

Ethnobotanical Study on Rapur - Chitvel Ghat, Eastern Ghats, Andhra Pradesh

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Abstract—The Present ethno botanical study represents the medicinal use of wild plants by tribal people of Rapur, Chitvel, Eastern Ghats, Andhra Pradesh, India. Tribal People of this area have a authentic information on medicinal values of different plant parts like leaves ,fruits, flower, 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, Mestrual problems, Cough, Diabetes, Ashma, Ear-ache, Eye diseases, Dandruff, Stomach-ache, Insomnia, Indigestion, Constipation, Cuts, Wounds, Sexual Problems, Fractures and as Antidotes and Fish Poison. *Cycas beddomi* is the only endemic gymnosperm sparsely distributed in this forest.

Keywords—Ethnobotanical studies; Traditional Knowledge; Rapur Forest Division.

I INTRODUCTION

Ethonobotany is the service which deals with the study of tribal people, with a view to an earth 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 Ethano botany became a part of tradition and culture. India has great relationship with Ethano botany from ancient time 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 the 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 represent a major economic resource. With this background the present work is taken up ,binding to Rapur forest division of Chitvel ,Eastern Ghats, in Andhra Pradesh to explore the traditional wisdom to present scientific fraternity.

II 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 rainfall up to 1000ml, 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 agricultural and house holding purposes, 21% is forest area and remaining area is waste lands. The forest is tropical dry deciduous type.

III MATERIALS AND METHODS

Ethano medicinal data were collected through conservation 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 with the help of local floras (Kirtikar, K. R. And B.D.Basu.1935; Crellin, J.K.1967. Rama Rao, N. and A. N. Henry 1996, Rao, R.S. and K. Hemadri 1979 Sudarshanam, G .and N.B.B.Rao.1994; Pullaiah, T., 2007 Suryanarayana. B. and A.Srinivas rao 2002.). The method of collection of voucher specimens, preservation, herbaria and technique for the collection of Ethano medicinal information follows Jain and Rao (1977).

IV RESULTS

The present study brought to light of unknown utilization of 70 species belonging to 35 families. Among the species reported, most of them belonging to Acanthaceae(6) Convolvulaceae(6) Rubiaceae(5) Asclepiadaceae(5) and cucurbitaceae(4) families. In habit most of them are Herbs(49%), followed by trees (20%), Climbers (19%) and Shrubs(12%). 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.

