ETHNOBOTANICAL STUDIES IN RAPUR FOREST DIVISION OF NELLORE DISTRICT IN ANDHRA PRADESH

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ABSTRACT:
The present Ethnobotanical study represents the medicinal use of wild plants by tribal people of Rapur forest division of Nellore district, Andhra Pradesh, India. Tribal people of this area have authentic information on medicinal values of different plant parts like leaves, fruits, flowers, seeds, stem bark, tubers and roots. They have been using these parts in the form of paste, powder, juice, decoction, infusion and also in crude form, with other additives like ghee, sesame oil, cow urine, infant urine, cow milk and lime to get relief from different ailments. Present study discloses the ethnic practices of 61 species belonging to 35 families of which, majorities are herbs followed by trees, climbers and shrubs. These herbal preparations are used in the treatment of different ailments like Skin diseases, Jaundice, Rheumatism, Burning micturation, Fevers, Intestinal worms, Menstrual problems, Cough, Diabetes, Asthma, Ear-ache, Eye diseases, Dandruff, Stomach-ache, Insomnia, Indigestion, Constipation, Cuts, wounds, Sexual problems, Fractures and as Antidotes and Fish poison.

KEY WORDS: Ethnobotanical Studies, Traditional knowledge and Rapur forest division.

INTRODUCTION:
Ethnobotany is the science which deals with study of tribal and rural people, with a view to unearth their deep and unique knowledge about the properties and uses of plants, to aid in search for new herbal sources of food, drugs etc. Now worldwide Ethnobotany became a part of the tradition and culture. India has great relation ship with Ethnobotany from the ancient
times as in India medicinal plants have been used in Indian traditional systems of medicine namely Ayurveda and Sidda from immemorial days. India has one of world’s richest floras besides centuries of old experienced practices. Now in India herbal medicines occupy a valuable sector for health care system and medicinal plants represents a major economic resource. With this background the present work is taken up, binding to Rapur forest division of Nellore district in Andhra Pradesh to explore the traditional wisdom to present scientific fraternity.

**STUDY AREA:**
This area is situated with 14.2’ latitude, 79.5167’ longitude and 298 feet altitude. The climate is tropical, maximum temperature of this area is 36 to 46°C during summer and the minimum temperature is 23-25°C during the winter. April and May are the hottest months and coolest days fall between the months of December to February. This area receives seasonal rain fall up to 1000 ml, 60% of rainfall is received by the North-East monsoon which starts from October and continues till December. The total geographical area of this area is 85,600 Hectares and from this up to 40% is used for agriculture and house holding purposes, 21% is forest area and remaining area is waste lands. The forest is tropical dry deciduous type. The medicinal importance of the flora in this district was reported in the literature. (Kirtikar, K.R. and B.D. Basu. 1933; R S. and K. Hemadri 1979; Sudarsanam, G. and N.B.B. Rao. 1994; Pullaiah, T. and E. Chennaiah, 1997; Pullaiah, T. 2007; Bhakshu, L & R.R.V. Raju. 2007; Suryanarayana. B, Sreenivasa Rao. A .2002; Vedavathy, S. And V. Mrudula 1996.) The forest of this area is evolved with vast flora of medicinal plants like *Aegle marmelos* A.m(L.) Corr., *Cochlospermum religiosum* (L.) Alston., *Vitex negundo* L., *Vitex altissima* L.F., *Alangium salvifolium* (L. F.) Wang. etc. Endemic plants of this area are *Pterocarpus santalinus* L.F., *Shorea thombuggaia* Roxb., *Terminalia pallida* Brandis. This area is inhabited by several tribes like the Chenchus, Yerukulas, and Yanadis or Irulas tribal groups. They have been living in thick forest zones from immemorial days having no source to get modern medicine for their health care. The main source for their healthcare is forest herbs. They have good therapeutically valuable information for different ailments.

