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AN ETHNOMEDICINAL STUDY IN TAL CHHAPER AREA (CHURU)

R. Rao	Asstt. Registrar, University of Kota, Kota.
S. M. Lahiri	Lecturer in Zoology, Govt. College, Suratgarh (Rajasthan)
Vinod Rao	Research Scholar, University of Kota, Kota
Rao, M. S	Lecturer in Zoology, Govt. S. K. (PG) College, Sikar (Rajasthan)

ABSTRACT

The present study aims to review the zoo therapeutic practices of the different ethnic communities of Tal chhaper area. The present paper is also deal an attempt to present a list of animals use for medicinal purposes by different communities. There is evidence that human beings are familiar with use of animals for food, cloth, medicine etc. since ancient time. Ethno zoology deals with the study of relationship between human societies and the animal resources around them. Ancient connections between animals and human are seen in cultures throughout the world in multiple forms of interaction with the local fauna that form the core of Ethno zoology. . A total number of 18 animals reported in 25 therapeutic purposes by the informants. These animals are used as whole or body part or by product like milk, blood, organ, skeleton etc. for the treatment of different kind of ailments including tuberculosis, asthma, paralysis, jaundice. Earache, constipation, weakness, snake poison etc.

KEYWORDS : Ethno medicinal, Tal chhaper, therapeutic.

INTRODUCTION:

Ethno biology is the direct, interrelationship of human populations with plants and animals in their environment. Ethno zoology is a sub-filed of anthropology that is concerned with the relationship between animals and humans throughout human history. In India, from ancient times, great work has been done in Traditional mode of living or sustenance, invariably relates to the immediate nature and the natural resources that reside therein. The traditional people thus have been using the myriad resources of wild fauna or their parts in the traditional medicine and spirituals. We can find that in our rural areas, people still use various animal products and by-products for cure of various diseases, e.g. honey is used as expectorant, cattle urine has been used as a therapeutic. Therefore people are looking for traditional remedies for the treatment of ailments. Therefore, Ethno biologists have a greater responsibility not only in inventorying the traditionally used biological resources but also with in conserving biodiversity. In Rajasthan, too many traditional animal herders (pastoralist) have large number of domestic animals for their livelihood and they also depend on them for food, transportation, and medicinal purposes. The goals of anthropology are the study of the reciprocal relationships between human cultures and the natural word [Cotton, 1996]. Research interest and activities in the areas of ethno biology and ethno medicine have increased tremendously in the last decade. The use of animals for medicinal purposed is part of a body of traditional on conservation biology, public health policies, sustainable management of natural resources, biological prospection, and patents [Alves and Rosa, 2005]. These peoples have been major informants living in this study area. The people who do farming and cattle breading in a traditional way they are generally non-vegetarians and eat the flesh of goat, sheep and birds. This survey has been concentrated on the inhabitants living adjoining villages of Tal-chhapar Sanctuary.

STUDY AREA:

It is located on the part of the Great Indian Thar Desert is nestled a unique refuge of the most elegant antelope encountered in India "The Black Buck." Tal chhapar with almost flat tract and interspersed shallow low lying areas has open grassland with scattered *Acacia* and *Prosopis* trees which give it an appearance of a typical Savanna, The word 'Tal' means Plane Land or area. The geology of the zone is obscured by the wind blown over burden. Some small hillocks and exposed rocks of slate and quartzite are found in the western side of the sanctuary. Area between hillocks and the sanctuary constitutes the watershed area of the sanctuary. The whole sanctuary used to be flooded by water during the heavy rains but with salt mining going o in the watershed, hardly and rain water falling on the hillocks reach the Sanctuary. Field surveys in Shekhawati region, Rajasthan of India has been conducted to document the traditional knowledge of treating human ailments using different animals and their product. Tal chhaper Sanctuary (Churu). In modern societies, zoo therapy constitutes an important alternative among many other known therapies practiced worldwide. Wild and domestic animals and their by-products (e.g., hooves, skins, bones, feathers, and tusks) form important ingredients in the preparation of curative, protective and preventive medicine [Adeola, 1992]. [Anageletti, 1992]. In India nearly 15-20 percent of the Ayurvedic medicines are based on animal-derived substances [Unnikrishnan, 1998].

