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RESEARCH ARTICLE

Traditional Ethnozoological Knowledge and Healing Practices in Udhampur District, Jammu & Kashmir (UT)

Brinder Kumar*

Department of Zoology, GGM Science College Jammu, J&K (UT)
Corresponding author: bkgorka14@gmail.com
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Abstract

Ethnozoology is the study of relationships between human societies and animals. In Udhampur district J & K (UT), diverse ethnic communities such as Dogra, Pahari, Gujjar and Bakarwal depend heavily on animal resources for food, medicine, culture and livelihood. This research paper documents traditional knowledge related to animal use and highlights its ecological, cultural and economic significance. Data collected through field surveys and interviews reveal that multiple animal species are used for therapeutic and nutritional purposes. A total of nearly 25 animal species from different groups, along with their derived by-products, were reported to be used in traditional ethnozoological practices in the past, with some still in use today. The study emphasizes the urgent need to conserve both biodiversity and indigenous knowledge systems in the face of modernization.

Keywords: Ethnozoology, livelihood, medicinal animals, tribal areas, zootherapy.

Introduction

Ethnozoology, a branch of ethnobiology, explores how human cultures interact with animal species (Mahawar & Jaroli, 2008). The integration of ethnic knowledge with scientific approaches can help implement tenable use of natural resources to the benefit of communities (Roux *et al*., 2006). Both invertebrates and herptiles are used in treating health problems and are also employed in religious ceremonies and magic (Costa-Neto Entomotherapy, 2005; Altaf *et al*., 2020; 2022). Traditional knowledge as such is a vital aspect of cultural heritage that can present the association between ethnic communities and nature (Alves *et al*., 2013). Such traditional endemic knowledge encompasses ethnozoology (Anderson *et al*., 2012). Ethnozoological knowledge collected from local people can help in identifying new bioresources with commercial value, especially in food and medicine (Malmfors *et al*., 2002). The use of fauna species to treat health problems (zootherapy) has long been practiced across the globe. In China, it has been reported that earthworms were used to treat diseases almost 4,000 years ago (Chee and Mao, 2021). According to Alves and Rosa (2005), over 5,000 animal species are part of traditional Chinese medicine (TCM). Similarly, 15–20% of Ayurvedic medicine includes animals and their products (Smruti, 2021) with at least 500 species of invertebrates used to treat a variety of health disorders (Prakash and Verma, 2021).

India possesses a highly diverse fauna, and it is estimated that 10% of global reptile species (including Squamata and Testudines), amphibians, and insects are found here (Dar and Khuroo, 2020).

Despite this enormous diversity, studies on the ethnousage of fauna species are limited, particularly in the Himalayas and Jammu and Kashmir (J&K) (Alves *et al*., 2010). J&K is a Union Territory in the Northern Himalayan region of India. The region has a rich cultural ethnicity; communities like Kashmiri, Gujjar, Pahari, Dogra and Bakarwal have been inhabitants for centuries (Hamid *et al*., 2021). Due to its unique location and climatic conditions, J&K harbors 16% of India's reptiles, mammals and invertebrates (Dar and Khuroo, 2020). The present study aimed to understand and document the local knowledge of fauna species of selected areas of district Udhampur.

Methodology

Study Area: The present study was carried out in selected rural and tribal areas of district Udhampur, J&K (UT), India. Udhampur district is located in the Shivalik range of Himalayas which is a part of the Northwest Lower Himalayas with generally hilly landscape (Figure-1).

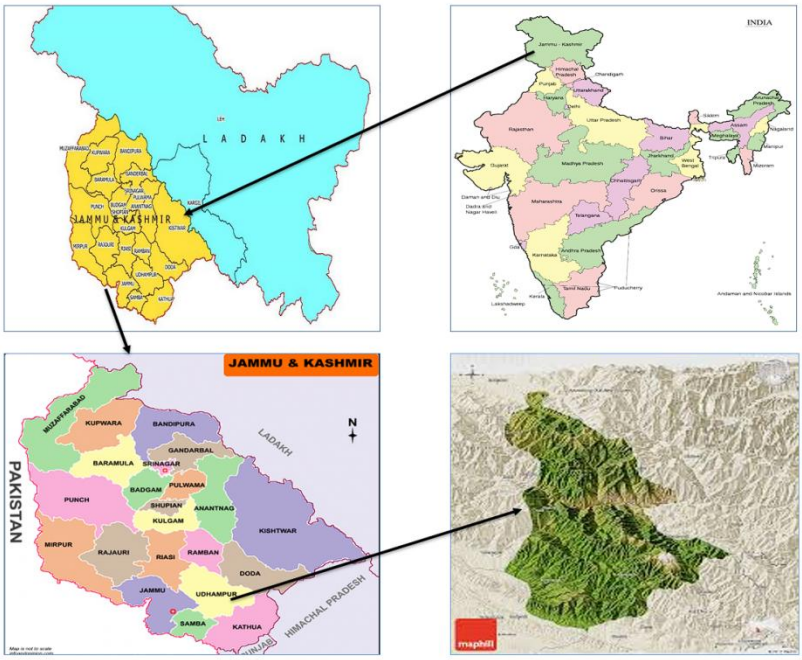


Fig. 1: Map of Jammu & Kashmir (UT) and study area of district Udhampur.

