Ethnoveterinary medicine from Koch Bihar district, West Bengal

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Received 23 July 2004; revised 6 June 2005

The ethnic communities like Kheria, Oraon, Rajbanshi, Rabha and Santal inhabit in Koch Bihar, a district of northeastern part of West Bengal. Rearing of cattle, goats, fowls, etc. are common practices among the tribal society. Treating the ailments of these domestic animals is done by the application of herbal drugs as the ethnic communities have their own system of herbal veterinary medicine practiced since time immemorial. The common veterinary diseases on this district are swelling of abdomen, retention of urine and stool, loose motion, intestinal worm, swelling of neck due to cold, suppression of milk, mastitis, etc. During the field study, 25 ethnoveterinary prescriptions have been recorded in which 23 plant species belonging to 18 families have been used. In the present paper scientific and vernacular names of the plants, the mode of preparation of medicine have been given.

Key words: Ethnoveterinary Practices, Tribals, Koch Bihar, West Bengal, Kheria, Oraon tribe, Rajbanshi tribe, Rabha tribe, Santal tribe


Koch Bihar, a district of north-eastern part of West Bengal (Fig. 1), lies in between 26°32′46″ to 25°57′57″ N latitude and between 89°52′00″ to 88°45′02″ E longitude. The major ethnic communities of the district are Kheria (Khe.), Oraon (Or.), Rajbanshi (Rj.), Rabha (Ra.) and Santal (Sant.). Agriculture is the main economic pursuit of all the ethnic communities of the district. Besides this, rearing of cattle, goats, fowls, etc. are common practices among the tribal societies who earn some additional income by selling milk, egg, flesh, etc., which brings some relief to their depressed economic condition. Cattle play a vital role in agricultural operations such as ploughing, harrowing, threshing, harvesting and also transporting the products to the market. The common veterinary diseases in this district are swelling of abdomen, retention of urine and stool, loose motion, intestinal worm, swelling of neck due to cold, suppression of milk, mastitis, etc.

The treatment of diseased animals is done primarily by traditional practitioners called ‘Go Baidyas’ (veterinary doctors). These practitioners have their own system of herbal medicine practiced since time immemorial. This ancient but effective system of herbal medicine is under threat due to modernization of tribal culture and acculturation with consequent loss of knowledge of traditional healing process. The objective of the present study is to preserve and to disseminate the knowledge of this traditional system of herbal medicine, so that it can be useful for ethno-pharmacological surveying. Furthermore, no comprehensive attempt has been made so far to survey the use of the ethnoveterinary plants by the ethnic communities of Koch Bihar district. However, there are only a few reports1, 2 of angiospermic flora of this district.

Methodology

The present work is the outcome of extensive survey of different tribal villages (Figs 2 and 3) of Koch Bihar district undertaken during 1995-1998 to collect information on the traditional uses of medicinal and economic plants of the district. The method of study was in general the same as described by Jain.3, 4

The first hand information was collected by interviewing ‘Go Baidyas’ and also tribals. Voucher plant specimens were collected and identified with the help of local flora5, 6, 7 and were deposited in Central National Herbarium, Kolkata (CAL).

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Observations

Plants used for the treatment of domestic animals are arranged alphabetically in the order of their botanical name followed by family name, basionym of plants (if present), vernacular name(s) and methods of application of medicine against various ailments.

1. *Acalypha indica* Linn. (Euphorbiaceae)
   
   Vernacular name: *Muktajhuri* – Beng; *Mulinkara* – Ra. (Fig. 4)
   
   Uses: Roots and leaves in proportion of 1:2 are crushed together and administered to the cattle along with food to kill intestinal worms (Ra.).

2. *Alocasia macrorrhiza* (Linn.) G. Don; *Arum macrorhiza* (Araceae)
   
   Vernacular name: *Man Kochu* – Beng.
   
   Uses: Paste of the rotten petiole is slightly warmed and applied on the neck of cattle to allay pain due to swelling of neck (Rj.).