During the British rule, Tal chhapar was managed as a private hunting reserve of the Maharaja of Bikaner. Facilities were provided so as to attract and maintain a sizeable population of wild animals in the area. After independence Tal chhapar was declared as a Wildlife Sanctuary in the year 1962 to accord proper protection to Black Bucks and other animals and birds inhabiting this area. The present area of the Sanctuary is 719 ha. In the sanctuary encounter herds of Black Buck and large flocks of Demoiselle Cranes in the sanctuary. Demoiselle Cranes is migratory birds and come in winter season. These migratory birds are come only for the passing adverse condition of Temperature. This region is characterized by distinct winter (October to February) summer (March to September). The zone has a dry climate with large variation in temperature. In May and June winds become very hot and that is called "Loo". Rainfall in this region is highly erratic. There is large variation in mean annual rainfall in this region. The forest of this region falls under major group "TROPICAL FOREST" as per Classification of Indian forests by Champion & Seth. The forest of sanctuary area again falls under Group "Tropical Thorn Forest" & Sub group 6B/C "Desert Thorn Forests" The sanctuary area is mostly covered by Grasses like Moth (*Cyperes rotundes*). Dhaman (*Cenchrus setigerus*), Doob (*Cynodon dactylon*), and ghas (*Digitaria ciliaris*) and a very few trees like Khejri (*Prosopis cineraria*), Babool (*Acacia nilotica*), some small herbs Genus are also present in sanctuary like *Boerhavia, Corchorus, Trianthema, Zaliya, Tribulus, convolvulus* etc. Jungle cat (*Felis Chaus*) Jangli Bilaw, Jhau Chuha (rarely seen), musk shrew (*Suncus murinus*) Chhachhundar, Indian Flying Fox (*Pteropus gigateus*) Chamgadar, Common House Rat (*Rattus rattus*) Chuha, Indian Porcupine (*Hystrix indica*) Sehi, Indian Hare (*Lepus nigricollis*) Khargosh, Indian Gazelle (*Gazella bennettii*) Chinkara, Black Buck (*Antelope cervicapra*) Kala Hiran (Seen inside the Park), Cobra (*Naja naja*) nag, Common Krait (*Bungarus caeruleus*) Karayat, Desert Monitor Lizard (*Varanus griseus*) Patagoh, Indian Chamaeleon (*Chamaeleon zeylanicus*) Girgit, Garden Lizard (*Calotes versicolor*) Chhipkali. Bawaria, Meena, Gadia lohar etc people resided in the villages surrounding the Talchapar sanctuary area, which has been main informants in this study. A variety of migratory birds like pelicans, pintail, gargeney, grey leg goose, bramhmani duck, painted stork, cranes etc can be sighted at Tal chhaper small ponds.

METHODOLOGY:

Materials –

Field materials required during interview sessions included are-Semi-structured questionnaire, Micro cassette Recorder, Micro cassette tapes, Cameras Notebooks, Writing utensils, Video recorder

Methods -

A summary of the various methods used by me is presented below-Interview, Field notes, Questionnaire.

Interview -

Interviews were conducted with people to gather information about ethno zoology. Field materials utilized during of interview sessions included field notebooks, writing utensils, semi-structured questionnaire, micro cassette recorders, micro cassette tapes, and cameras. Additionally, I carried biscuits and small candies in my field packs to offer as gifts to my informants and the children of the community. Before visiting the tribal community, I established a series of general questions regarding typical daily activities, tourism, healthcare and folk remedies, cultivation products, the lifestyle transformations experienced between youth and old age, problems facing the community, and the issue of adherence to or separations from traditional ways of life, customs and beliefs. These topics were used to direct my conversations in the field, limiting the scope of interests and avoiding an overwhelming amount of unrelated information. There were several steps involved in the interview process. Initially, I made my observations of the community and its surroundings, then select informants by help of local people. They were identified by people as experts or knowledgeable members concerning folk medicine. Once at the informant's residence, I greeted the individuals with friendly smiles. I specified that I am student interested in learning about their culture. At this point, judging from their receptiveness, I determined whether or not to continue with the interview process. Once I was granted permission to continue I accomplished this by introducing myself by name and stating my place of origin. After this exchange, I continued the interview process with informants and asking for permission to record the conversation. At times, I found it helpful to clarify that the tape recorder was an aid for me to permanently document and review all of the information shared. In addition to this, I took written and mental notes to further aid my assessment. I began a friendly discussion with my informants, integrating the specified topics into the conversation when appropriate. This approach afforded me the opportunity to extract more detail and information and provided an insightful analysis of the informants.

