



**Ethno- medico - botanical studies of Badaga population
In the Nilgiri district of Tamilnadu, South India.**

Received : 25.11.2007

Accepted : 28.12.2007

P. N. Arul Manikandan

Department of Plant Biology & Plant
Biotechnology, Govt. Arts College,
Stone house hill Post,
Udhagamandalam - 643 002,
Tamilnadu, India.

Abstract

The study grains to explore ethno-medicobotany of Badaga population in the Nilgiri hills of Tamilnadu, South India. Ethno botanical field survey and personal discussion methods have been adopted in the collection of data. A list of 71 flowering plants belonging to 42 families, 67 genera and 70 species are employed by the Badaga population in their native system of medicine for therapeutic purposes. In reviewing ethnomedical information, data on folk herbal remedies and their various methods of applications for treating a wide range of ailments have been furnished. A brief description of plants, their habitat, family and local Badaga names are outlined here.

50

Key Words: Ethnomedicobotany, Badaga population, Nilgiri hills of Tamilnadu, South India

Introduction

The Nilgiri hills honored, as '*The blue mountains*' is a cradle - land for medico - ethnobiological and anthropological studies. It has both native and exotic flora of good salubrious value. The annual rainfall of the Nilgiri district ranges from 1600-1800 mm, which gives support to the growth of evergreen forest. The rich diversity of medicinal herbs and other floristic elements in this region is quite remarkable. The district has all in all six primitive ethnic groups of absorbing anthropological interest. They are

Todas, Kotas, Kurumbas, Irulas, Paniyas and Kattunayakas. The total tribal population of the district was 25,048 (1).

Ethnography

Badagas constitute the largest non-tribal backward caste population living in the Nilgiri district of Tamilnadu. Till today, the origin of Badaga group remains obscure. However, there is copious supply of conjecture as to their ancestry. They claim autochthonous of Nilgiri hills. There are as many as 427 Badaga settlements (Hattis) located in different parts of the district. The community is divided into six socially recognizable sects or clans. They are *Udaya*, *Haruva*, *Adhikari*, *Kanaka*, *Badaga* and *Toreyas*. It appears that there exists perceptible social hierarchy between these sects.

The Badaga language has no script but resembles Kannada language. The group maintains its own district socio-cultural and religious identities. They have their own traditional costumes for special and ceremonial occasions. Badaga represent purely pastoral economy. They are proficient in folk herbal cures for various common ailments.

Earlier scholars have carried out many research studies concerning Badaga population. However, the following works deserve a place here (2-10). The objective of this study is to document useful ethnobotanical information about Badaga group in the Nilgiri district of Tamilnadu. Hence, the present study.

Methodology

The data have been collected on ethno-medico botany of Badaga group living in the Nilgiri Hills of Tamilnadu, South India. For analyzing ethnobotanical data, information about 71 plants belonging to 67 genera, 42 families and 70 species which are used by the Badagas for their sustainable primary health care purposes in the traditional system has been completed. This research is based on field surveys carried out on them during the months of May - August 2003. There are 9 settlements included in the present survey namely, Kalhatti, Ekkuni, Malligorai, Kotagiri, Kengarai Ullathi, Panahatti, Sholurmatam and Uiyilatti.

The plants are listed alphabetically by generic names, their families and Badaga names. A short description of plants is also provided. All the collected plant specimens have been identified with the help of local flora (11-12). The voucher specimens of all plants have been deposited in the Herbarium at the Government Arts College, Udthagamandalam for future reference.

List of Plants and Their Uses

Achyranthes aspera Linn. (Naegidu)
[Amaranthaceae]

An erect branched herb, flowers greenish, common.

The root decoction is orally taken as a remedy for cough and chest discomfort. The whole plant paste is applied to navel region of pregnant women to promote easy delivery (folk

belief). The stem bark paste is useful wound healing agent.

Agave americana Linn. (Kathalae)
[Amaryllidaceae]

A xerophytic plant, flowers white or yellow, common.