**MATERIAL AND METHODS:**
Ethno medicinal data were collected through conversation with traditional healers, tribal doctors and elder people in the field trips. During the interviews local names, useful plant parts, method of preparation and dosage were recorded. The plant species were identified

RESULTS:
The present study brought to light of unknown utilizations of 61 species belonging to 35 families. Among the species reported, most of the them belong to Acantaceae (6) convolvulaceae(6)Rubiaceae(5) Asclepiadaceae(5) and Cucurbitaceae(4) families (Figure.1). In habit, most of them are Herbs (49%), followed by Trees (20%), Climbers (19%) and shrubs (12%) (Figure 2.). The general flowering calendar of the medicinal flora of Rapur forest division reveals that most of the plant species shows their flowering in the months of August to March and in July (Figure 3.).

Enumeration:

1. **Adhatoda vasica** Ness in Wall. (Acantaceae) About 20 to 30 g., Root powder administered orally up to one week daily at morning and evening to stop frequent fevers in children. (Habit : Herb) (Fl & Fru: September to March)

2. **Alternanthera pungens** Kunth. (Amaranthaceae) Leaf paste macerated with goat milk, about 20 g., administered orally with butter milk daily at early morning for 4 days stops the white discharge in pregnant ladies. (Habit : Herb) (Fl & Fru: Throughout the year)

3. Ammannia baccifera L. (Lythracea). and Andrographis paniculata ‘s Leaf powder in equal quantities, about 30 g., administered orally for every one hour up to 10 hours works as an antidote for scorpion sting. (Habit : Herb) (Fl & Fru: Throughout the year)

4. **Andrographis elongata** (vahl.) T. (Acantaceae) Leaf juice with 2 to 4 drops of infant urine dropped into ear controls earache. (Habit : Herb) (Fl & Fru: February to March)

5. Andrographis serpyllifolia (Rotti ex Vahl.) Wt. (Acantaceae) Root paste, about 20 to 30 g, is administered orally for every 2 hours up to entire the day and keeping the same on the sight of string works as a best antidote for dreadful
giant scolopendra which live in hills area. (Habit : Herb ) (Fl & Fru: June to October )

6. *Argyreia pilosa* Arn. (Convolvulaceae) About 10 to 15 ml. of leaf juice mixed with lime water, about 2 to 4 ml. used externally relieves rheumatic pains. (Habit : Twinning Herb ) (Fl & Fru: July to December )

7. *Aristolochia indica* L. (Aristolochiaceae) External application of root paste about 10 to 20 g. relieves scabies. (Habit : Climbing herb ) (Fl & Fru: December to February )

8. *Atalantia monophylla* (L.) Corr. (Rutaceae) Dried leaf powder and root bark powder in equal quantities, about 20 to 30 g., oral administration and external application daily in morning and night for one week cures smallpox. (Habit : Tree ) (Fl & Fru: April to October )

9. Balanites aegyptiaca *Del.* (Balanitaceae) Stem bark powder works as a fish poison (by mixing the powder in the ponds kills fish). (Habit : Tree ) (Fl & Fru: April to September )

10. *Barlaria cristata* L. (Acantaceae) Oral administration of root paste, about 15 to 20 g., with buttermilk up to 4 days kills the roundworms and also relieves asthma. (Habit : Herb ) (Fl & Fru: November to February )

11. *Buchanania axillaries* (Derr.) Raman. (Anacardiaceae) About 10-15 g. paste is prepared by using leaves and fruits and mixed equally with fruits of *Madhuca longifolia* and cow urine, about 10 ml., administered orally daily at early morning for one month to relieve lumbago. (Habit : Tree ) (Fl & Fru: June to October )

12. *Calycopteris floribunda* Lam. (Combrataceae) Oral administration of Bark powder for every 2 hours up to 12 hours, about 30 to 40 g., works as an antidote for scorpion sting. (Habit : Shrub ) (Fl & Fru: February to May )

13. Canthium dicoccum (Gaertn.) Teys. (Rubiaceae) Bark powder, about 500g., is boiled in 1 liter sesame oil. External application, about 20 to 30 ml. of this filtered oil relieves rheumatic pains. (Habit : Tree ) (Fl & Fru: January to November.)

