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RESEARCH ARTICLE

ETHNOBOTANICAL USES OF CERTAIN PLANT SPECIES FROM MAKKUVA MANDAL, VIZIANAGARAM DISTRICT, ANDHRA PRADESH

***Srinivasa Rao, D., Bhaskara Rao, M., Prayaga Murty, P. and Venkaiah M.**

Department of Botany, Andhra University, Visakhapatnam-530003, Andhra Pradesh, India

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ABSTRACT

The paper provides information on 158 species of ethno botanical plants belonging to 68 genera of 54 families of Angiosperms and one pteridophyte used by the primitive and aboriginal people of Makkuva mandal, Vizianagaram district, Andhra Pradesh. The tribal people of Makkuva Mandal largely depend on herbal medicines, plants products for primary health care and their daily life.

Key words:

Ethnobotanical Plant species,
Makkuva Mandal, Vizianagaram District,
Andhra Pradesh.

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INTRODUCTION

India is rich in ethnobotanical information. The 500 tribal communities, belongs to 227 ethnic groups are involved perhaps the richest heritage India. Diversity of flora in India richly contributes to plant medicine. Ethno medicine deals with the direct relationship of plants with man. Large number of wild plants is used by them for treatment of various ailments and diseases. In India about 70 % of the rural folk depend on medicinal plants for their health care. The third world nation of Asia is rich in biodiversity and the indigenous knowledge particularly by traditional ethno medicinal practices. So many workers have documented the uses of ethno medicinal plants from different parts of Andhra Pradesh (Prayagamurty et al., 2012), (Rajagopalreddy et al., 2011), (Padal et al., 2010) and (Prayagamurty et al., 2009). Ethno botany is the study of plants which are traditionally used by human societies or aboriginal groups or various tribal people who are residing in interior or remote areas of the hilly tracts. These people use the plants for their medicine, food, shelter, agriculture implements beside other purposes. Tribals like Jatapus, savaras and Gadaba are residing in the hilly tracts area and interior forest areas of Makkuva mandal are using various plants species in their daily life for food, various ailments and other purposes. Many workers like (Venkaiah 1980, 1998), (Venkaiah and Prayaga Murthy 2007), (Laxmi 2000), (Prayaga Murty 2009) (Padal et al., 2013) have been worked out on

the medicinal plants of Vizianagaram district so for nobody can work out in details of ethnobotanical studies of Makkuva mandal. So the present investigations on the ethnobotanical studies of Makkuva Mandal have been taken up for the first time by the authors.

MATERIALS AND METHODS

The methodologies and approaches for this ethnobotanical work were followed as suggested by (Jones 1941) (Schultes 1960-62), (Jain 1964-67), (Croom 1983). (Cotton 1996) and an intensive field work was undertaken in the selected habitations of Makkuva mandal of Vizianagaram district. The exploration of the area under study includes the planned field trips to the various places for plant collection. The study was carryout at during the period of 2007- 2008. Several fieldtrips have been made to cover the interior villages of Makkuva Mandal. The area was approached by a number of conveyances like, Jeep, bus, car and bikes followed by foot for the interior and forest tracts. oral interviews with tribal doctors, priests, women and workers and the information was recorded. Some specific questions were asked and the information given by the tribals was written in the field books. The data was verified with other tribal people of different villages showing the sample plant specimens and the information given by the previous tribal people. The experienced tribal doctors were taken in to the field and collected vouchers plant specimens and the use of these plants were recorded. Information on plants used by the tribals for medicine, food construction of huts, preparation of

*Corresponding author: Srinivasa Rao, D. Department of Botany, Andhra University, Visakhapatnam-530003, Andhra Pradesh, India.

intoxicating drinks (alcoholic drinks), fibres and magic-religious beliefs with local names were collected.

RESULTS AND DISCUSSION

The study includes 158 species representing 68 genera of 54 families of Angiosperms and one species of Pteridophyte from Makkuva mandal. Out of these 158 species 124 are dicots, 33 are monocots and one is pteridophyte. In these ethnobotanical plants 49 are herbs, 30 are shrubs, 54 are trees and 25 are climbers. All the 158 species are used by the tribal people in various purposes i.e. 112 species are various ailments, 16 species are food, 16 species are wood, 9 species are economic and 5 plants are dyeing purposes. The tribal people use a wide range of herbal medicines for curing various ailments like malaria, palaria, jaundice, hydrocele, leprosy, leucoderma, paralysis, piles, menstrual disorders, stomach pain, tuberculosis, urinary problems, venereal diseases and etc (Table-I).