V ENUMERATION

1. *Adhathoda vasica* Ness in Wall. (Acanthaceae) About 20 to 30g., 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 20g., 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 bacifera* L. (Lythraceae). 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. (Acanthaceae) Leaf juice with 2 to 4 drops of infant urine is dropped into ear control earache. (Habit: Herb) (Fl&Fru: February to March)
5. *Andrographis serapyllifolia* (Rotti ex Vahl.) Wt. (Acanthaceae) Root Paste, about 20 to 30g is administered orally for every 2 hours upto entire the day and keeping the same on the sight of string works as a best antidote for dreadful gaint *scolopendra* which live in hills area. (Habit :Herb) (Fl&Fru: June to October)
6. *Argyrea pilosa* Arn. (Convolvulaceae) About 10 to 15 ml. of leaf juice mixed with lime water, about 2 to 4 ml. used externally relieves rheumatic paints. (Habit: Twinning Herb) (Fl&Fru: July to December)
7. *Aristolochia indica* L. (Aristolochiaceae) External application of root paste about 10 to 20g. relieves scabis. (Habit: Climbing herb) (Fl& Fru: December to February)
8. *Atlantia monophilla* (L.) Corr. (Rutaceae) Dried leaf powder and root bark powder in equal Quantities, about 20 to 30g., oral administration and external application daily in morning and night for one week cures smallpox.
9. *Balanites aegyptiaca* Del. (Balantiaceae) 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. *Barliria cristata* L. (Acanthaceae) Oral administration of root paste, about 15 to 20g., with Buttermilk up to 4 days kills the roundworms and also relieves asthma. (Habit: Herb) (Fl&Fru: November to February).
11. *Boswellia ovalifoliata* Bal & Henry. (Bursaraceae) Stem is used for stomach Ulcers, diabetes, Gum is used for dysentery and joint paints. Fl.&Frt. March-June.
12. *Buchanania axillaries* (Derr.) Raman. (Anacardiaceae); About 10-15-Jug. paste is prepared by Using leaves and fruits and mixed equally with fruits of *Madhuca longifolia* and cow urine, about 10ml., administered orally daily at early morning for one month to relieve lumbago. (Habit: Tree) (Fl&Fru: June to October)
13. *Calycopteris floribunda* Lam. (Combretaceae); Oral administration of Bark powder for every 2 hours upto 12 hours, about 30 to 40g., works as an antidote for scorpion sting. (Habit: Shrub) (Fl&Fru: February to May)
14. *Canthium dicocum* (Gaertn.) Teys. (Rubiaceae); Bark powder, about 500g., is boiled in 1 Litre sesame oil. External application, about 20 to ml. of this filtered oils relieves rheumatic Pains. (Habit: Tree) (Fl& Fru: January to November)
15. *Canthium parviflorum* Lam. (Rubiaceae); About 15 to 20g. of root paste is administered orally with buttermilk up to 4 days kills the roundworms. (Habit: Tree) (Fl&Fru: March To September)
16. *Cardiospermam canescens* wall. (Sapindaceae) About 10 to 15g., 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: Herb) (Fl&Fru: March to October)
17. *Carallumma umbellata* Haw. (Asclepiadaceae) External application of latex heals mouth ulcers. (Habit: Herb) (Fl&Fru: March to June)
18. *Curcuma angustifolia* L. (Zingiberaceae) External application rhizome paste, about 10 to 20g. relieves skin diseases like eczema and psoriasis. (Habit: Herb) (Fl&Fru: March to October)
19. *Cassia roxburghii* DC. (Caesalpinaceae) External application of root bark powder stem bark powder in equal quantities, about 15g., heals wounds and cuts. (Habit: Herb) (Fl&Fru: Throughout the Year)
20. *Catharathus pusillus* (Murr.) G. Don. (Apocynaceae) About 20g., of fruits powder administered orally for 3 months relieves hysteria. (Habit: Herb) (Fl&Fru: July to March)
21. *Ceropegia tuberosa* Roxb. (Asclepidaceae) Eating of tubers relieves stomachache immediately. (Habit: Herb) (Fl&Fru: August to November)
22. *Citrullus colocynthis* (L) Schr. (Cucurbitaceae) Oral administration of tuberous root powder for every one hour for whole day, about 20 to 30g., works as an antidote for Bangarus Snake bite. (Habit: Climbers) (Fl&Fru: August to November)
23. *Clerodendrum philippinum* Schr. in DC. (Verbanaceae) External application of leaf paste, About 10g., daily at morning after bath on effected area relieves from all types of skin Diseases (Habit: Herb) (Fl&Fru: Throughout the year)
24. *Cochlospermum religiosum* (L.) Alston. (Bixaceae) Oral administration of gum powder, about 20g., mixed with ghee, works as an aphrodisiac. (Habit: Tree) (Fl&Fru: February to August)
25. *Corchorus olitorius* L. (Tiliaceae) About 20g. leaf paste administered orally at morning with butter milk works as a best remedy for burning micturition. (Habit: Herb) (Fl&Fru: June to March)
26. *Cordia obliqua* Willd. (Boraginaceae) About 20g. 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)
27. *Crateva 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)
28. *Cucumis trigonus* Roxb. (Cucurbitaceae): Eating of fruit pulp, about 20g., kills roundworms. (Habit: Climbing Herb) (Fl&Fru: December to April)
29. *Decastia kadapensis* Paul & Nayar (Malvaceae) Perennial Shrub. Fl.&Frt: June-March
30. *Decalepis hamiltonni* Wt & Arn. (Periplocaceae) root is used as appetizer, Jaundice, diabetes. Fl.&Frt. June-January.
31. *Desmodium triflorum* (L.) DC. (Fabaceae): Oral administration of leaf powder, about 20g., with buttermilk relieves from diarrhea. (Habit: Shrub) (Fl&Fru: Throughout the year)
32. *Dioscoria oppositifolia* Var. (Dioscoriaceae): Oral administration of tubers powder about 30g., mixed with 10ml honey daily at night increases sperm number. (Habit: Climber) (Fl&Fru: September to March)
33. *Diplocyclos palmatus* (L) Jeffry. (Cucurbitaceae): Leaf paste mixed with fruit powder in equal quantities, about 20g., administered orally with a coup of local wine prepared by *Madhuka Indica* fruits at morning with out any food for 3 months cures hysteria. (Habit: Climbing Shrub) (Fl&Fru: November to February)