Udhampur city is located (32.93°N 75.13°E) in a comparatively semi plateau part of the district and at an altitude of 756m (above msl). The weather condition of the study area is sub-tropical and the temperature varies between 40^{o} C to 2^{o} C in summer and winter season, sometimes dips to zero with annual rainfall is 130 cm generally in rainy season and winters due to Western disturbances. This suburban habitat of district Udhampur is surrounded by the scrubby forest, mixed deciduous forest and coniferous forest hills. Different ethnic communities such as Dogra, Gujjar, Pahari and Bakarwal have been living here for centuries, representing a rich cultural diversity. Languages spoken by these communities include Dogri, Phari and Gojri. Gojri is spoken by both the Gujjar and Bakarwal communities (Hassan *et al*., 2021).

Data Collection: Data collection was done through semi-structured interviews with local informants, group discussions with elders and traditional healers and direct field observations.

Sampling: Participants included individuals from Gujjar, Bakarwal and Dogra communities. Informants were selected based on their knowledge of traditional practices (Sharma & Kour, 2018).

Data Analysis: Identification and classification of animal species, Documentation of their uses (medicinal, nutritional, cultural, economic).

Results and Discussion

In mountainous regions of district Udhampur of Jammu & Kashmir, the relationship between humans and animals is deeply rooted in tradition and necessity. The region is characterized by rich biodiversity and cultural diversity, with communities such as Dogra, Gujjar, Gaddi and Bakarwal maintaining distinct lifestyles (Bhat *et al*., 2019). Data were gathered from 77 participants in the Udhampur District. Most of the data were collected from the rural area as majority of the inhabitants (*n* = 69) live there. Informants were common people, farmers, elder man, government employees, teachers, students and shopkeepers.

Diversity of Ethnozoological Resources

The study documented approximately 25 animal species (Table 1) belonging to diverse taxonomic groups, along with their parts and by-products, which have been utilized in ethnobiological practices both historically and, in some cases, continue to be used in the present. A considerable diversity of animal species and their by-products were reported as being utilized in traditional medicinal practices**.** Honey (Apis spp.) serves as natural sweetener and energy source was used in the treatment of cough, cold and wounds. In traditional practices, goat milk has been used as a supportive remedy to help manage the decline in blood platelet count including weakness and digestive disorders during Dengue fever infection. Animal fat (sheep/goat) applied for joint pain and skin infections.

In traditional healing practices, leeches were commonly used for blood purification therapy, as it was believed that they could remove impure or harmful blood from the body. In certain traditional village practices, dog faeces were forcefully administered to a person who had consumed poison in an attempt to induce immediate vomiting and prevent further harm. Human urine was applied to heal the cut or wound area and help in healing. Similarly, cow dung was also applied on cuts and burns. Cow ghee was used to massage a newborn's body to promote blood circulation and support healthy muscle and bone development, enhancing overall strength. Colostrum from both cows and goats has traditionally been used by various tribal and rural communities of district Udhampur for health purposes. Cow colostrum is often given to boost immunity, especially in children and weak individuals. It has also been used in some areas to support recovery from illness and improve strength. Goat colostrum is valued for being easier to digest and is sometimes used for people with digestive issues, weakness or respiratory problems. In rural areas of district Udhampur, these practices are part of ethnomedicine, where natural animal products are used for healing. Goat feet soup is commonly consumed to support bone healing and promote stronger bone growth, especially in cases of fractures. Long strands of horse tail hair were traditionally tied around the base of warts in the belief that this would cut off their blood supply and help them eventually fall off. Sheep testicles have been consumed in some cultures with the belief that they may help increase libido and stamina. Products from Asian black bear (including fat and gall bladder) was used in the treatment of joint pain, enhance strength and stamina.

Pigeon meat is nutritious rich in protein, iron and vitamins used to support overall health, which may indirectly help energy levels, paralysis and reproductive health. Rabbit meat was used to treat cough and cold**.** Indian crested porcupine (*Hystrix indica*) to treat joint pain, Asiatic jackal (*Canis aureus*) was used to treat skin problems, enhance protein, weakness. Alexandrine parakeet (*Psittacula eupatria*) to treat memory, great tit (*Parus major*) to treat male impotency and skin problem, Agror agama (*Laudakia agrorensis*) to treat joint pain, backbone pain and male impotency, Brown cobra (*Naja oxiana*) to treat joint pain, piles and eyesight.