13 plant were used in ethno veterinary practices such as bone fracture, skin diseases, foot-mouth, ulcers and wounds (Table-II), another 6 plant species were noted as fodder, 7 plant species for Agricultural implements, 4 plant species for Mosquito repellants and 3 plant species for toddy. (Table-III). There is an urgent need to document this information on ethno veterinary practices from the tribal areas as the modern veterinary practices are not enough to meet the needs of cattle population which is suffering with lack of medicinal care. Urbanization and other development activities and podu cultivation by some tribal communities cause lot of damage to the forest areas and to the ethnobotanical knowledge. Therefore it is the urgent need to protect the forest and as well as ethnobotanical knowledge. Both the Government and non-Government organizations should take necessary steps to conserve these ethnobotanical plants and the ecosystems in which they are present by introducing *in-situ* as well as *ex-situ* conservational measures in Makkuva mandal. It is also suggested that an ethnobotanical garden with all these ethnobotanical species should be maintained in the mandal head quarters as an experimental garden.

Table 1. The plant species used for various diseases

S.No	Disease	Name of the plant	Useful part
1	Abortifacients	<i>Bambusa arundinacea</i> (Retz.) Willd	Leaf
		<i>Dendrocalamus strictus</i> (Roxb.) Nees	Leaf
		<i>Gloriosa superba</i> L.	Tuber
		<i>Plumbago zeylanica</i> L.	Root
		<i>Viscum articulatum</i> Burm. f	Stem and haustoria
2	Anti-helminthics	<i>Azadirachta indica</i> A. Juss	Leaf and fruit
		<i>Entada pursaetha</i> DC.	Cotyledons
		<i>Erythrina variegata</i> L.	Leaf
		<i>Phyllanthus amarus</i> Schum & Thonn.	Leaf
		<i>Strychnos nux-vomica</i> L.	Fruit
3	Anti-dotes	<i>Alangium salvifolium</i> L.	Root & Bark
		<i>Abrus precatorius</i> L.	Seed
		<i>Aristolochia indica</i> L.	Entire plant
		<i>Pouzolzia zeylanica</i> (L.) Benn.	Tuber
		<i>Strychnos nux-vomica</i> L.	Root
		<i>Strychnos potatorum</i> L.	Seed
		<i>Tinospora cordifolia</i> (Willd.) Hook. f & Thomos	Tuber/Aerial root
4	Anti-diabetes	<i>Andrographis paniculata</i> (Burm.f.) Nees	Leaf
		<i>Ficus racemosa</i> L.	Root/latex
		<i>Gymnema sylvestre</i> (Retz.) R.Br.ex Schultes	Root and leaf
		<i>Syzygium cumini</i> (L.) Skeels	Stem bark/seed
		<i>Tinospora cordifolia</i> (Willd.)	Aerial root
		<i>Aegle marmelos</i> (L.) Correa	Stem bark
5	Anti-diarhoea/dysentery	<i>Canthium parviflorum</i> Lam	Root bark
		<i>Murraya koenigii</i> (L.) Spreng	Leaf
		<i>Streblus asper</i> Lour.	Latex
		<i>Datura metal</i> L.	Leaf
		<i>Justicia adhatoda</i> L.	Root
7	Blood pressure	<i>Aristolochia indica</i> L.	Leaf
		<i>Strychnos nux-vomica</i> L.	Entire plant
8	Bone fractures	<i>Cissus quadrangularis</i> L.	Stem
		<i>Phyllanthus emblica</i> L.	Stem galls
		<i>Ziziphus oenoplia</i> (L.) Mill.	Leaf
9	Burns and cuts	<i>Anacardium occidentale</i> L.	Seed coat
		<i>Borassus flabellifer</i> L.	Cottony outgrowths of leaves
		<i>Cassia auriculata</i> L.	Leaf
		<i>Ficus glomerata</i> Roxb.	Bark latex
		<i>Jatropha curcas</i> L.	Stem bark and latex
		<i>Maringa oleifera</i>	Leaves
10	Chicken-Pox	<i>Mangifera indica</i> L.	Gum
		<i>Azadirachta indica</i> A. Juss	Leaf
		<i>Gloriosa superba</i> L.	Tuber
11	Cough/Woopin cough/Cold	<i>Acacia simuata</i> (Lour.) Merr.	Leaf
		<i>A. torta</i> (Roxb.) Craib	Stem sap
		<i>Datura metal</i> .	Leaf
		<i>Justicia adhatoda</i> L.	Root

Continue.....

