



Ethno-Botanical uses of some Plants by Tribes in AP, India

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ABSTRACT

An ethno-medicinal survey of plants in Andhra Pradesh State by this researcher revealed that some less known medicinal plants have been used by the indigenous tribes. The valid scientific name, family, local name, habit and traditional formulation of 30 species belonging to 30 genera and 20 families are enumerated in the paper. The ethnic tribes of Andhra Pradesh are involved in using these medicinal plants. Traditional beliefs, concepts, knowledge and practices among them for preventing, lessening or curing of diseases are accessible till now. Still they depend upon such traditional healthcare and the need for immediate documentation of such knowledge and conservation of these valuable plants are emphasized to secure it for our future generation.

KEY WORDS

Medicinal plants, Traditional herbal practice, Ethnic Tribes, Andhra Pradesh, India.

Introduction:

Andhra Pradesh is India's eighth largest state located in the Bio-geographic zone of India. Andhra Pradesh lies between 12°41' and 19.07°N latitude and 77° and 84°40'E longitude, and is bordered by Telangana, Chhattisgarh, and Orissa in the north, the Bay of Bengal in the East, Tamil Nadu in the south and Karnataka in the west. It is also among the other states, which are situated on the country's coastal area and has got a coastline of around 974 km, which gives it the 2nd longest coastline in the nation [1]. The State is the eighth-largest state in India covering an area of 162,970 km² (62,920 sq mi) [2]. As per 2011 Census of India, the temperature generally ranges between 20°C and 40°C. At certain places the temperature is as high as 45°C in a summer day. The range of winter temperatures is generally from 13°C to 30°C. Andhra Pradesh Forest Department deals with protection, conservation and management of forests. The total forest cover of the state after the bifurcation is left with an area of 22,862 km² [3]. The forest in the state can be broadly divided into four major biotic provinces [4]. They are: Deccan Plateau, Central Plateau, Eastern Highland, East Coastal Plains. Eastern Ghats region is home to dense tropical

forests, while the vegetation becomes sparse as the Ghats give way to the Deccan Plateau, where shrub vegetation is more common. The vegetation found in the state is largely of dry deciduous types with a mixture of Teak, Terminalia, Dalbergia, Pterocarpus, Anogeissus, etc.

Tribal people are the eco-system people who live in harmony with Nature and maintain a close link between man and environment. In India, out of 18,864 (World Bank Report, 2004, 2007) species of higher plants, over 2000 species are documented and over 1,100 species are used in different systems of medicine. About 95% medicinal plants are obtained from wild sources and about 150 species have only commercial uses.

In Andhra Pradesh, 33 tribal communities are found, viz. Chenchu, Goudu, Konda Dhoras, Konda Kapus, Kondareddis, Sugalis, Lambadis, Valmik, Yenadis and Yerukulas etc., [5 & 6] are known to have migrated to this state from outside in the historical period as such they are regarded as the original settlers of Andhra Pradesh. Each community has their unique socio-cultural heritage, language, food habits although there are different dialect forms among the different communities. A rich diversity of both population and

flora in the state. Most of the tribal economies have been engaged in subsistence agriculture, piggery, fishery and hunting. With the passage of time, they have developed a great deal of knowledge on the use of plants and plant products in curing various ailments/diseases. They have a deep belief in their native folklore medicine for remedies and over generations have matured in the medicinal use of these type of plants. Acquired knowledge on native properties of plants against various diseases was transmitted from one generation to another only verbally. Due to the onslaught of technology and modernization, the traditional knowledge is vanishing rapidly day by day. There is scarcely a very little work done in the field of ethno-medico- botany of Andhra Pradesh though some workers have reported several medicinal plants and their utilization by the indigenous tribes. In this present study, an attempt has been made by this researcher to investigate and document less known herbal practices by the tribes and the various plants used by them.

Methodology:

Ethno-botanical exploration was undertaken particularly in the isolated tribal inhabitant hilly dense forest areas where they live along with their own customs and traditions. During the ethno- botanical survey particularly in the eastern districts several

herbalists, medicine-men and women of tribal communities were identified and visited several times to garner information on medicinal usage of plants. Such study was carried out by adopting the methodology of Jain [7]. Repeated periodical trips were undertaken to the different tribal hamlets to document the ethno-botanical information during 2015-2017. Details of information on the medicinal plants used, types of medication, disease treated, and mode of treatment were collected and recorded. Direct observation, causal interaction and structured interviews were adapted to collect authentic information from those herbal practitioners. Plants were identified by using various Floras [5, 10-12]. The data collected in the field were formatted and preserved carefully. Herbarium specimens were prepared following conventional methods of Jain [7] and deposited in the Botany Department, Dravidian University, Kuppam, Andhra Pradesh, India.

