



## **Traditional and ethnozoological practices by tribals in rural areas of alirajpur, dhar, barwani district of madhya pradesh, india**

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### **Article history**

*Received 10 Jun 2021*

*Received in revised form 18 July 2021*

*Accepted 26 July 2021*

*Available online 30 July 2021*

### **ABSTRACT**

**Introduction:** Ethnobiological knowledge is very ancient in Indian tribes. Ethnobiology describes how people of a particular culture and region make use of indigenous plants and animals. India has an immense faunal, floral, as well as cultural diversity with many ethnic communities who are primarily dependent on the traditional medicinal system for their primary health care. Present ethnozoological study related to the use of different chordates and non-chordates animals and their derived products as medicines by the tribes and rural people of Alirajpur, Dhar, and Barwani district of Madhya Pradesh, India (Bhil, Bhilala, Tadwi, and Bharia) which is well known for its very rich biodiversity. The field survey was conducted from July 2015 to Dec 2020 by performing interviews through structured questionnaires with 33 informants (21 men and 12 women), who provided information regarding therapeutic uses of animals. A total of 18 animals and animal products were recorded and they are used for different ethnomedical purposes, including Paralysis, TB, Asthma, Rheumatism, Cough and Cold, Cancer, Allergy, Fit, Piles, Leprosy, Dysentery, Fever, Diarrhoea, Weakness, and Antidote. The zoo therapeutic knowledge was mostly based on

non-chordate and chordate animals, but some protected species like the Peafowl (*Pavocristatus*) were also mentioned as important medicinal resources. We would suggest that this kind of neglected traditional knowledge should be included in the strategies of conservation and management of faunistic resources in the investigated area.

**Keywords:** Biodiversity, Diseases, Ethnozoology, Madhya Pradesh, Tribes, Traditional, Zotherapy

This article was reviewed by Dr. Prateek, Dr. Ram. Edited by Dr. Pradeep J., Dr. S Gaur. Available online 30 July 2021. IJMS, all rights reserved.

## INTRODUCTION

According to the world health organization, between 75 and 80 % of the world's population use traditional folk medicine. Recent work on this subject indicated that many animal species are used in traditional medicine in both rural and urban areas of India. Their research shows that animal and their body parts such as feathers, scales, antlers, carapaces, bones are widely used in curing many diseases. Many ethnobiologist has collected zoo therapeutic information from different tribes in India.

Ethno-zoology is a branch of science that deals with the role of economically important animals in life and socio-cultural aspects of tribal or aboriginal peoples. The most important aspect in this context ramifies on the traditional mode of treatments of various kinds of elements using animals and animal products in the tribal community. Although inadequate, attempts have been made to elucidate the medicinal significance of animals and animal products in certain tribal communities from the Indian subcontinent, Jamir and Lal (2005).

Ethnozoology deals with studies on the relationship of animals with mankind including primitive rural and tribal people and recording their unique knowledge about animals for the search of new resources of drugs, food, etc., and socio-cultural aspects of animals in human life. Plants and animals have been needed as medicinal sources since ancient times, Alves and Rosa (2005, 2007), Lev (2003).

Faunal resources have played a wide range of roles in human life from the earliest days of recorded history. The variety of interactions between humans and animals is the

subject matter of ethnozoology; the study of the past and present interrelationships between human cultures and the animals in their environment. It includes the classification and naming of zoological forms, cultural knowledge, and the use of wild and domestic animals. It is one of the main subdisciplines of ethnobiology and shares many methodologies and theoretical frameworks with ethnobotany. Ethnozoological studies can be a valuable asset to increase our understanding of the cultural, economic, social, and traditional roles played by animals, Alves (2012).

The healing of human ailments by using therapeutics based on medicines obtained from animals or ultimately derived from them is known as zotherapy. The use of animals for medicinal purposes is part of a body of traditional knowledge which is increasingly becoming more relevant to discussions on conservation biology, public health policies, and sustainable management of natural resources, biological prospection, and patents, Mahawar and Jaroli (2006).

## STUDY AREA

I selected Alirajpur, Dhar, and Barwani districts as study areas located in Madhya Pradesh. Alirajpur, Dhar, and Barwani district is located in the south-eastern region of MP (Alirajpur 22.3403° N, 74.4995° E, Dhar 22.4959° N, 75.1545° E and Barwani 21.8359° N, 75.0611° E). Alirajpur comprises three tehsils: Alirajpur, Jobat and Bhabra. Dhar comprises seven tehsils: Dhar, Badnawar, Dharampuri, Sardarpur, Manawar, Kukshi and Gandhwani. Barwani district comprises nine tehsils: Barwani, Sendhwa, Pansemal, Warla, Niwali, Thikri, Pati, Anjad, and Rajpur.