14. *Canthium parviflorum* Lam. (Rubiaceae) About 15 to 20 g. of root paste is administered orally with buttermilk up to 4 days kills the roundworms. (Habit : Tree ) (Fl & Fru: March to September )
15. **Cardiospermum canescens** Wall. (Sapindaceae) About 10 to 15 g. of leaf paste ground along with **Momordica charantia** leaves in equal quantities are administered orally daily at morning after taking the meal for one week relieves jaundice and also controls the abdominal pain. (Habit: Climbing herb) (Fl & Fru: July to December)

16. **Caralluma umbellata** Haw. (Asclepiadaceae) External application of latex heals mouth ulcers. (Habit: Herb) (Fl & Fru: March to June)

17. **Curcuma angustifolia** L. (Zingiberaceae) External application of rhizome paste, about 10 to 20 g. relieves skin diseases like eczema and psoriasis. (Habit: Herb) (Fl & Fru: March to October)

18. **Cassia roxburghii** DC. (Caesapinaceae) External application of root bark powder in equal quantities, about 15 g., heals wounds and cuts. (Habit: Tree) (Fl & Fru: Throughout the year)

19. **Catharanthus pusillus** (Murr.) G.Don. (Apocynaceae) About 20 g. of fruits powder administered orally for 3 months relieves hysteria. (Habit: Herb) (Fl & Fru: July to March)

20. **Ceropegia tuberosa** Roxb. (Asclepiadaceae) Eating of tuber relieves stomachache immediately. (Habit: Herb) (Fl & Fru: August to November)

21. **Citrullus colocynthis** (L.) Schr. (Cucurbitaceae) Oral administration of tuberous root powder for every one hour for whole day, about 20 to 30 g., works as an antidote for *Bangarus* snake bite. (Habit: climber) (Fl & Fru: August to November)

22. **Clerodendrum philippinum** Schr. in DC. (Verbinaceae) External application of leaf paste, about 10 g., daily at morning after bath on affected area relieves from all types of skin diseases. (Habit: Herb) (Fl & Fru: Throughout the year)

23. **Cochlospermum religiosum** (L.) Alston. (Bixaceae) Oral administration of gum powder, about 20 g., mixed with ghee, works as an aphrodisiac. (Habit: Tree) (Fl & Fru: February to August)

24. **Corchorus olitorius** L. (Tiliaceae) About 20 g, leaf paste administered orally at morning with butter milk works as a best remedy for Burning micturation. (Habit: Herb) (Fl & Fru: June to March)

25. **Cordia obliqua** Willd. (Boraginaceae) About 20 g. leaf paste mixed with bark powder in equal quantities administered orally with butter milk at morning.
without any food for 1 to 2 weeks relieves jaundice. (Habit : Tree ) (Fl &Fru: September to November)

26. *Crataeva magna* (Lour.) DC. (Capparaceae) External application of leaf juice and leaf paste with a cloth, which is already dipped in lime water, on effected area relieves rheumatic pains.(Habit : Tree ) (Fl &Fru: March to August)

27. *Cucumis trigonus* Roxb. (Cucurbitaceae): Eating of fruit pulp, about 20 g., kills roundworms.(Habit : Climbing Herb) (Fl &Fru: December to April)

28. *Desmodium triflorum* (L.) DC. (Fabaceae): Oral administration of leaf powder, about 20 g., with butter milk relieves from diarrhea.(Habit : Shrub ) (Fl &Fru: throughout the year.)

29. *Dioscorea oppositifolia* Var. (Dioscoriaceae): Oral administration of tubers powder, about 30g., mixed with 10 ml honey daily at night increases sperm number.(Habit : Climber) (Fl &Fru: September to March)

30. *Diplocyclos palmatus* (L.) Jefrry. (Cucurbitaceaea): Leaf paste mixed with fruit powder in equal quantities, about 20g., administered orally with a coup of local wine prepared by *Maduka indica* fruits at morning with out any food for 3 months cures hysteria.(Habit : Climbing Shurb ) (Fl &Fru: November to February)

31. *Dregea volubilis* Benth. (Asclepidaeae): External application of leaf paste on effected area about 20 g., and oral administration of the same controls Leucoderma. (Habit : Twinning shrub ) (Fl &Fru: March to November. )


33. *Evolvulus alsinoides* (L.) (Convolvulaceae): Leaves and root in equal quantities are macerated with a cup of cow milk. Oral administration of this paste, about 20 to 30 g., in early morning facing towards sun stops leucorrhrea(white discharge) and gives early pregnancy.(Habit : Herb ) (Fl &Fru: Throughout the year. )

34. *Ficus microcarpa* L (Moraceae) Dried fruit powder, about 10 to 20 g., administered orally relieves frequent fevers.(Habit :Tree ) (Fl &Fru: February to September)

35. *Gardenia latifolia* Ait. (Rubiaeae) External application of gum paste on effected
36. **Habenaria roxburghii** Nicolson in Salda. (Orchidiaceae) Daily eating of tubers at morning before breakfast controls diabetes and stops Burning micturation. (Habit : Herb) (Fl & Fru: August to November.)

