

## Traditional Uses of Animal and Animal Products in Medicine and Rituals by the Shoka Tribes of District Pithoragarh, Uttarakhand, India

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**ABSTRACT** Inter-linkages between cultural diversity and the environmental ethics or traditional conservation, has been very less understood, least studied (Negi 2003). Traditional mode of living or sustenance, invariably relates to the immediate nature and the resources that reside therein. Traditional people, thus have been using the myriad resources- be that the timber, fibres, medicinal plants, edible plants and others, but more importantly have been engaged in bringing forth the subtle and innovative uses of the same so that the maximum benefit is accrued. One such innovation is the use of wild fauna or their parts in the traditional medicine and rituals. The present paper thus attempts to inventorize this little left out resource base among the Shoka tribes of Darma and Johaar valleys, in Pithoragarh district in the state of Uttarakhand, India, with an aim that this knowledge bank could be put to more efficacious use through sustainable harvest. A total of 38 species (mammals-20, birds-6, reptiles-5, insects-4, fish-2, and a lone amphibian), belonging to 16 families, led by bovidae (6), equidae, felidae and leporidae (2 each), and the rest being constituted by a single species, were either being used by the common-folks in the treatment of different diseases or were in possession of the knowledge base of the usage of the same. A total of 19 different diseases or disorders were being treated using the animal products. Out of the total 38 species, only a minuscule 3 species had multiple uses, as regards the treatment of different diseases.

### INTRODUCTION

Delimited by the Kali and Dhauri rivers, in the northern half of the district Pithoragarh, Uttarakhand, lays stretch of valleys, the Darma, the Vyas and the Choudas, inhabited by the tribal society, commonly referred to as the *Bhotiyas*. Primarily Mongoloid in appearance, with occasional Aryan and aboriginal traits still perceivable, the bhotiyas are actually an agglomeration of independent and mutually exclusive sub-groups like the tolchchhas, the marchchhas and the jads, their co-brethrens residing mainly in the frontline areas bordering on Tibet, in the hill districts of Chamoli and Uttarkashi, Uttarakhand. These indigenous populations of high altitudes utilize a wide range of biological resources in diverse ways. The extreme ecological conditions of these high altitude terrains have shaped life-styles and cultures (Pant, 1935), wherein hunting of wild animals, birds and using them as a source of food and medicines is part of the general milieu or traditional way of living. These tribal communities also maintain their social and cultural relationship with surrounding nature and keep traditional knowledge of plants and animal use restricted to their society-a closely guarded

treasure. Few studies have been made to quantify the socio-economic significance of medicinal uses of animal products to such indigenous people. More importantly, since these people were in direct contact with the Tibetans; use of different animal products as medicines were invariably passed on to these people. However, with the closure of the trade links between the two communities, post Indo-China war of 1962, and secondarily as such cures are no longer sought after (as the allopathic medicines are commonly available, both off and near villages), this treasure trove of traditional knowledge base is fast eroding. Fortunately, those still persisting with their traditional mode of migratory lifestyle and villagers who are remotely settled from the townships still treasure this knowledge. This paper not only brings forth the salient features of the life-style of these people but also more importantly attempts to inventorize this traditional nature cure system and at the same time suggests a strategy for the conservation of the same.

### The Shokas or Rangs

Bhotiya is a generic term derived from the term- *Bhot desh*, the ancient name for Tibet, and is

commonly used to describe the border tribes inhabiting Chamoli, Pithoragarh and Uttarkashi districts within Uttaranchal state. However, the people themselves resent being referred to as *Bhotiyas* and prefer to be known by their indigenous names—*Shoka* or *Rang*. Interestingly, the Tibetans on their part, refer to them as *Moons* or *Mona*, meaning ‘others’! However, there is evidence to show that there have been interactions of populations of China, Tibet, Nepal and India from very ancient times. Duglat Mirza in his *Tarik-I-Rashidi*, a work of the 16<sup>th</sup> century AD has given a detailed description of the salt trade carried out by the Khampa nomads (Hoon, 1996). According to him, the Tibetan Khampas were the middle traders between China and India. In one winter they would trade salt and other Tibetan produces in the Bhotiya valleys for grain, cloth and sweets. In the following winter they would descend into China, dispose of the Indian and Tibetan goods in exchange for Chinese wares to trade in India (Rafiullah, 1966). In the light of all these interactions, it is noteworthy that the Bhotiyas deny Tibetan ancestry and claim that they are descendants of Rajputs who once lived in Tibet and at a later date settled in these high valleys. Clearly, there has been intermarriage between the two races.

