

Some ethnoveterinary plant records for Sikkim Himalaya

Kumar Avinash Bharati* & BL Sharma

Department of Botany, NREC College, Khurja 203 131, Uttar Pradesh
E-mail: Kumaravinashbharati@Rediffmail.Com

Received 3 October 2007; revised 28 January 2009

A field survey was done to study and document the indigenous knowledge of various ethnic groups of Sikkim regarding animal healthcare. The hills of Sikkim Himalaya are inhabited by number of ethnic groups. They use medicinal plants not only for human being but also for their domestic animals. Large number of plants has been collected and the information on their ethnoveterinary uses was gathered from local inhabitants. The information about folk medicinal use, vernacular names of plants and the parts of the plants used are documented. During the investigation, a well developed ethnoveterinary system among tribal people was observed. Twenty of plant species used by local people to cure various disease and disorders were recorded.

Keywords: Ethnoveterinary practices, *Lepcha* tribe, *Bhutia* tribe, *Limbus* tribe, *Nepalese* tribe, Indigenous knowledge, Medicinal plants, Khurja, Uttar Pradesh

IPC Int. Cl.⁸: A61K36/00, A61P1/02, A61P17/00, A61P17/14, A61P19/00, A61P29/00, A61P31/02, A61P39/02

The hills of Sikkim and Darjeeling constitute the Sikkim Himalaya. It lies between 27°10'–28°5' N latitude and 88°31'–89° E longitudes, which is inhabited by various ethnic tribes like *Lepcha*, *Bhutia*, *Limbus*, *Nepalese*, etc.¹ A majority of population live in remote rural areas. Therefore, agriculture and animal husbandry are the primary occupation of majority of population. Thus, animal rearing has been an integral part of subsistence economy in the Himalayas and dependence on animals increase with an increase in elevation. The cost and availability of modern medicine deprives rural people from it. Further, rural population is poor and illiterate they need cheap and easy method of treatment. Ethnomedicine has potential to fulfil their both needs. Except from traditional medicines, they have no other choice. Some important ethnobotanical studies in Sikkim Himalaya have been done on plants serving to cure ailments of human beings¹⁻⁵. Unfortunately, ethnoveterinary plants have been ignored. The traditional knowledge of Himalayan ethnic groups about ethnomedicine is very ancient and had always played pivotal role in discovery of novel products^{5,6}. However, due to lack of proper records and documentation, the indigenous knowledge and the natural resources are depleting day by day. Therefore, there is a dire need to document the traditional knowledge of various ethnic groups.

Keeping this in view, an attempt has been made to explore and document the traditional knowledge used in veterinary practices in Sikkim Himalaya. Twenty plant species, which are being used in various veterinary diseases and disorders have been recorded.

Methodology

A field survey was conducted (Fig. 1) from March to May 2007 by performing interview through

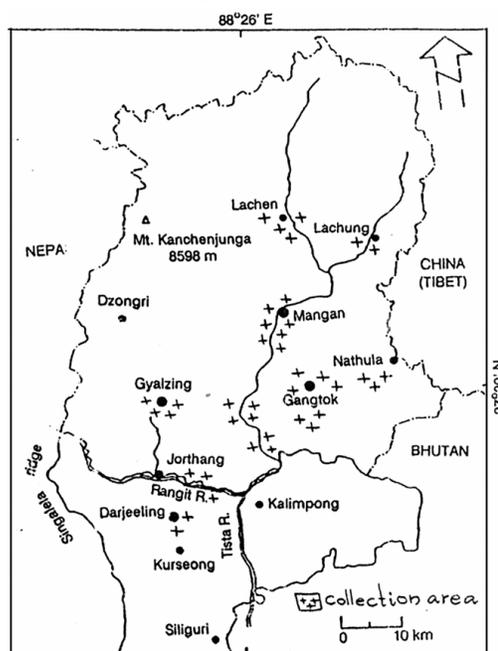


Fig. 1—Location map of study area

*Corresponding author

questionnaire with 24 selected respondents to collect information about traditional knowledge regarding use of plants and their products in folk medicines. These respondents (25-70 yrs) were local herbalists, healers, farmers, village headman and elders following the standard ethnobotanical investigations suggested^{8,9}. Prior informed consent was taken from respondents for recording of the information. They were questioned about the animal remedies and which of them is prescribed for which ailment, plant parts used, mode of preparation, doses and methods of administration. The data was cross-

checked with variable informants of Sikkim. The plant specimens collected during investigation were preserved in the form of herbarium. Identification of plants was done using relevant flora and herbaria of BSI, Gangtok¹⁰.

Result and discussion

The plants studied are enumerated alphabetically with their botanical names, family name, local names (in *Nepali*), parts used and their ethnoveterinary uses (Table 1). Each and every tribe is unique not only in practice of rituals and customs but also in

