

Ethnobotanical Study of Mamandur Forest (Kadapa- Nallamali Range) in Eastern Ghats, Andhra Pradesh, India

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Article Info

Summary

The Mamandur forest located on Chennai – Kadapa High way, consists of high degree of phyto diversity along with some highly valuable endemic and endangered species. The forest is deciduous type but mixed with some ever green elements. It is a source of non-wood forest products (NWFP) like fiber, fuel, wood, gum, resin, vegetable, dyes, oil, honey, medicinal plants, bamboo, etc., Endemic and high economic value *Pterocarpus santalinus* grows luxuriantly in the area. Hedge of elephants are crossing this forests when they are passing from Kuppam to Nallamali forest areas. The forest is providing food and shelter to wild animals like deer, cats, wild dogs, birds and leopards.

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Introduction

Ethnic people are confined to definite geographical areas and speak common dialect, are culturally homogenous and evince a unifying social organization. They mostly live in the forest areas, hills tops, plateaus and naturally isolated regions. Mamandur forest area is inhabited by a number of tribes like Yanadis, Nakkalas, Iruulas, Yerukulas, Dommara, Vaddera, Sugalis and Chenchus. But, Yanadi community predominates with about 80% population of the ethnic communities. Yanadis are characterized by dark complexion, short stature, platyrrhine nose, long head, prominent chin, thick lips and scanty hair both on head and body (Thurston, 1975). Being in the Eastern Ghats, these tribes depend on Non-Timber Forest Products largely for their livelihood. The need for the integration of local indigenous knowledge for a sustainable management and conservation of natural resources receives more and more recognition (Posey, 1992). Moreover, an increased emphasis is being placed on possible economic benefits especially of the medicinal use of tropical forest products instead of pure timber harvesting (Pimbert and Pretty, 1995).

Tribal medicine of Chittoor district in general was studied by Vedavathy et al. (1996). However, there is no specific study on the ethnobotany of Mamandur forest region despite the fact that the phytoresources of the region has great potentiality for non-timber forest products communities. Hence, in the present paper an attempt has been made to document the phytoresources used by local ethnic tribes.

Study Area

Mamandur forest is located on Chennai – Kadapa Highway – 25 km away from Tirupati, 160 km from Chennai and 100 km from Kadapa. It is a resort well endowed with waterfalls, dense forests and wildlife. Hence this area was

declared as biosphere reserve during 1989-90 due to the presence of rich variety of flora and fauna.

Materials and Methods

Ethnobotanical survey was carried out in Mamandur forest area during the year 2009-2010. For the field work, the method adopted by Schults (1962), Jain (1981), and Lipp (1989) was followed. The Yanadis who are residing in and around Mamandur were interviewed with a prepared questionnaire. Enquiries were made on the food habits, occupation, beliefs, rituals, ceremonies, traditions and customs along with ethnobotanical information. The data were recorded in the field note book and later it was analyzed with the help of experts. Specimens were identified with the help of the Floras (Gamble and Fischer, 1915-1935, Ellis, 1987) and finally confirmed at MH (Southern Circle, BSI, Coimbatore). The voucher specimens are deposited in NBKR Medicinal Plant Research Centre, Vidyanaagar, Nellore district, Andhra Pradesh, India.

Results and Discussion

The results of our ethnobotanical are quite interesting. The phytoresources available show great potential for generating income for tribal communities. All the family members including children, women, and old people are involved in the collection of the plant products from the forest. The gatherings included leaves, roots, tubers, fruits, seeds, flowers, honey, spices, etc. These are being sold to the local people or pilgrims. Men are mainly involved in the extraction of fibers, gums, resins, latex, and dyes from the phytoresources which have high commercial value in the modern world. The Present paper deals with the documentation of medicines, fiber, gum, resins, oils, latex and dye yielding phytoresources used by Yanadis of Mamandur.

Traditional healers (Natuvaidyulu) are having more knowledge about medicinal plants than the other resource persons whom we interviewed. This knowledge is passed

orally to their children. A total of 15 plant species representing 15 genera belonging to 12 angiosperm families were identified as the plants which are widely used by the tribes (Table 1).