According to informants, their knowledge of medicinal animals was acquired mainly through parental heritage, or because they have experienced folk medicines to heal their kin or themselves. I asked the informants whether they knew about remedies made from animals and whether they used them in their healing practices. I also asked them questions about animal remedies that were prescribed for and how the medicines were administered. Special attention was paid to the modes of preparation, since this kind of information indicates how a give folk medicine can be therapeutically efficient in terms of the right ingredients, the proper dose, and the right duration of preparation. It is interesting to note that zoo therapy is not the informant's primary occupation. Herbalists and healers only commercialize medicinal materials other than animal products and they are remunerated for their therapeutic services.

Field notes -

Field notes are a prerequisite for producing authentic ethno medicinal reports. The information of the person giving information as well as the animal or animal used was noted down on notebook. To ensure authenticity of statements crosschecking were made by repeated inquiries and discussion on the same animal of animal product with different informants at several places. The field not was comprising the following information:-

Person, Name, Address, Disease-

Animal name (All name in current use was noted. There was no liberty to select or reject any name)- Latin Name, Body part or byproduct used, Photograph- if possible, Recipe, Dose quantity- Doses per day, Care to be taken or the side, effects (if any) ,What if an overdose is administered? Anupan (Accompanying vehicle, for example: honey, milk, water etc. if any), Administration: Topical/Oral/Smoke/nasal/Anal etc.

Questionnaire -

The questionnaire was prepared for producing ethno-medicinal information. Because tribal and local informants are illiterate, so it was not possible for them to fill up the questionnaire, therefore information was recorded in cassette recorder or any other possible method. Besides we used local mediators who translate the local dialect.

The questionnaire was comprising the following information:-

Fidelity Level (FL) -

Fidelity level (FL) demonstrates the percentage of respondents claiming the use of a certain animal for the same major purpose and was calculated for the most frequently reported diseases or ailments as:

$$FL\,(\%) = \frac{Np\,X\,100}{N}$$

Where $Np\,Np$ is the number of respondents that claim a use of a species to treat a particular disease, and N is number of respondents that use the animals as a medicine to treat any given disease (Alexiades, 1996).

Major disease Categories -

All the medicinal usage of animals are classified in 14 major disease categories i.e. Antidote, Burn, Eye and Ear, Gastric disorder, Gynecological problems, Impotency, Nervous System, Pains, Respiratory Problem, Skin related Problem, Urinary Problem, Weakness and Wound healing. These categories are forms to show all related health problems in major group. For example asthma, cough, cold, tuberculosis or any other respiratory system related problems are presented into a major disease category called respiratory system problems. The valid scientific names with author's names of the animal's species are included in the database. The data are updated according to the IT IS Catalogue of Life: 2007, Annual Checklist and NCL Centre for Biodiversity Informatics (NCBI). The conservation status of the animal species follows IUCN (2007) and CITES (2007).

RESULTS AND DISCUSSION:

1st field survey was conducted in the villages surrounding Tal Chapar sanctuary, Churu Rajasthan. The information's has been collected from Meena, Bawaria, Mali, Vaidyas, Bhopas, Nathetc people, living in the villages nearby sanctuary. The field survey conducted from May to June mid to July 2009 and November to December 2012 by performing interview through structured questionnaire with 30 people (Informants), to collect information about traditional knowledge regarding use of animals and their products. The Informants were between 32-75 age groups. The selection of Informants and methods to collect zoo therapeutic information was adopted as prescribed in the methodology section. All the animal species are identified by using relevant and standard literature. A total number of 18 animals reported in 25 therapeutic purposes by the informants. These animals are used as whole or body part or by product like milk, blood, organ, skeleton etc. for the treatment of different kind of ailments including tuberculosis, asthma, paralysis, jaundice. Earache, constipation, weakness, snake poison etc (Table 1). Fidelity level (FL) demonstrates the percentage of respondents claiming the use of a certain animal for the same major purpose. The uses of animals that are commonly known by the respondents have higher fidelity level than less common known. The Human urine is used as antiseptic for wound healing has the highest FL (100%).The Human first fresh spit (Thook) of morning is used for curing skin infection has also Fidelity Level (100%).

Author profile:-

Rakesh Rao received the B.sc. degree in Biology stream in 1999 and M.sc. degree in Zoology (Environmental Biology) from MDS University, Ajmer (Rajasthan) in 2002. During July 2003 to April 2005 worked as Lecturer Zoology in MD Balika Vigyan College, Jhunjhunu and from July 2005 to Feb. 2013 worked as Head, PG Department of Zoology in New Rajasthan PG Balika College, Jhunjhunu and from Feb. 2013 to till today worked as Asstt. Registrar in University of Kota, Kota (Rajasthan). Member of NESA, New Delhi.

