

## ETHNOZOOLOGICAL KNOWLEDGE AMONG MISING TRIBES OF DHEMAJI ,ASSAM

*Sanker Paul*

*Department of Zoology, Dhemaji College*

**Abstract:** Zoo-therapeutic is a indigenous knowledge system formed by a group of people through generations, by living in close contact with nature and using traditional drugs of animal origin in the local environment. We can find that our rural people still using various animals and their by-products for cure of various diseases. The mising tribes of Assam is mostly concentrated in the district of Dhemaji of Assam. This tribal populations depends the local vegetation for food, shelter and curing most ailments. They mostly uses 16 animals out of which eight mammals, two bird, one reptiles, four fish, one annelids . Mising uses animal derived medicine for treatment of asthma, body pain, tuberculosis, jaundice, paralysis, piles, skin disease, allergy, weakness, asthma and piles etc. Since scientific research in ethno-biology and ethno-medicine has made important contributions to understanding traditional ethnozooological and medical knowledge and practice. Thus there is an urgent need to investigate and record all ethno-zoologist have a greater responsibility not only in inventorying the traditionally used biological resources but also in conserving and revitalizing the traditional beliefs, so that the age old cultures are not lost.

Key words: mising tribes, Zoo-therapeutic, research, conservation.

## I. Introduction

Zoo-therapeutic is an indigenous knowledge system inherited by a group of people through generations, by living in close contact with nature and using traditional drugs of animal origin in the local environment so that it is specifically adapted to the local people and conditions. This plays a significant role in the healing practices, magic rituals and religious of both indigenous and western societies all over the world (Angeletti et al., 1992; Rosner, 1992). Ethno biological knowledge is very ancient in India. India possesses a total of 427 tribal communities (Chandra Prakash Kala, 2005). Ethno biological knowledge accumulated over generations help people protect their nutrition and health and manage their habitats (Laird, 2002). Ethno biology helps to link between traditional knowledge, conservation and development. The loss of traditional ecological knowledge concerns policy-makers because it represents the irreversible loss of information about different ways to manage natural resources. More than 300 million indigenous people live in more than 70 countries in habitats ranging from Arctic to the rain forests of Asia. Over 53 million tribals belonging to 550 tribal communities representing 227 linguistic groups inhabit the Indian subcontinent. These tribal populations depends on local vegetation for food, shelter and curing most ailments. International agencies such as the World Wide Fund (WWF) and UNESCO, in the context of their joint program, the People and Plants initiative, have also promoted research on ethno botanical knowledge, as well as integration of people's perceptions and practices in resource management at the local level (Cunningham, 2001).

Ethnobiological practices are more relevant on conservation biology, public health policies, and sustainable management of natural resources, biological prospection, and patents. Since ancient time's

Wild and domestic animals and their by-products (e.g. skin, bone, hoof, feathers, tusk etc.) form important ingredients in the preparation of curative, protective and preventive medicine. Since the inception of the disciplines, scientific research in ethno-biology and ethno-medicine has made important contributions to understanding traditional subsistence and medical knowledge and practice.

The WHO estimates that as many as 80% of the world's more than six billion people rely primarily on animals and plants based medicine (WHO/IUCN-1993) of the 252 essential chemicals that have been selected by the WHO 11.1% come from plants and 8.7% from animals (Marques, 1997). And of the 150 prescription drugs currently used in the USA, 27 have animal origin (WRI, 2000). In India, different tribal and ethnic communities are highly knowledgeable about the animal and their medicinal value, and they also provide considerable information about the use of animals and their by-products as medicine. In India nearly 15-20% of the Ayurvedic medicine is based on animal derived substance (Unnikrishnan, 1998). In the unani system of medicines about 200 drugs of animal origin are described which are claimed to be beneficial for the treatment of the various ailments (Sharma, 1996). Approximately 109 animals, 270 body parts are used, reported in traditional zoo therapeutic studies in India from 2000 to 2007. For example, honey used as expectorant, cattle urine has been used as therapeutics. The 109 animals which are used as traditional medicine by different tribal groups in India.