The Shokas gain both in their capacity to utilize resources, accumulate goods and improve upon their economic standings by adopting the practice of transhumance. Transhumance enables them to gather rare Himalayan herbs and to utilize agricultural land in the summer villages by making use of the short growing season to raise specialized high altitude crops such as buckwheat and barley, which provides them with almost 50% of their dietary needs. For *anwals* (the shepherds), the major gain by adopting pastoral nomadism as an appropriate technology, is that it allows the utilization of marginal resources unsuitable for other uses. By utilizing pastures successively over time, while at the same time avoiding congestion and competition with other shepherds ‘using the same route’, the bhotiyas can optimize the use of their environment and maintain a breed of sheep and goat that is much larger and more productive than those raised by sedentary peasants. Their upward migration to their summer homes, begins towards the end of April and carries on throughout the May. The two major crops grown in the summer villages- the *phapher* (*Fagopyrum tataricum*)

and *palthi* (*Fagopyrum esculentum*) are adapted to grow in poor stony soils and are not as human labour intensive as rice cultivation. The crops are ready for harvest by the end of September, which also happens to be the period for harvesting of wild medicinal and aromatic plants, chiefly *Kutki* (*Picrorhiza kurrooa*). The return migration to their winter homes begins towards early half of October. However, during the last two decades, a marked decline in the transhumance has been observed (Table 1), the principle reasons being the severance of trade with Tibet (post 1962) and the lure of government services through reservation in employment.

Almost negligible work has been done on ethno zoology (Kulkarni et al., 1995). To cite a few; ethno-biological survey from Khasi and Garo tribes of Meghalaya in northeast India (Maikhuri and Gangwar, 1993); on tribal societies of Arunachal Pradesh (Maikhuri and Ramakrishnan, 1992); amongst the Nicobarese (Dager and Dager, 1992). Zoological Survey of India, Calcutta has documented ethno-zoological knowledge from tribal and hill communities of the country and has carried out surveys in Bihar and Andhra Pradesh (Anonymous, 1984). However, these efforts are minuscule when compared with the work on ethno botany. More so, when recording of such unconventional knowledge from tribal pockets has proved to be a good source of medicines and food, as well. Hence, it is vital that earnest beginnings be made starting with preparing inventories of such knowledge base, as the listing of plants and animals having ethno-biological value is important not only for evaluating human-plant relationship but is also invaluable towards understanding the regional human-ecology relations to their environment (Alcorn, 1981). It’s another matter though that subsequent studies could then be made as to their effectiveness, potentialities and proper mode of utilities, which again would need to be tested scientifically towards the overall benefit of the society.

## STUDY AREA

Bordered in the north by Tibet-China, in the east by Nepal and in the west by Panchachuli Mountain lays a triangular stretch of land in a remote corner of easternmost hill district of Uttaranchal - Pithoragarh. Its geographical extent lies between 29° and 31° North latitude and 79° and 81° East longitude in Kumaon Himalayas. The

area of study (Fig. 1) falls in an altitudinal range of 1050-4,700 meters amsl. Having varied topography and striking climate, this region harbours a variety of sub-tropical, temperate and alpine vegetation. While the Darma valley is situated at the north of the Panchachuli mountain range, at 30°N and 80°E in Dharchula sub-division, and constitutes of 12 villages at an altitude between 2250 and 4,350 meters, The Johaar valley comprises of 13 villages in the Munsiri sub-division of Pithoragarh district. All the villages are exclusively situated at temperate and sub-alpine zones above 3000 meters amsl. The lowest village is Rilkote situated at an altitude of 3080 meters amsl, while the highest village-Ralam is situated at an altitude of 3648 meters amsl. Rainfall throughout these regions is quite variable, averaging below 200 cm annually in the lower reaches, while those located in the greater Himalayan zone receive as much as 300 cm of torrential rainfall. Some of the villages, viz., Sipu (Darma), Ralam, Laspa and Martoli (in Johaar valley) are all located in the transition zones between greater Himalaya to trans-Himalaya, and

thus receive a greater percentage of rainfall annually than the rest of the villages.

## METHODOLOGY

Information was gathered through a preliminary survey, which was mostly conducted among the elderly folks of the villages between the age groups of 45-75. Care was taken to involve each and every family, belonging to all the castes. More often than not, traditional healers (*veids*) were consulted to substantiate the information gathered from the villagers. The villagers were asked to provide the local names of the animals, parts of the same being used in the traditional medicine, methods of preparation and administration, and whether the animal parts were administered singly or in combination with other ingredients, viz., plants. Two basic approaches were used to study the ethno zoological knowledge. The first one, the interview involved asking question about use of the animals (or their parts) for different purposes (viz., medicinal, rituals, sacredness and so forth). The second



Fig. 1. The study sites across the two valleys, Darma and Johaar, District Pithoragarh, Uttarakhand

approach, the 'inventory' involved priorly prepared list of the animals and insects being encountered in the region and subsequently asking the villagers if they are known to them; if yes, then do they make use of them in their traditional medicines and so forth. It was found that womenfolk were more forthcoming in their approach towards sharing their little knowledge while their male counterparts were reluctant to be interviewed, which was borne out of the fact that they were more conscious of the wildlife laws!