		<i>Nyctanthes orbor-tristis</i> L.	Leaves and seeds
		<i>Ocimum basilicum</i> L.	Whole plant
		<i>Plumbago zeylanica</i> L.	Root
		<i>Zingiber officinale</i> Rosc.	Rhizomes
12	Dandruff/Hair Wash	<i>Annono squamosa</i> L.	Leaves
		<i>Anogeissus latifolia</i> (Roxb.Ex.DC.)	Wood ash
		<i>Momordica diolica</i> Roxb.ex. Willd	Tuber
		<i>Strychnos potatorum</i> L.	Seed
13	Dental care	<i>Achyranthes aspera</i> L.	Leaf/Stem
		<i>Jatropha acrcas</i> L.	Latex
		<i>J.gossypifolia</i> L.	Stem/latex
		<i>Terminilia chebula</i> Retz.	Fruits
14	Deliveries	<i>Madhuca longifolia</i> (Koenig)	Bark
		<i>Alangium salvifolium</i> L.	Bark
15	Fertility	<i>Pueraria tuberosa</i> (Roxb. Ex. Willd)	Tubers
		<i>Musa paradisiacal</i> L.	Rhizome
		<i>Pterocarpus marsupium</i> Roxb.	Stem bark
16	Fevers/Puerperal fevers	<i>Acacia torta</i> (Roxb.) Craib	Root bark
		<i>Cipadessa baccisfera</i> (Roth.) Miq.	Root
		<i>Eclipta prostrata</i> L.	Whole plant
		<i>Cyperus rotundus</i> L.	Tuber
		<i>Manilkara hexandra</i> (Roxb.)	Bark
		<i>Phaseolus trilobus</i> Ait.	Leaves
		<i>Andrographis paniculata</i> (Burm.F) Ness., I.C.	Leaf
		<i>Argemone mexicana</i> L.	Leaves/seeds
		<i>Cleome gynandra</i> L.	Root
		<i>Crotalaria retusa</i> L.	Leaf
17	Galactagogues	<i>Costus speciosus</i> (Koenig) Sm.	Rhizome
		<i>Curcuma pseudomontana</i> Graham	Tuber
		<i>Gymnema sylvestre</i> (Retz.) R. br.	Root
		<i>Hemidesmus indicus</i> (L.) R. Br.	Root
		<i>Madhuca longifolia</i> (Koen.) Macr.	Stem bark
18	Gastric and indigestion troubles	<i>Amaranthus spinosus</i> L.	Rhizome
		<i>Hemidesmus indicus</i> (L.) R.Br.	Root
19	Head-ache	<i>Anacardium occidentale</i> L.	Stem
		<i>Cissus quadrangularis</i> L.	Stem
20	Heal-cracks	<i>Anacardium occidentale</i> L.	Seed coat
21	Heart diseases	<i>Alpinia malaccensis</i> (Burm. F.) Rosc.	Leaf
		<i>Solanum surattense</i> Burm.f.	Entire plant
		<i>Terminalia arjuna</i> (Roxb.Ex. DC.) Wight and Arm	Stem bark
22	Jaundice	<i>Acalypha indica</i> L.	Leaf
		<i>Curcuma pseudomontana</i> Graham	Tuber
		<i>Cyperus rotundus</i> L.	Tuber
		<i>Eclipta prostrata</i> (L) L.	Leaf
		<i>Justicia adhatoda</i> L.	Stem bark
		<i>Phyllanthus amarus</i> Schum. & Thonn	Leaf and stem bark
23	Leprosy	<i>Acacia catechu</i> (L.f) Willd.	Stem bark
		<i>Dalbergia latifolia</i> Roxb.	Leaf and stem bark
24	Leucoderma	<i>Tinospora cordifolia</i> (Willd.) Miers ex. Hook	Tuber
25	Leucorrhea	<i>Curculigo orchioides</i> Gaertn.	Root
		<i>Cassia occidentalis</i> Linn.	Root
26	Malaria	<i>Argemone mexicana</i> L.	Root
		<i>Cipadessa baccifera</i> (Roth.) Miq.	Root
		<i>Plumbago zeylanica</i> L.	Root
27	Menstrual disorders	<i>Ficus bengalensis</i> L.	Root
28	Ophthalmic diseases	<i>Argemone mexicana</i> L.	Latex
		<i>Cassia auriculata</i> L.	Leaf
		<i>Phaseolus trilobus</i> Ait.	Leaf
		<i>Streblus asper</i> Lour.	Leaf
29	Paralysis	<i>Ficus religiosa</i> L.	Root and stem
30	Piles	<i>Manikara zapota</i> (L.)	Fruit
31	Purgatives	<i>Cassia fistula</i> L.	Fruit
		<i>Operculina turpethum</i> (L.)S	Root and stem bark
32	Rheumatic pains/sprains/arthritis	<i>Azima tetracantha</i> Lam.	Leaf and root
		<i>Calotropis gigantean</i> (L.) R. Br.	Leaves and latex
		<i>Elephantopus scaber</i> L.	Root
		<i>Jatropha curcas</i> L.	Stem bark
		<i>Madhuca longifolia</i> (Koen.) Macbr.	Seed oil
		<i>Ocimum tenuiflorum</i> L.	Leaf
33	Skin diseases	<i>Syzygium cuminii</i> (L.) skeels	Stem bark
		<i>Calotropis gigantean</i> (L.) R.Br.	Root
		<i>Tylophora indica</i> (Burm. F.) Merrill	Branches
34	Tooth-ach	<i>Achyranthes aspera</i> L.	Leaf
		<i>Albizia indica</i> L.	Seed
		<i>Aristolochia indica</i> L.	Entire plant
		<i>Terminalia chebula</i> Retz.	Fruit
		<i>Jatropha curcas</i> Linn.	Latex
		<i>J. gossypifolia</i> Linn.	Latex and Stem
35	Ulcers/wounds	<i>Centella asiatica</i> (L.) Urban	Entire plant
36	Urinary disorders	<i>Tectona grandis</i> L.f.	Seed