In Pakistan 31 substances were listed animal part and product constitute 9% of all medicinal substances in the inventory of traditional medicine. S. K. Sharma (2002) describes the use of birds and animals to cure ailments of human beings in Rajasthan. Patil (2003) found that the tribals of Nandurban district (Maharashtra) have been using wild animal parts as medicine along with plants. This study assesses 15 species of animals used by the tribals like Bhils, Gamits, Pawaras as medicine. Ranjit Singh et

al (2004) describes the Ethno-entomological practices in Tirunelveli district, Tamil Nadu. Gupta et al (2003) describe the traditional knowledge of local communities in district Koach of Gujarat and listed about 34 animal species, which are used in primary health care of human being. Different tribal groups living in the Dhemaji district of villages such as- Mising, Bodo, Sonowal, Thengal kachari, Deori, Tiwa, Rabha etc have been using different animal species and their parts to cure different diseases. The variety of animal species have different bioactive elements to cure ailments so it is an urgent need to explore the medicinal use of different species from those ethnic groups lived in the villages. So if their traditional knowledge is explored and proper scientific investigation is done on it by laboratory experiment and detects the bioactive compound present in it then it may have a great future potential to develop drugs for treatment of incurable diseases. Thus there is time demand to make such study in the field of zoo therapy and document it, so that it can be put to the welfare of human kind. Therefore keeping this aspect in view, I have undertaken this study. The present study briefly reports the uses of drugs of animal origin that have been practiced by the Mising tribes Dhemaji sub division, Dhemaji, Assam. And also to search the ethnological medicine this may have future potential for treatments of serious diseases. And aim to create awareness among those village people about sustainable use of drugs of animal origin. This can help in conservation of animal and environment.

## II. A brief description of the study area

The Dhemaji district lies between  $27^{\circ}15'N$  and  $27^{\circ}55'N$  latitudes and  $94^{\circ}10'E$  and  $95^{\circ}30'E$  longitudes. It occupies 2,63,701 hectares of area. It is bounded on the north by Arunachal Pradesh. It covers a total geographical land area of 3237 Sq.Km<sup>2</sup> and basically plain area lying at an altitude of 104 m above the m.s.l. the river Brahmaputra flows along the southern side of the district. The climate of the district is Per-humid characterized by high rainfall, mild summer and winter and falls under cool to warm per-humid thermic-agro ecological subzone. The annual rainfall of the district ranges from 2600mm to 3200mm. The forest in the district is either deciduous or mixed evergreen scattered in the foothill areas. There are 9 reserved forests covering an area of 53,224.11 hectares (DIO, 2005) and 139 nos. of wetlands covering 3960.00 areas (ha) (ASTECC 2008). The District was originally inhabited by various indigenous tribes like Mising, Sonowal Kachari, Bodo Kachari, Deori and Lalung. In addition to this different tribes (Ahom, Rabha, Tai-Khamti, Konch, Keot, Koiborta, Brahman, Kayastha, Kalita etc). were migrated during different moments of time span (DIO, 2005). The name of the village that I took for study are namely Bengenagora mising village, Dighalgora village, Lasong village, Borpak mising village, Kath gaon, Betoni mising village, Batghoria kochari gaon, Sisi mising gaon, Kuhimari mising village.

### III. Materials and methodology

A field survey was conducted through structures questionnaire by performing interview with selected respondent of- 9 different mising dominated villages Dhemaji district of Assam to collect information about traditional knowledge regarding use of animals and their products as ethnic medicines. The respondents are local healers, farmers, herbalists and midwives between 30-70 age groups of knowledgeable members concerning folk medicine. The respondents were asked about the use of animals and their parts in the healing practices. Mostly they have knowledge on plant based medicine but they also know some use of animals in therapeutics. The respondents were asked about the remedies. They were also asked about the modes of preparation of medicines and modes of use, and which animal and its parts are used to prescribed for which ailment. Since this kind of information indicates how a given medicine can be therapeutically efficient in terms of the right ingredient and the proper dose. The scientific name and species of animals were identified by using relevant and standard literature.

