



Ethnobotanical studies on plants of North-Eastern Karnataka

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Abstract

Ethnobotanical science is an interdisciplinary science, which is a combination of anthropology, human health, animal health and botany. It also needs the collaborations of other disciplines like chemistry and pharmacology. The important work of botanists is to entirely rely on, to identify accurately the plants used by tribals and study their ecology and environment in which it is growing. Keeping this in a view the present work on North-Eastern Karnataka which comprises Bellary, Raichur, and Gulbarga and Bidar districts, are considered for the present ethnobotanical study.

Keywords: ethno botany, ethno veterinary, cattle, north-eastern Karnataka

Introduction

Ethnomedicine forms a basis for the changing science as it often gives the lead medicine. It gives basic knowledge about plants, uses, indigenous cultures and chemical analysis of many plants. Documentation of ethnomedicinal knowledge is of immense help today as deforestation results in an unprecedented loss of indigenous cultures and the plant knowledge.

Folk knowledge has been extensively used for curing various diseases. It can be traced back to Rigveda (4300-1600 B.C.). In Mrig ayurveda Prince Nakul used the medicinal plants to cure the diseases of horses and other domestic animals. The present day knowledge of the curative properties of plants in veterinary system is neglected aspect in ethno medicine. It is necessary that the plant chemists and pharma cognosists does the critical and scientific study of these plants for their curative properties.

Only during last few decades the ethno medicinal studies gained momentum and literature have increased by leap and bound. Reports on the folk system and ethno medicine of North-Eastern Karnataka is very much required. Hence, the present study was under taken.

In Karnataka, there are very few works in the field of folk and ethno medicine. Notable ones are those of Yoganarasimhan *et al.*, (1989) on plants of Chikkamagalur district. Shaymsundar and Parameshwarappa (1990) ^[13] have given a general account of the non-wood forest products and tribal medicines. Pushpalatha *et al.*, (1990) ^[14] have described the folk medicine of rural areas of Bangalore district. Apart from these works, in the neighbouring regions, Abraham (1991) ^[2] worked on Todas and Kotas of Nilgiris, Pullaiah *et al.*, (1996) ^[4-5] and Krishnamohan and Bhairavmurthy (1992) on the plants of Mahaboobnagar and Prakasham districts respectively. Pal (1981) ^[3] described 25 species belonging to 25 genera and 18 families of angiosperms and pteridophytes used in the treatment of domestic animal like cattle and birds. The ethno veterinary study on Mundas, Orans, Santals, Lodhas, Kords, Bhumic. Hos and Mechs in the states of Bihar, Orissa, West Bengal, Pal (1981) ^[3] has shown the use of large number of plants, used either singly or as ingredients of compound mixtures in the treatment of domestic animals. The study on Chen chus, Sugalis and Yarukala tribes of Kurnool district have

revealed the usage of many medicinal plants to cure the diseases of cattle and other domestic animals. (Sai Prasad Goud and Pullaiah, 1996) ^[5].

Abdul Kareem *et al.*, (1998) ^[1] have given an exclusive information on veterinary medicine used by Kadari Srinivas Prabhu (Pashuvaidya) in Kadari, Karnataka. They have noticed as many as 72 plants used for 41 different diseases of cattle like dermatitis, fractures, foot and mouth disease etc. Similarly the study on Bhoxas of Nainital district highlighted the use of 20 plants for curing many diseases. *Crateva nurvala* and *Xeromphis uliginosa* are used for boils in the throat of animals (Maheshwari and Harish Singh, 1990) ^[6]. Maheshwari *et al.*, (1994) ^[7] surveyed 'Dangs' a hilly tribal district of Gujarat and noticed that about 35 plants are being used by the tribals of the area to cure different human diseases, few of them are used to cure diseases of cattle also.

