



## Folklore study of Animals-a review

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### SUMMARY

From the emergence of species, human and animals had established mutual relationships. Societies have evolved different methods of engaging with local fauna for traditional purpose. Zootherapy is an essential part of ethnozology. To cure wide range of illness, animals and by-products are used by local inhabitants. Mammals, fishes, birds, reptiles and amphibians, insects are endowed with significant therapeutic properties. Different civilizations have utilized animals and animal products such as hooves, hides, feathers, tusks for traditional medicine preparation since prehistoric times. In the modern era, animal-based therapy is an important alternative among many other methods of treatment known in the world. Traditional knowledge generally refers to the knowledge, innovations and practices of indigenous and local communities involved in genetic resources, developed from the experience of communities over many centuries, adapted to local needs, culture and environment and passed down orally from generation to generation. Fast environmental, technical and socioeconomic changes make it more likely that this knowledge might be forgot by the future generations, the only way to preserve it is doing documentation.

**Keyword:** Ethnozology, Ethnomedicine, Animals, Zoology

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### INTRODUCTION

The relationship between animals and humans' dates back thousands of years, and societies all over the world have created their own distinctive methods of engaging with their local fauna over time. As a natural part of the fauna that inhabits the earth, we interacted with the animals around us throughout the entire time together, having established many mutual relationships since then, the emergence of our species by Alves and Souto (2015). Even at a period when medical knowledge was at its pinnacle, the use of animals and their products to treat patients with various health issues has a long history and remains popular in many areas of the world (Jugli *et al.*, 2019).

Ethnozology, a field having roots in the distant past when people first interacted with animals, studies the many ways human societies have interacted with animals in the past and today. According to Sax (2002), human views about animals were established long before artists and historians started to depict them in art or history, and only after that did many people begin to study them scientifically. To put it another way, one of the most important areas of ethnozological study is to look at

the beginnings of conventional zoological knowledge, which may be regarded to correspond with the emergence of man and the first animal interactions (Alves *et al.*, 2015).

It was Mason (1899) who coined the word ethnozoology, and Henderson and Harrington (1914) used it to describe the study of actual civilizations and how they interact with animals in their habitat. In 1944, the term "ethnobiology" as a combination of two factors: "ethnos" and "biology" to refer to the use of plants and animals by "primitive" people. Ethnozoology is considered a sub-discipline of ethnobiology, these terms preceded the later recognition of this discipline. In addition, ethnobiology features a huge variety of sub-disciplines together with ethnomedicine, ethnomycology, ethnoecology, ethnoveterinary and ethnopharmacology (Alves and Souto, 2015).

Ethnozoology is the study of how people have interacted with animal sources throughout history and how they have viewed them. In accordance with the animal taxa studied, ethnozoology is often divided into sub-disciplines and has emerged from human interactions with various vital animal taxa, such as insects (i.e. Ethnoentomology) fishes, birds and mammals (i.e. Ethnomastozoology), reptiles and amphibians (i.e. Ethnoherpetology) and primates (i.e. Ethnoprimatology). Ethnozoology is a well-organized, interdisciplinary field that incorporates aspects of the scientific and social sciences. Ethnopharmacology and ethnomedicine are strongly linked when looking at animal medicinal usage in ethnozoology (Alves and Souto, 2015).

Zootherapy is an integral part of ethnozoology, which is concerned to treat various diseases of the human body with medicines prepared from different animals or other products that derived from animals (Jaroli and Mahawar 2010; Abbasi, 2021; Altaf *et al.*, 2021). Zootherapy is defined as the cure of disease in humans with drugs made from various animal species and / or animal by-products (CostaNeto, 2005). It is an important alternative to many other well-known treatments practiced around the world resources of wild and domestic animals (Alves *et al.*, 2012).

More than 1,500 animal species have been documented for therapeutic use in traditional Chinese medicine. 11 percent are from plants, and 8 percent are from animals, according to the WHO's list of essential substances. Animals are used in the production of 15 to 20 percent of Ayurvedic medications in India. About 200 animal-derived remedies have been recorded in the Unani medicinal system, and they are thought to be helpful in the treatment of a wide range of illnesses. In Pakistan, the national medicine inventory recorded 31 compounds (9% of all pharmaceutical goods) (Mahawar and Jaroli, 2007).