**TABLE I. Observation: Community MISING**

Sl. No	Animal group	Common name	Scientific name	Disease treated	Part used	Prescription
1.	Mammal	Bat	Rhinolophus sp.	Asthma	Flesh	Burn and eaten with local wine.
2.	Mammal	Goat	Capra sibirica	Asthma	Urine	Drink directly.
3.	Mammal	Buffalo	Bubulus sp	Body pain	Oil	Applied on the affected area.
4.	Mammal	Pig	Sus scrofa	Body pain	Fat oil	Applied on the affected area.
5.	Mammal	Porcupine	Hystrix sp	Dysentery	Bile	Taken orally.
6.	Mammal	Monkey	Maccaca sp	Tuberculosis	Blood	Fresh blood taken orally.
7.	Mammal	Goat	Capra sibirica	Jaundice	Liver	Cooked and eaten.
8.	Mammal	River Dolphin	Platanista gangetica	Body pain	Body oil	Used locally on the affected area.
9.	Aves	Pigeon	Columba sp.		Flesh	Cooked and eaten.

10.	Aves	Crow	Corvus sp	Paralysis	Flesh	Cooked and eaten.
11.	Reptilia	Turtle	Chilonia sp.	Piles	Flesh	Ash of the flesh applied in affected area.
				Skin disease	Flesh	Cooked and eaten.
12.	Fish	Patimutura	Glossogobius gutum	Disease of passing urine while asleep	Flesh	Cooked and eaten.
13.	Fish	Kuri	Labeo gonius	Allergy	Whole body	People used it by cooking with herb.
14.	Fish	Eel	Anguilla sp.	Weakness	Blood	Blood of eel mixed with turmeric (hot dry) and taken orally.
15.	Fish	Borali	Wallago auto	Asthma trouble	Airbladder	It should be used in diet for relief from asthma trouble.
16.	Annilida	Earthworm	Pheretima sp.	Piles	Body	Ash of the body mixed with alkali produce from banana and taken orally.



#### IV. Discussion

The respondents has been provided all the information regarding local name of the animal, animal part or product used to cure which ailment and method of preparation of the medicine and their method of prescription. In this study I have identified 16 animals used by Missing out of which eight mammals, two bird, one reptiles, four fish, one annelids and. Missing uses animal derived medicine for asthma, body pain, tuberculosis, jaundice, paralysis, piles, skin disease, allergy, weakness, asthma and piles. Blood of eel mixed with turmeric (hot dry) and taken orally for weakness. In Chilonia sp. Ash of the flesh applied in affected area to relieve from Piles. Sharma and Khan (1995) works on traditional zoo-therapeutic uses among tribal peoples of Garo and Hajong tribes of Garo hills of Maghalaya and found that drugs of insect origin are more commonly preferred compared to the drugs of mammal origin. Kakoti and Doulo (2002) found Chakhesang tribe of Nagaland uses of twelve mammals, one bird, one reptile, two amphibians, one fish, one mollusc, one annelid and four arthropods for treatment of various ailments. Azmi et Al (1999) described that animal fats are used as traditional drugs among tribals of Chhatisgarh, as ointment for eternal use in inflammations, muscular pain, piles, burns, wounds and sexual disability. Boring (1996) has made a detailed study on ethno-zoological aspects among Adi tribes of Arunachal Pradesh and enlisted 95 species of animals medicinal uses. Mahawar and Jarali (2007) studied on Saharia tribes of Rajasthan and found out 15 animal species used as medicines of cough, asthma, tuberculosis, paralysis, earache, herpes, weakness, muscular pain etc. Kakoti et al (2006) surveyed on the Ao Tribe of Nagaland and found out 25 different vertebrate species are used for treatment of body pain, rheumatism, asthma, liver disease, leucoderma, eczema, tuberculosis, paralysis, antidote against poison, skin disease, stomach disorder, jaundice, night