Table 1—Ethnoveterinary uses of plant resources of Sikkim

Plant name/ Family	Local name (Nepali)	Uses
<i>Alstonia scholaris</i> R. Br. Apocynaceae	<i>Chition</i>	To cure fever, bark powder mixed with common salt is given thrice a day.
<i>Bauhinia vahlii</i> (Wt. & Am.) Benth. Caesalpinaceae	<i>Baro lara</i>	Stem bark paste is applied on fractured bone and bandaged with the help of cotton cloth.
<i>Bauhinia variegata</i> L. Caesalpinaceae	<i>Takki</i>	To control expel placenta, two cups of root decoction is given twice daily.
<i>Betula utilis</i> D. Don. Betulaceae	<i>Bhujpata</i>	Crushed stem is applied on injuries.
<i>Boemninghausenia albiflora</i> Reich. Rutaceae	<i>Likhijari</i>	Leaf extract is applied on body of cattle to kill lice and flea.
<i>Cedrus deodara</i> (Roxb. ex. Lambert) G. Don. Pinaceae	<i>Deodar</i>	Oil is applied externally to treat ringworm.
<i>Datura metel</i> L. Solanaceae	<i>Dhontrey</i>	Seed powder is used in skin disease and crushed leaf is applied on insect bite.
<i>Elsholtzia balande</i> Benth. Labiatae	<i>Jungli Tulsi</i>	Root powder paste with mustard oil is applied on the affected parts with scabies.
<i>Embelia ribes</i> Burm. f. Myrsinaceae	<i>Buibidans</i>	Powdered seed is given with milk for two days to dog as anthelmintic.
<i>Flemingia macrophylla</i> Blume. Fabaceae	<i>Barvasi</i>	To cure blood dysentery, whole plant decoction is given thrice a day till cured.
<i>Juglans regia</i> L. Juglandaceae	<i>Okhor</i>	Leaf paste is applied on hoof disease of cattle.
<i>Mallotus philippinensis</i> Muel. Arg. Euphorbiaceae	<i>Sindure</i>	Dried seed powder is applied on wound.
<i>Melastoma malabathricum</i> L. Melastomaceae	<i>Augeri</i>	In fever, leaf decoction is administered twice a day till cured.
<i>Potentilla fulgens</i> Wall. Rosaceae	<i>Samokhil</i>	To regulate fertility, whole plant decoction is given once daily for fifteen days.
<i>Prunus cerasoides</i> D. Don. Rosaceae	<i>Panyun</i>	Crushed stem bark is applied on injuries.
<i>Rubia cordifolia</i> L. Rubiaceae	<i>Majitho</i>	In postal-natal problems, crushed stem mixed with rice wash is given.
<i>Rubus ellipticus</i> Sm. Rosaceae	<i>Panyun</i>	Crushed stem bark is applied on injuries.
<i>Schima wallichii</i> (D.C.) Korth. Theaceae	<i>Chilone</i>	Crushed stem bark with common salt is used as vermicide.
<i>Taxus baccata</i> L. Taxaceae	<i>Dhengre salla</i>	Bark paste is applied on fractured bone and bandaged with cotton cloth.
<i>Woodfordia fruticosa</i> Kurz. Lythraceae	<i>Dahahari</i>	Leaves are given in ulcer.

practice of natural medicinal system and the tribals of Sikkim are not an exception^{3,4,5,11}. Each ethnic group has some unique knowledge of medicinal plants⁴. Since, they are inhabited in remote villages their ethnobotany remain confined within local areas. As most of these plants have very effective medicinal properties, local people use them frequently. Documentation of these plants will not only provide new medicines but will also help in the conservation of medicinal plants¹. There is an urgent need to conserve them before they are extinct due to over-exploitation. In hilly areas, traditional cropping is not very productive hence *in situ* conservation and farming of medicinal plants may be a better alternative. Thus, scientific farming of medicinal plants in remote villages will not only protect plants in wild but also provide employment to youth and high return to farmers. Moreover, availability of raw material will attract pharmaceutical companies to set up their manufacturing units in rural areas. Therefore, documentation of folklore veterinary knowledge will save the ethnoveterinary system from extinction. In addition to this, the traditional medicinal system gives better result in drug resistance disease with zero side effects¹². Further, documentation of traditional knowledge will help to protect our indigenous knowledge from being patented by multinational companies.

Acknowledgement

Authors thank all the informants for their cooperation and help during the study. Authors are highly grateful to BSI, Gangtok and BSI, Allahabad for their valuable help during identification of plants and for references. First author is thankful to CSIR for providing financial assistance in the form of Junior Research Fellowship.

References

- 1 Rai LK & Sharma E, *Medicinal Plants of the Sikkim Himalaya*, (GBPIHED, Almora), 1994.
- 2 Atkinson ET, *The Himalayan Gazeteer*, Vol 2 (Reprint 1973), (Cosmo Publication, Delhi), 1882.
- 3 Bennet SSR, Ethnobotanical Studies in Sikkim, *Ind For*, 109 (7) (1983) 477-481.
- 4 Rai PC, Sarkar A, Bhiyet RB & Das AP, Ethnobotanical studies in some fringe areas of Sikkim and Darjeeling Himalayas, *J Hill Res*, 11 (1) (1998) 12-21.
- 5 Biswas K, Common Medicinal plants of Darjeeling and Sikkim Himalayas, (Govt Press, Kolkata), 1956.
- 6 Jain SK, Ethnobotany, its scope and study, *Ind Mus Bulletin*, 2 (1967) 39-43.
- 7 Jain SK, *Ethnobotany in Human Welfare*, (Deep Publications, New Delhi), 1996.
- 8 Jain SK, *A Manual of Ethnobotany*, 2nd edn, (Scientific Publishers, Jodhpur), 1995.
- 9 Martin JG, *Ethnobotany (Methods Manual)*, (Chapman and Hall, London), 1995.
- 10 Hajra PK & Vema DM, *Flora of Sikkim*, Vol 1, (BSI, Kolkata), 1996.
- 11 Jain SK and Chauhan, Studies on *Lepcha* Medicobotany of *Dzongu*, Sikkim Himalaya, *Himalayan Paryavaran*, 6 (1999) 121-126.
- 12 Davis J, Inactivation of antibiotics and the dissemination of resistance gene, *Science*, 264 (1994) 375-382.