Journal of Medicinal Plants Research Vol. 5(19), pp. 4709-4714, 23 September, 2011
Available online at http://www.academicjournals.org/JMPR
ISSN 1996-0875 ©2011 Academic Journals

Full Length Research Paper

Observations on some ethnomedicinal plants in Sathyamangalam forests of Erode district, Tamil Nadu, India

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Accepted 21 April, 2011

The present paper accentuate the valuable ethnomedicinal data of 65 plant species used by the tribes 'Irulas and Soligas' along with botanical name, vernacular name, family, part (s) used, mode of administration and diseases. Modern pharmaceutical industry requires such plants as human healthcare is gaining momentum day by day but the folk claims need to be cross-checked by carrying out detailed pharmacological studies.

Key words: Traditional knowledge, folk remedies, Irulas and Soligas, Tamil Nadu.

INTRODUCTION

Plants and plant products have augmented human culture from the beginning of life. Since ancient period the people are dependent on plants for their every basic necessaries that is, food, clothes, medicines and shelter (Watt, 1889). Some people realize that plants are an important part of our environment (Singh, 1993). The pragmatic botanical knowledge of plants and their uses by indigenous culture are not only valuable for conservation of cultural traditions, but also for community healthcare and augmentation in the present and future. The tribals have developed their own traditional ways of diagnosis and treatment of diseases by trial and error and fulfill their basic requirements in this regard from the nearby forest. As a consequence of this long experience and practice, it has become an effective way of accumulation of rich knowledge on medicinal plants and usage of other natural resources among them (Singh, 2002). Hence, the ethnomedicine is the mother of all modern drugs and recently the importance of the traditional knowledge based medicines are being utilized throughout the world.

Ethnobotanical studies assume great importance in enhancing our knowledge about the plants grown and used by native/ tribal communities, the rich diversity assembled by them for their sustenance and the different means adopted by them for its preservation and conservation. In India there are over 2500 plant species, having documented medicinal value, a majority of them growing in wild state, whereas only a few are cultivated (Jain, 1991).

In Tamil Nadu a significant ethnobotanical research has been done by several workers (Rajan et al., 2002; Ayyanar and Ignacimuthu, 2005; Udayan et al., 2005; Muthu et al., 2008; Ignacimuthu et al., 2006; 2008; Alegesaboopathi, 2009; Revathi and Parimelazhagan, 2010). However, the studies on the ethnomedicinal plants of Sathyamangalam Taluk (Erode district) are scantier. Therefore, an attempt has been made to collect the habitual data about plants used by tribals and rural peoples in traditional healthcare system.

MATERIALS AND METHODS

The present study was carried out during 2009 to 2010 to collect data on traditional uses of medicinal plants used in the preparation of crude herbal drugs by the tribal people living in Sathyamangalam Taluk of Erode district. It lies between 77° 15' 0" E longitude and 11° 31' 11" N latitude at the borders of Tamil Nadu and Karnataka regions. These forests harbour indigenous tribal people belonging largely to the Irulas and Soligas communities. The study is based on interviews with local peoples living in the region and entirely dependent on the plants occurring aroundthem. The informations were collected and documented with the help of a questionnaire containing questions on various utilities of plants especially the therapeutical uses, such as local and common name of the plant, economic importance, its utility by rural people, whether as vegetable or food or domestic purposes or for the treatment of

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Table 1. List of ethnomedicinal plants enumerated from the study.