Table-II. Plants used for ethno veterinary practices

S.No	Name of the plant	Uses
1	<i>Abrus precatorius</i> L.	Roots used for ulcers and wounds.
2	<i>Azimatetracantha</i> Lam	Leaf and stem used as Foot & mouth diseases
3	<i>Carissa spinarum</i> L.	Roots used in wounds
4	<i>Chlorophytum arundinaceum</i> Baker	Tubers used in dysentery
5	<i>Cayratia trifolia</i> L.	Root tubers used in wounds.
6	<i>Moringa oleifera</i> (auct)	Leaf and stem used in wounds and in swellings.
7	<i>Phyllanthus emblica</i> L.	Stem galls used in bone fractures.
8	<i>Solanum surattense</i> Burm.f.	Entire plant paste used as bone fracture.
9	<i>Tinspora cordifolia</i> (Willd.)	Dried stem used in foot & mouth diseases.
10	<i>Ziziphus oenoplia</i> (L.)	Leaf used in bone fractures.
11	<i>Albizia lebbek</i> (L.)	Leaf paste used as skin diseases.
12	<i>Polygonum glabrum</i> (Willd)	Whole plant used as skin diseases
13	<i>Aerva lanata</i> (Linn)	Whole plant crushed can be administered orally.

Table III. Plants used for Mosquito Repellants and Toddy yielding

Mosquito Repellants

S.No	Name of the Plant	Used Part.
1	<i>Lansea coromandaliana</i> (Houtl.)	Gum.
2	<i>Chloroxylon swietenia</i> Dc.Prodr.	Leaf
3	<i>Azadirachta indica</i> A.Juss	Leaf
4	<i>Azima tetracantha</i> Lam.	Leaf

Toddy yielding Plants

S.No	Name of the Plant	Used Part.
1	<i>Borassus flabellifer</i> L.	Inflorescence
2	<i>Phoenix sylvestris</i> (L.) Roxb.	Crown
3	<i>Caryota urens</i> L.	Inflorescence

Conclusion

The Ethnobotanical studies of Makkuva mandalam, the plant species have been used luxuriantly by tribal people in their daily life. The exploitation of ethnobotanical plants for their economic value must be carried out, but proper care should be taken for the conservation by both insitu-as well as ex-situ conservation methods. The authors requested to State governments, forest departments and Non government organizations to protect the medicinal plants from the collection and destruction of habitat or hills.

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