### RESULTS AND DISCUSSIONS

During the survey of the two valleys, a total of 38 species (mammals-20, birds-6, reptiles-5, insects-4, fish-2, and a lone amphibian) were enumerated as either being used by the common-folks in the treatment of different diseases (table 2) or in most of the cases, having knowledge of their use in the immediate past. These species belonged to 16 families (wherever, the families could not be identified, orders have been cited), led by bovidae (6), equidae, felidae and leporidae (2 each), and the rest being constituted by a single species. A total of 19 different diseases or disorders were being treated using the animal products. Invariably, the big mammals' meat was believed to promote strength and virility (in eleven cases), 5 different animal products were being used for the treatment of wounds, followed by treatment of foot and mouth disease (3), stomach disorders (3), arthritis (3), asthma (3), paralysis (2), malaria (2). In addition, two of the animal products were being used as aphrodisiac, while four were being treated as sacred and thus used to ward-off the evil spirits from their homes. Out of the total 38 species, only a minuscule-3 species had multiple uses, as regards the treatment of different diseases were concerned.

Since the transhumance in the two valleys have dwindled over the past years, the people in possession of this knowledge base too are hard to come by. A minuscule of the original population inhabits these two valleys (a population profile of the villages constituting Johaar valley is presented in Table 1). It is not too difficult to fathom that this rare knowledge base is fast eroding, with the younger generation being almost absent from their summer habitation, and thus bereft of their natural climes and thus wild, possess just vague knowledge of one or two species, at the most.

Local community's knowledge in the use of animal resources (Tables 2 & 3) is very important for conservation efforts directed at protecting the wildlife. Folk medicine practitioners tend to have extensive knowledge of the ecology and use of the local flora and fauna. However, as many local cultures are increasingly threatened, the need to document their knowledge of animals for medicinal and other uses becomes more urgent. Since, very little is known about the animal species being used for medicinal and to some extent, in rituals, it is important that such information be collected, collated and measures be taken to provide a framework for the conservation of the same. There are many rare and endangered animal species, which are being exploited, chiefly for their medicinal uses and at the same time, are little known to the outside world. Obviously, alternative means of providing sustenance will have to be found, say providence of modern medicines to the local users of these animal products. At the same time, study of precise status of these animal species in the wild needs to be ascertained, followed by sustainable exploitation of the same for their traditional use in medicine. Lastly, opportunities as to their efficacious use in the development of modern medicines could be ventured into.

**Table 1: Changing pattern of summer migration in the Johaar valley**

Villages	Number of migrating households			Relative decline in migration (% age)
	1961	1981	2001	1961-2001
Milam	450	13	8	98
Pacchhu	60	8	2	96.6
Ganghar	40	4	3	92.5
Bilju	70	3	2	97
Burphu	300	15	14	95.3
Mappa	50	8	3	94
Martoli	300	5	6	98
Tola	100	7	6	94
Sumdu	15	-	-	100
Rilkot	40	-	-	100
Ralam	30	20	5	83.3
Khilanch	20	17	12	40

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**Table 2: Medicinal uses of wild animals by Bhotiya tribesmen of Darma and Johaar valley in Kumaon Himalayas, Uttaranchal.**

