ETHNOVETERINARY VALUES OF SOME PLANTS USED AGAINST SNAKE BITE IN POONCH DISTRICT OF JAMMU AND KASHMIR (INDIA)

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Abstract: Poonch district of Jammu and Kashmir state possesses a rich history and culture of tribal society which have a great wisdom of traditional knowledge with regard to medicinal plants for the treatment of their livestock . Survey was conducted from January 2009 to December 2010 for the documentation of ethno veterinary plants used for snake bite particularly to cows, Buffaloes and Horse with the help of village elders, key informants and local healers which indicated that inhabitants of the valley utilize 22 species belonging to 16 genera and 12 families. The primary objective of the study was to explore the floristic diversity and valuable folk medicinal plants because the knowledge is confined to only local healers and it is important to record this knowledge for future generations which otherwise will be lost forever. Family name, botanical name with local name in bract, parts used, method of preparation and mode of use is presented here.

Keywords: Against snake bite, Tradional knowledge

INTRODUCTION

The documentation and analysis of traditional knowledge about the locally used resources have been an integral part of botanical research and have resulted in a rich body of knowledge about the locally used resources (Prance 2005). Poonch district of jammu and Kashmir state supports a wide variety of floristic diversity and a large number of livestock population which play a vital role in the economy of tribal and rural people. District is one of the most important trible populated area of the state who inhababit from Tehsil Mendher to upper Pir Panjal range. Gujjars, Bakerwals and Paharis are the major tribes of the district. Considerable work on ethno medico botany as well as on floristic diversity has been done from different states of India as well as from different countries by different workers like Hooker (1872-1897) worked on flora of British india,Duthie(1893-94) visited the Kashmir and prepared a report on botanical tour of Kashmir,Nasir and Ali (1970) worked on flora of west Pakistan, Koul *et al*. (1989)worked on ethno botany of Bani Basoli region of J&K state, Pangtey (1989) has worked on ethno botanical notes on Bhutia tribes of Kumaon Himalya, Aswal; (1996) workd on conservation of ethno medicinal plants diversity of Garwal Himalya. Koul (1997) worked on Medicinal Plants of Kashmir & Ladakh, temperate and cold arid himalya. Lan and Brown (1998) worked on ethno veterinary medicine used for ruminant in Trinadad and Tobago, Reddy *et al.* (1998) worked on plants used in ethno veterinary practices in Wrangal District Andhra Predesh. Gour (1999) worked on Flora of District Garwal North West Himalya with ethno botanical note, Jain similarly (1999)worked on ethno veterinary plants of India. Reddy and Raju (1999) studied on plants in ethno veterinary practices in, *Anantpur* district of Andhra predesh, Raju and Raju similarly(1999)worked on plants used in ethnovetrinary practices in Anantpur district Andhra Predesh , Reddy *et al.,* worked on ethno veterinary plants used by Gonds of Karimnager District Andhra Pradesh. Raju (2001) also studied ethno veterinary medicine in Andhra Pradesh whereas Tomar and Singh (2006) studied ethno therapeutics of some medicinal plants from Khatauli Block of Muzafarnagar district. Raju 2007 studied on ethnoveterinary medicine in Andhra predesh. Chourasia *et al.* (2007) also studied the ethno botany and Plants of Trans Himalya. Although enough from other districts of Jammu and Kashmir state and different states of India but little attention has been paid on poonch district of Jammu and Kashmir in relation to ethno veterinary plants used for snake bite.

Study area : Poonch district of jammu and Kashmir state situated in North west Himalya lies between 73˚ 30' to 74˚ 35' east longitude and 33˚ 35' to 34˚ 10' north latitude in the southwest of Srinager .It lies at about 100 m above sea level on the northern bank of poonch river and connects Jammu the winter capital of the state via Bhimber gali and Rajouri and Srinager the summer capital of the state via Pir gali and Shopian It enjoyes an average subtropical climate with heavey rainfall in summer and moderate winter Pir panjal is the barier between poonch and Kashmir and also for the monsoon for crossing over to Kashmir valley. Jammian wali gali, Nur pur gali and Pir gali are the most important tracks used by Gujjers and Bakerwals for crossing over to Kashmir valley along with their livestock. Pir Panjal is the barier between poonch and Kashmir and also for the monsoon for crossing over to Kashmir valley.The track from Buffliaz to Pir gali has also been used by Mughal emperors to enjoy the beauty of Noorichamb waterfall and high altitude alpine meadows. The mountain and peaks of Pir Panjal rang are of considerable height ranging between 3000 m to 5000 m and above. Adminstratively the district is comprised of 6 C D Blocks 4 Tehsils and 115 Panchyets with a total area of 1674 sq Km.