Materials and Methods

A survey work was carried out continuously for four years to study the plants used in folk and ethno medicine of North-Eastern Karnataka. The information collected was basically from villages of Bellary and Bidar districts. All the plants were identified using 'Flora of Presidency of Madras' by Gamble (1935) ^[8], 'Flora of Karnataka' by C.J. Saldanha (1984) ^[9], 'Flora of Gulbarga district' by Y.N. Seetharam *et al.*, (2000) ^[10] and were deposited in the Herbarium, Dept. of Botany, Gulbarga University, and Gulbarga (HGUG). The data obtained after the discussion with nativaidyas of various villages are recorded and enumerated following the method of Jain (1981). The identification of the specimen were authenticated with the herbarium specimen of BSI, Pune, and Centre for Ecological Studies, Bangalore.

Observations and Discussion

During the folk and ethnobotanical survey it was observed that the disease incidence in human beings, cattle and other domestic animals is almost common in the areas selected for the study i.e., Bellary, Raichur, Gulbarga and Bidar districts. Most common tribes of this area are Kadu kurubas, Lambanis, Pindaris, Gondas and Korchas.

Apart from diseases of human beings the most common diseases of cattle and other animals of this area are tympany,

simple indigestion, impaction, worm infestation, dysentery or bloody diarrhoea, bovine ephemeral fever, bloat, pneumonia, hepatitis, coccidiosis, retention of placenta (ROP), drop in milk production, wounds, stomatitis, metritis and Mastitis. In the present study the discussion with Nativaidyas such as Sri Mahadevaiah Swamy (Bidar), Veerabhadrapa (Mannaekhelli), and Khelya Naik (Bellary) and many others revealed the uses of many plants to cure various ailments of different live stocks of respective places. The plants are enumerated in the alphabetical order using their botanical name, following their local names, family and therapeutic uses.

Enumeration of plants used to cure diseases of human beings and cattle

1. *Acacia arabica*: Karijali (Mimosaceae)

Bark decoction is used to cure ulcer in cattle by folk practitioners. The decoction of bark of *Acacia arabica*, *Ficus racemosa* and *Eugenia jambolana* is used as a gargle to cure tooth ache and ear ache in humans by Pindaris.

2. *Acalypha indica*: Kuppi Gida (Euphorbiaceae)

Leaf paste is applied on cuts and wounds in cattle and human beings by Gonds.

3. *Aegle marmelos*: Bilwa patre gida (Rutaceae)

Leaf juice is given orally as an anthelmintic and even leaf extract is applied on wounds of both cattle and human beings by Lambanis and Kadukurubas.

4. *Agave Americana*: Rakspatti (Liliaceae)

The leaves are burnt into ashes, then extracted with water and given orally for cough in humans by folk practitioners of Bellary district.

5. *Andrographis paniculata*: Nelabevu (Acanthaceae)

The whole plant is powdered, mixed with lemon juice or soda (edible) or butter milk. The mixture is shaken well and administered orally in case of diarrhoea and dysentery in cattle as well as humans by Korcha tribe. Leaf juice is administered to relieve stomach ache. The whole plant extract is given in case of fever and also to cure tuberculosis in humans by Pindaris and Lambanis.

6. *Annona squamosa*: Seetaphala (Annonaceae)

Leaf paste is applied on fresh cuts and wounds of cattle and human beings by Kadukurubas and Gonds.

7. *Asparagus racemosus*: Halavumakkala balli (Liliaceae)

The water extract of the root is mixed with butter milk in 1:2 proportion and orally used as a galactagogue in both cattle and human beings by Pindaris and folk practitioners of Bellary and Bidar district.

8. *Atylosia scarabaeoides*: Kadu togari (Papilionaceae)

Leaf juice is given orally with butter milk for diarrhoea in cattle by Pindaris and Kadukurubas.

9. *Balanites roxburghii*: Ingala (Simaroubaceae)

The fruit is mixed with Kumkum and applied to eye for curing vision problems. Fruit is used to cure jaundice.

10. *Bambusa aurundinacea*: Bamboo (Poaceae)

Leaves are mixed with Chilli and the mixture given orally to

cure tympany in cattle by folk practitioners of North-Eastern Karnataka.

11. *Bauhinia racemosa*: Basavana pada (Caesalpiniaceae)

The leaf tip is crushed and put into ear to cure body ache of cattle by the tribals of Bellary district.