<i>S. No.</i>	<i>Species</i>	<i>Family/order</i>	<i>Common name</i>	<i>Medicinal use along with the mode of intake</i>
<i>S. No.</i>	<i>Species</i>	<i>Family/order</i>	<i>Common name</i>	<i>Medicinal use along with the mode of intake</i>
1.	<i>Lepus nigricollis</i>	Leporidae	Hare	Blood of rabbit is used in asthma. Interestingly killing of the same (hare syn. <i>Fiya</i> is a taboo).
2.	<i>Rana tigrina</i>	Ranidae	Frog	Frog boiled in oil is used for healing wounds due to burn.
3.	<i>Palamnaeus spp.</i>	Order-Scorpionidea	Scorpion	The whole animal is boiled in edible oil on an auspicious day (usually Saturday) and the oil is then applied on pile-infected areas. It is believed that if a scorpion stings on bullock yokagall, it will heal within 2-3 days. Ash produced after the burning off the scorpion is commonly applied on wounds.
4.	<i>Hemidactylus spp.</i>	Order-Squamata	Geckos	The whole animal is boiled in sesamum oil and the oil is then used to heal eczema.
5.	<i>Calotis versicolor</i>	Order-Squamata	Garden lizard	The whole animal is boiled in oil and the oil is then used to heal wounds on cattle's body.
6-7	<i>Tor putitora</i> <i>Schizothorax richardsoni</i>	—	Fish	Blood of cut fish is used in foot and mouth disease; it is also applied on sore wounds in legs too.
8.	<i>Spirobolus spp.</i>	Order-Myriapoda	Millipede	Dry millipede smoke is used in the treatment of piles.
9.	<i>Cimex rotundatus</i>	Order-Hemiptera	Bedbugs	Bedbugs crushed in holy basil- <i>Ocimum sanctum</i> is applied on ringworm.
10-12.	<i>Vipera russelli</i> <i>Ptyas mucosus</i> <i>Ancistrodon himalayans</i>	Order-Squamata	Snakes	The meat is believed to promote eyesight and facilitates the elimination of urine, stool and flatus. The skin is often fed to cattle in foot and mouth disease. The very act of seeing a snake swallowing a frog symbolizes the death of a near kin or a relative in near future.
13.	<i>Pseudois nayaur</i>	Bovidae	Bharal	Antlers are rubbed to produce a paste, which is either drunk or applied on the stomach to get relieved of stomach pain or fever.
14.	<i>Equus caballus</i>	Equidae	Horse	The meat is believed to be a promoter of corpulence, strength and eyesight.
15.	<i>Equus spp.</i>	Equidae	Ass	The meat is believed to be a promoter of strength and virility.
16.	<i>Panthera pardus</i>	Felidae	Leopard	The meat is believed to be a promoter of strength and virility, while the bones are supposed to be an aphrodisiac. Wherever possible the burnt hair is applied in the treatment of foot and mouth disease. In addition the fat is used as massaging oil in the treatment of body pain.
17.	<i>Bubalus spp.</i>	Bovidae	Buffalo	The meat is believed to be a promoter of strength and virility of the physique.
18.	<i>Muntiacus muntjak</i>	Cervidae	Barking deer	The meat is believed to be a promoter of strength and virility and is a good cardiac tonic.
19.	<i>Sus scrofa cristatus</i>	Suidae	Wild Boar	The meat is believed to be a promoter of strength, corpulence and virility, is a good appetizer and alleviator of fatigue.
20.	<i>Rattus rattus</i>	Order-Rodentia	Rat	The meat is believed to be a promoter of semen.
21.	<i>Macaca mulatta</i>	Cercopithecidae	Monkey	The meat is believed to cure rheumatism, asthma, adiposity, anemia and parasitic infestation.
22.	<i>Capra falconeri</i>	Bovidae	Goat	The meat is believed to stimulate digestion and cures rhinitis.
23.	<i>Hemitragus jemlahicus</i>	Bovidae	Himalayan Thar	The meat is believed to be a promoter of strength and virility (usually that of the tail). The soup of the bones (of the limbs) is



