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Ethnomedicinal plants used by the tribals of Vizianagaram district, Andhra Pradesh

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ABSTRACT

The tribal people have been using specific medicinal plants to cure specific ailments over centuries. Ethnomedicinal studies are often significant in revealing locally important plant species especially for the discovery of crude drugs. A large number of wild and cultivated plants are being used for the treatment of various ailments by these communities with the knowledge of medicinal plants. Vizianagaram is a newly formed North coastal district of Andhra Pradesh, which lies geographically between 17° 15' and 19° 15' of the Northern latitude and 83° 00' to 83° 45' of the Eastern longitude. The main tribal inhabitants of this district consist of Konda dora, Manne dora, Jatapu, Savara, Yerukula, Goudus and Mukadoras. The plants growing around them form an integral part of their culture. These and their medicine men and women have valuable information about properties and medicinal uses of plants. I this paper an attempt have been made to document 42 plant species belonging to 42 genera and 27 families being used traditionally by the tribals of Vizianagaram district.

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Key words : Ethnomedicinal Plants, Tribals, Vizianagaram, Andhra Pradesh

INTRODUCTION

Plant based medicines enjoy a respectable position today, especially in the developing countries. Indigenous remedies which are believed to be more effective, safe and inexpensive are gaining popularity among the people of both rural and urban areas. Information from ethnic groups or indigenous traditional medicine has played a vital role in the discovery of novel products from plants as chemotherapeutic agents (Katewa *et al.,* 2004). The system of folk medicine like that of modern system has its own way of diagnosis and treatment. Treatment is directly connected with the causation of disease. They are particularly interwoven with magic, religion and traditional social values (Hughes, 1968). The present study carried out on the ethnomedicine of Vizianagaram district is one such attempt to document the traditional knowledge of medicinal plants used by the tribals of this region. Vizianagaram is a newly formed north coastal district of Andhra Pradesh which lies between 17° 15' and 19° 15' of the Northern latitude and 83° 00' to 83° 45' of the Eastern longitude. The main tribals of this district consist of Gadabas, Jatapus, Savaras, Konda doras, Manne doras, Yerukulas,Goudus and Mukha doras. Earlier ethnobotanical work was done by Hemadri *et al.* (1987), Hemadri and Venugopalachary (1998) and Venkaiah (1998).

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MATERIALS AND METHODS

Field surveys were conducted during 2007-2009 for systematic recording of ethnomedicinal practices of Vizianagaram district. Routine methods of plant collection and herbarium techniques have been followed (Jain and Rao ,1977). Ethnomedicinal usages of plants were gathered from the village chief, medicine men, local men and women using semi structured questionnaires. Local names, plant parts used and mode of administration were recorded. After documentation, the treatment pattern of various

ailments were cross checked and identified with the help of local floras (Gamble and Fischer, 1915-1936; Venkaiah 2004) and were deposited in the Herbarium of Botany Department of Andhra University, Visakhapatnam.

RESULTS AND ISCUSSION

Plants with ethnomedicinal uses by the indigenous communities of Vizianagaram district revealed usage of about 42 plant species that are found to be distributed across 27 families and 42 genera. Among them were 14 herbs, 12 trees, 11 shrubs and 5 climbers, The most cited families are Apocynaceae, Caesalpiniaceae, Lamiaceae (3spp. each), followed by Arecaceae, Combretaceae, Fabaceae, Rutaceae, Sapindaceae, Solanaceae and Verbenaceae (2 spp. each). Information on plant species, local names, family and dosage of administration in their traditional methods for different ailments has been presented (Table-1). Root and leaf are the most widely used plant parts accounting for 18 plant species in a total of 42 reported plants followed by bark (9spp.), seed and

Table 1 : Some ethnomedicinal plants used by the tribals of Vizianagaram District

