

ETHNOMEDICINAL PLANTS USED FOR DIARRHOEA

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SUMMARY

Paderu division of Visakhapatnam district is at a higher altitude zone in the hilly tracts of Eastern Ghats of Andhra Pradesh comprising the second highest tribal population in Andhra Pradesh state. It lies in between latitudes of 17° 51' and 18° – 35' North and longitude of 82°-17' and 83°-1' East consisting a total area of 3, 24,965 ha. The tribal population of Andhra Pradesh is 41.99 lakhs which is 6.3% of the total population. There are 33 tribal groups in Andhra Pradesh. Of these, 13 tribal groups are habituating this agency area are, Bagata, Gadaba, Kammara, Konda Doras, Khondus, Kotia, Kulia, Malis, Manne Dora, Mukha Dora, Porja, Reddi Doras or Nooka Dora and Valmiki in Visakhapatnam District and whose population is 3, 58,447 according to the 1991 Census reports. All these 13 groups are present in this division. The present paper deals with about 26 plant species have been recorded which are potentially used by the Valmiki tribal group in this division. These 26 ethnobotanical plants are used to cure diarrhoea. Valmiki tribal people of this division largely depend on herbal medicines and the plants products for primary health care and their lives.

Key words: *Ethnobotanical plants, Uses, Paderu division, Visakhapatnam, A.P, India S.B. Padal et al. Ethnomedicinal Plants from Paderu Division of Visakhapatnam District, A.P, India. J Phytol 2/8 (2010) 70-91. *Corresponding Author, Email: pragada007@gmail.com: 0891 25 26 143 1.*

INTRODUCTION

The use of plants by man for medical and health purposes are as old as the human civilization itself. The term ethnobotany refers to the interrelationship between the primitive people and plants growing around them. The beginning of ethnobotanic enquiry can be traced back to Stephen powers used the term “Aboriginal Botany” which included the total primitive people or aboriginals dependence on plants for food, medicine etc. Ford (1) It assumed a new sense ever since Harshberger (2) gave a new purpose to it the study of plants used by primitive and “aboriginal people” He introduced the word “Ethnobotany” for the first time which has been derived from the word Ethic, which means classification of human beings into social and cultural groups, Singh (3) Modern anthropologists and ethnobotanists adopted this term to denote the cultural importance and significance of plants in the lives of people. Ford (1) including psychological importance and mythological reference. Robins et al. (4) defined the term ethnobotany as a “Study and evolution of the knowledge of all phases of plant life amongst primitive societies and of the effect of the vegetal environment

upon the human life, customs, beliefs and history of the people belonging to such societies. Kirtikar and Basu (5) used the term ethnobotany for the first time in India and stated that “The ancient Hindus should be given the credit of cultivating what is now called ethnobotany.” In Vedic period the curative properties of some herbs were documented in Rigveda. Schulters (6) stated that ethnobotany as the study of relationship between man and his ambient vegetation. Jones (7) defined ethnobotany as interrelations of primitive man and plants. Castetter (8) confined ethnobotany to man in primitive state of culture. Faulks (9) stated that ethnobotany as “the multitudinous connections direct or indirect between man and plants. Therefore, now a day’s ethnobotanical research is crucial amongst aboriginal Maheshwari, (10). people, Although different workers have documented the use of various medicinal plants from different parts of Andhra Pradesh Hemadri et al (11-12) Prayaga Murty et al., (13-14) detail information on ethnomedicinal plants is unavailable. Very little literature was available on herbal folk medicine of Paderu division. The present study carried out on the Paderu division is one such attempt to document the traditional knowledge of medicinal plants used by the Valmiki tribal people.

