

## Ethnoveterinary practices in Uttara Kannada district of Karnataka

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Traditional methods of veterinary treatments using plants are predominant in rural folk of Uttara Kannada district situated in western Ghats of Karnataka. A total of 25 formulations from 39 plant species belonging to 30 families used to treat 21 diseases of domestic animals are described. The method of preparation, dose and duration of each plant along with its botanical name, family and local names are discussed.

**Key words:** Ethnobotany, Veterinary Medicine, Western Ghats, Karnataka, Uttara Kannada

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The relation between healing plants and human beings dates back to pre-historic era and so is the relation between man and his domesticated animals. Apart from all the modern medical systems, even today man is dependent on several plants for primary healthcare both for himself and for his pets. This dependency on medicinal herbs is still more in rural areas. But many of these herbal remedies, which are evolved over generations of experiences and practices, are unknown to the modern world. Efforts are on to document all the ethnomedicinal knowledge, but there are very few reports on plants used in veterinary medicine<sup>1-4</sup>. An attempt has been made to document the ethnoveterinary knowledge of Uttara Kannada district, one of the 27 districts of Karnataka state, in southern India (Fig.1). It lies between 13° 55'–15° 31' N latitudes and 74° 09'–75° 04' E longitudes. The total area of the district is 10291 sq km with total population of 12,18,000 (according to 1999 census). The major tribes inhabiting the area are *Siddis*, *Gowlis*, *Kunbis*, *Halakki Okkaligas* and *Kare Okkaligas*, constituting about 9% of the total population. The livestock population of the district is around 8, 53, 000 (according to 1997 census), which include 5, 20, 000 cattles and 2, 68, 000 buffaloes.

There are a few ethnobotanical reports from this area where the plants used by different tribes like *Siddi*<sup>5</sup>, *Gowli*<sup>6</sup> and *Kunabi*<sup>7</sup> have been described.

Apart from this, plants used in the treatment of snake bites<sup>8</sup> and skin diseases<sup>9</sup> have also been reported. It is the first report from Uttara Kannada district to document the plants used in veterinary medicine describing 39 medicinal plants belonging to 30 plant families to cure 21 different diseases.

### Methodology

Initially a list of herbal healers residing in the study area was prepared by gathering the information from the local people and some local agencies. Regular field trips were undertaken to different localities between November 1999 and December 2002. About 24 villages were selected representing the entire district. Each locality was visited in different seasons and information were collected through interactions and discussions with local herbal healers. Efforts were made to consult the healers representing different ethnic groups like *Brahmana* (Narasimha Hegde, Hulemalagi- Sirsi), *Nadava* (N K Madivala, Shedikeri, Yellapur), *Harijanas* and tribes like *Kunbis* (Narayana Kunabi, Alalemane- Karwar), *Kare Okkaligas* (Mableswara Gouda, Honnekoppa-Yellapur). The plants mentioned were authentically identified and their herbarium specimens are maintained in PG Department of Botany, Karnatak University, Dharwad for future reference and study.

### Results

Plants used in veterinary medicine are arranged in alphabetical order of their botanical names (Fig.2-13).

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Fig. 1. Location Map of Uttara Kannada District, Karnataka

Each entry gives the information about its botanical name, herbarium accession number, family, local names (*Kannada* language), and its flowering and fruiting season. Methods of preparation of medicine for each plant, information about the other ingredients to be added, dose and duration of the treatment, and local name for the disease are also given wherever available.

- 1 *Alangium salvifolium* (L.) Wang (KUDB/Ang/296), Alangiaceae, (Fig.2)  
Local name: *Ankole*, Flowering and Fruiting: April-May  
Uses: Stem bark is crushed in cow's milk and is given to dogs in the treatment of fever (*Jvara*), madness (*Huchchu*) and intestinal disorders (*Karulu bene*) for seven days.
- 2 *Alseodaphne semecarpifolia* Nees (KUDB/Ang/271,) Lauraceae.  
Local name: *Mase*, Flowering and Fruiting: March-May  
Uses: About 20 gm stem bark is crushed in buttermilk and given for three days to treat Rinderpest disease (*Dodda roga*) and dysentery (*Athisaara*) in cattles.