Geologically most parts of the district are made up of shale with traces of bauxite, graphite,lignite etc. The rocks are little over 1 million year old of the Pleistocene age (Wadia 1939).The area has experienced volcanic eruptions followed by glaciations in the geological past, which have left lot of morainic material. The district is drained by poonch river of Tehsil Havelli and Banloi river of Tehsil Mendher.The PH of soil ranges between 5.5 to 7.8. Maiz, Paddy and Wheat are the major crops of the same area.

METHODOLY

Survey was conducted in different villages and panchayets of the poonch district of jammu and Kashmir during the year 2009 and 2010. It comprised particularly in Pathanatir, Kalaban ,Harni, Dharana, Gursai, Snai, Chandimar, Khaneter, Sathra, Kehnu and Bufliaz and also in upper alpine meadows of chata pani, Ghas, jamian wali gali,and Nurpur gali. Documentatio regarding ethno veterinary plants for snake bite was made by direct interviewing of medicine mem, women and grazers of long experience. During the field visit we practiced group interviews whenever possible, but conversation with only one informant was a common practice, so the results were authenticated by cross intervening of three to four persons. The plant material was collected freshly accompanying the knowledgeable people from respective villages and standard herbarium technique (Jain & Rao ,1977)was used for preservation. The voucher specimens were identified with the help of standard floras and by matching with the herbarium of Indian institute of integrative medicine Jammu. The Standard methodology regarding the documentation was followed as suggested by Shultes(1960),Jain (1981,1987) and Ford(1978).The identified herbarium specimens were deposited in the department of botany Kisan (P.G.) College simbhoali for further use.

RESULT AND DISCUSSION

The author collected about 60 taxa of the plant from different localities of the district. Out of these 21 are used against snake bite belonging to 16 genera 22 species and 12 families. The local use of plants as a cure is common particularly in those areas which have little or no access to modern health care facilities. This traditional knowledge of medicinal plants is fast disappearing due to scarcity of written documents and relatively low income in these traditions

The folk healers prepare a certain dose of medicines taking into consideration the physical activity of the victim after bite, which depends upon the severity of the envenoming species, length of the snake and the amount inoculated. The severity of bites from different species is sometimes is increased due to primary bacterial infection present in the oral cavity of the snake which means that antibiotic treatment is sometimes necessary. Furthermore the effectiveness of the herbal remedy also depends upon the proper time of collection and preservation. The dose depicted here is used as a first aid in rural and far flung areas and is given above the age of two years and may be increased or decreased depending upon the physical condition of the victim. About 20 to 25 gram dried tuber of the *aresaema* spp is also given daily by wrapping in butter if swelling occurs for a long time. Special care is taken while giving *Aresaema* spp and *Aconitum voilacium* so that they do not touch the tongue and pharynx because it may cause swelling in the digestive tract. Although the tribal and rural are not adverse in accepting the modern medicine but about 80 to 90 percent of them still depend upon the surrounding vegetation to cure the victim of snake bite. For the systematic enumeration the plants are listed alphabetically with their botanical name, local name in bract, family, parts used, method of preparation and mode of use are describing in detail.