Enumeration

The medicinal plant species are enumerated alphabetically, with their botanical name, family, vernacular names, followed by availability status, parts used, ailments, dosage and mode of administration are tabulated in Table 1.

Table-1: List of Identified Ethno-Medicinal Plants of Andhra Pradesh

SN o	Botani- cal Name	Family	Vernacular Name (Telugu)	Availability	Part Used	Ailments	Mode of Administration.
1	<i>Aloe vera</i> Linn.	Zingibe- raceae	Kalabanda	Rarely cultivated	Leaf Juice and Roots	Leprosy, Piles and Liver Ailments Bronchitis, Rheumatic Pain, Asthma, Obesity and Nervine Tonic	Leaf juice with some amount of sugar. Rhizomes are boiled in water and reduced to half and a small dosage of salt is added
2	<i>Alpinia galangal</i> (Rosc)	Zingibe- raceae	Dumpara- stramu	Occasio-nally cultivated	Rhizome	Muscular Joint Pains	Rhizomes and petiole are used as a vegetable.
3	<i>Amorpho phallus dubius</i> (Roxb.)	Araceae	-----	Wild	Rhizome and Petiole	Anti- pyretic, Anti-	Equal amount of leaf mixed
4	<i>Androgra phis</i>	Acantha- ceae	Nelavemu	Wild / rarely cultivated	Whole Plant		

	<i>paniculata</i> Linn.					Inflammatory, Chronic Fevers and Leprosy etc. Urinary Diseases, Hypertension, Cardiac Debility Laxative, Gonorrhoea and Sleeplessness Anti-periodic and Misquito Repellent	with turmeric powder.
5	<i>Asparagus recemosus</i> Willd	Liliaceae	Satamuli / Satavari	Cultivated / wild	Tuberous Roots		Roots decoction with equal amount of milk.
6	<i>Basella alba</i> Linn.	Basellaceae	Bachali	Garden plant	Leaves and Stems		Leaves are used as a vegetable.
7	<i>Bixa orellana</i> Linn.	Bixaceae	Jaffra Chettu	Cultivated	Roots, Bark and Seeds		Seeds are used as a natural edible dye.
8	<i>Boerhavia diffusa</i> Linn.	Nyctaginaceae	Atikamamidi	Wild	Whole Plant	Anti – Inflammatory, Anaemia	Leaves are used as vegetable and root decoction is used orally.
9	<i>Butea monosperma</i> Linn.	Fabaceae	Moduga	Wild	Bark, flowers and Gum	Snake Bites, Skin Diseases and Ring Worms	Flowers past used for skin diseases.
10	<i>Caesalpinia bonduc</i> Linn.	Caesalpinaceae	Gaccakaya	Wild	Seeds / Nuts	Fever, Asthma, Glandular Swellings	Seeds paste with turmeric powder.
11	<i>Carissa carandas</i> Linn.	Apocynaceae	Wakkayalu	Wild	Fruits, Roots	Anthelmintic, Fevers and Vitamin - C	Fruits are used as vegetable and for preparing pickles.
12	<i>Cassia alata</i> Linn.	Caesalpinaceae	Metta Tamara	Wild / garden plant	Leaves and Flowers	Leprosy and Skin Diseases	Leaf extraction mixing with turmeric powder.
13	<i>Celosia argentea</i> Linn.	Amaranthaceae	Gunugu	Wild	Leaves	Tuberculosis and Skin Eruption Bone	Leaves are used as a vegetable.
14	<i>Cissus quadrangularis</i> Linn.	Vitaceae	Nalleru	Wild	Whole plant	Fractures and General Weakness	Equal amount of ginger with plant paste.
15	<i>Dodonaea viscosa</i> Linn	Sapindaceae	Bandheru	Wild	Leaves	Broken Bones and Wounds	Leaf extraction with hot water.

