L. (Aizoaceae) Tella galijeru, 20496
Fertility, Asthma: Roots mixed with cow milk, ground and infusion given orally.
- Tribulus terrestris* L. (Zygophyllaceae) Nela palleru, 20431
Scabies: Fruit pulp mixed with turmeric and applied externally.
- Vernonia cinerea* (L.) Less (Asteraceae) Sahadevi, 18229
Fertility in women: Shoots shade dried, powdered, mixed in cow milk and given orally after menses for three days consecutively. Preparation of medicine on Sunday only.
Diet precaution: Chicken, Spices and garlic forbidden.
- Vitex altissima* L.f. (Verbenaceae) Nemali adugu, 18939
Galactagogue: Stem bark powdered, mixed in goat/cow milk and given orally once in a month at the time of menses for three months.
- Vitex negundo* L. (Verbenaceae) Vavilaku, 18954
Fertility/ Conception: Shoots ground in water and 50 mL of the juice mixed with turmeric powder given orally early in the morning for three days.

Discussion

The tribal medicine is considered as mother of indigenous systems of medicines. Tribals of this area are using hundreds of plants for curing different ailments. The information was gathered from aged people of this area, who are still in connection with crude drugs available in their surroundings. Tribals of this forests utilise several medicinal plants in their day to day life. The knowledge of these medicines is heard down from generation to generation and thus run over as a family secret. The tribals have now developed a tendency to rely up on the modern medicine and less importance is given to their traditional medicine. This gross neglect may have drastic impact on the existence of many important species and their usefulness. Ethno-botanically this region remains under explored and no comprehensive account especially on the folklore survey is available. Among 53 species from 31 families, Verbenaceae represents more number (5 sp.) followed by Acanthaceae and Asclepiadaceae (4 sp. each), Caesalpinaceae, Euphorbiaceae, Mimosaceae and Solanaceae (3 sp. each) etc. Hence, extensive and intensive research should be taken up in tribal medicine to open up new frontiers. In this context the traditional knowledge of the tribals in this area is significant.

Acknowledgements

We are grateful to the Director, Botanical Survey of India, Calcutta for permission to utilise the herbarium at CAL. The authors (AJR and RVR) are thankful to the University Grants Commission, New Delhi for financial assistance.

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