Table 1. Enumeration of some plants used against snake bite

S. No.	Botanical name (Local Name)	Family	Parts used	Method of preparation and mode of use
	Achillea millefolium Linn. (Chau, Pehlkach)	Asteraceae	Root	About 50 – 60 gram of root is crushed with stones and given orally to cows and buffaloes.
	Aconitum heterophyllum Wall ex Royeli (Patrees)	Ranunculaceae	Root	About 50- 80 gram powdered or crushed root is given to buffaloes, ox and horse.
	Aconitum voilacium Jacquim ex Stapf (Mori)	Ranunculaceae	Root	Paste of the root is applied externally. About 4 to 5 grame may also be given internally by wrapping in wet wheat flour or butter but taking into consideration the physical activity of the victim after bite.
	Acorus calamus Linn. (Pyonzkartal, Bach)	Araceae	Rhizome	About 100 to 150 gram of crushed rhizome is given to horse orally.

	Aresaema flavum forsk (Sap ni mak)	Araceae	Tuber	Tuber of the plant freshly collected during the month of August to September is crushed with stones and about 100 to 150 gram may be given orally by wrapping in wet wheat flour or butter. 30 to 35 gram dried and powdered tuber is also given by wrapping in wheat flour.
	Aresaema jacquimontii Blume(Sap ni mak)	Araceae	Tuber	Freshly collected tuber during the month of August to September is crushed with stones and about 100-150 gram is given orally by wrapping it in wet wheat flour. 30 to 35 gram powdered tuber is also given orally by wrapping in butter.
	Areaema propinquum Schot (Sap ni mak)	Araceae	Seeds	About 100 to 150 gram seeds of the plant are also given orally by crushing with stones and warping in wet wheat flour. Paste of the seeds is also applied externally. Antidote to all the species of Aresaema is butter and milk.
	Asplenium dalhouseae Hook (Sap ni jari, Alaf wali jari)	Aspleniaceae	Whole plant	200 to 300 gram whole plant is crushed with stones and given internally followed by 20 to 40 gram Gol Mirch (*Pipper nigrum*) and desi ghee
	Alium cepa Linn. (Payaz)	Lilliaceae	Bulb	Paste of the bulb is applied externally and about hundred to two hundred gram is given internally followed by 10 to 15 gram Gol Mirch.
	Alium sativa Linn. (Thoom)	Lilliaceae	Bulb	50-60 gram bulb is made into paste and is given orally along with butter.
	Barleria cristata Linn. (Sap ni jari)	Acanthaceae	Whole plant	About 200 to 300 hundred gram whole plant is made into past and given orally.
	Bupleurum falcatum Linn. (Peeley phul wali jari,nagdun)	Apiaceae	Whole plant	About 100 to 200 gram whole plant is grinded with stones and isgiven orally to cow's buffaloes and horse.
	Delphinium denudatum Wall (Sap ni jari)	Ranunculaceae	Root	10 to 20 gram powdered root is given orally .past of root is also applied externally.
	Dioscorea bulbifera Linn. (Chachla ganda, Kala ganda ,Kithi ganda)	Dioscoreaceae	Tuber	About 200 to 300 gram tuber is given orally by mixing in 10 to 15 gram Gol Mirch (*Pipper nigrum*).
	Gloriosa superba Linn. (Sap ki jari)	Lilliaceae	Root	About twenty gram root is grounded and given orally.
	Micromeria biflora Buchanan Hamilton ex D Don, Benth (Chickni)	Lamiaceae	Whole plant	200 to 300 gram whole plant is grounded and given orally.
	Podophyllum hexandrum Royle (Bankhakri wanwangun)	Podophyllaceae	Rhizome	Past of rhizome is applied externally and about 30 to 40 gram is given orally.
	Primula denticulate Smith(Landanposh)	Primulaceae	Whole plant	150 to 200 gram plant is crushed with stones and is given orally.

	Primula macrophylla Don (Ladanposh)	Primulaceae	Whole plant	About 200 gram whole plant is grinded and given orally.
	Sorghum halepense Linn. (Baru)	Poaceae	Root	About 100 to 150 gram root is grinded and given orally.
	Thymus linearis Benth ex Benth (Chickni)	Lamiaceae	Whole plant	100 to 150 gram whole plants is given orally.
	Vitex negunda Linn. (Bana)	Verbenaceae	Leaves	Leaves of the plant are made into paste and 100 to 200 gram is given orally.

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