**Table no 1. Description of the study area**

Description	Alirajpur	Dhar	Barwani
Area	3,182 sq. km	8,153 sq. km	5,427 sq. km
Villages	340	761	717
Population (2011)	728,677	2,185,793	1,385,881
Scheduled Caste	26,877	145,436	87,991
Scheduled Tribe	648,638	1,222,814	962,145
Illiterate	519,245	1,108,455	835,955

The district has the majority of the tribal population. The tribal communities include Bhil, Bhilala, Barela, and Pateliya. The majority of the tribals speak in Bhili and Hindi mixed with Gujrati. Festivals in the district are Holi, Diwali, Dussehra, Diwasa, Nawaii, Shivratri, Bhagoriya.



Map of Madhya Pradesh

## **MATERIALS AND METHODS**

Data were collected by semi-structured interviews of traditional healers and local people having Knowledge of ethnozoology. Animals were identified according to the folk description of each specimen and from the pictures shown to them. Standard taxonomic keys of taxonomists from home and abroad were used to make the correct identification of the animals. Ethnozoological data were presented in a tabular form under the headings such as common english name, zoological name, local name, and brief ethnozoological note.

The present work is based on information gathered through interviews with the village headman and village elders (Baduwa-Bhopa-Practitioners) through the questionnaire. The villages selected for information were from rural and semi-urban areas where the local beliefs and indigenous practices are performed and have knowledge of identifying the wildlife and their traditional use in their society. Knowledgeable persons or medicine men popularly known as “Baduwa or Jankar” experienced and aged persons, local healers of the villages were consulted for recording local name, animal parts used, drug preparation methods, and recommended doses.

Table no 2. Traditional uses of animals amongst tribal people of Alirajpur, Dhar, and Barwani district

S. No.	Class	Common Name	Scientific Name	Local Name	Disease	Use of Body Parts	Mode of Uses
<b>Invertebrate</b>							
1	Decapoda	Crab	<i>Cancer pagurus</i> Linnaeus	Kekda	TB, Cancer	Whole-body	Soup is considered for cough and cold.
2	Oligochaeta	Earthworm	<i>Lumbricus terrestris</i>	Kechuwa	Milk secretion, Arthritis	Whole-body	Whole-body is crushed and mixed with and administered orally just after delivery for lactating mother.
3	Insect	Honey bee	<i>Apis mellifera indica</i> Fabricius	Bhanwar	Wound healing	Honey	Used as eye drops to cure eye disease.
4	Decapoda	Prawn	<i>Fenneropenaeus indicus</i>	Jhinga	Muscle weakness	Whole-body	Soup is considered to be nourishing food.
<b>Vertebrate</b>							
5	Pisces	Carps	<i>Labeo rohita</i>	Rohu	Rheumatism, Eye	Body oil	Fish curry is used as food and rheumatism <b>(Medicinal)</b> .
6	Amphibia	Frog	<i>Rana spp.</i>	Mendak	Wound healing	Whole-body, Urine	The flesh is crushed into a paste and applied over the wound for easy healing <b>(Medicinal)</b> .

7	Reptilia	Monitor lizard	<i>Varanus bengalensis</i>	Goh/ Sanda	Masculinity	Lung's oil	Skin oil is used for massaging arthritis <b>(Medicinal)</b> . Penis and testis are eaten raw for the production of sexual stimulants of male sex organs <b>(Medicinal)</b> .
	Reptilia	Snake	<i>Naja naja</i>	Cobra	Pneumonia and Typhoid	Bones	Ash of slough is used orally to cure cancer. <b>(Medicinal)</b> . Ash of slough mixed with coconut oil and applied on leprosy wound for rapid healing. <b>(Medicinal)</b> .
8	Reptilia	Turtle	<i>Lissemys punctata</i>	Kachhua	Piles	Shell and flesh	Powdered shell mixed with water and the paste is used for piles. <b>(Medicinal)</b> .
9	Mammalia	Cow	<i>Bos indicus</i>	Gau	Eyes, Burn Skin, Digestion	Ghee	4-5 years old pure gee as a droplet in eyes.
10	Mammalia	Cow	<i>Bos indicus</i>	Gau	TB and Fever	Urine	Weakness due to fever is cured by drinking urine.
11	Aves	Fowl	<i>Gallus gallus</i>	Murga (Kadknath)	Masculinity	Whole-body	Cooked flesh consumed.
	Aves	House sparrow	<i>Passer domesticus</i>	Goreyya	Paralysis	Blood	The fume of the nest is used to treat allergies. <b>(Medicinal)</b> . Roasted, used to treat paralysis <b>(Medicinal)</b> .