16	<i>Eclipta prostrata</i> Linn.	Asteraceae	Bhringaraj	Wild	Whole Plant	Hair Hygiene and Conjunctivitis	Leaf extraction mixing with coconut oil.
17	<i>Euphorbia hirta</i> Linn.	Euphorbiaceae	Reddivarinan abalu	Wild	Whole Plant	Cough, Asthma	Leaf extraction mixing with milk.
18	<i>Ficus ramosa</i> Linn.	Moraceae	Medi	Wild	Fruits and Latex	Skin Inflammation and Diabetes	Fruits are used as a vegetable.
19	<i>Gloriosa superba</i> Linn.	Liliaceae	Advinabhi	Wild	Tubers	Rheumatism and Skin Disorders	Root extraction or root decoction used as external application.
20	<i>Hemidesmus indicus</i> Linn.	Asclepiadaceae	Sugandipala	Wild	Roots	Blood Purifier and Cooling Agent	Roots used in juice preparation.
21	<i>Lawsonia inermis</i> Linn.	Lythraceae	Gorintaku	Garden plant / occasionally cultivated	Leaves	Anti – Inflammation and Hair Tonic	Leaf paste can be used as external application.
22	<i>Mimosa pudica</i> Linn.	Mimosaceae	Attipatti	Wild	Whole Plant	Piles, Whooping Cough	Plant extraction used as external application.
23	<i>Moringa olerifera</i> Lam.	Moringaceae	Mulaga	Garden plant	Leaves and Fruits	Dimness Of Eyes, Inflammatory and Swellings	Leaves and fruits are used as vegetables.
24	<i>Mussaenda frondosa</i> Linn.	Rubiaceae	Nagavalli / Sribati	Wild	Whole Plant	Leucoderma and Wounds	Leaf extraction mixing with cow dung for external application.
26	<i>Phyllanthus acidus</i> Linn.	Euphorbiaceae	Rachavusiri	Cultivated	Fruits	Liver Problem, Blood Purification and Vitamin - C.	Fruits are taken either raw or dry.
25	<i>Phyllanthus amarus</i> (Schm&Thonn).	Euphorbiaceae	Nelavusiri	Wild	Whole Plant	Viral Hepatitis	Plant extraction with butter milk for one week.
27	<i>Ricinus communis</i> Linn.	Euphorbiaceae	Amudamu	Wild / occasionally cultivated	Seeds	Diuretic and Rheumatoid Arthritis	Seed oil used as external application.

28	<i>Sapindus trifoliatus</i> Linn.	Sapindaceae	Kunkudu	Wild	Fruits	Ear-ache and Shampoo	Fruit juice with warm water.
29	<i>Solanum nigrum</i> Linn.	Solanaceae	Kamanci	Wild	Whole Plant	Asthma and Bronchitis	Leaf used as a vegetable.
30	<i>Terminalia chebula</i> (Retz).	Combretaceae	Karakkaya	Wild	Fruits and Seeds	Vomiting and Diuretic	Fruit paste or seed powder use with hot water.

Some of the plants' pictures are furnished here under in Figures 1 through 14.

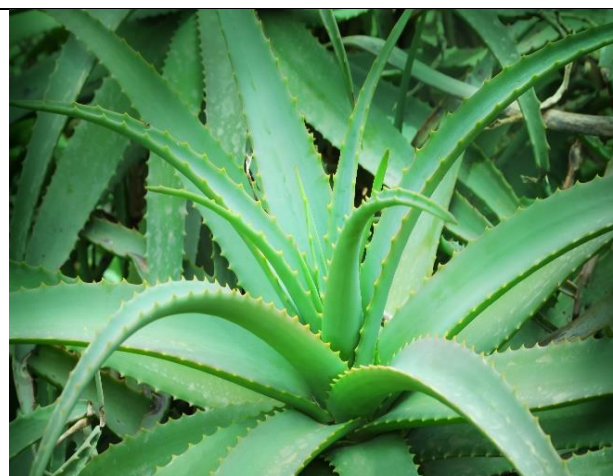


Fig-1. Aloe-Vera



Fig-2. Alpinia galangal



Fig-3. Amorphophallus



Fig-4. Andrographis_paniculata



Fig-5. Asparagus-racemosus



Fig-6. Basella_alba



Fig-7. Bixa-Orellana



Fig-8. Boerhavia



Butea_monosperma



Caeslpinia bonduc



Carissa



Dodonaea



Gloriosa



Terminalia_chebula

Results and Discussion

In the present investigation, 30 Angiosperms have been documented for folklore medicinal plants extensively used by tribes of Andhra Pradesh. Of these, 15 species are herbs, 10 woody trees and 5 species are shrubs and climbers respectively. Among these medicinal plants, 5 species are cultivated around the huts land whereas the rest are collected from the wild habit and habitat. The analysis of data reveals that stem and bark are used in 5 ailments; roots, rhizomes and tubers are used in 5 ailments; leaves are used in 10 ailments; whole plant is used in 7 diseases; fruits and seeds are used in 5 occasions and flowers, petioles, shoots and twigs are used in 5 ailments. High number of formulations are in complex mixture of two or more plant-parts together

with cow-dung and milk etc. Preservatives such as honey, sugar, jaggery, jowar, oils, ghee etc., are also used in several ailments. It is also noticed that similar formulation is used in the case of two or more different diseases. Some of the medicinal plant species are used as mentioned in this paper like *Semecarpus anacardium* in rheumatic pain, contraceptive and small pox cases, *Schefflera stellata* in skin infections [15], *Asparagus racemosus* in frigidity and sexual weakness and *Andrographis paniculata* Linn. in amenorrhoea, abnormal menstruation, fever, dysentery cases [8 – 12].