34. *Dregea volubilis* Benth.(Asclepiadaceae):External application of leaf paste on effected area about 20g., and oral administration of the same controls the Leucoderma.(Habit:Twinning Shrub)(Fl&Fru: March to November)
35. *Drimia indica*(Roxb.)Jessop.(Lilliaceae):Daily eating of tuberous root for one week relieves jaundice and burning micturition.(Habit: Herb) (Fl&Fru:February to March)
36. *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 30g.,in early morning facing towards sun stops leucoderma (White discharge)and gives early Pregnancy.
37. *Ficus microcarpa* L.(Moraceae) Dried fruit powder, about 10 to 20g., administered orally relieves frequent fevers.(Habit: Tree) (Fl&Fru:February to September)
38. *Gardenia latifolia* Ait.(Rubiaceae) External application of gum paste on effected area relieves scabies. (Habit:Tree)(Fl&Fru: January to September)
39. *Habenaria roxburghii* Nicolson in Salda.(Orchedaceae); Daily eating tubers at morning before breakfast controles diabetes and stops Burning micturition.(Habit:Herb)(Fl&Fru: August to November)
40. *Holostemmaada-kodien* Schult.(Asclepiadaceagone):Root paste mixed with equal amount of garic paste,about 20 to 30g., administered orally for two months daily in morning and evening relieves gonorrhea.External application of Latex of stem cures mouth ulcers.(Habit:Herb) (Fl&Fru:July to January)
41. *Indigofera linnaei* Ail.(Fabaceae); Leaf Paste,about 20g.,applied on oral ulcers heals them.(Habit:Herb) (Fl&Fru:September to December)
42. *Ipomea aquatica* Forssk.(Convolvulaceae) External application of leafjuice on affected area and also keeping of leaf paste with cloth relieves from rheumatic pains.(Habit:Herb) (Fl&Fru:September to December)
43. *Ipomea digitata* Linn. (Convolvulaceae) ;Oral administration of tuberous root powder, to30g.,mixed with honey daily increases sperm count.(Habit: Twinning Herb) (Fl&Fru: October to March)
44. *Justicia tranquebariensis* L.F. (Acanthaceae); About 20 to 30g.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)
45. *Kyllinga nemoralis* (Forster&Forster.F); Dandy.(Cyperaceae) Oral administration of decoction prepared from rhizome powder,about 20g., and *Piper nigrum* fruit powder,about 10g.,daily in morning and evening for 2 to 3 days relieves intermittent fevers.(Habit:Herb)(Fl&Fru:June to December)
46. *Leonotis nepatifolia* (L.) (Asteraceae) ;R,Br. External application of leaf powder mixed with citurs fruit pericarp powder in equal quantities,about 20 to 30g.,kills lice and relieves Dandruff (Habit: Herb)(Fl&Fru:November to March)
47. *Martynia annua* L. (Convolvulaceae); External application of leafpaste,about 20to 30g., relieves scabies.Oral administration of unripe fruit paste,about 20g.,works as an antidote for scorpion sting.(Habit:Herb) (Fl&Fru:August to December)
48. *Momardica tuberosa* Linn.(Cucurbitaceae); Oral administration of powder prepared from *Memordica tuberosa* fruits,*Sizizium cuminni* 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)
49. *Merremia aegyptia* (L.) Urban.(Convolvulaceae); Decoction prepared from the root powder,about 20g.,relives stomach ache.(Habit:Twinning Herb) (Fl&Fru:September to March)
50. *Mollugo pentaphylla* L.(Molluginaceae); Leaf paste, about 30g., macerated with cow urine used externally for one week cures ringworm infection.(Habit: Herb)(Fl&Fru:Throughout the year)
51. *Nicotiana tabacum* L. (Solanaceae); Leaf infusion,about 10 to20 ml,administered orally works as a laxative.(Habit:Herb)(Fl&Fru:Throughtout the year)
52. *Oroxylum indicum* ;Vent.Oral administration of root bark infusion for 4 days kills round worms and also relieves Burning micturition.(Habit:Tree)(Fl&Fru:July to February)
53. *Pimpinella tirupatiensis* Bal.&Sub.(Apiaceae); Tuberous roots are used for stomachache,Ulcers, rhematic diseases.Fl.&Frt.Sept-March.
54. *Piper sylvesre Roxb.*(Piperaceae); Oral administration of fruit and leaf powder,about 20to 30g., for 2weeks stop the liver enlargement.(Habit:Climbing under shrub) (Fl&Fru:October to February)
55. *Polianthes tuberosa* L.(Agavaceae); Daily eating of tuber controls Diabetes and relieves Burning micturition.(Habit: Herb)(Fl&Fru: July to October)
56. *Pterocarpus santalinus*; L. Stem bark used for diabetes,Stomach ache,Ulcers,Skin diseases.Fl.&Frt.April-March.
57. *Randia dumetorum* L. (Agavaceae); Fruit pulp is administered orally for getting vomiting in poisonous suicidal cases.(Habit: Shrub) (Fl&Fru:July to August to November)
58. *Ruellia tuberosa* L.(Acanthaceae); Oral administration of tubers powder,about 20to 30g.,weekly ones with ghee strengthens eyesight and stops vision problems in children.(Habit:Herb)(Fl&Fru: August & November)
59. *Sarcostemma acidum* Roxb.(Asclepiadaceae); External application of latex on affected area for one week cures scabies.(Habit:Twinning Herb)(Fl&Fru:July to October)
60. *Scilla hyacinthina* (Roxb.) Macbr.(Lilliaceae); Daily intake of tuber for one week relieves giddiness and chest pain.(Habit:Twinning Herb)(Fl&Fru:July to December).
61. *Shorea tumbuggaiah* (Dipterocarpaceae); Resin is used for stimulant,duodenal ulcers.Fl.&Frt.-Feb-April.
62. *Sterculia urens* Roxb.(Sterculiaceae); Infusion prepared by keeping of leaves in water for 4 days administered orally relieves whooping cough in children.(Habit: Herb)(Fl&Fru:December to June)
63. *Solanum trilobatum* L.(Solanaceae); Oral administration of root powder,about 10to 20g., With cow milk for one month relieves asthma.(Habit:Tree)(Fl&Fru:December to June).
64. *Soymida febrifuga* (Roxb).A.Juss (Meliaceae); Stem bark is used for Diarrhoea, Dysentery,Malaria fever.Fl&Frt:Feb-July.