Table: 1. Medicinal plants used by the tribes of Mamandur

Plant name	Family	Part	Uses
<i>Abrus precatorius</i> L.	Papilionaceae	Roots, leaves	Cough, cold
<i>Argemone mexicana</i> L.	Papaveraceae	Leaves	Leucoderma
<i>Centella asiatica</i> Urban	Umbelliferae	Leaves	Memory enhancement
<i>Ceropegia bulbosa</i> Roxb	Asclepiadaceae	Leaves	Dysentery, diarrhoea
<i>Cassampelos pareira</i> L.	Menispermaceae	Leaves	Itching
<i>Clematis gouriana</i> Roxb	Ranunculaceae	Leaves, stem	Killing of lice
<i>Cocculus hirsutus</i> Diels	Menispermaceae	Roots, leaves	Eczema
<i>Corallocarpus epigaeus</i> HK.f.	Cucurbitaceae	Root	Rheumatism
<i>Decalepis hamiltonii</i> Wt. & Arn.	Asclepiadaceae	Root	Cooling agent
<i>Dillenia indica</i> L.	Dilleniaceae	Fruit	Abdominal pains
<i>Dioscorea oppositifolia</i> L.	Dioscoreaceae	Tubers	Snake bite
<i>Lippia nodiflora</i> MICH	Verbenaceae	Leaves, root	Antibacterial
<i>Plumbago zeylanica</i> L.	Plumbaginaceae	Oil stem	Skin diseases
<i>Santalum album</i> L.	Santalaceae	Bark, root	Gonorrhoea
<i>Tinospora cordifolia</i> Miers	Menispermaceae	Leaves, root	Diarrhoea, dysentery

Oils are extracted from various parts of the plants like seeds, fruits, leaves, nuts, etc. They are mainly used for cooking, lubrication and lightening of lamps. The Yanadi tribe collect oil yielding parts of 16 plant species which belong to 13 genera and seven families and sell them to government owned Girijan Co-operative Society (Table 2).

Table: 2. Tribes obtain oil from the following plant species of Mamandur

Plant name	Family
* <i>Anacardium occidentale</i> L.	Anacardiaceae
<i>Atylosia scarabaeoides</i> (L.) Benth	Papilionaceae
<i>Bassia longifolia</i> (L.)	Sapotaceae
<i>Canavalia virosa</i> Wight & Arn	Papilionaceae
<i>Hiptage benghalensis</i> (L.) Kurz	Malpighiaceae
<i>H. madablota</i> Gaertn	Malpighiaceae
<i>Jatropha curcas</i> L.	Euphorbiaceae
<i>J. gossypifolia</i> L.	Euphorbiaceae
<i>Macroptilium atropurpureum</i> (Dc.) Urban	Papilionaceae
<i>Phaseolus aconitifolius</i> Jacq	Papilionaceae
<i>Pongamia pinnata</i> L.	Papilionaceae
<i>Rhynchosia cana</i> DC	Papilionaceae
<i>R. minima</i> (L.) DC	Papilionaceae
<i>Sesamum alatum</i> Thonn.	Pedaliaceae
<i>Tinospora cordifolia</i> Miers	Menispermaceae
<i>Ventilago maderaspatana</i> Gaertn	Rhamnaceae

*Planted exotic species.

Fibres are long, cylindrical, non-living mechanical sclerenchymatous cells of plant body. Yanadies obtain the fibre for their need from 24 plant species of 18 genera belonging to 8 families. They extract fibres from petiole, leaves, stem and bark of the plants. Fibres are used to make ropes, garlands, carpets, foot mats etc. The list of fibre yielding plants is given in Table: 3.

Table: 3. Fibre as the phytoresources from Mamandur.

Plant Name	Family	Part
<i>Abutilon indicum</i> G Don.	Malvaceae	Stem
<i>Agave americana</i> L.	Agavaceae	Leaf
<i>Borassus flabellifer</i> L.	Palmaceae	Petiole
<i>Calotropis gigantea</i> (L.) R.Br.	Asclepiadaceae	Bark
<i>Corchorus aestuans</i> L.	Tiliaceae	Stem
<i>C. trilobularis</i> L.	Tiliaceae	Stem
<i>Crotalaria laburnifolia</i> L.	Papilionaceae	Stem
<i>C. pulcherrima</i> Roxb.	Papilionaceae	Stem
<i>C. retusa</i> L.	Papilionaceae	Stem
<i>C. verrucosa</i> L.	Papilionaceae	Stem
<i>Decaschistia crantonifolia</i> Wight & Arn.	Malvaceae	Stem
<i>Grewia hirsuta</i> Vahl	Tiliaceae	Stem
<i>G. obtusa</i> Wall	Tiliaceae	Stem
<i>G. tiliaefolia</i> Vahl	Tiliaceae	Stem
<i>Guazuma tomentosa</i> Kunth	Sterculiaceae	Stem
<i>Hardwickia binata</i> Roxb.	Caesalpiniaceae	Bark