The freshly prepared leaf paste is externally applied to the site of bone dislocation to relieve pain.

Ageratum conyzoides Linn.
(Maghathae) [Asteraceae]

An erect, hirsute herb, flower heads white or violet or purple, common.

The external application of leaf juice kills the ticks in cattle. The plant paste is smeared on cattle wounds for healing.

Aloe vera Linn. (Nathalie) [Liliaceae]

A xerophytic plant with orange flowers, rare.

The freshly collected leaf is placed on the affected part as analgesic. The leaf paste is a useful remedy for checking hair loss. The succulent parts are eaten for worm complaints.

Amaranthus paniculatus Linn. (Keerai)
[Amaranthaceae]

A tall woody herb, Inflorescence terminal thyroid spike, flowers red, cultivated.

The decoction of both tender shoots and seeds are given to post-natal women as a restorative.

Amaranthus spinosus Linn.
(Mullugidu) [Amaranthaceae]

An erect armed herb, flowers green, and common.

The leaf extract is given orally for abdominal discomfort and worm problems.

Anotis leschenaultiana Benth. & Hook.
(Awu-mari-gidu) [Rubiaceae]

An herb with pinkish, purple flowers, rare. The leaf paste is a useful remedy to get rid of tooth worms.

Arisaema leschenaultii Bl. (Ahu-mari-gidu) [Araceae]

A tuberous herb with greenish white flowers, rare.

It is highly poisonous plant. The bulb paste is smeared to the site of bone fracture and regions of body pain (Only for external use).

Artemisia nilagirica (C. B. Clarke)
Pamp. (Misagae) [Asteraceae]

A tall aromatic herb with greenish flowers, common.

The leaf paste is applied as a poultice on aching foot for relief.

Berberis tinctoria Lesch. (Jakkala)
[Berberidaceae]

A shrub with yellow flowers, common. Root paste is given orally as a remedy for jaundice.

Boerhavia diffusa Linn. (Saranae)
[Nyctaginaceae]

A diffuse procumbent herb with pink flowers, common.

The leaf decoction is taken orally to check bleeding in the post-natal women after delivery.

Calotropis gigantea (L.) R. Br.
(Herruku) [Asclepiadaceae]

A branched erect shrub with white-purplish flowers, common.

Fresh root paste is a useful antidote for snake and scorpion bites.

Canna indica Linn. (Kalavalai)
[Cannaceae]

An herb with tuberous rootstock with bright-red flowers, common.

The rhizome decoction is orally given to relieve gastric discomfort flatulence.

Cassia leschenaultiana DC.
(Ubbaisoppu) [Caesalpiniaceae]

A sub erect, under shrub with yellow flowers, common. The fresh leaves are warmed with (q-s) groundnut oil and applied to wounds and injuries for healing.

Centella asiatica Urban. (Kutharae kombu) [Apiaceae]

A slender creeper herb, flowers pink, common. The whole plant extract is given orally on an empty stomach to cure jaundice. It is also useful for treating urinary problems.

Chenopodium ambrosioides Linn.
(Soppu gida) [Chenopodiaceae]

An erect, aromatic, branched annual herb with greenish flowers, rare.

The leaf paste mixed with coconut oil is applied to wounds for rapid healing.

Commelina coelestis Willd. (Kannae)
[Commelinaceae]

An erect herb with blue flowers, common.

The whole plant paste is applied to wounds for quick healing.

Coriandrum sativum Linn. (Erugidu)
[Apiaceae] An herb with white, pale pink flowers, cultivated.

The leaf decoction is given orally to relieve gastric discomfort.

Cupressus macrocarpa Hartw.
(Smbarani mora) [Cupressaceae]

An evergreen tree with pale yellow flowers, common.

The gum is a good insect repellent when smoked in fire.

Curcuma longa Linn. (Arishina)
[Zingiberaceae]

A tall rhizomatous herb with pale green flowers, cultivated.