II. STUDY AREA

Paderu Division of Visakhapatnam District, Andhra Pradesh, is the higher altitude zone in the hilly tracts of Eastern Ghats of Andhra Pradesh. It has the second highest tribal population in Andhra Pradesh. It lies in between latitudes of 17° 50' and 18° – 35' north and longitude of 82° 17' and 83° 01' East with a total geographical area of 3, 24,965 Ha. Out of which the forest area under the control of the Division is 104811.91 Ha. The division comprises of a series of hills having an altitude ranging from 900 to 1680 mtrs above M.S.L. The area receives an average annual rainfall of 1800 mm and support a rich diversity of plant wealth. It includes three Forest Ranges i.e. 1. Araku Forest Range 2. Paderu Forest Range and 3. Pedabayalu Forest Range. The Paderu division harbours luxurious forest vegetation. The coffee and pepper plantations are in Ananthagiri, Araku, Dumbriguda, Paderu (Minumuluru), G. Madugula, and Munchingiputtumandals of this division. The famous Araku Valley” is located in this division, which is famous as the “Ooty of Andhra Pradesh” the tourist’s attractive centre for its natural beauty and environment. The entire Paderu forest division

comprises i.e. Ananthagiri, Araku Valley, Dumbriguda, G. Madugula, Chintapalli, G.K. Veedhi, Koyyuru, Hukumpeta,

Munchingiputtu, Paderu and Pedabayalu. Based on Champion’ and Seth (15) classification, the forests in the Paderu Division can be divided into the following types. 1. Southern tropical semi-evergreen forests, 2. Southern tropical moist deciduous forests, 3. Southern tropical dry deciduous forests, 4. Savannahs or hill top forest: Ethnology of the tribal people Generally the Paderu Division of Visakhapatnam district is with full of tribal population. The tribal communities live in forests, hilly tracts and naturally isolated areas from the civilized urban society. That’s why in nature they developed their cultures of their own. They depend up on the nature for their food, shelter, and livelihood, thus the vegetation has much influence on the tribal life. In this division the tribal people are present in almost all villages. The total population of scheduled tribes in India is 683.81 lakhs and constitutes 8.08% of the total population as per 1991 census report. The tribal

population of Andhra Pradesh is 41.99 lakhs which is 6.3% of the total population. There are 33 tribal groups in Andhra Pradesh. Of these, 13 tribal groups who inhabit this agency area are, Bagata, Gadaba, Kammara, Konda Doras, Khondus, Kotia, Kulia, Malis, Manne Dora, Mukha Dora, Porja, Reddi Doras or Nooka Dora and Valmiki in Visakhapatnam District and whose population is 3, 58,447 according to the 1991 Census reports. All these 13 groups are present in this division

III. MATERIALS AND METHODS

The various methods used for the study of ethnobotany of Paderu Division Visakhapatnam District, Andhra Pradesh, India, were essentially the same as described by Jain (16-18); Chadwick and Mars (19) and Martin (20). Study was undertaken during the period 2005-2009. It is the outcome of intensive field trips were made in the 102 interior tribal pockets of the forest areas. Village wise information was gathered about the plants, which have medicinal values from the Tribal / Viadyas/Guroos / Villagers who secured from their hereditary and ancestral line. Collecting information from them is not an easy task as they treat it will be an utmost secret, which was not even shared among their community members. While carrying out the fieldwork, help was taken from the traditional healers in the ethnomedicinal information, as they are familiar with the plants around them. Many enquiries were made on type of plants they use and their usage in their daily life for diarrhoea. Information about the uses of plants was obtained from the tribal doctors, elders and housewives. Tribal houses, fields, place of worships, gardens, and weekly markets were also visited. Communication with these people was made in Telugu and the local dialects of kodu, koya etc. Exploration trips were frequently made to all the representative localities of the study area by following the methods suggested by Jain (21). During these trips, voucher specimens of the representative taxa were collected and field numbers were given after making critical observation on the habit, habitat, ecological association, branching pattern, flower colour and fruits. Herbarium specimens have been prepared. The identifications were later confirmed with the help of Flora of Presidency of Madras Gamble (22) Flora of Andhra Pradesh, Pullaiah and Chennaiah (23), Pullaiah and Ali Moulali, (24). and local floras like Srikakulam district Rolla S. Rao & Harasriramulu (25) Vizianagaram district, Venkaiah (26), Visakhapatnam district, G.V Subba Rao (27), East Godavari District, Rolla S. Rao et al (28), West Godavari district, Rolla S. Rao et al (29) Krishna district, Venkanna, et al (30), Guntur district, Ramakrishnaiah (31) North Coastal districts, Prayaga Murty (32).