Rural populations across the globe rely on traditional medicine for 70 to 80 percent of their primary health care. Traditional medicine is used by a larger percentage of the population in poor nations (60-90 percent) than in industrialized ones (23-80 percent). Commercial medicines account for about 60% of bioactive chemicals derived from natural resources traditionally utilized by indigenous societies throughout the world (Borah and Prasad, 2017). The traditional medicine business in Benin sells 87 different mammal species that have been recognized for the treatment of various illnesses in Northeast Brazil. More than 1,500 animal species have been recorded by China's National Corporation for Traditional and Herbal Medicine as

having medicinal applications in *Materia Medica*. It has been documented those various types of animals and products from them are used by various ethnic and tribal groups for the chronic treatment of human ailment (Ajagun *et al.*, 2017).

Historically, the practice of animal therapy was neglected, and researchers devoted much more attention to research aimed at documenting medicinal plants however, recently, therapeutic phenomenon has attracted the attention of many researchers from various scientific disciplines that have recorded folk medical system and searched for the pharmacologically active substance. Zootherapy is considered the most reliable primary alternative among many other treatments known in the world. In the modern era, animal-based therapy is an important alternative among many other methods of treatment known in the world. Wild and domestic animals and their by-products such as hooves, hides, bones, feathers and tusks are important ingredients in curative, protective and preventive medicine (Kendie *et al.*, 2018).

To better our health, humans have incorporated chemicals derived from plants and animals into their daily lives. Animals have played an important role in the prevention and treatment of a wide range of diseases throughout the globe as therapeutic agents. Because of immunological, analgesic, antibacterial, diuretic, anaesthetic and anti-rheumatic characteristics of animal-based compounds make up 8.7% of the important ingredients in protective medicines. Modern medicine would be impossible without insects. Many medicines are put to the test on animals by the pharmaceuticals sector. It's known that snake venom, a potent angiotensin-converting enzyme (ACE) inhibitor, causes blood vessels to constrict and raises blood pressure because it converts the hormone angiotensin from an inert precursor. Amphibian secretions have also been shown to include chemicals having protective properties, such as biogenic amines, steroids, alkaloids, and peptides. Some of these compounds are cardiotoxic, myotoxic, and neurotoxic, to name just a few (Altaf *et al.*, 2018).

Indigenous peoples' traditional knowledge has been critical in the identification of living creatures with therapeutic value and in the treatment of human health issues (Kendie *et al.*, 2018). Even in less developed and industrialized nations, traditional medicines are becoming increasingly popular. In Australia, for example, 48% of the population uses them; in France 49% does; in Canada 70% do; in the United States of America 42% do; and in France 49% do (Mahawar and Jaroli, 2007). Various civilizations throughout the globe have utilized animals and their products for therapeutic reasons since antiquity (Lev, 2003), and this tradition continues today in medicine.

Traditional medicine is often the sole source of health care for a significant portion of the population in developing countries, providing a holistic, community-based approach to health care and easy treatment. More accessible, acceptable and accessible (Fraint *et al.*, 2021). Traditional knowledge generally refers to the “knowledge, innovations and practices of indigenous and local communities involved in genetic resources, developed from the experience of communities over many centuries, adapted to local needs, culture and environment and passed down from generation to generation” (Mardiastuti *et al.*, 2021).

Animal based therapeutic agents are usually obtained from animal organs, metabolic products and other body secretions used for medicinal purposes of birds, mammals, fish, reptiles, insects, etc. and excrements of living animals fat, bones,

blood, marrow, flesh, and the shell of the tortoise, hide of carcasses, feathers of birds, the quills of the porcupine and the slough of snakes, entire body of insects and worms, liver, eyes, heart, brain, gall bladder, feet, hair, head, hoofs, jawbone, legs, horns, spleen, teeth, vulva, testicles and uterus are commonly used in medicine (Ahmed *et al.*, 2021).

According to the WHO, approximately 80% of people still rely on traditional community medicine derived from plants and animals, with plants providing 11.1 percent of the necessary compounds and animals providing 8.7 percent (Verma *et al.*, 2014). The scientific community uses a large amount of research and data to evaluate and establish pharmacological activities of these natural resources. There are records in ancient and some recent civilizations that used animal parts or products i.e. fats (Ijaz and Faiz, 2021), meats (Haidar and Bashir, 2021), milk (Aslam and Faiz, 2020), feathers (Adil and Tariq, 2020), honey (Umair and Yaqoob, 2018, Altaf and Umair, 2020), eggs (Tariq, 2020), venom (Altaf and Faiz, 2021) to treat different diseases (Lev, 2003). More than 1500 animal species from 60 distinct taxonomic groupings are used in Traditional Chinese Medicine (Alonso-Castro, 2014). Over hundreds of years, groups and civilizations have progressively acquired a plethora of animal-related information that may be linked to other elements of cultures and customs, bringing up new opportunities for other cultural initiatives (Alves *et al.*, 2012).