12	Aves	Maina bird	<i>Acridotheres tristis</i>	Myna	Stutter	Whole-body	Cooked flesh consumed.
13	Aves	Pigeon	<i>Columba livia</i> Gmelin	Kabutar	Paralysis	Blood and meat with eggshell, excreta	Fresh blood massaged on the affected part for 7 days once a day to cure paralysis <b>(Medicinal)</b> .
	Aves	House sparrow	<i>Passer domesticus</i>	Perva	Fecal	baby to treat constipation	Fecal matter is applied to the anus of the baby to treat constipation.
14	Aves	Quail	<i>Coturnix ypsilophora</i>	Titar	Body worm	Whole-body	Cooked flesh consumed.
15	Aves	Peafowl	<i>Pavocristatus</i>	Mor	Diarrhoea and dysentery	Feather	Ash of feather and hive of mud wasps mixed with honey and paste is given to those suffering from diarrhoea and dysentery <b>(Medicinal)</b> .
16	Mammalia	Barasingha	<i>Rucervussps</i>	Barahasinga	Ribs pain	Flesh meat	Cooked flesh consumed.
17	Mammalia	Buffalo	<i>Bos bubalus</i>	Bhais	Burn skin, Digestion	Ghee and Meat	Ghee for burnt skin.
18	Mammalia	Camel	<i>Camelus dromedarius</i> Linnaeus	Uant	Pneumonia and knee pain	Bone, Milk, Meat, Urine & Dung	Antiplatelet and anti-bacteria use.
19	Mammalia	Goat	<i>Capra indica</i>	Bakara	TB, Rickets	Stomach, Urine	Administered orally, two teaspoons for 21 days.
20	Mammalia	Hanuman Monkey	<i>Semnopithecus entellus</i> Dufresne	Monkey	Sex power	Flesh meat	Cooked flesh consumed.

21	Mammalia	Human	<i>Homo sapiens</i>	Manushya	Wound healing	Urine	Directly used into wound site as an antiseptic.
22	Mammalia	Rabbit	<i>Lepus nigricollis</i>	Khargosh	Digestion	Bone powder	Cooked flesh consumed.
23	Mammalia	Sheep	<i>Ovis aries</i>	Bhaid	Bone repairing	Milk, Ghee	Massage with milk on the broken bone.
24	Mammalia	Wild Pig	<i>Sus scrofa domestica</i>	Sukar	Immunity, Burn, Fracture	Whole-body	Fat applied on burn & wound area.
25	Mammalia	Porcupine	<i>Hystrix indica</i>	Sahi	Cancer	Spine (Hair)	Antibiotic use.
26	Mammalia	Sambhar	<i>Cervus unicolor</i>	Sambar	Children for pneumonia	Horn	Horn rubbed with water and paste is applied on the chest and 5 drops are given orally to children for pneumonia.
27	Mammalia	Horse	<i>Equus hemionus</i>	Ghoda	Drug addiction	Sweat	Sweat mixed with wine and administered orally to cure drug addiction <b>(Medicinal)</b> .
28	Mammalia	Tiger	<i>Panthera tigris Linnaeus</i>	Bagh	Sex Power	(a) Teeth (b) Liver (c) Claw	Nail is crushed into a paste and applied over the wound for easy healing <b>(Medicinal)</b> .
29	Mammalia	Cheetah	<i>Acinonyx jubatus</i>	Cheetah	Sex Power	a) Nail (b) Dung	Nail is crushed into a paste and applied over the wound for easy healing <b>(Medicinal)</b> .



30	Mammalia	Indian ass	<i>Equus hemionus</i>	Gadha	Jaundice	Dung	Dung is kept in water and after one day filtered water is given to cure jaundice.
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## RESULT AND DISCUSSION

Total 31 numbers of animals 4 belonging to the invertebrate groups and 27 to the vertebrate groups. Out of 4 animals from the invertebrate group, 1 annelid, 3 arthropods. In the vertebrate group, 1 pisces, 1 amphibian, 3 reptiles, 7 avian and 15 are mammalian fauna (Table no. 2).