- 3 *Asparagus recemosus* Willd. (KUDB/Ang/274), Liliaceae.  
Local name: *Shatavari*, Flowering and Fruiting: September-January  
Uses: About 300 gm root is crushed in milk or buttermilk and given for a week in the treatment of arthritis (*Vaata*) in cattles.
- 4 *Capsicum frutescens* L. (KUDB/Ang/322), Solanaceae, (Fig.3)  
Local name: *Sanna menasu*, Flowering and Fruiting: Throughout the year  
Uses: About 100 gm fruits ground with the central pith of *Baalemara* (*Musa pardisiaca* L., Musaceae) and common salt is given orally 2-3 days to treat hemorrhagic septicaemia (*Galale roga*) in cattles.
- 5 *Careya arborea* Roxb. (KUDB/Ang/310), Barringtoniaceae.  
Local name: *Koulu mara*, Flowering and Fruiting: February-June  
Uses: Leaves ground with equal quantity of *Daasavaala* (*Hibiscus rosa-sinensis* L., Malvaceae), *Gentige* (*Crossandra undulaefolia* Salisb., Acanthaceae) and *Kaare* (*Randia dumetorum*



Fig. 2. *Alangium salviifolium* (Linn.) Wang.



Fig. 3. *Capsicum frutescens* Linn.



Fig. 4. *Cryptolepis buchanani* Roem. & Schult.



Fig. 5. *Dendrophthoe falcata* (Linn.) Etting.



Fig. 6. *Ervatamia heyneana* (Wall.) Cooke.



Fig. 7. *Gymnema sylvestre* (Retz.) R. Br.

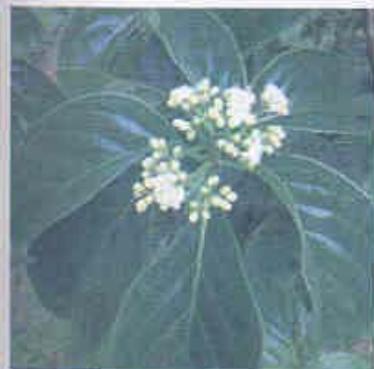


Fig. 8. *Nephrodites foetida* (Wt.) Sleumer.



Fig. 9. *Croxylum indicum* (Linn.) Vent.



Fig. 10. *Pothos scandens* Linn. R. Br.



Fig. 11. *Syzygium caryophyllatum* Gaertn.



Fig. 12. *Terminalia bellirica* (Gaertn.) Roxb.



Fig. 13. *Vitex negundo* Linn.