Scientific Name, Local name and Family	Habitat	Ailment	Mode of administration
Aegle marmelos(L.) Corr. Maredu, Rutaceae	Tree	Cholera	Two spoonfuls of the stem bark extract thrice a day for 3 days.
Amorphophallus paeniflius(Dennst.) Nicolson, Sirikanda, Araceae	Herb	Bone fracture	Three spoonfuls of corm paste mixed with a spoonful of lemon juice is applied on the affected part and bandaged.
Andrographis paniculata (Burm.f.) Nees, Nelavemu Acanthaceae	Herb	Asthma	Stem is mixed with the leaves of *Gymnema sylvestre* and *Justicia adathoda* ground infusion is given orally.
Anogeissus acuminate (DC.) Guill. Perr. Pachimanu, Combretaceae	Tree	Dysentery	Stem bark ground with *Pithecellobium dulce* and paste is made into pills. 3 pills are given thrice a day for 3 days.
Artocarpus heterophyllus Lam. Panasa, Moraceae	Tree	Tuberculosis	Edible part of the fruit is taken and kept in a mud pot is sealed with a jaggery in alternate layers, then the pot is sealed with a thick cloth and is kept in sunlight for 21 days, later on the entire material is pound into paste, it is administered orally for 3 weeks.
Azadiractha indica Juss. Vepachettu, Meliaceae	Tree	Chicken pox	Leaf paste mixed with turmeric is applied on the affected areas twice a day for 7 days.
Bauhinia vahlii Wt. &Arn. Addaku, Caesalpiniaceae	Climber	Syphilis	5 ml of root extract along with half cup of curd is administered twice a day for 3 days.
Bixa orellana L. Jabarukaya, Bixaceae	Tree	Fever	Root bark crushed with jaggery and the filtrate is administered two spoonfuls a day for 3 days.
Caesalpinia bonduc L. Gatchakaya, Caesalpiniaceae	Shrub	Abortion	Seeds ground with Sesamum indicum oil 3 ml of extract is administered twice a day for 2 days
Clitoria ternatea L. Shankupusham, Fabaceae	Climber	Diabetes	1 spoonful of flower juice is administered once a day for 30 days.
Costus speciosus (Koen.) Sm. Adavidumpa, Coastaceae	Herb	Abortion	10 g of rhizome paste is administered twice a day for 5 to 7 days.
		Chicken pox	Rhizome paste is applied on body for 5 days.
Cuscuta reflexa Roxb. Sithamma savaralu, Cuscutaceae	Herb	Epilepsy	One spoonful of decoction of the young plant with honey is administered once a day for 7 days.
Datura metal L. Tellaummetha, Solanaceae	Herb	Rheumatoid arthritis	Leaves and fruits are ground into paste and massaged over the affected area.
Dodoea viscose(L.) Jacq. Bandam, Sapindaceae	Shrub	Fits	2 drops of leaf juice put into nostrils thrice a day for 15 days.
Eclipta prostrata L. Guntagalagaraaku, Asteraceae	Herb	Hair fall	3 ml of leaf extract is given orally twice a day with cow milk for 3 months.
Euphorbia hirta L. Pachabottumokka, Euphorbiaceae	Herb	Leucorrhoea	Leaves are crushed and extract of the leaves is taken with honey once in the morning for 30 days.
Evolvulus alsynoides L. Vishnukrantha, Convolvulaceae	leaf	Jaundice	2 spoonfuls of leaf paste is mixed with onion buds paste and is administered twice a day for 7 days

Table 1 Contd…..

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Ficus racemosa L. *Medichettu, Moraceae*	Stem bark	Diarrhea	Stem bark crushed with Curcuma longa, 5 ml of the extract is given orally once a day for 7 days.
Gmelina asiatica L. *Chirugummadi, Verbenaceae*	Shrub	Leprosy	Root ground with the tuber of Maerua oblongifolia and made into paste. One spoonful of the paste is administered with water for 30 days.
Hollarrhena pubescens (Buch. Ham.) Wall. *Palakodisa, Apocynaceae*	Shrub	Stomachache	Roots crushed with Madhuca longifolia, Rauvolfia serpentina and Aristolochia indica paste is made into pills. 1 pill is given orally once a day for 3 days.
Hyptis suaveolens (L.) Poit.Seematulasi,Lamiaceae	Shrub	Ulcers	Seed paste is applied on the affected parts.
Jatropha gossypifolia L. *Seemanepalam, Euphorbiaceae*	Shrub	Bone fracture	Rot paste is plastered over the fracture areas.
Kalanchoe pinnata (Lam.) Pers. Gallarapaku, Crassulaceae	Herb	Boils	Leaves are slightly wormed and plastered over the affected parts.
Leonotis nepetiifolia (L.) R. Br. Ranaberi, Lamiaceae	Herb	Breast pain	Ash of inflorescence mixed with mustard oil and applied on breast for post natal breast pain.
Madhuca indica Gmel. *Ippa, Sapotaceae*	Tree	Asthma	5 flowers are boiled in a glass of water until it is reduced to half and is administered orally once a day for 5 to 10 days.
Mimosa pudica L. Attipatti, Mimosaceae	Herb	Malaria	5 ml of leaf extract is administered twice a day for 7 days.
Mucuna pruriens (L.) DC. *Duradagondi, Fabaceae*	Climber	Dysmenorrh -oea	Rots are ground to paste along with roots of Azadiractha indica, stem barks of Chloroxylon swietenia and Holoptelia integrifolia. The paste along with cow milk is administered 1 spoonful per day for 5 days.
Naravelia zeylanica (L.) DC. Pulla batchala, Ranunculaceae	Climber	Toothache	Stem is used to cure toothache.
Ocimum tenuiflorum L. *Kukkatulasi, Lamiaceae*	Shrub	Gastric problems	One spoonful of leaf juice mixed with a little camphor and administered orally twice a day for 5 days.
Pedalium murex L. *Enugupalleru, Martyniaceae*	Herb	Gonorrhea	The plant is ground into paste and mixed in water and filtered. The filtrate is administered with sugar, 2 spoonfuls twice a day for 15 days
Phoenix sylvestris (L.) Roxb. Eethachettu, Arecaceae	Shrub	Asthma	Root tuber is pounded with Momordia dioica and Coccinia grandis and the paste of one spoonful is given once in a day.
Rauvolfia tetraphylla L. *Papataku, Apocynaceae*	Shrub	Blood pressure	6 ml decoction of root bark is administered once a day for 7 days.
Saraca asoca (Roxb.) de Wilde Ashoka, Caesalpiniaceae	Tree	Irregular menstruation	5 ml of dried bark extract is administered once a day for 7 days.
Schleichera oleosa (Lour) Oken. Bushichettu, Sapindaceae	Tree	Snakebite	Root bark paste is applied over the bitten spot.
Shorea robusta Gaertn.f. *Guggilam, Dipterocarpaceae*	Tree	Amoebic dysentery	One spoonful of gum resin is taken into a cup of curd and administered twice a day for 3 days.
Solanum surattense Burm.f. *Verrumulaka, Solanaceae*	Shrub	Toothache	Seeds are powdered and mixed with turmeric powder and is applied over gums and in between the teeth.
Terminalia arjuna (DC.) Wt. and Arn. Tellamaddi, Combretaceae	Tree	Diabetes	One spoonful of stem bark decoction is administered with a pinch of sugar twice a day for 21 days.
Toddalia asiatica (L.) Lam. *Kondakasintha, Rutaceae*	Climber	Anemia	Roots pound with the roots of Murraya paniculata, one spoonful of the paste is given with ghee for 7 days.
Tribulus terrestris L. *Palleru, Zygophyllaceae*	Herb	Urinary problems	Whole plant is powdered and the powder is dissolved in water of about 50 ml after some time it is filtered, 15 ml filtrate is administered thrice a day for 3 days.
Urena lobeta L. Nallabenda *Malvaceae*	Herb	Anthelmintic	One spoonful of root extract is administered twice a day for 3 days
Vitex negundo L. Vavili *Verbenaceae*	Shrub	Headache	Leaves are made into paste and the paste is applied over the head.
Wrightia tinctoria R. Br. *Ankudu, Apocynaceae*	Tree	Snakebite	Latex and bark fiber tide above the bitten spot.