Meat of Varanus was used to cure skin ailments, respiratory & joint issues, strength and virility, Chukar partridge (*Alectoris chukar)* was used to treat weakness, Black francolin *(Francolinus francolinus)* was used to treat joint pain, stroke and lung problems, Grey francolin (*Francolinus pondicerianus*) used to treat weakness. Similarly, meat of Kalij pheasant (*Lophura leucomelanos*) was used to treat weakness, fever and memory, Oriental-turtle dove (*Streptopelia orientalis*) was used to treat paralysis and enhance muscle power, Common myna (*Acridotheres tristis*) was used to treat whooping

cough, *Gallus gallus domesticus,* was used to treat kidney problems, heart problems, weakness, memory, eyesight, male impotency, diabetes, stomach problems. Earlier, Fiaz et al. (2022) reported Ethnomedicinal uses of 62 species of vertebrates and invertebrates from Azad Jammu and Kashmir. Hassan et al. (2023) identified 30 species of herptiles. and invertebrates used by local people for livelihoods-ethnozoological use among different ethnic communities of Indian Himalayas of Jammu and Kashmir. Similarly, the eggs of *Columba livia* and *Gallus gallus domesticus* were used to treat Parkinson's disease, kidney problems, stomach problems, heart problems, male impotency. These practices show similarities with traditional healing systems like Ayurveda, where natural substances are widely used. However, most remedies lack scientific validation**,** highlighting the need for pharmacological studies.

Table 1. Ethnozoological inventory of documented species.

S.No	Animal species	Local Name (Common Name)	Parts/product Used	Ethno-Zoological Usage
1	*Apis cerana indica*	Gun Makhi (Honey bee)	honey	cough, cold, and wounds
2	*Capra hircus*	Bakri (Bakarwal goat)	milk	improve platelet count, weakness and digestive disorders during dengue fever infection
			fat	used for joint pain and skin infections
			colostrum	improve digestive issues, weakness, or respiratory problems
			feet soup	support bone healing and promote stronger bone growth
3	*Haemadipsa zeylanica agilis*	Jok **or** Jook (Leech)	whole animal	blood purification therapy
4	*Canis lupus*	Bakarwali Kutta (Dog)	faeces	induce immediate vomiting
5	*Homo sapiens*	Insaan (Human being)	urine	heal the cut or wound area and help in healing.
6	*Bos indicus*	Desi Gau (Indigenous cow)	dung	heal cuts and burns
			ghee	massage a newborn's body to improve overall strength
			colostrum	boost immunity, especially in children and weak individuals.
7	*Equus ferus*	Ghoda (Horse)	tail hair	used to remove warts
8	*Ovis aries*	Bhed (Sheep)	testicles	increase libido and stamina
9	*Ursus thibetanus*	Reech (Asian black bear)	fat and gall bladder	joint pain, enhance strength and stamina
10	*Columba livia*	Kabootar (Rock Pigeon)	meat	help energy levels, paralysis and reproductive health
			egg	Parkinson's disease, kidney problems, stomach problems, heart problems, male impotency
11	*Lepus nigricollis*	Khadganu **(**Indian Hare)	meat	treat cough and cold

12	*Hystrix indica*	Seh (Indian crested porcupine)	meat	treat joint pain
13	*Canis aureus*	Gidah (Asiatic jackal)	meat	treat skin problems, enhance protein, weakness
14	*Psittacula eupatria*	Tota (Alexandrine parakeet)	meat	boost memory
15	*Parus major*	Great tit	meat	treat male impotency and skin problem
16	*Laudakia agrorensis*	Dilhara (Agror agama)	meat	treat joint pain, backbone pain, and male impotency
17	*Naja oxiana*	Khattapa (Brown cobra)	meat	treat joint pain, piles, and eyesight
18	*Varanus bengalensis*	Goh (Common Indian monitor)	meat	cure skin ailments, respiratory & joint issues, strength and virility
19	*Alectoris chukar*	Chakor (Chukar partridge)	meat	treat weakness
20	*Francolinus francolinus*	Kala Titer (Black francolin)	meat	treat joint pain, stroke and lung problems
21	*Francolinus pondicerianus*	Titer (Grey francolin)	meat	treat weakness
22	*Lophura leucomelanos*	Kolsa (Kalij pheasant)	meat	treat weakness, fever, and boost memory
23	*Streptopelia orientalis*	Pahadi Ghuggi (Oriental-turtle dove)	meat	treat paralysis and enhance muscle power
24	*Acridotheres tristis*	Gattari (Common myna)	meat	treat whooping cough
25	*Gallus gallus domesticus*	Jungli Murga (Red junglefowl)	meat	treat kidney problems, heart problems, weakness, memory, eyesight, male impotency, diabetes, stomach problems
			egg	Parkinson's disease, kidney problems, stomach problems, heart problems, male impotency

Conclusion

Ethnozoological practices in Udhampur district show a deep connection between humans and animals. These practices are important for healthcare, nutrition, culture and livelihood. Documentation and digital preservation of knowledge are crucial to prevent its permanent loss**.** Rapid urbanization and environmental degradation are leading to the erosion of this knowledge. However, there is a need for conservation and scientific validation of traditional knowledge.

Declarations

Ethical approval and consent to participate: Not applicable
Consent for Publication: Not applicable, as no identifying information of participants is included.
Competing interests: NA.
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