<i>Helicteres isora</i> L.	Sterculiaceae	Bark
<i>Hibiscus vitifolius</i> L.	Malvaceae	Stem
<i>Phoenix sylvestris</i> (L.) Roxb.	Areaceae	Petiole
<i>Sansevieria roxburghiana</i> Schult.f	Agavaceae	Leaf
<i>Sida cordifolia</i> L.	Malvaceae	Stem
<i>Urena sinuata</i> L.	Malvaceae	Stem
<i>Waltheria indica</i> L.	Sterculiaceae	Stem
<i>Yucca gloriosa</i> L.	Agavaceae	Leaf

Another important occupation of tribes is the extraction of dyes from leaves, flowers, fruits, seeds and bark of the plants. These dyes are natural, non-toxic, harmless, eco-friendly and long lasting. Hence, these herbal dyes have more demand in the textile industry. There are 16 plant species of 14 genera of 11 families in Mamandur used by tribes to obtain dyes (Table 4).

Table: 4. Tribes obtaining Dye from the following Phytoresources of Mamandur

Plant name	Family	Part
<i>Bauhinia purpurea</i> L.	Caesalpiniaceae	Bark
<i>Bixa orellana</i> L.	Bixaceae	Pericarp
<i>Butea monosperma</i> (Lam.) Taub	Papilionaceae	Flowers
<i>Erythrina variegata</i> L.	Papilionaceae	Bark, leaves
<i>Mallotus philippinensis</i> (Lam.) Muell-Arg	Euphorbiaceae	Seed
<i>Oxalis comiculata</i> L.	Oxalidaceae	Leaves
<i>Peltophorum pterocarpum</i> Dc. Baker	Caesalpiniaceae	Bark
<i>Pterocarpus santalinus</i> L.f	Papilionaceae	Bark
<i>Semecarpus anacardium</i> L.f	Anacardiaceae	Seed
<i>Terminalia arjuna</i> Dc. Wight & Arn	Combretaceae	Bark
<i>T. pallida</i> Brandis	Combretaceae	Fruit
<i>Thespesia populnea</i> Cav	Malvaceae	Bark, fruits
<i>Ventilago moderaspatana</i> Gaertn	Rhamnaceae	Bark
<i>Vitex altissima</i> L.f	Verbenaceae	Bark
<i>V. negundo</i> L.	Verbenaceae	Bark
<i>Wrightia tinctoria</i> R.Br	Apocynaceae	Leaves

Gums and resins are the secondary metabolites formed in the plant body. The local tribes collect them from the bark and use for wide-ranging purposes. These are 16 plant species of 13 genera representing 10 families are mainly used by tribes to obtain gums and resins (Table 5).

Table: 5. Gums and resins from Mamandur

Plant name	Family
<i>Acacia arabica</i> (Lam.) Willd	Mimosaceae
<i>A. chundra</i> (Rottl) Willd	Mimosaceae
<i>A. leucopholoea</i> (Roxb.) Willd.	Mimosaceae
<i>A. nilotica</i> (L.) Willd. ex Del	Mimosaceae
<i>Anogeissus latifolia</i> (Roxb. ex Dc.) Wall ex Guill	Combretaceae
<i>Boswellia ovalifoliolata</i> Balak. & Henry	Burseraceae
<i>Butea monosperma</i> (Lam.) Taub	Fabaceae
<i>Cochlospermum religiosum</i> (L.) Alston	Cochlospermaceae
<i>Commiphora caudata</i> (Wight & Arn.) Engl.	Euphorbiaceae
<i>Cyamopsis tetragonoloba</i> Taub.	Papilionaceae
<i>ardenia gummiifera</i> L.f.	Rubiaceae
<i>Hardwickia binata</i> Roxb.	Caesalpiniaceae
<i>Lannea coromandelica</i> (Houtt) Merr.	Anacardiaceae
<i>Macaranga peltata</i> (Roxb.) Muell. – Arg.	Euphorbiaceae
<i>Pterocarpus marsupium</i> Roxb.	Papilionaceae
<i>Shorea robusta</i> Gaertn.	Dipterocarpaceae

Conclusion

Mamandur has a rich gene bank of plant resources in Andhra Pradesh. The ethnic people, in particular Yanadis possess a good knowledge on the uses of the plant around for various needs including medicines for various ailments. But this traditional knowledge is the prize possession of older people only.

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