Botanical Name	Family	Local name	Part (s) used	Medicinal uses
Abrus precatorius L.	Fabaceae	Kundumani	Leaves and seeds	Fresh leaves are chewed during mouth ulcer. Seeds are taken for 2 days for abortion.
Abutilon indicum (L.) Sweet	Malvaceae	Thuthi	Whole plant	Plant crushed with rice washed water is taken twice daily to cure dysentery.
Acalypha indica L.	Euphorbiaceae	Kuppaimeni	Leaves	Leaf extract is applied externally to cure poisonous bites.
Acacia farnesiana (L.) Willd.	Mimosaceae	Vedda vala	Stem bark	Stem bark paste is applied on swollen neck glands.
Achyranthes aspera L.	Amaranthaceae	Naayurivi	Seeds	Powdered seeds are taken with betel leaves to cure cough.
Aegle marmelos (L.) Corr.	Rutaceae	Vilvam	Fruit	Dried fruit is mixed with sugar is taken orally during fever and cold.
Allium cepa L.	Liliaceae	Venkayam	Bulb	Bulb extract mixed with Mentha leaves extract is taken to cure high blood pressure.
Aloe vera (L.) Burm. f.	Liliaceae	Kathalai	Leaves	Leaf paste with garlic is given to increase digestion.
Andrographis paniculata Nees.	Acanthaceae	Siriya nangai	Leaves	Decoction of leaves is taken to treat stomachache.
Anisomeles malabarica (L.) R. Br. *ex* Sims.	Lamiaceae	Peymarutti	Leaves	Leaves are boiled in steam and administered to get relief from rheumatic pain.
Azadirachta indica A. Juss.	Meliaceae	Vaembu	Stem bark	Stem bark decoction is taken orally for 3 weeks to treat rheumatism.
Barleria mysorensis Roth.	Acanthaceae	Chulli-mullu	Leaves	Leaf decoction is given for the treatment of cough.
Bauhinia racemosa Lam.	Caesalpiniaceae	Araivatta-atthi	Stem bark	Bark juice with honey is taken orally against leucorrhoea.
Boerhaavia diffusa L.	Nyctaginaceae	Mukurattai	Leaves	Leaf extract is used internally in the treatment of jaundice.
Borassus flabellifer L.	Arecaceae	Panai	Fruit	Fresh toddy is taken orally as cooling beverage.
Calotropis gigantea (L.) Dryand.	Asclepiadaceae	Erukku	Root and Leaf latex	Root paste and leaf latex is applied on the bitten area to treat scorpion and snake bites.
Cardiospermum halicacabum L.	Sapindaceae	Moodakkathan	Leaves	Fresh leaf juice is taken with palm sugar for the treatment of rheumatism.
Carica papaya L.	Caricaceae	Pappali	Fruits	Fruits are consumed once to cure constipation.
Cassia auriculata L.	Caesalpiniaceae	Aavaaram	Flowers	Powered flower is used to treat diabetes.
Cassia sophera L.	Caesalpiniaceae	Ponavarai	Leaves	Leaf is grinded with turmeric and the paste is used to heal wounds.
Cissus quadrangularis L.	Vitaceae	Pirandai	Stem	Tender shoot paste is consumed for the treatment of rheumatism.
Citrus medica L.	Rutaceae	Kaattu naarthai	Fruit	Fruit juice for common cold is also used applied on head for dandruff.

Table 1. Contd.