3. *Alstonia scholaris* (Linn.) R. Br.; *Echites scholaris* Linn. (Apocynaceae)
   
   Vernacular name: *Chatim* – Beng.; *Buchong* – Ra. (Fig. 5)
   
   Uses: Bark of the plant (50 gm) is fed to the cattle with salt for gastric problem and for good health (Ra.).

4. *Amaranthus spinosus* Linn. (Amaranthaceae)
   
   Vernacular name: *Kantanote* – Beng; *Kantavuria, Khuria kanta* – Rj. (Fig. 6)
   
   Uses: Paste of the whole plant is applied externally for quick healing of wounds of cattle (Rj.).

5. *Annona reticulata* Linn. (Annonaceae)
   
   Vernacular name: *Nona* – Beng.; *Ramphal* – Sant.
   
   Uses: The paste of the leaves is mixed with mustard oil and applied on wounds of cattle for quick healing (Sant.).

6. *Bambusa arundinacea* (Retz.) Willd. (Poaceae)
   
   Vernacular name: *Kanta Bansh* - Rj. (Fig. 7)
   
   Uses: Dried leaves (about 50 gm) steeped in mustard oil are fed to cattle with molasses to cure cough (Rj.).

7. *Caesalpinia bonduc* (Linn.) Roxb.; *Guilandina bonduc* Linn. (Caesalpiniaceae)
   
   Vernacular name: *Nata* – Beng.; *Bagni* – Sant. (Fig. 8)
   
   Uses: About 20 gm of roots and 7 pcs. of Golmarich (Fruits of *Piper nigrum* Linn.) are pounded together and is fed to cow before delivery for quick detachment of placenta (Sant.).

8. *Cassia fistula* Linn. (Caesalpiniaceae)
   
   Vernacular name: *Sondali, Amaltash* – Beng. (Fig. 9)
   
   Uses: Lukewarm paste of green fruit is applied on the neck of cattle to cure swelling due to cold (Rj.).

9. *Cissampelos pareira* Linn. var *hirsuta* (Buch. Ham. ex DC.) Forman; *Cissampelos hirsuta* Buch. Ham. ex DC. (Menispermaceae)
   
   Vernacular name: *Niltat* – Rj.; *Tejomala* – Sant. (Fig. 10)
Uses: By boiling twigs of the plant, cut into small pieces in water decoction is prepared. Three tablespoon full of the red decoction is given to cattle, 4-5 times in a day in Puiarog (symptoms: do not take food and drink, swelling of abdomen due to flatulency) (Sant.).

10 Clerodendrum viscosum Vent. (Verbenaceae)
   Vernacular name: Bhat, Bhatipata – Ra.; Rj. (Fig. 11)
   Uses: Paste of the tender leaves is administered to cattle and goats to kill intestinal worms (Ra.).

11 Cordyline terminalis Kunth. (Agavaceae)
   Vernacular name: Charakmuni – Rj.; Ra.
   Uses: About 50 gm of leaf is given to cattle thrice a day to check loose motion (Rj.).

12 Costus speciosus (Koenig ex Retz.) Sm.; Banksia speciosa Koenig (Costaceae)
   Vernacular name: Keoa – Or.
   Uses: Paste of the rootstock is applied externally to cure wounds of cattle (Or.).

13 Cuscuta reflexa Roxb. (Cuscutaceae)
   Vernacular name: Amarbeli – Rj.; Alokelata – Or. (Fig. 12)
   Uses: About 20 gm of plant is fried in mustard oil and is given twice daily after delivery as galactogogue (Or.).

14 Lagenaria siceraria (Molina) Standl.; Cucurbita siceraria Molina. (Cucurbitaceae)
   Vernacular name: Lau – Beng.; Kodu – Sant.
   Uses: Boiled fruits are fed to cow with molasses for better lactation (Rj.).

15 Lippia javanica (Burm. f.) Spreng. Verbena javanica Burm. f. (Verbenaceae)
   Vernacular names: Bontulsi – Or;
   Uses: Fresh leaf juice (3 tablespoonful) is given thrice a day to control loose motion of cattle (Or.).