- Lamk., Rubiaceae) is given with boiled rice in the treatment of dislocated bones (*Mulu jaaruvudu*) for three days. Simultaneously, massage is also done by applying the oil of *Suragi* (*Mammea suriga* Buch.-Ham. ex Roxb. Kosterm., Clusiaceae).
- 6 *Cryptolepis buchanani* Roem. & Schult. (KUDB/Ang/311), Periploaceae, (Fig.4)  
Local name: *Karibantana balli*, Flowering and Fruiting: July-December  
Uses: About 100 gm leaves crushed in buttermilk are given twice in the treatment of snakebite (*Haavu kachchuvudu*) in cattles.
  - 7 *Cucurbita maxima* Duch. (KUDB/Ang/312), Cucurbitaceae  
Local name: *Kumbala*, Flowering and Fruiting: August-November  
Uses: Paste of the fruit stalk in lime juice or rice washed water is applied to joints of the legs in the treatment of dengue fever (*Kuntu roga*) for a week in cattles.
  - 8 *Curcuma longa* L. (KUDB/Ang/287), Zingiberaceae  
Local name: *Arisina*, Flowering and Fruiting: September- December  
Uses: About 300 gm rhizome crushed with 100 gm of whole plant of Coriander (*Coriandrum sativum* L.-Apiaceae) in groundnut oil and is given for five days to treat foot and mouth disease (*Kaalode-Baayode*) in cattles.
  - 9 *Dendrophoe falcata* (L.) Etting. (KUDB/Ang/316), Loranthaceae, (Fig.5)  
Local name: *Bandalike*, Flowering and Fruiting: November -May.  
Uses: 100 gm parasite, grown on *Halasu* (*Artocarpus integrifolia* L., Moraceae), ground with 10 gm each of pepper (*Piper nigrum* L.-Piperaceae), *Ajvan* (*Trachyspermum ammi* (L.) Sprague.-Apiaceae) and *Kaadujeerige* (*Vernonia anthelmintica* Willd. Asteraceae) in buttermilk is given for three days in the treatment of Rinderpest disease in cattles.
  - 10 *Elephantopus scaber* L. (KUDB/Ang/313), Asteraceae  
Local name: *Nelakanagilu*, Flowering and Fruiting: September-March  
Uses: Whole plant is crushed and given with fodder or cattle feed for 15-20 days to increase lactation (*Haalu hechchaagalu*) and to avoid weakness (*Shakthivardhaka*) in cattles.
  - 11 *Ervatamia heyneana* (Wall.) Cooke. (KUDB/Ang/255), Apocynaceae, (Fig.6)  
Local name: *Maddarasa*, Flowering and Fruiting: March-May  
Uses: 100 gm bark crushed with 10 gm of *Ajvan* (*Trachyspermum ammi* (L.) Sprang.) is mixed with water. Filtrate of the mixture is given for two days to treat dysentery and diarrhoea (*Uchchuvudu*) in cattles.
  - 12 *Ficus glomerata* Roxb. (KUDB/Ang/314), Moraceae.  
Local name: *Atti*, Flowering and Fruiting: Throughout the year.  
Uses: 100 gm bark ground in buttermilk is given in the treatment of tympanites (*Hotteyubbara*) for two days in cattles.
  - 13 *Gymnema sylvestre* (Retz.) R.Br. (KUDB/Ang/315), Asclepiadaceae, (Fig.7)  
Local name: *Madhunaashini*, Flowering and Fruiting: October- January  
Uses: 50 gm each bark of the climber ground with *Maddale* (*Alstonia scholaris* R.Br., Apocynaceae), *Maddarasa* (*Ervatamia heyneana* (Wall.) Cooke, Apocynaceae), *Geru* (*Anacardium occidentale* L., Anacardiaceae) and pepper (*Piper nigrum* L.-Piperaceae) is given with honey for three days in the treatment of fever in cattles.
  - 14 *Machillus macrantha* Nees. (KUDB/Ang/273), Lauraceae  
Local name: *Kulamaavu*, Flowering and Fruiting: December- May  
Uses: Mixture of equal quantity of bark of the plant crushed with *Tamaalapathre* (*Cinnamomum wightii* Meissn., Lauraceae) is poulticed to treat bone fractures (*Elubu murita*) in cattles.
  - 15 *Musa paradisiaca* L. (KUDB/Ang/318), Musaceae  
Local name: *Baale*, Flowering and Fruiting: Throughout the year  
Uses: Young leaves and roots are given to reduce heat (*Thampige*) in cattles.
  - 16 *Mussaenda frondosa* L. (KUDB/Ang/319), Rubiaceae  
Local name: *Bellatte*, Flowering and Fruiting: Throughout the year.  
Uses: A teaspoon full of root paste is given orally in the treatment of poisonous bites in cattles.
  - 17 *Nothopodytes foetida* (Wt.) Sleumer. (KUDB/Ang/317), Icacinaceae, (Fig.8)  
Local name: *Happu kodasa*, Flowering and Fruiting: August- November.  
Uses: Root paste in lime juice is applied externally