For the treatment of human and animal health issues, indigenous people's traditional medical knowledge has proven crucial in discovering living creatures that are endowed with significant therapeutic properties. Different civilizations have utilized animals and animal products for traditional medicine preparation since prehistoric times (Muhammad *et al.*, 2017; Kendie *et al.* 2018; Mughal *et al.*, 2020; Saleem *et al.*, 2021). Discussions concerning conservation biology, public health policy, sustainable natural resource management, and biological and patent research are becoming more important because to the growing use of animals in traditional medicine (Adeola, 1992).

In traditional medicine, drugs such as digitoxin, reserpine, tubocurarine and ephedrine play a significant role. Traditional Chinese medicine has recorded over 1,500 animal species that have been used for some medicinal purposes. Ethnozoologist found therapeutic uses for 283 different illnesses in animals in Brazil. 70 percent of Ethiopians and 90 percent of the country's livestock are dependent on using traditional remedies (Alves *et al.*, 2005). With 195 mammal species, 668 bird species, and 195 herptiles, as well as more than 1,000 marine and freshwater fish species and 5,000 insect species, Pakistan is home to a diverse range of animals that are utilized in traditional medicine (Altaf *et al.*, 2018).

For developing active pharmaceutical ingredients for bioprospection, research and documentation of traditional knowledge in medicinal animals from the region are invaluable. They are also helpful in developing strategies for sustainable resource use and biodiversity preservation. In the country, there are numerous ethnic and tribal groups that have extensive knowledge about animals, including medicinal properties that are still used to meet basic medical needs (Borah and Prasad, 2016).

In Pakistan, as in the rest of the world, ethnozoological research is very limited and little attention is paid to zootherapeutic research. As mentioned earlier, although medicinal animals are used extensively in various countries for public health

care, little research is being done on animals as compared to medicinal plants. Only a few studies have tested animals used to treat human diseases. Modernization is quickly eradicating traditional knowledge regarding animal-assisted therapeutic techniques. Because of this, conventional medical knowledge has dwindled, which has had an impact on contemporary treatment. Most communities are losing their socioeconomic and cultural features, therefore it's critical to record the traditional knowledge held by such communities' members.

Because indigenous information utilized in medicinal cures is handed down orally from generation to generation, fast environmental, technical, and socioeconomic changes make it more likely that this knowledge will be lost. The viable manner to resolve this knowledge ought to be preserved and documented in order that it'll be obtainable to future generations (Shoukat *et al.*, 2020).

The tremendous advancement and research in allopathic drugs, there has been a major setback for traditional drugs around the world. Looking back in ancient times, it can be seen that our ancestors often used such traditional medicines to cure various human diseases. The World Health Organization has reported that about 80 percent of the world's populations rely mainly on folk medicines derived from plants and animal origin for immediate cure diseases.

The traditional medical knowledge of indigenous peoples around the globe has been instrumental in identifying living organisms used to treat livestock and human health problems, and the loss of knowledge could cause significant negative impacts on the development modern medicine. There are no hospitals or health care facilities in most rural regions, tribes, or ethnic groups, thus they are entirely reliant on the local system of traditional medicine for their health care. In other modern healthcare facilities, they use traditional healthcare services, and this medical knowledge is transmitted orally from generation to generation (Parakash and Parakash, 2021).

Traditional medicine's affordability and accessibility are essential elements in low-income nations, and medicinal substances originating from plants and animals are employed not just in traditional medicine but also as raw materials in the manufacture of contemporary pharmaceuticals and herbal compositions (Alves and Alves, 2011).

It's critical that ethnomedical knowledge in ethnic communities be inventoried and documented before it's completely lost because the traditional knowledge system is rapidly eroding because of rapid urbanization. Research's goal is to discover and document traditional uses of animals and assess the suitability of using them in the future using animals as a source of medicine (Gomez *et al.*, 2021).

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