However some of these animals and their products are being used for the treatment of other diseases in different parts of India and abroad, such as the ash of *Pheretima posthuma*, which is used in lactation but the ground animal used for high fever due to measles and chickenpox by Tamang people of Central Nepal, Lohani (2010), the animal used for wounds, cough, jaundice, and pain by tribes of Attappadi hills of Western Ghat, Padmnabhan and Sujana (2008) and crushed animal is applied in the eye for red-eye by Chakhesang Tribe of Nagaland, Kakati and Dulo (2002). These reports of medicinal properties of earthworm from other parts of the world where these are used in curing asthma, hypertension, epilepsy, cancer, snake and spider bite, Zhang et al. (1992), Solovanet al. (2004), Jamir and Lal (2005).

Ash of *Periplaneta* spp. is used to cure asthma is also used by Naga tribes of Nagaland, Jamir, and Lal (2005). It is also used for dyspnea, urinary obstruction, and uterine problem in Western Ghat, Padmnabhan, and Sujana (2008). The cockroach is used for asthma in Northeast Brazil, Costa- Neto (2000).

Lac of *Laciferlaccais* used for diarrhoea, but the powder of animal is used for bone fracture by people of South India, Dixit et al. (2010). *Trombidium grandissimum* is used as Viagra for sex power is also reported in Chhattisgarh, Odhia (2003).

Carp fish (*Labeo rohita*) is used for rheumatism, but alimentary canal and juice are used for gastric and fever by Tamang people of Nepal, Lohani (2010).

The flesh of *Rana* spp. is used for wounds is also reported by tribes of Nagaland, tribes of Attappadi hills of Western Ghat and Warangal district of Andhra Pradesh, Kakati et al. (2006), Padmnabhan and Sujana (2008), Benarjee et al. (2010).

The shell of *Testudo* spp. is used in piles is also used by tribes in Nagaland, Kakati et al. (2006), and ash of carapace is used for healing of internal injuries, purities, and cough in the Kachchh region, Gupta et al. (2003).

Fat of *Varanus bengalensis* is used to relieve arthritis is also used by tribes Attappadi hill and Tropical Wild Life Sanctuary Warangal district of Andhra Pradesh, Padmnabhan and Sujana (2008), Benarjee et al. (2010).

Ash of molted skin of *Naja naja* is used for cancer also used by Tamang people in Central Nepal but meat and fat used for eyesight and cancerous wound by Tamang people of Central Nepal, Lohani (2010).

Nest of *Passer domesticus* used for allergy is also used by Jirels of Central Nepal, Lohani (2011). Roasted animals are used for paralysis but the flesh is used for stammering by tribes of Nagaland, Kakati et al. (2006). The use of fecal matter to treat baby constipation, but the ash of excreta is used for the treatment of asthma in children is reported in Kachchh, Gupta et al. (2003).

The fresh blood of *Columba livia* is used for paralysis in this area is also reported by other groups of Rajasthan, Kachchh, and Tamil Nadu, Gupta et al. (2003), but excreta is used for magic religious purposes by Jirels of Central Nepal, Lohani (2011). Rosner (1992) have studied the faunal medicinal use in the therapeutic of the pigeon as the remedy for jaundice.

The *Pavo cristatus* is a symbolic animal, ash of feather uses in diarrhea and dysentery in this area but the feather is used for infertility by Saharia tribes of Rajasthan, Mahawar, and Jaroli (2007), legs uses for ear infection are similar use in Naga tribes and Bhil of Rajasthan, but legs are boiled with oil in Kachchh and Maharashtra for the similar purpose, Jamir and Lal (2005), Patil (2003), Gupta et al. (2003).

The antler of *Cervus unicolor* is used for asthma is also used by Saharia tribes of Rajasthan Mahawar and Jaroli (2007), but the use of antler for eye ailments has been reported in the Kachchh region of Gujarat, Gupta et al. (2003).

Ash of *Pteropus* spp. is used in asthma is also used by Naga tribes, Ao tribes of Nagaland, and Simlipal Biosphere Reserve Orissa. The flesh is used for asthma in Western Ghat, Kakati et al. (2006), Mishra et al. (2011), Padmnabhan and Sujana (2008).

Fat of *Melursus ursinus* is used in paralysis is also used by tribes of Attappadi hills of Western Ghat, Padmnabhan, and Sujana (2008). The liver is used in piles and stomach disorders by Naga tribes of Nagaland. Fat and bile are used for jaundice, malaria, gout, burn, and wound by Jirels, Lohani (2011).

The sweat of *Equus hemionus* is used for anti-drug addiction in this area but semen is administered orally to cure tetanus and rabies, bones are used for herpes by Saharia tribes

of Rajasthan, Mahawar, and Jaroli (2007). Dung is used to cure Jaundice in the kuchchh region, Gupta et al. (2003).