The tuber paste is applied to swollen regions for relief.

Cyclea peltata (Lam.) Hook. f. & Thomson (Mushta kodi)
[Menispermaceae]

A climbing herb with greenish flowers, common.

The leaf paste mixed with garlic is applied to forehead for relieving headache.

Cynodon dactylon Pers. (Kodi jarikhi)
[Poaceae]

A perennial slender creeping prostrate grass with green or purplish flowers, common.

The juice of the whole plant is used as anti-dysenteric.

Cynoglossum zeylanicum (Vahl ex Hornem.) Thunb. ex Lehm.
[Boraginaceae]

An erect shrub with pale lilac or light blue flowers, common.

The leaf paste is applied for insect bites to reduce inflammation.

Cyperus digitatus Roxb. (Dabbai)
[Cyperaceae]

A perennial rhizomatous herb with yellowish brown flowers, common in wet grasslands.

The rhizome paste is a good external remedy for skin diseases, particularly ringworm type of afflictions.

Datura metel Linn. (Oomathugidu) [Solanaceae]

A shrub with purple or white flowers, common.

The seed paste is applied to forehead after making certain incantations that will ensure

success to a person. This is purely a folk belief of Badaga community.

Datura stramonium Linn. (Tharae thomba) [Solanaceae]

A small shrub with white flowers, common.

The leaf with (q-s) groundnut oil is warmed up and applied as poultice for boils and wounds.

Dodonaea viscosa Linn. (Vlarigidu) [Sapindaceae]

A branched shrub with greenish flowers, common.

The tender leaves are warmed in fire and applied to the affected parts for inflammation and joint pains.

Drymaria cordata Willd. [Caryophyllaceae]

A glabrous herb with white flowers, common.

The bulb paste is applied to the naval region of pregnant women to quicken labor.

Eleusine coracana Gaertn. (Batha) [Poaceae]

An erect annual cereal with greenish

flowers, cultivated.

The seed gruel (Kanji) is useful for anti-diarrhoeal purposes.

Ervatamia divaricata Linn. (Kanigidu) [Apocynaceae]

A shrub with white flowers, common.

The equal quantities of leaf and root parts are made into a paste. This mixture is orally given to women to correct gynecological problems.

Eucalyptus globulus Habill. (Kapuramora) [Myrtaceae]

A lofty tree with aromatic plant parts, flowers white, wild.

The tender leaf paste is applied to forehead to relieve headache. The leaves are soaked in water overnight and boiled. This water is used for bathing purposes to relieve all kinds of body pains.

Eupatorium glandulosum H. B & K. (Oogidu) [Asteraceae]

A shrub with white flowers, common. The whole plant extract is a useful remedy for wounds and sores.

Ficus religiosa Linn. (Atthimora) [Moraceae]

A small soft wooded deciduous tree with dark purple flowers, common.

The tender fruits are believed to promote fertility when consumed (folk belief). The latex is smeared to the corn region in the foot to get relief from pain.

Galinsoga parviflora Cav. (Mukkuthi Sadai) [Asteraceae]

An erect slender herb with white flowers, common.

The tender shoots with flowers are

made into a paste and applied to quicken wound healing.

Glycosmis pentaphylla (Retz.) DC. (Kark mora) [Rutaceae]

A shrub or small tree with white flowers, common.

The root paste in lemon juice is applied to swollen parts of the body for three days to get relief.

Gymnema hirsutum Wight & Arnott (Naraegidu) [Asclepiadaceae]

A hairy thick twinner with yellowish green flowers, wild.

The leaf decoction is taken orally as a good remedy for jaundice, paralysis and also for antidiabetic purposes.

Hedychium flavescens Carrey (Sulle) [Zingiberaceae]

A robust plant with horizontal rootstock, flowers pale yellow, rare.

The plant juice is applied to wounds, cuts and sores for quick healing.

Helichrysum buddleioides DC. (Vadamalli) [Asteraceae]

A shrub with yellow flowers, common. The plant juice is applied for cuts and wounds for rapid healing.