12. *Biophytum sensitivum*: Horamuchhuga (Oxalidaceae)

The bamboo sticks were tied around fractured portion and the *Biophytum* leaf paste is applied over it for setting up the fractured bone in cattle and human by Korchas.

13. *Blepharis boerhavifolia*: Haradhachhaga (Acanthaceae)

Leaf paste is applied over fractured portion and at the same time the leaf juice is given orally to reset the fractured bone of cattle and other domestic animals of this area by Pindaris.

14. *Butea frondosa*: Muttuga (Caesalpiniaceae)

Bark extract is given orally for fever and for bone fracture, flower juice is administered along with ghee to overcome muscle catch and nerve pain in cattle and human beings by Kadukurubas and Gonds.

15. *Calotropis procera*: Ekke gida (Asclepiadaceae)

Latex is applied on eyes for ophthalmic problems of cattle. For limping cattle, the latex is applied on pelvis region. Fresh leaves given to the patient at 2-3 hr interval as an antidote for snake bite. Flower buds with fruits of *Piper longum* given to combat shivering fever in humans by folk practitioners of Bellary.

16. *Cassia angustifolia*: Sonamukhi (Caesalpiniaceae)

Leaves are mixed with *Piper longum* seeds and powdered, administered orally for cough in human beings by Lambanis and Korchas.

17. *Cassia fistula*: Kakke gida (Caesalpiniaceae)

The animal is allowed to inhale the smoke of burnt leaves for snake bite and scorpion sting. Roots are powdered, mixed with goat milk and one tea spoon full taken daily twice to combat breast diseases in woman by folk practitioners of Bidar and Bellary districts.

18. *Capparis zeylanica*: Tottilu balli (Capparidaceae)

Leaves mixed with garlic and black pepper, powdered. Gonds and Kadukurubas give the mixture orally for tympany in cattle.

19. *Chlorophytum tuberosum*: Adavi ullagaddi (Liliaceae)

The tuber is crushed with whole plant of *Andrographis paniculata* and edible oil given orally for tympany in cattle and domestic animals by Pindaris and Korchas.

20. *Cicer arietinum*: Kadle gida (Papilionaceae)

The leaves crushed in butter milk given orally for bleeding motion in humans and cattle by folk practitioners and Pindaris.

21. *Coccinia indica*: Tonde gida (Cucurbitaceae)

The leaf juice is put in to ear for general weakness in cattle by Lambanis.

22. *Coriandrum sativum*: Kotumbri soppu (Umbelliferae)

Leaves are crushed in butter milk and given orally for

stomachic problems in cattle and humans by Pindaris.

23. *Dolichandrone falcata*: Oodi gida (Bignoniaceae)
Leaves mixed with *Sesamum indicum* seeds powdered and administered orally with water or milk for bone fracture in humans by Korchas and Kadukurubas

24. *Echinops echinatus*: Brahmadande (Compositae)
The whole plant is used as an anthelmintic in humans by Lambanis and folk practitioners of Bellary.

25. *Eclipta Alba*: Kadiggarugu (Compositae)
The paste made up of whole plant is applied on cuts and wounds and also ear ache in children by Kadukurubas and Pindaris.

26. *Euphorbia geniculata*: Halalabu (Euphorbiaceae)
The whole plant is mixed with fodder for lactation in cattle by Pindaris and Korchas.

27. *Ficus benghalensis*: Aaladamara (Moraceae)
The latex is applied on eye to overcome ophthalmic problems in cattle. Leaf extract is given with milk to both men and women as an aphrodisiac by Pindaris and Lambanis.

28. *Ficus racemosa*: Attimara (Moraceae)
The fruit is crushed in butter milk or water, used orally for gastric problem in humans by Korchas.

29. *Gymnema sylvestre*: Kodapatre (Asclepiadaceae)
Root powder is mixed with *Caesalpinia crista* and given orally with butter milk to cure gastric problems in humans. Leaf extract with other ingredients, given orally for diabetes, leaf paste is applied on affected portion for bone fracture in human beings by Pindaris.