flower (3spp. each). The whole plant parts of *Cuscuta reflexa*, *Pedalium murex* and *Tribulus terrestris* are found to have a medicinal value. 42 medicinal plants have been reported to have their medicinal value in curing about 34 different types of ailments; of which 3 plant species are used for the treatment of asthma and 2 plant species each for curing chickenpox, bone fracture, toothache, diabetes and for abortion; and one plant species each for treating dysentery, fever, cholera, anaemia etc.

Treatment of ailments involves both external application and internal consumption. Most of the herbal remedies were taken externally in the form of paste. The plant parts were crushed and made into paste for applications over the area of diseases. In some cases along with the plant parts a little amount of milk or ghee or honey was used. This addition might be to enhance the efficacy of herbal remedies or to make the remedy more palatable making the undesirable taste when taken orally. Methods of medicinal treatment used by knowledgeable elder tribal people and local herbal healers in Vizianagaram district were totally traditional, effective and acquired through their ancestors orally.

Local tribal Vaidyas used various plant species successfully to treat chronic human diseases and disorders. In present study they have used more than one plant species for treating diabetes and asthma. Stem of *Andrographis paniculata*, flower of *Madhuca indica* and root of *Phoenix sylvestris* were used for the treatment of asthma; for the treatment of diabetes, flower of *Clitoria ternatea* and stem bark of *Terminalia arjuna* were used. In most of the cases single vegetal species was used to cure a single ailment. For example, *Artocarpus heterophyllus* used to treat tuberculosis, likewise *Azadirachta indica* for chickenpox; *Bixa orellana* for fever; *Cuscuta reflexa* for epilepsy; *Datura metel* for rheumatoid arthritis; *Hyptis suaveolens* for ulcers; *Vitex negundo* for headache etc.

Some medicinal plant uses recorded in the study area were compared with available ethnobotanical literature. However, it may be noted that traditional use of the plants in the study area, stem bark of *Aegle marmelos* was used to cure cholera, where as in Karnataka (Shivanna and Rajakumari 2010), leaf extract of this plant was used for the treatment of cardiac problems; the stem of *Andrographis paniculata* was used to treat asthma; but in Banglaesh the whole plant was used for curing cold, cough and fever (Biswas *et al.,* 2010); likewise the leaves of *Mimosa pudica* was used for treating malaria, but in Kerala the whole plant was used to arrest bleeding over wounds (Udayan *et al.,* 2007). *Tribulus terrestris* was used for treating urinary problems; the same use was also reported from Gujarat (Punjani 2010); *Clitoria ternatea* was reported on study area for treating diabetes, same was also reported from Kotia hills (Chadra Babu *et al.,* 2010).

Conclusion:

The study highlights on the popularize ethnomedicine enjoys in the minds of the natives and stresses on the need of utilization of ethnomedicine as an alternate method of treatment along with modern medicine in the tribal areas. It is high time that these herbal species are scientifically evaluated and conserved for the well being of humankind. Hence, proper documentation and preservation of the tribal knowledge on medicinal plants have to be carried out.

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