Impatiens chinensis Linn. (Anni chedi) [Balsaminaceae]

A prostrate annual herb with raised purple or white flowers, wild.

The whole plant juice is applied to body to get rid of burning sensations (possibly a refrigerant).

Leucas linifolia Linn. (Thumbai) [Lamiaceae]

An erect branched herb with white flowers, common.

The fresh leaves are chewed to get relief from stomachache. The flowers are soaked in water overnight and this extract is dropped into eyes for conjunctivitis. The leaf extract is a useful remedy for controlling excessive bleeding.

Loranthus cuneatus Heyne (Cepatai annu) [Loranthaceae]

A shrub with yellowish green flowers, common in shola forests.

The leaves and fruits are eaten orally given as a remedy for menstrual problems.

Lycopersicon esculentum Miller (Thoae thomba) [Solanaceae]

A sticky herb with yellow flowers, cultivated.

The mature fruits are eaten for anti-dysentric purposes.

Murraya koenigii (L.) Spreng. (Karambaisopu) [Rutaceae]

A small tree with white flowers, cultivated.

The leaf juice is useful for anti-emetic purposes. It is a refrigerant to eyes.

It is believed to lower blood sugar levels according to their folk belief.

The fresh leaves are chewed to relieve from urinary problems.

Musa paradisiaca Linn. (Bai mora or Baa mora) [Musaceae],

An erect tree like herbs with dark purplish flowers, commonly cultivated.

The leaf with a drop of oil serves as a poultice for wounds. The fruits are given to children as a remedy for celiac conditions.

Children eat it during measles for prophylactic

purposes. The leaf ash is a useful remedy for asthma when inhaled.

Nicotiana tabacum Linn. (Hogae soppu) [Solanaceae]

An erect herb or sub shrub with rose flowers, cultivated.

The dry leaf powder is placed on the tooth to cure all type of dental pain.

Oxalis corniculata Linn. (Ulla mazgi) [Oxalidaceae]

A diffuse herb with yellow flowers, common.

The whole plant is eaten to relieve headache. The juice is useful for eye lotion purposes. The plant juice mixed with milk cures any type of headache when consumed.

Passiflora calcarata Mast. (Odyannu) [Passifloraceae]

A climbing shrub with purple flowers, common.

The flower paste is applied to forehead to cure headache.

Pittosporum floribundum Wight & Arn. [Pittosporaceae]

A small tree with white flowers, rare. The mature fruits are eaten as a refrigerant and also for gastric discomfort.

Plectranthus mollis (Aiton) Sprengel (Papattugidu) [Lamiaceae].

An herb with yellowish flowers, rare. The root paste prepared in lemon juice is applied to the tooth as a pain reliever.

Polygonum punctatum Buch.-ham. (Gongu) [Polygonaceae]

An herb with white flowers, common. The whole plant juice is mixed with

milk and orally taken as a remedy for gastric discomfort and hip pain.

Randia dumetorum Lamk. (Soondavalli) [Rubiaceae]

A shrub with white flowers on transition becomes yellow, common.

The root paste is applied to treat skin eruptions in the body.

Raphanus sativus (L.) DC. (Mullangi) [Brassicaceae]

An erect, branched, annual herb with white flowers, cultivated.

The root decoction is orally taken as an anti-diarrhoeal. The boiled root extract mixed with salt is orally given to ease childbirth.

Ricinus communis Linn. (Havandae) [Euphorbiaceae]

An evergreen shrub with pink flowers, common.

The seed oil is a powerful laxative. It is also used externally on the forehead to cure headache.

Rhodomyrtus tomentosa Wight. [Myrtaceae]

A shrub or small tree with pink flowers, common.

The mature fruits are eaten for anti-diarrhoeal purposes.

Rosa leschenaultiana Linn. (Hehai) [Rosaceae]

A large climbing shrub with pink flowers, cultivated.