30. *Hibiscus esculentum*: Bende Kayi gida (Malvaceae)
Leaf juice is given to cattle for early delivery of calf by Korcha tribe.

31. *Holarrhena antidysenterica*: Bili aali (Apocynaceae)
The bark powder is given with water or butter milk to check the dysentery in humans and cattles by Pindaris and Korchas.

32. *Jatropha curcas*: (Euphorbiaceae)
The latex is applied on teeth gums for tooth ache in humans by Kadukurubas and Lambanis.

33. *Jatropha gossypifolia*: (Euphorbiaceae)
The whole plant is squeezed and the juice is put in to eye to cure eye problems in cattle by Gonds.

34. *Mangifera indica*: Mavina gida (Anacardiaceae)
Bark decoction is used as antidysenteric in human beings by folk practitioners of Bidar and Bellary districts.

35. *Pergularia daemia*: Kurudigana balli (Asclepiadaceae)
Leaves are powdered with bark of *Soymida febrifuga* and mixed with sheep milk, given orally for fractures. At the same time the leaves of *Strychnos potatorum* are crushed in Sheep milk and applied on the affected portion, paste of leaves of this plant and *Calatropis procera* is applied for

muscular pain in animals. Mixture of paste of leaves of this plant, *Piper nigrum* seeds and *Allium sativum* juice put in to eyes for any kind of disease in cattle by Pindari tribe and folk practitioners of Bidar district.

36. *Piper nigrum*: Menasu (Piperaceae)
Seeds are mixed with seeds of *Syzigium cumini*, *Carum ammi*, *Myristica fragrans* and leaves of *Gymnema sylvestre*, powdered and administered orally for fracture in cattle and humans by Korchas.

37. *Securinega virosa*: Bili huli (Verbenaceae)
The leaf juice is given orally to cure gastric problems in human beings by Kadukurubas and Pindaris.

38. *Semecarpus anacardium*: Geru (Anacardiaceae)
Seed is given orally with banana or food to cure foot and mouth disease in cattle by folk practitioners of Bellary district and Lambanis.

39. *Solanum melongena*: Badane kayi gida (Solanaceae)
Leaves mixed with coconut and poppy seeds, powdered and administered orally for tympany in cattle by Korchas.

40. *Soymida febrifuga*: Some mara (Meliaceae)
The leaf and bark powder is given orally with butter milk for lactation, dysentery and also for easy placental expulsion in cattle by Korchas and folk practitioners of Bidar district. Bark powder with rock salt given generally for urinary problems. Bark extract given for stomach pain in human beings by Kadukurubas of Bellary district.

41. *Tagetes erecta*: Chanduhoovina gida (Compositae)
Leaf juice is given as an anthelmintic in cattle and human beings by folk practitioners of North-Eastern Karnataka.

42. *Tinospora cordifolia*: Amrita balli (Menispermaceae)
Bark juice is given orally to cattle as anthelmintic by Pindaris.

43. *Tridax procumbens*: Kari balli (Compositae)
Leaf juice or paste is applied on cuts and wounds of cattle. Leaf extract taken as an aphrodisiac in case of male individuals of Lambani tribe.

44. *Tylophora asthmatica*: Adumuttada balli (Asclepiadaceae)
Leaf powder is mixed with water and given orally to cure the cattle from food poisoning. Root paste applied on eyelids for 3 days to cure jaundice in human beings by folk practitioners of North-Eastern Karnataka.

45. *Typha latifolia*: Ajjana gida (Typhaceae)
The plant juice is given to cure limping problem in cattle by Lambanis.

46. *Vitex negundo*: Lekki gida (Verbenaceae)
The plant is mixed with coconut oil and *Piper nigrum* seeds crushed and poured in to nose to cure limping problem in cattle by Korchas.

Conclusion

The folk and ethno botanical uses of 46 plants have highlighted the use for curing various ailments of humans,

cattle and other domestic animals. Further detailed pharmacological screening for various activities of these plants are necessary to support the traditional and folk claims made by the practitioners regarding their therapeutic efficacy.

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