Cleome gynandra L.	Cleomaceae	Nallavelai	Fruits	Fruit paste is applied externally on forehead during intense headache.
Clitoria ternatea L.	Fabaceae	Sangu poo	Leaves	Leaf extract is given orally thrice to cure dysentery.
Coccinia indica Wight and Arn.	Cucurbitaceae	Kovai	Fruits	Fruit is consumed orally to control diabetes.
Cucumis sativus L.	Cucurbitaceae	Vellarikai	Fruit	Fruit pulp is applied on abdomen to cure urinary troubles.
Cynodon dactylon (L.) Pers.	Poaceae	Aarugam-pullu	Whole plant	Whole plant extract is taken orally in dysentery and nose bleeding.
Datura metel L.	Solanaceae	Oomathai	Leaves	Leaves soaked in boiling water are bandaged over the affected part to get relief from rheumatism.
Eclipta prostrata L.	Asteraceae	Karisilanganni	Stem and leaves	Stem and leaves boiled in coconut oil is applied on head for an hour before bath to reduce body heat.
Emblica officinalis Gaertn.	Euphorbiaceae	Nelli	Leaves and fruits	Leaves and fruits are useful in diabetes.
Enicostemma hyssopifolium (Willd.) Verd.	Gentianaceae	Vellarugu	Leaves	Leaf paste is used in the treatment of rheumatism and abdominal ulcers.
Evolvulus alsinoides L.	Convolvulaceae	Vishnukrandi	Leaves	Paste of leaf is applied to burn injuries.
Ficus bengalensis L.	Moraceae	Aal	Latex	Latex is given to children in fever and dullness.
Ficus racemosa L.	Moraceae	Atthi	Stem bark and fruit	Bark is pasted for skin diseases and poison bites. Fruit juice is taken for urine complaints.
Hemidesmus indicus R.Br.	Asclepiadaceae	Nannari	Whole plant and leaves	Decoction of whole plant is taken orally to cure fever. The fresh leaves are taken internally to cure stomachache.
Hibiscus rosa-sinensis L.	Malvaceae	Chemparuthi	Leaves and flower	Paste of leaf and flower is applied for hair growth.
Ipomoea obscura (L.) Ker- Gawl.	Convolvulaceae	Siruttalai	Latex	Fresh milky juice of the plant is useful in fresh cuts and wounds.
Jatropha curcus L.	Euphorbiaceae	Kattamanakku	Stem and latex	Fresh stem juice is given to cure toothache and plant latex is used to cure headache.
Justicia tranquebariensis L.	Acanthaceae	Thavasi murungai	Leaves	Leaf juice is given orally to treat jaundice and leaf paste is applied over affected area to treat skin diseases.
Lawsonia inermis L.	Lythraceae	Maruthani	Leaves	Leaf paste of dried leaves is applied externally as hair tonic.
Leucas aspera (Willd.) Link	Lamiaceae	Thumbai	Leaves	Fresh leaf juice mixed with turmeric powder is applied externally to cure throat infection.

Table 1. Contd.

Mentha spicata L.	Lamiaceae	Podina	Leaves	Leaf paste with extract of ginger and onion is taken during dehydration, vomiting and liver diseases.
Mimosa pudica L.	Mimosaceae	Thottal surungi	Leaves	Leaf extract is taken with black pepper powder and honey twice daily to cure diarrhoea.
Murraya koenigii (L.) Spreng.	Rutaceae	Karuvapillai	Leaves	Leaf extract mixed with honey is given to cure cough and worm infections.
Musa paradisiaca L.	Musaceae	Valai	Stem	Juice obtained from central trunk is taken orally to dissolve the kidney stones.
Ocimum sanctum L.	Lamiaceae	Thulasi	Leaves	Leaf paste is taken with black pepper to get relieve from cough, fever, cold and ear pain.
Pergularia daemia (Forsk.) Chiov.	Asclepiadaceae	Valli parutthi	Leaves	Fresh leaves are boiled with water and the vapour is inhaled to get relief from headache.
Phyllanthus amarus Schum. and Th.	Euphorbiaceae	Keelaa nelli	Whole plant	Plant extract is used to cure jaundice.
Psidium gujava L.	Myrtaceae	Koyya	Leaves	Tender leaves are chewed for relief from diarrhoea.
Punica granatum L.	Lythraceae	Maadulai	Shoots and fruits	Young buts, shoots and fruits are chewed for relief from dysentery.
Rauwolfia serpentina Benth. *ex* Kurz.	Apocynaceae	Sarpagaanthi	Leaves	Leaf juice is taken as soup for curing and controlling high blood pressure.
Ricinus communis L.	Euphorbiaceae	Kottaimuthu	Leaves	Leaf paste is applied on head to relieve headache.
Sesbania grandiflora (L.) Poir.	Fabaceae	Agathi keerai	Leaves	Cooked leaves are taken to get cooling effect to infected eyes.
Solanum nigrum L.	Solanaceae	Manathakkali	Leaves	Leaf juice is consumed to cure stomach ulcer.
Solanum surattense Burm.f.	Solanaceae	Kandankathiri	Fruits	Fresh or dried fruits are kept in fire and the smoke is inhaled through mouth once a week to treat toothache.
Solanum trilobatum L.	Solanaceae	Tuduvalai	Leaves	Leaf extract is consumed with milk to cure cold and cough.
Tephrosia purpurea (L.) Pers.	Fabaceae	Kolinji	Roots	Root paste made with water and ginger is given with honey to cure fever and vomiting.
Thespesia populnea (L.) Sol.	Malvaceae	Poovarasu	Leaves	Leaf decoction is taken as drink in case of severe body heat.
Trianthema portulacastrum L.	Aizoaceae	Saranai	Stem and root	Stem and roots are crushed and the extract is used in the treatment of rheumatism.