37. **Holostemma ada-kodien** Schult. (Asclepiadaceae) Root paste mixed with equal amount of garlic paste, about 20 to 30 g., administered orally for two months daily in morning and evening relieves gonorrhea. External application of Latex of stem cures mouth ulcers. (Habit : Climber) (Fl & Fru: July to January).

38. **Indigofera linnaei** Ail. (Fabaceae) Leaf paste, about 20 g., applied on oral ulcers heals them. (Habit : Herb) (Fl & Fru: September to December)

39. **Ipomea aquatica** Forssk. (Convolvulaceae) External application of leaf juice on affected area and also keeping of leaf paste with cloth relieves from rheumatic pains. (Habit : Herb) (Fl & Fru: October to March)

40. **Ipomea digitata** Linn. (Convolvulaceae) Oral administration of tuberous root powder, about 20 to 30 g., mixed with honey daily increases sperm count. (Habit : Twinning herb) (Fl & Fru: October to March)

41. **Justicia tranquebariensis** L.F. (Acanthaceae) About 20 to 30 g. of leaf paste administered orally for 2 weeks daily at morning works as an antidote for mad dog bite. (Habit : Herb) (Fl & Fru: January to August)

42. **Kyllinga nemoralis** (Forster&Forster F) Dandy. (Cyparaceae) Oral administration of decoction prepared from rhizome powder, about 20 g., and *Piper nigrum* fruit powder, about 10 g., daily in morning and evening for 2 to 3 days relieves intermittent fevers. (Habit : Herb) (Fl & Fru: June to December)

43. **Leonotis nepetifolia** (L.) (Asteraceae) R.Br. External application of leaf powder mixed with citrus fruit pericarp powder in equal quantities, about 20 to 30 g., kills lice and relieves Dandruff. (Habit : Herb) (Fl & Fru: November to March)

44. **Martynia annua** L. (Convolvulaceae) External application of leaf paste, about 20 to 30 g., relieves scabies. Oral administration of unripe fruit paste, about 20 g., works as an antidote for scorpion sting. (Habit : Herb) (Fl & Fru: August to December)

45. **Momordica tuberosa** Linn. (Cucurbitaceae) Oral administration of powder prepared from *Momordica tuberosa* fruits, *Sizizium Cuminii* seeds and...
Azadirachta indica seeds in equal quantities for one week daily at morning is a best remedy for Jaundice and all types of liver disorder. (Habit : Climbing herb) (Fl & Fru: April to November)

46. Merremia aegyptia (L.) urban. (Convovulaceae) Decoction prepared from the root powder, about 20 gr., relieves stomach ache. (Habit : Twinning herb) (Fl & Fru: September to March)

47. Mollugo pentaphylla L. (Molluginaceae) Leaf paste, about 30 g., macerated with cow urine used externally for one week cures ringworm infection. (Habit : Herb) (Fl & Fru: Throughout the year)

48. Nicotiana tabacum L. (Solanaceae) Leaf infusion, about 10 to 20 ml, administered orally works as a laxative. (Habit : Herb) (Fl & Fru: Throughout the year)

49. Oroxyllum indicum Vent. Oral administration of root bark infusion for 4 days kills round worms and also relieves Burning micturation. (Habit : Tree) (Fl & Fru: July to February)

50. Piper sylvestre Roxb. (Piparaceae) Oral administration of fruit and leaf powder, about 20 to 30 g., for 2 weeks stops the liver enlargement. (Habit : Climbing under shrub) (Fl & Fru: October to February)


52. Randia dumetorum L. (Rubiaceae) Fruit pulp is administered orally for getting vomiting in poisonous suicidal cases. (Habit : Shrub) (Fl & Fru: August to November)