IV. RESULTS

In the present work "Studies on Ethnobotany of Paderu Division" about 26 plant species of belong to families have been recorded which are potentially used by the Valmiki tribal group in Paderu division. Represent the species, genus and families of the ethnobotanical plants. Angiosperms consists dicotyledons and monocotyledons. Based on the morphological classification habitwise herbs, shrubs, trees, stragglers and climbers. Taxa-wise classification of ethnobotanical plant. Habit-wise classification of ethnobotanical plants In the present work a total dominant families of ethnobotanical plants from paderu division based on the part



used for ethnobotanical purpose these 26 Plants are classified in to roots / tubers / rhizomes / bulbs / stems / stem bark / leaves / flowers / fruits / seeds / latex or gums and whole plant. Roots / Rhizomes / tubers / bulbs / stem plants , leaves, barks , whole plant, seeds, flowers, fruits and latex or gum-In this the root/ rhizome constitutes the highest percentage of utilization followed by leaves, stem and root bark , whole plant seeds, fruits, flowers and latex or gums. Percentage wise plant parts used by tribal people .26 ethnobotanical plants, 426 plants are used for ethnomedicine to cure diarrhoea

V. DIARRHOEA

Aegle marmelos (L.) Correa. *Alternanthera sessilis* (L.) R. Br. *Azadirachta indica* A. Juss. *Bauhinia racemosa* Lam. *Boswellia serrata* Roxb. *Canavali gladiata* (Jacq.) DC. *Cassia sophera* L. *Cassia occidentalis* L. *Catharanthus roseus* L. *Cyatheagigantea* Wall. *Embeliaribes* Burm. *Emilia sonchifolia* DC. *Gymnema sylvestre* (Retz.) R. Br. ex Roem. & Schult. *Kyllingmelanosperma* Whight. *Nelumbo nucifera* Gaerth. *Ocimum basilicum* L. *Oroxylum indicum* (L.) Vent: *Ougeinia oojenensis* Roxb. *Pterocarpus marsupium* Roxb. *Rivea hypocrateriforimis* (Desr.) Choisy *Rostellaria diffusa* Willd. *Scindapsus officinalis* Roxb. *Sida cordata* (Burm.f.) Borssum. *Soymida febrifuga* (Roxb.) A. Juss. *Tylophora indica* (Burm. t.) Merr. *Woodfordia fruticosa* (L.) Kurz. Fruit pulp Plant Bark Root bark Bark Root Root Plant Plant Rhizome Root Root Leaves Leaves Plant Seeds Root bark Bark Gum Plant Plant Inflorescence Plant Flower Root Bark