- in the treatment of poisonous bites in cattles. A spoonful of the paste is also given orally along with its external application during the treatment.
- 18 *Oroxylum indicum* (L.) Vent. (KUDB/Ang/320), Bignoniaceae, (Fig.9)  
Local name: *Aanangi*, Flowering and Fruiting: May-August  
Uses: 100 gm bark is crushed with 100 gm bark of *Honaalu* (*Terminalia paniculata* Roth., Combretaceae), 50 gm root of *Aadusoge* (*Adhatoda vasica* Nees., Acanthaceae), 10 gm *Ajvan* (*Trachyspermum ammi* (L.) Sprang.- Apiaceae) and 10 gm pepper (*Piper nigrum* L.- Piperaceae). A decoction of this mixture is given in the treatment of paralysis (*Paarsva vaayu*) for a week in cattles.
- 19 *Pothos scandens* L. (KUDB/Ang/321), Araceae, (Fig.10)  
Local name: *Appachchi balli*, Flowering and Fruiting: March-June  
Uses: Whole plant is crushed and given to cattles to increase lactation.
- 20 *Spondias mangifera* Willd. (KUDB/Ang/323,) Anacardiaceae  
Local name: *Amate*, Flowering and Fruiting: February-April  
Uses: About 100 gm bark is crushed and given for two days to treat dysentery in cattles.
- 21 *Syzygium caryophyllatum* Gaertn. (KUDB/Ang/324), Myrtaceae, (Fig.11)  
Local name: *Kunneralu*, Flowering and Fruiting: February-June  
Uses: 50 gm bark is ground with equal quantities of stem bark of *Neralu* (*Syzygium jambolanum* DC., Myrtaceae), *Seetaphala* (*Anona squamosa* L., Anonaceae) and a bit of common salt. Its juice is given orally and remaining residue is applied externally to stomach in the treatment of tympanites for two days in cattles.
- 22 *Terminalia bellirica* (Gaertn.) Roxb. (KUDB/Ang/262), Combretaceae, (Fig.12)  
Local name: *Taare*, Flowering and Fruiting: January-May  
Uses: A piece of stem bark is tied around the neck of the cattles using thread made of *Kavarige* (*Helicteres isora* L., Sterculiaceae) to cure wounds with maggots (*Hulu beeluvudu*). A little paste of the former is applied externally to the wound (*Gaaya*). A piece of the bark is also given orally with the grass in the treatment of wounds.
- 23 *Vitex negundo* L. (KUDB/Ang/301), Verbenaceae, (Fig.13)  
Local name: *Lakki*, Flowering and Fruiting: Throughout the year  
Uses: 3-4 drops of leaf juice with *Tumbe* (*Leucas aspera* (Willd.) Spreng., Lamiaceae) is put in the nostrils in the treatment of poisonous bites in cattles.
- 24 *Zanthoxylum alatum* Roxb. (KUDB/Ang/325), Rutaceae.  
Local name: *Jumma*, Flowering and Fruiting: January-August  
Uses: Bark paste in lime juice is applied externally for 4-5 days in the treatment of corneal opacity (*Kannige hoo kooruvudu*) in cattles.

### Discussion

Twenty five formulations from 39 plant species belonging to 30 families are discussed here. Among these, uses of *Terminalia bellirica* Roxb., *Cinnamomum wightii* Meissn. and *Machilus macrantha* Nees. in treating veterinary ailments by Kunabi tribes have been reported earlier<sup>7</sup>. Similarly, *Strychnos nux-vomica* L. is used in the treatment of cuts and wounds in cattles by Siddis<sup>5</sup>, *Elephantopus scaber* L. *Carissa carandus* L. *Alstonia scholaris* (L.) R.Br. and *Dillenia pentagyna* Roxb. in various veterinary ailments<sup>6</sup>. Thus, most of the other claims are probably new to ethnomedicinal record of the district.

Some of the noteworthy claims are those used to treat Rinderpest disease and foot & mouth disease, which are very common in the area during rainy seasons. Apart from this, treatment for poisonous bites also gains attention with four different formulations. The study also reveals that in most of the cases, combinations of plants are used to treat the diseases, rather than a single plant. However, the proportion of ingredients varies depending upon the severity of the diseases. These formulations need further clinical tests to prove their efficacy and also to develop new herbal drugs for the effective treatment of different diseases in domestic animals.

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