Conclusion:

The present survey concludes that the tribes of Andhra Pradesh have a detailed knowledge regarding ethno-

medicinal plants and their utilization in various simple to critical diseases. The promising ethno-medicinal plants of Andhra Pradesh are interesting and provide new medicinal plants for further ethno-pharmacological investigation on them. Such species may be utilized in the formation of new drugs after confirmation of their therapeutic efficacy on modern parameters. Recently there has been a spurt of revival of interest towards herbal drugs because of their efficacy against different ailments invites immediate attention towards herbal protection and conservation of such valuable medicinal plants and otherwise it will be too late to preserve the traditional knowledge. A few medicinal plants need immediate cultivation so that these could be source of revenue generation amongst the local people of this region.

The tribes living in the forests or in close vicinity of the forests are dependent upon herbal practices due to lack of communication and oversight from both sides, cost of allopathy and have deep faith upon their old treaties and traditions. The plant parts like roots, leafs, flowers, fruits, stem bark and seeds are used by tribes as a medicine and their knowledge of practice has perpetuated through generations. But now a day this flow of natural knowledge from elders to youngsters is interrupted as the younger generation is reluctant to learn about traditional medicinal practices and continuation. The younger generation often leaves their villages because of the profound socio-economic changes. Natural practices and knowledge regarding the sustainable harvest and utilization of plant resources as medicine should be further documented and preserved before they vanished into oblivion.

References:

1. "Andhra Pradesh Fact File" (PDF). AP State Portal. Retrieved 16 July 2014.
2. "AP Socio-economic Survey 2016-17" (PDF). Official website of Government of Andhra Pradesh. Government of Andhra Pradesh.
3. "Natural vegetation and wildlife". AP Forest Department. Archived from the original on 4 July 2014. Retrieved 6 June 2014.
4. "Forests in AP facts". AP Forest department. Archived from the original on 7 May 2015. Retrieved 6 June 2014.
5. "List of notified Scheduled Tribes" (PDF). Census India. p. 27. Archived from the original (PDF) on 7 November 2013. Retrieved 15 December 2013.
6. "List of notified Scheduled Tribes" (PDF). Census India. pp. 21–22. Archived from the original (PDF) on 7 November 2013. Retrieved 15 December 2013.
7. Jain SK, "Methods and Approaches in Ethnobotany", National Botanical Research Institute, Lucknow, 1989.
8. Padmarao P, Reddy PR, "A note on folk treatment of bone fractures in Ranga Reddy district, Andhra Pradesh", *Ethnobotany* 1999; 11:107-108.
9. Pullaiah T, Prasanna PV, Obulesu G, "Flora of Adilabad district, Andhra Pradesh", CBS Publishers & Distributors, 485, Jain Bhawan, Bhole Nath Nagar, Shahdara, Delhi-110 032 (India), 1992.
10. Rama KN, "Ethnobotanical Studies of Adilabad District, A.P. India" Ph.D. Thesis, Osmania University, 2013.
11. Rao PP, Reddy PR, "Ethnomedicinal survey on plant drugs for cattle from Ranga Reddy district, Andhra Pradesh", *Journal of the Swamy Botanical Club* 2000; 17:39-40.
12. D. Sriprya (2014), "Antimicrobial activity of *Cassia tora* Linn. (Leaf) against some Human Pathogenic microbes". *An International Quarterly Journal of Biology & Life Sciences*. June 2014. 2(3):747-752.
13. Sriprya D, Venkanna L and Estari Mamidala (2013), "Analgesic and Anti-Inflammatory Effects of *Ocimum americanum* (Linn) in laboratory animals", *International Journal of Scientific & Engineering Research*, Volume 4, Issue 6, June 2013: 2724-2727.
14. D. Sriprya (2013), "Preliminary phytochemical screening and antibacterial activity of *Vitex leucoxylon* (L.) (Leaf) against various bacterial species", *An International Quarterly Journal of Biology & Life Sciences*. 2013:1(1), March 1 (1):5-10. 2013.
15. M. Estari and D. Sriprya (2012), "Antibacterial and phytochemical properties of *Schefflera stellata* (G.) Leaf extracts against various bacterial species", *Bulletin of Pure & Applied Sciences*. Volume 31A (Zoology), Issue (No.2), 2012: 65-71.

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