Table 1. Contd.

Tribulus terrestris L.	Zygophyllaceae	Nerungii	Leaves	Leaf juice is used for jaundice.
Tridax procumbens L.	Asteraceae	Kallipudu	Leaves	Leaf paste is applied on wounds.
Vitex negundo L.	Verbenaceae	Nochchi	Leaves	Fresh leaves are boiled with water and the vapour is inhaled twice a day to get relief from headache, fever, cold and cough.
Wrightia tinctoria R.Br.	Apocynaceae	Pallay maram	Stem bark	Paste of bark is used to treat various skin diseases.

human diseases/ animal, diseases, part(s) used, method of preparation of medicines and its application, dosage, duration, etc. The plants were collected and preserved as voucher specimens in the herbarium (Jain and Rao, 1976) after proper scientific identification (Gamble, 1915, 1936; Matthew, 1983) in the Botany Department of Bharathiar University (BUH), Coimbatore, Tamil Nadu.

RESULTS AND DISCUSSION

There is a wide range of medicinal plantstraditionally being used by ethnic groups and rural peoples of Sathyamangalam Taluk and their adjacent areas of Erode district. A total of 65 species of plants belonging to 60 genera and 32 families have been enumerated during the present study. Among them most commonly used medicinal plants namely: *Achyranthes aspera* L., *Aloe vera* (L.) Burm. f., *Andrographis paniculata* Nees., *Azadirachta indica* A. Juss., *Cissus quandrangularis* L., *Hemidesmus indicus* R.Br., *Ocimum sanctum* L., *Solanum trilobatum* L. and *Tridax procumbens* L. which plays an important role in the primary healthcare system of tribal communities such as: 'Irulas and Sholigas' residing in the forest regions. The data on botanical names, local names, families, parts used and medicinal uses are given in Table 1. The present study observed that people of both tribal and rural is mostly affected by different kinds of ailments such as asthma, jaundice, dysentery, cough, fever, stomach troubles, skin diseases, etc., these medicinal plants are utilized as whole or their parts in the form of paste, extract, powder and decoction. The information about herbal medicine is passed on from generation to generation through the word of mouth.

A. paniculata leaf decoction used to treat stomachache in the study area and the same use was also reported by Alegesaboopathi (2009). However, Kingston et al. (2009) reported that its leaf juice mixed with cow milk is taken orally to cure tinea crusis. *A. aspera* powdered seeds are used to cure cough. Kamalakannan and Balakrishnan (2009) suggested that decoction of whole plant/ root is given in asthma. *A. vera* leaf paste is given for indigestion. But at the same plant juice has been reported for jaundice, fever, rheumatism and piles (Alegesaboopathi, 2009). He also reported that bark decoction of *A. indica* is useful in liver tonic and the whole plant powder of *C. quandrangularis* taken orally with cow milk in asthma.

Leaf decoction of *T. procumbens* used to treat wounds whereas Karungal and Andrews (2010) reported that in addition to this, it is also used for treating improper blood circulation. *H. indicus* used in fever and stomachache, but Rajendran et al. (2008) reported that root powder of the same mixed with sugar solution in water taken orally as a cooling beverage. Similar use some of the plants reported for the treatment of various ailments from different parts of Tamil Nadu and other states have also been reported from the study. The people of the study area still have a strong belief in efficacy and success of herbal medicine. But it is also observed from the study that younger generations tend to discard their traditional life style and much of this wealth of knowledge is being lost as the traditional culture is disappearing. There is an urgent need to study and document the precious knowledge of ethnomedicinal practices and such information will go a long way in developing new drugs through future research. The therapeutic uses of plant species reported here having less information on their phytochemical study. So, further studies on chemical and pharmacological actions are suggested to validate and claims. The present data on the ethnomedicinal plants will help in developing strategies for the conservation, cultivation of traditional medicine and economic welfare of rural and tribal population.

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