16 Moringa oleifera Lam. (Moringaceae)
   Vernacular name: Sajna – Beng.; Munga–Sant.
   Uses: Paste of the bark is applied externally on wounds for quick healing (Sant.). Leaves are given to cattle for good health and better lactation after delivery (Or.).

17 Neolamarkcia cadamba (Roxb.) Bosser ; Nauclea cadamba Roxb. (Rubiaceae)
   Vernacular name: Kadam – Beng.; Karam – Sant.; Tamak – Beng.
   Uses: Fresh juice of three tender leaves is mixed with three tea spoon of lime water and the mixture is administered orally to cure swelling of abdomen due to retention of urine and stool (Sant./Rj.).

18 Nicotiana tabacum Linn. (Solanaceae)
   Vernacular name: Kadam – Tamak – Beng.
   Uses: Ash of the leaf is mixed with a few drops of mustard oil and the paste is applied externally on wounds of cattle to kill worms (Rj.).

19 Persicaria chinensis (Linn.) H. Gross.; Polygonum chinensis Linn. (Polygonaceae)
   Vernacular name: Biskanthali – Khe.; Tepari – Beng. (Fig. 2F); Piyara – Beng
   Uses: Wet twig of the plant is rubbed over the body of the cattle to remove tick from the skin (Khe.).

20 Physalis minima Linn. (Solanaceae)
   Vernacular name: Tepari – Beng. (Fig. 13)
   Uses: Twig of the plant is mixed with leaves of Bhatipata (Clerodendrum viscosum), leaves of Gandhabhaduri (Paederia scandens Merrill) and Jowan (Fruits of Trachyspermum ammi Sprague) in ratio of 2:1:1:1. These are crushed and the aqueous extract is given to cattle having following symptoms: Swelling of abdomen, flatulency and retention of urine and stool (Or.).

21 Psidium guajava Linn. (Myrtaceae)
   Vernacular name: Piyara – Beng
   Uses: Ash of the leaf is mixed with a few drops of mustard oil and the paste is applied on wounds of cattle as an antiseptic agent (Ra.).

22 Stephania glabra (Roxb.) Miers.; Cissampelos glabra Roxb. (Menispermaceae)
   Vernacular name: Bhuikumra – Or.
   Uses: About 50 gm of bulbous root is crushed with Ada (rhizome of Zingiber officinale Rosc., 25 gm) and tender leaves of Boroi (Ziziphus mauritiana Lam., 25 gm). The paste is given twice a day to cure flatulency and gastric complaints of cattle (Or.).

23 Vitex negundo Linn. (Verbenaceae)
   Vernacular name: Nishinda – Beng.
   Uses: Leaves and Halud (rhizome of Curcuma longa) are crushed together in ratio of 2:1. The paste is slightly warmed and applied externally to allay pain due to sprain (Sant.). Paste of the root is also applied to cure mastitis (Khe.).

Discussion
The present study deals with 25 ethnoveterinary prescriptions of 23 plant species belonging to 18...
Fig. 2 Tribal man (Rajbanshi)

Fig. 3 Tribal (Santal) boy

Fig. 4 Acalypha indica Linn.

Fig. 5 Aistonia scholaris (Linn.) R. Br.

Fig. 6 Amaranthus spinosus Linn.

Fig. 7 Bambusa arundinacea (Retz.) Willd.
families used in ethnoveterinary medicine. It is also noted that swelling of abdomen, retention of urine and stool, loose motion, intestinal worm, swelling of neck due to cold, suppression of milk mastitis, etc. are the prevalent ailments found among the domestic animals of this district. In most of the cases plants or plant parts are given as such, seldom in combination with some other plants or plant parts are also used for the treatment of the diseases.

The study also indicates that the tribals have sufficient knowledge about the therapeutic uses of wild plant resources in this region. Tribals easily procure the plants either in their locality or in adjacent region. Sometimes they collect the plants from forests of this district.

All of the prescriptions are very effective but less known, as the Go-baidyas do not want to disclose their knowledge to people.

Acknowledgement
The authors are grateful to all the Go-baidyas and other resourceful tribals of Koch Bihar who cooperated with us in the documentation.

References