The stool of *Canis alpinus* is used as an antidote to poisoning also used in Central Nepal, Lohani (2010). Whole animals, animal parts, and animal-derived products also constitute important elements of the Materia medica, Alakbarli (2006), Alves and Rosa (2005, 2007, 2012).

## **CONCLUSION**

Our results demonstrated the persistence of folk medicine practices in the Alirajpur, Dhar, and Barwani district, that the tribal and rural communities are still dependent on indigenous knowledge for health care that is being influenced by culture and socio-economic aspects, providing a cheaper and accessible alternative to the high-cost pharmaceutical remedies. Other studies are also necessary to preserve the popular medicinal knowledge which is important to enhance our understanding of the relationship among men, society, and nature, and also to elaborate more effective strategies for conserving natural resources especially to the Alirajpur, Dhar, and Barwani biome, where the studies concerning this subject are scarce. The possible benefit of animal-derived medications constitutes a rewarding area of research, particularly in countries such as India which have a rich biodiversity of animal resources coupled with a high prevalence and variety of infectious diseases where sustainable utilization of the biodiversity can be carried out. This wildlife is a valuable renewable resource that can continue to produce benefits only if adequate habitats and protection are provided. It is suggested that the government should integrate this health care system into the existing one to ensure proper development and harnessing ethnomedicine in India.

## **ACKNOWLEDGEMENT**

The co-operation rendered by respondents in providing first-hand information regarding the uses of animals is highly acknowledged.

## REFERENCES

1. Saonere JA. Leprosy: an overview. *J Infect Dis Immun* 2011; 3(14): pp. 233-43.
2. Duthie MS and Balagon MF. Combination chemoprophylaxis and immunoprophylaxis in reducing the incidence of leprosy. *Risk management and healthcare policy* 2016; 9: pp. 43-53.
3. WHO. WHO Expert Committee on Leprosy. Eight Report. 2012.
4. Smith WCS and Aerts A. Role of contact tracing and prevention strategies in the interruption of leprosy transmission. *Lepr Rev* 2014; 85: pp. 2-17.
5. Oskam L and Bakker MI. Report of the workshop on the use of chemoprophylaxis in the control of leprosy held in Amsterdam, the Netherlands on 14 December 2006. *Lepr Rev* 2007; 78: pp. 173-85.
6. Reveiz L, Buendia JA, and Tellez D. Chemoprophylaxis in contacts of patients with leprosy: systematic review and meta-analysis. *Pan Am J Public Health* 2009; 26(4): pp. 341-9.
7. Smith WCS. Chemoprophylaxis in the prevention of leprosy. *Br Med J* 2008; 336: pp. 730-1.
8. Cunha SS, Bierrenbach AL, and Barreto VHL. Chemoprophylaxis to control leprosy and the perspective of its implementation in Brazil: a primer for non-epidemiologists. *Rev Inst Med Trop Sao Paulo* 2015; 57(6): pp. 481-7.
9. Moet FJ, Pahan D, Oskam L, Richardus JH, COLEP Study Group. Effectiveness of single-dose rifampicin in preventing leprosy in close contacts of patients with newly diagnosed leprosy: a cluster randomized controlled trial. *Br Med J* 2008; 336(7647): pp. 761-4.
10. Eichelmann K, Gonzalez SE, Salas-Alanis JC, and Ocampo-Candiani J. Leprosy an update: definition, pathogenesis, classification, diagnosis, and treatment. *Actas Dermosifiliogi* 2013; 104(7): pp. 554-63.
11. Kumar P and Hussain I. Leprosy in 21st century. *Journal of Pakistan Association of*

Dermatologists. 2016; 26(2): pp. 93-5.

12. Bhat RM and Prakash C. Leprosy: an overview of pathophysiology. *Interdisciplinary Perspectives on Infectious Diseases*, Volume 2012.

13. De Matos HJ, Blok DJ, de Vlas, and Richardus JH. Leprosy new case detection trends and the future effect of preventive interventions in Para State, Brazil: a modeling study. *PLOS Neglected Tropical Diseases*. 2016.

14. Feenstra SG, Nahar Q, Pahan D, Oskam L, and Richardus JH. Acceptability of chemoprophylaxis for household contacts of leprosy patients in Bangladesh: a qualitative study. *Lepr Rev* 2011; 82: pp. 178–87.

15. Ferreira SB, Yonekura T, Takahashi J, Ignotti E, Cortela DCB, and Soares CB. Rifampicin chemoprophylaxis in preventing leprosy in contacts of patients with leprosy: a comprehensive systematic review protocol. *JBI Database of Systematic Reviews & Implementation Reports*. 2015; 13(2): pp. 84-100.