**Table 2: Contd....**

S. No.	Species	Family/order	Common name	Medicinal use along with the mode of intake
				principally given to the womenfolk immediately after giving birth to a child, and usually during the parturition and lactating months. In addition the horns are kept atop the homes to ward off the evil. It has been observed by the villagers that the thar usually eats up the snakes found in the temperate zone, and thus the usual belief that eating its meat results in miraculous benefits.
24.	<i>Paratalphusa spp.</i>	-	Crab	The meat is believed to be a promoter of strength, corpulence and is a good remedy for the diseases of the blood.
25.	<i>Catreus wallichii.</i>	Phasianidae	Chir pheasant	The meat is believed to be a promoter of strength and semen.
26.	<i>Strix aluco nivicola</i>	Strigiformes	Owl	The meat is believed to be a promoter of strength and virility.
27.	<i>Bos indicus</i>	Bovidae	Cattle	Gorocana or solidified cattle bile is cold in potency, carminative and is promoter of auspiciousness. It cures poisoning, eye diseases and afflictions by evil spirits.
28.	<i>Columba livia</i>	Columbidae	Pigeon	Patients suffering from paralysis are often given the meat of a black pigeon.
29.	<i>Oryctolagus quiniculus</i>	OrderLagomorpha	Hare	The meat is believed to cure menstrual disorders.
30.	<i>Canis aureus indicus</i>	Canidae	Jackal	The meat is believed to cure paralysis and arthritis while the blood is given to the patients suffering from asthma.
31.	<i>Hystrix indica</i>	Histicidae	Porcupine	Stomach and intestinal parts are dried (along with the fecal matter), is given to the children suffering from the stomach disorders; in the treatment of asthma.
32.	<i>Bos grunniens</i>	Bovidae	Yak	The rope prepared from yak's hairs is placed in all the four corners of the room where the sick person is residing. This is believed to keep away unholy spirits from entering the room.
33.	<i>Felis domesticus</i>	Felidae	Cat	The whole animal is stripped off and boiled and the resultant juice is said to cure arthritis. The very sight of placenta (which is also very rare) is said to bring good luck.
34.	<i>Moschus m. moschiferous</i>	Moschidae	Musk deer	Musk is used in the treatment of malaria, high fever and in heart ailments. The lactating mother are given a pinch of 'kasturi'-the musk with the belief that the children receiving thy milk become immune to diseases, i.e. the musk is believed to bolster the immune system in children.
35.	<i>Martes flavigula</i>	Mustelidae	Martens	A paste prepared from the bones of this bird is said to cure wounds.
36.	<i>Cypselus affinis</i>	-	Swift bird	Its nest, made out of clay/soil is treated auspicious while its flock signifies the incoming rains.
37.	<i>Vanellus indicus</i>	-	Red-wattled Lapwing	The yolk when applied on head is said to cure typhoid. Often the local practitioners preserve the eggs within the cow dung for future use.
38.	<i>Selenarctos thibetanus</i>	Ursidae	Himalayan black bear	The animal is mainly killed for its gall bladder, which is used for curing myriad diseases, malaria being one of them. The fresh gall bladder is filled with rice grains and then is left to dry out. After few days a yellowish powder is formed, which is used as medicine. The dried powder can be kept for relatively longer period of time.

**Table 3: A synoptic view of the species being used in the treatment of different ailments**

S. No.	Species	1	2	3	4	5	6	7	8	9	10	11	12	13	14	15	16	17	18	19
1.	<i>Lepus nigricollis</i>				x															
2.	<i>Rana tigrina</i>		x																	
3.	<i>Palamnaeus spp.</i>		x					x												
4.	<i>Hemidactylus spp.</i>																		x	
5.	<i>Calotis versicolor</i>		x																	
6-7	<i>Tor puitora</i>																			
	<i>Schizothorax richardsoni</i>		x		x															
8.	<i>Spirobolus spp.</i>							x												
9.	<i>Cimex rotundatus</i>																x			
10-12	<i>Vipera russelli</i>																			
	<i>Ptyas mucosus</i>																			
	<i>Ancistrodon himalayans</i>					x										x				
13.	<i>Cervus duvauceli var.</i>					x														x
14.	<i>Equus caballus.</i>	x														x				
15.	<i>Equus spp.</i>	x																		
16.	<i>Panthera pardus</i>	x			x						x									x
17.	<i>Bubalus spp.</i>	x																		
18.	<i>Muntiacus muntjak</i>	x																		
19.	<i>Sus scrofa cristatus</i>	x																		
20.	<i>Rattus rattus</i>										x									
21.	<i>Macaca mulatta</i>				x		x												x	
22.	<i>Capra falconeri</i>					x						x								
23.	<i>Hemitragus jemlahicus</i>	x											x							
24.	<i>Paratalphusa spp.</i>	x																		
25.	<i>Catreus wallichii.</i>	x									x									
26.	<i>Strix aluco nivicola</i>	x																		
27.	<i>Bos indicus</i>	x														x				
28.	<i>Columba livia</i>								x											
29.	<i>Oryctolagus quiniculus</i>														x					
30.	<i>Canis aureus indicus</i>																			
31.	<i>Hystrix indica</i>			x		x														
32.	<i>Bos grunniens</i>																			
33.	<i>Felis domesticus</i>						x													
34.	<i>Moschus m. moschiferous</i>									x				x						x
35.	<i>Martes flavigula</i>		x																	
36.	<i>Cypselus affinis</i>		x																	
37.	<i>Vanellus indicus</i>												x							x
38.	<i>Selenarctos thibetanus</i>									x										x

1. Strength and virility, 2. Wounds, 3. Asthma, 4. Foot and mouth disease, 5. Stomach ailments, 6. Arthritis, 7. Piles, 8. Paralysis, 9. Malaria, 10. Aphrodisiac, 11. Rhinitis, 12. Typhoid, 13. Immuno-stimulant, 14. Menstrual disorders, 15. Bolstering eyesight, 16. Ringworm infestation, 17. Anemia, 18. Eczema, 19. Fever and body pain.

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