65. *Syzygium alternifolium* (Wt.) Walp. (Myrtaceae); Stem bark is used for diabetes. Leaves are used for dysentery and gastric ulcers. Fl. & Frt. March-June.

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

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

68. *Terminalia pallida* Brandis (Combretaceae); Stem bark is used as diuretic, Swellings. Fl. & Frt. Oct - March.

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

70. *Zizipus oenoplia* (L.) Mill. (Rhamnaceae); Oral administration of root bark powder, about 15g., Daily at morning for 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: Grams; ml., Millilitre.

VI 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 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, Sidha, 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 ethano medicine still persists among the tribals in Rapur - Chitvel forest.

VII CONCLUSION

Rapur-Chitvel forest endowed with many more medicinal plants available in this area. *Cycas beddomei* Dyer. Is Trans endemic to this area. *Pimpinella terupatiensis* Balakr & Subr., *Pterocarpus santalinus* L., *Shorea tumbuggaia* Roxb., *Syzygium alternifolium* (Wight) Walp., *Terminalia pallida* Brandis, *Crotan Scabioses* B. ed., *Decasehistia kadapensis*, *Decalepis hamiltonii*, *Terminalia pallida*, *Boswellia ovalifoliata*, *Soymida febrifuga* (Roxb.), are important medicinal plants in this area. To conserve these medicinal plants two basic strategies like Ex-Situ Conservation and In-situ Conservation.

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