blindness, bone fracture, malaria, dysentery, kidney problems, breathing problems, earache, burn injuries, stammering, piles, general weakness etc. Kalita et al (2005 and 2006) study the plant and animal based folk medicine used by people of Dibrugarh district, Assam for treatment of 11 different diseases. This ethnozoological interaction has been recorded both in indigenous and western societies throughout the world (Gudger, 1925; Branch and Silva, 1983; Conconi and Pino, 1988; Begossi and Braga, 1992; Antonio, 1994; van Huis, 1996). From the plasma of the European hedgehog, Mebs *et al.* (1996) have isolated erinacin, which is an antihemorrhagic factor. Even lethal, natural substances can become medicines. The study of viperid, crotalid and elapid venoms has shown the presence of analgesic activity, which, in the case of serpent venoms, is stronger than morphine and therefore, of use in cases of terminal cancer (Bisset, 1991). The presence of an anticoagulant system in the plasma of Atlantic salmon (*Salmo salar* L.) and rainbow trout (*Oncorhynchus mykiss* Walbaum) has been confirmed, what supports similarities with the protein C anticoagulant system in mammals (Salte *et al.*, 1996). Tetrodotoxin (TTX), a water-soluble guanidinium derivative, is an example of a bioactive compound produced by marine organisms such as puffer fish "that resembles procaine in its ability to inhibit transmission of nerve cells" (Colwell, 1997). When diluted it acts as an extraordinary narcotic and analgesic (Bisset, 1991). Ehrlich and Ehrlich (1992) point out that biotic diversity should be valued for four general reasons: ethical, aesthetic, direct economic, and indirect economic. One may ask, "Could the zootherapeutics from Tanquinho be viewed from a less anthropocentric perspective and seen as having intrinsic value?" In this regard, Swanson's statement is agreed (in Oksanen, 1997), that the protection of biodiversity results from the right use of its resources.

Ethno-zoological drugs of animal origin have great importance to the tribal people due to limited access to allopathic medicines, lack of proper medical facilities and transportation problems. It is seen that in spite of extremely precise ecological knowledge and strong tradition of conservation and sustainable use, certain animals become rare due to substances hunting for food and other uses and only preserved parts of those animals have been used as raw materials for treatment of diseases. The interest for traditional social institutions is gradually eroding among the young generation due to intrusion and assimilation of alien cultures. Therefore the socio-ecological system has to be strengthened through sustainable management and conservation of biodiversity. It must be established as an important step towards understanding of the valuable contribution of this indigenous knowledge system, so that users and sellers are aware of legal and ecological status of the species they use as a source of medicine, food, income and other benefits.

## References

- [1] Agrawal, A. 1995. Indigenous and scientific knowledge: Some critical comments. *Indigenous Knowledge and Development Monitor* . 3(3), 1-10
- [2] Agarwal, A. 2002. Indigenous knowledge and the politics of classification. *International Social Science Journal* . 54, 287-97.
- [3] Azmi, H.K Ali. S.Z and Zulfikars (1999). : Study of animals and traditional drugs among tribal's of Chhattisgarh I , Uttar Pradesh journal of zoology,.Vol no. 1, pp. 43-47.
- [4] Begossi, A. and F. M. S. Braga. 1992. Food taboos and folk medicine among fishermen from the Tocantins River. *Amazoniana* 12, 101-118. [5] Benz, B.F.,J. Cevallos, F. Santana, J. Rosales, S. Graf. 2000. Losing knowledge about plant use in the Sierra de Manantlan Biosphere Reserve, Mexico. *Economic Botany*. 54(2): 183-91. [6] Bisset, N. G. 1991. One man's poison, another man's medicine *Journal of Ethnopharmacology* 32,