Flower petals are chewed during pregnancy for diuretic purposes.

Rubus ellipticus Linn. (Thippa mulli) [Rosaceae]

A prickly shrub with white flowers, common.

Mature fruits are eaten as haematonic and also useful for anti-ulcer purposes.

Rumex nepalensis Spreng. (Gongalae)
[Polygonaceae]

A tall stout annual or perennial herb, hermaphrodite, commonly cultivated. The root paste is used for wound healing purposes. The leaf paste is useful for treating gynecological ulcers.

Ruta chalepensis Linn. (Arothgidu)
[Rutaceae]

An aromatic woody sub shrub with yellow flowers, planted.

The fruits are worn as garlands to get relief from fever and headache (Magico religious belief). The leaf juice is taken orally to cure fever in children. The leaf extract is useful for correcting gastric discomfort.

Salvia officinalis Linn. (Aregidu)
[Lamiaceae]

An erect herb with lilac or white flowers, cultivated.

The fresh leaves are chewed on an empty stomach as anti-diabetic.

Santalum album Linn. (Santhana mora)
[Santalaceae]

A small tree with brownish purple flowers, rare.

The stem paste is applied externally to the body as a refrigerant.

Sechium edule Sw. (Marakkae)
[Cucurbitaceae]

It is a tuberous root climber with pale green or whitish flowers, common.

The fruits are eaten as a remedy for ulcer in the stomach.

Sida rhombifolia Linn. (Marigidu)
[Malvaceae]

An erect, woody herb or sub shrub with yellow flowers, common.

The leaf paste is applied to the swollen parts to reduce swellings.

Solanum nigrum Linn. (Gakkal soppu)
[Solanaceae]

An erect herb with white flowers, common.

The whole plant juice is given orally to check bleeding during piles and dysentery. The tender leaves with unripe fruits are eaten to cure mouth ulceration. The leaves are given to pregnant women as vegetable for restorative purposes.

Solanum sisymbriifolium Linn. (Kadu thamba)
[Solanaceae]

A low shrub with white or lilac flowers, common.

The dried leaf powder is useful for toothache and cough. The leaf paste is applied to wounded parts of the cattle to repel insects. The fruits are eaten to cure stomachache.

Solanum tuberosum Linn. (Ghanakae)
[Solanaceae]

An herb with white to bluish flowers, cultivated.

The juice of red potato variety is used for eye diseases and inflammation.

Sonchus arvensis Linn.
(Harikae) [Asteraceae]

A perennial herb with pale yellow flowers, common.

The white latex obtained from stem region is applied to burns for relieving painful conditions.

Spergula arvensis Linn. (Thunkana thadi) [Caryophyllaceae]

An annual herb with white flowers, commonly cultivated.

The plant paste is applied externally to mitigate shoulder and body pains.

Stephania japonica Miers. (Kodigidu) [Menispermaceae].

A slender twinning glabrous herb with greenish yellow flowers, common.

The root decoction is orally taken as a remedy for various dental problems.

Verbascum thapsus Linn. (Manaegidu) [Scrophulariaceae]

A stout erect herb with yellow flowers, common.

The dried leaves are smoked and inhaled for relieving severe cold and cough.

Vinca major Linn. (Gudigidu) [Apocynaceae].

An evergreen herb with blue flowers, common.

The leaf paste is given orally to women after delivery to check post-natal bleeding.

Zantedeschia aethiopica Linn. (Mathugidu) [Araceae]

A perennial rhizomatous herb with white flowers, common.

The leaf is warmed up with (q-s) groundnut oil and applied to get relief from inflammation.

Conclusion

Badagas constitute the largest non-tribal backward caste population

58

of Nilgiri hills in Tamilnadu, South India. They depend on ambient flora to a larger extent for their medicinal and other needs. An explorative ethno-medicobotanical survey conducted on them revealed many interesting time-honoured folk medical claims in regard to medicinal herbs. The data shown here indicate rich folk medical knowledge of Badaga group who is proficient in phytocures for various ailments, which are still popular with them.