53. Ruellia tuberosa L. (Acanthaceae) Oral administration of tubers powder, about 20 to 30 g., weekly ones with ghee strengthens eyesight and stops vision problems in children. (Habit : Herb) (Fl & Fru: August to November)

54. Sarcostemma acidum Roxb. (Asclepiadaceae) External application of latex on affected area for one week cures scabies. (Habit : Twinning Herb) (Fl & Fru: July to December)

55. Scilla hyacinthina Roxb.) Macbr. (Liliaceae) Daily intake of tuber for one week relieves giddiness and chest pain. (Habit : Herb) (Fl & Fru: July to October)

56. Sterculia urens Roxb. (Sterculiaceae) Infusion prepared by Keeping of leaves
in water for 4 days administered orally relieves woofing cough in children.
(Habit : Tree ) (Fl &Fru: December to June)

57. *Solanum trilobatum* L. (Solanaceae) Oral administration of root powder, about 10 to 20 g., with cow milk for one month relieves asthma.
(Habit : Tree ) (Fl &Fru: December to February)

58. *Talinum portulacifolium* (forsk.) Asch. (Portulacaceae) Daily intake of Leaf paste, about 20 g., increases sperm count.(Habit : Herb) (Fl &Fru: July to December)

59. *Terminalia alata* Heyne ex Roth. (Combretaceae) Oral administration of bark powder, about 20 to 30 g., daily for 6 months relieves hysteria.
(Habit : Tree) (Fl &Fru: December to April)

60. *Zehneria maysorensis* (Wt &Arn.) Arn. (Cucurbitaceae) Leaf powder and fruit powder in equal quantities, about 15 to 20 g., administered orally with decoction prepared by fruits powder of *Piper nigrum* for 2months daily in morning and evening relieves asthma. (Habit : Climber ) (Fl &Fru: Throughout the year.)

61. *Ziziphus oenoplia* (L.) Mill. (Rhamnaceae) Oral administration of root bark powder, about 15 g., daily at morning for 1 week kills intestinal worms and external application of the same heals wounds. (Habit : Climbing shrub ) (Fl &Fru: September to February)

**Abbreviations:** Fl &Fru: Flowering and Fruiting; g.: Grams; ml.: Millilitre

**DISCUSSIONS:**
Medicinal plants play a vital role in the life by serving good health and well being of mankind. Present study reveals unique utilization of medicinal plants by the tribes belonging to Chenchus, Yerukulas and Yanadis or Irulas inhabited in Rapur forest division of Nellore district in Andhra Pradesh. In the reported claims of present study, the plant parts used for medicinal preparations are leaf, root, bark, flower, fruit, tuber, seed, shoot, gum and resin. All these parts have been employed in the form of paste, powder, juice, decoction, infusion and also in crude form with additives like ghee, cow milk, cow urine, infant urine, sesame oil and also lime. Out of these claims 72% are used internally and 28% externally. Majority of the external applications are for skin diseases, ulcers, wounds and dandruff and other external uses for arthritis and ear ache. Majority of the internal uses are for conditions affecting the gastro intestinal system, genito- urinary system, hepato- biliary system, nerves system,
respiratory system and also as antidotes. Many of these claims revealed by the tribes are new in comparison to traditional Indian systems of medicine namely Ayurveda, Siddha and Unani. It can be concluded that the local and tribal people of the district have very good knowledge on the use of medicinal plants. But such knowledge of medicinal plants is restricted to a few persons in a rural area. Therefore it is necessary that suitable requirements are needed in order to protect the traditional knowledge in particular area with reference to medicinal plant utilization and it was found that traditional ethno-medicine still persists among the tribal’s in Rapur Forest Division.

**ACKNOWLEDGEMENTS:**

The authors are thankful to herbarium keeper, department of botany Sri venkateswara University, for his help in identifying the plant sample. The authors also wish to acknowledge the help received from the local and tribal people of Nellore district.

**REFERENCES:**


Figure 1. Showing highest represented families

![Bar chart showing the highest represented families.]

Figure 2: Showing The Percentage Composition Of Herbs, Shrubs, Trees and climbers

![Pie chart showing the percentage composition of Herbs, Shrubs, Climbers, and Trees.]

Figure 3. Showing number of species in flowering during different months

![Line graph showing the number of species flowering during different months.]

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