VI. DISCUSSION AND CONCLUSION

The Anthropological studies on south Indian tribes have been carried out since the beginning of the 20th century [Thurston, (33) Ragavaiah, (34)] Janakiammal, (35) worked on ethnobotany and stressed the importance of ethnobotany and need for seeking the help of the aboriginals or tribes in the tribal regions of Assam, Himalayas, Andaman and Nicobar islands and Western Ghats for ethnobotanical findings. 1963 onwards, S.K Jain studied about the tribal and folklore medicine in Northern India. The earlier workers showed much interest on the plants used for food and culture than the plants used for medicines. In recent years many attempts were made to study the medicinal plants used by various aboriginal tribes and other people in India, particularly in Western Ghats and Eastern Ghats. So many research institutes and universities showed much interest in studying the Ethnobotany in the Eastern Ghats. Visakhapatnam is one of the rich districts of Andhra Pradesh with good forests and rich biodiversity. Visakhapatnam district is situated on the East Coast of India. Paderu Division is the biggest forest division of Visakhapatnam known as Agency area, situated in the hilly tracts of Eastern Ghats of India. In Paderu division of several remedies or therapies are made in combination with different plants. Sometimes the recipes are made of 2 to 3 different plant species. Some ingredients such as mustard seeds, black pepper, seeds of cumin, caraway and sesamum oil are used in the preparation of recipes. Some medicinal plants are used for more than one human ailment, for example *Coccinia grandis* is used for snake bite, and other ailments like asthma, paralysis and gastric problems. It also reveals that the same parts of the same plants are used by different tribals of different



regions. For example *Gymnemasylvestre* in combination with some other plants is used to cure diabetes by the tribals of Paderu division. The same plants are used for diabetes in West Godavari district [Kalpana (36)] in Chittore district [(Madhavachetty& Rao (37)] Prakasam district [Vijayakumar&Pullaiah (38)] and Vizianagaram district [Lakshmi (39)]. The roots of *Aristolochiaindica* are used in combination with other parts of plants for the treatment of snake bite, scorpion bite and for toothache in Paderu division, Visakhapatnam district. Others reported the same uses in West Godavari district [Kalpana (36)] Vizianagaram district [Lakshmi (39)] and in Mahaboobnagar district [Dharmachandra Kumar and Pullaiah (40)] The same plant species in different forms is used for various ailments in different regions for example *Andrographispaniculata* plant decoction is used for fever and leaves is used for diabetes by the tribals of Paderu division (Visakhapatnam district) and plant decoction used for fever in Vizianagaram district. The roots of *Andrographispaniculata* in combination with other plant is used for snake bite in West Godavari districts [Kalpana (36).] In the same way the roots of *Abrusprecatorius* used for joint pains by the tribals of West Godavari district. [Kalpana (36).] Where as, the root powder is used as antidote for snake bite in Vizianagaram district [Lakshmi (39)] The grain of the same plant is used for family planning in Paderu division and more than 3 seeds are used for suicide in Paderu division. One plant species is used in curing different ailments in different areas. The whole plant of *Tinosporacordifoliai* s used for stomachache and fever and fruits with honey, in rheumatic pains and stem decoction for rheumatic pains in Paderu division. The whole plant is used for fever in Chittore district also. The roots are used for snake bite in Paderu as well as in West Godavari [Kalpana (36).] The whole plant is used for leprosy in Ananthapur district [Reddy et. al (41)] where as aerial roots are used in Paderu division. The root paste of *Plumbagozeylanica* with pepper is used for fits in Paderu but in West Godavari district ([Kalpana (36).] it is used for fits and for skin diseases. In some regions, various parts of the same plant are used to cure the same ailments. For example the roots of *Helicteresisora* are used in Paderu division and seeds of the same plant are used by chenchus for snake bite in Nallamalias [Hemambara Reddy et.al 42)] Attempts have been made in the present study to list out various plant resources and their utilization in the Paderu division. The basic data provided here can be utilized for further studies on conservation and cultivation of plant species and for the development of traditional medicine and economic welfare of tribal people of these divisions by different Governmental or Non- Governmental organizations in the state. The information gathered from the tribal people whom reveals cheap crude drugs obtained from plant sources still plays an important role in the interior forest areas for curing various ailments. The therapeutic efficiency of the plants as claimed by the tribal people has to be conformed by scientific scrutiny like phytochemical analysis and drug trial testing. Phytochemical and pharmacological studies of above said plants need to be taken up to find out the exact ingredients that help in the different ailments.

Acknowledgement:-The authors are thankful to the Forest officials, tribal doctors and local tribal people of Andhra Pradesh for their help during my field trips.

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