A list of 71 plants belonging to 67 genera, 42 families and 70 species is set out here. Out of 71 plants surveyed, 3 plants are used by Badagas for Magico-religious purposes and 1 plant for ethno-veterinary purpose. The whole plant paste of *Ageratum conyzoides* (Asteraceae) is applied to cattle wounds for healing. The leaf juice of plant to the skin of cattle to get rid of ticks. The seed paste of *Datura metel* (Solanaceae) is applied to forehead of a person after incantations, which will ensure success (Badaga folk belief). The fruits of *Ficus religiosa* (Moraceae) are eaten which may promote fertility (Badaga folk belief). The fruits of *Ruta chalepensis* (Rutaceae) are worn in the neck in the form of a garland to get rid of fever and headache (Magico-religious belief). This survey records more number of wild species used by the Badagas for medicinal purposes creates a dual necessity for both cultivation and conservation of therapeutically useful plants.

With the advent of modern medicine, ethno medical usages of herbal drugs by the Badagas have become

apparently less in the present-day. A model for revitalization of indigenous knowledge, skills, and folk beliefs needs to be developed by networking Badaga populations living in different settlements of the Nilgiri district is to be designed on priority basis. Notwithstanding this fact, the onset of allopathic medicine has not been able to eradicate the time-honored folk herbal cures that are still in prevalence among them.

In conclusion, this work reveals many culture-based folk medical practices, which are still popular with them. It is

hoped that these ethno herbals offer good potential for future phyto-chemical and ethnopharmacological research.

Acknowledgements

The author is thankful to the Principal, Government Arts College, Udhamandalam for his encouragement and also for providing necessary facilities to carry out this work. He thanks all Badaga informants without whose co-operation and help the present study would not have been possible.

References

1. Anonymous, 1981 & 1991. **Census Reports**, Government of India, New Delhi.
2. Thurston, E. and K. Rangachari, 1909. **Castes and tribes of Southern India**. 7 Vols. The Superintendent, Government Press, Madras.
3. Raghunathan, K. 1976. **Tribal pockets of Nilgiris recordings of the field study of medicinal flora and health practices**. Central Council for Research in Indian Medicine and Homeopathy, Hyderabad.
4. Hockings, P. 1980. **Sex and disease in a mountain community**. Vikas publishing house Pvt., Ltd., New Delhi.
5. Hockings, P. 1989. **Blue Mountains: The Ethnography and Biogeography of a South Indian region**. Oxford University Press, New Delhi.
6. Ravi, R. 1995. **Ethnobotanical studies of Badagas in the Nilgiris**. M.Phil thesis, Bharathiyar University, Coimbatore (Unpublished).
7. Halan, J. 1997. **Pastoral Badagas of the Nilgiris - a case study**. Ph.D., thesis submitted to Bharathiyar University, Coimbatore (Unpublished).
8. Sashikumar, J. M.; Karthikeyani, T. P. & K. Janardhanan, 2001. Traditional Phytocure for Paralysis among the Badagas of the Nilgiris, Tamil Nadu. *Advances Pl. Sci.* 14 (1): 517-518.
9. Rajendran, S.M. and B.S. Aswal, 1999. Some flowering plants used as cosmetics among tribes of Nilgiris, Tamil Nadu, India. *J. Econ. Tax. Bot.* 23(2): 425 - 430.
10. Singh, K. S. (Ed.) 1994. **Peoples of India: National series Volumes**, Oxford University Press, New Delhi.
11. Gamble, J. S. and C. E. C. Fischer, 1950 (repr. ed.). **Flora of the presidency of Madras**, 3 Vols. Sri Gouranga Press, Calcutta.
12. Mathew, K. M. 1983. **The flora of the Tamil Nadu, Carnatic**, 3 Vols, The Rapinart Herbarium, St. Joseph College, Tiruchirappalli, Tamil Nadu.