- 71-81. [7] Blakeney, M. 1999. What is Traditional Knowledge? Why should it be protected? Who should protect it? For whom? Understanding the Value Chain. UNESCO-WIPO/IPTK/RT/99/3 (October 6, 1999). [8] Branch, L. C. and M. F. Silva. 1983. Folk medicine in Alter do Chão, Pará, Brazil. *Acta Amazonica* 13, 737-797. [9] Boring, A. (1996) : Studies of certain ethno-zoological aspects of Adi tribes of Siang District, Arunachal Pradesh; in proc. Ethno-biology in human welfare: proc. Of IV International congress of Ethno-biology, Lucknow, India, S.K., Jain (Ed.). [10] Chandra Prakash Kala. 2005. Ethnomedicinal botany of the Apatani in Eastern Himalayan region of India. *Jnl. of Ethnobiology and Ethnomedicine* . 1:11 [11] Conconi, J. E. and J. M. M. Pino. 1988. The utilization of insects in the empirical medicine of ancient Mexicans. *Journal of Ethnobiology* . 8(1), 195-202. [12] Costa-Neto, E. M. 1996. Faunistic resources used as medicines by an Afro-Brazilian community from Chapada Diamantina National Park, State of Bahia, Brazil. *Sitientibus* 15, 211-219. [13] Costa-Neto, E. M. 1999b. Healing with animals in Feira de Santana city, Bahia, Brazil. *Journal of Ethnopharmacology* 65, 225-230. [14] Costa-Neto, E. M. and M. N. Melo. 1998. Entomotherapy in the county of Matinha dos Pretos, state of Bahia, northeastern Brazil. *The Food Insects Newsletter* 11 (2), 1-3. [15] Costa-Neto, E.M. and Maria Vanilda M. Oliveira. 2000. Cockroach is good for Asthma: Zootherapeutic Practices in Northern Brazil. *Human Ecology Review* , 7 (2). 41-51. [16] Gupta Leena, Silori,; CS, Mistry N. and Dixit A.M. (2003) : Use of animals and animal products in traditional health care systems in district Kanchchh, Gujarat. *Indian Journal of Traditional Knowledge*, Vol. 2, pp. 346-356. [17] Gudger, E. W. 1925. Stitching wounds with the mandibles of ants and beetles. *Journal of the American Medical Association* 84, 1862-1864. [18] Hamada, M. and T. Nagai. 1995. Inorganic components of bones of fish and their advanced utilization. *Journal of Shimonoseki University of Fisheries* . 43(4), 185-194. [19] Jamir, NS and Lal, p. (2005): Ethno-zoological practices among Naga tribes. *Indian Journal of Traditional Knowledge*, Vol. 4, pp. 100-104. [20] Joseph, A.N.T : A study in the

drugs of animal and bird origin used by tribal's of Madhya Pradesh, In proc. 2<sup>nd</sup> Ann. Works, MAB projects DDE, New Delhi.

[21]Kakoti, L.N and Doulo,V (2002) : Indigenous knowledge system of Zoo therapeutic use by Chakhesang tribe of Nagaland. Indian Journal of human ecology. Vol. 13 No. 6., pp. 419-423.

[22]Kakoti, L.N., AO, B and Doulo, B (2006) : Indegenous knowledge of zoo-therapeutic use of vertebrate origin by the Aoe tribe of Nagaland . Journal of human ecology , Vol. 19, No. 3, pp. 163-167.

[23]Mahawar, M.M. and Jarali, D.P. (2007) : Traditional knowledge on zoo-therapeutic uses by the Saharia tribe of Rajasthan, India, Journal of Ethno-biology and Ethno-medicine, Vol. 3 No. 25, [www.ethnobiomed.com/content/3/1/25](http://www.ethnobiomed.com/content/3/1/25).

[24]Mahawar, MM and Jaroli, DP (2008) : Traditional zoo-therapeutic studies in India : A review, Journal of Ethno-biology and Ethno-medicine, Vol.4, No.7. [www.ethnobiomed.com/content/4/1/17](http://www.ethnobiomed.com/content/4/1/17).