Table 1 – Animals and their products reported for medicinal usage by inhabitant of villages surroundings the Tal Chhapar Sanctuary of Rajasthan.

S. No	English Name	Scientific Name	Local Name	Part Used	Medicinal use	Citation No. of mentions (30)	Fidelity level (FL)	Method of preparation	Related earlier reported use in India **(Reference)**
1.	Honey bee	Apis cerana indica (Fabricius 1798)	Madhumakkhi	Honey	Skin abrasions	4	13%	Applied externally	Ranjit singh et al.(2004)
2.	Honey bee	Apis cerana indica (Fabricius 1798)	Mokh	Honey	Eye disease	25	83%	Used as eye dropes to cure eye disease.	Honey is used for cough and (Tamilnadu tribe) (Solavan, 2004,Rangit singh,2004)
3.	Cobra	Naja naja (Linnaeus, 1758)	Nag	Skin molting	Skin diseases	2	7%	Skin molting crush with curd and applied on skin to treat microbial infections.	
4.	Spiny-tailed Lizard	Uromastyx Hardwickil (Gray,1827)	Sanda	Whole body	Back pain	6	20%	The oil of this lizard is used for back pain.	
5.	Bank myna	Acridotheres ginginianus (Latham, 1790)	Gurgul	Flesh	Cough Asthma	2	6%	Flesh is eaten to treat cough and asthma.	
6.	Pigeon	Columba livia (Gmelin, *1789)*	Kabutar	Fresh blood & facul meterial	Paralysis and wound	16	53%	The fresh blood is massaged externally to treat paralysis & facul material is used for wound healing.	
7.	Hen	Gallus gallus domestics	Murgi	egg	Cold ,cough	4	13%	Put the egg in n warm wooden ash and after an hour the egg is eaten by the patient.	Five gram of the solid leaf pulp of Aloe littoralisis b soaked in egg albumin for 3 hhhours is helpful in heamotama [Solavan 2004]
8.	House sparrow	Passer Domesticus (Linnaeus, 1758)	Cheedi	Fecal	Constipation	21	70%	Fecal matter is applied in the anus of the baby to avoid constipation.	Ash of excreta is used for treatmentof asthma in children is reported in Kachchh (Gupta ,2003)
9.	Indian Peafowl	Pavo cristatus (Linnaeus, 1758)	Mor	Leg	Ear infections	5	16%	Peacock's leg is rubbed with water And thisessend water is used in ear infections.	Also reported in Naga tribe of Nagaland ,Bhil of Rajasthan (Jamir ,2005) ,Legs boiled with oil in kachchh and Maharashtra (Gupta,2003) (Patil,2003)
10.	Laughing dove	Streptopelia	Kamedii	Flesh	To attain puberty	4	13%	Flesh of laughing dove is also used to attain early puberty.	
11.	Collared dove	Streptopelia decaocto (Frivaldskzy ,1838)	Kamedii	Flesh	To attain puberty	5	17%	To attain early puberty flesh of collared dove is eaten.	
12.	Cow	Bostaurus (Linnaeus, 1758)	Gai	Urine	Cancer	2	7%	Given to cure cancer.	
13.	Cow	Bostaurus (Linnaeus, 1758)	Gai	Dung + Milk	Muscle pain	15	50%	Muscle pain can relieve by smear of dung and milk mixture.	The Dried dung is burnt and ash is applied to treat utricaria in Kachchh (Gupta, 2003).
14.	Cow	Bostaurus (Linnaeus, 1758)	Gai	Ghee	Snake poison	6	20%	250gm Ghee+ 100gm Black pepper mixture given orally to neutralize snake posion.	
15.	Cow	Bostaurus (Linnaeus, 1758)	Gai	Urine	Weakness	19	63%	Weakness due to fever is cure by drinking urine.	
16.	Dog	Canis lupus familiaris (Linnaeus, 1758)	Kukaro	Urine	Earache	24	80%	Used as eardrop for curing earache.	Also reported by Naga tribe of Nagaland (Jamir,2005)
17.	Goat	Capra indicus	Bakri	milk	Mouth ulcer	28	93%	Mouth ulcer is treated by direct spray of milk from breast of goat to tongue of a patient.	
18.	Goat	Capra indicus	Bakri	Urine	Tuberculosis	3	10%	Urine of goat administered orally to cure tuberculosis.	Reported by Ao tribe for asthma, T.B.,paralysis, and by Tamilnadu tribe for insect bite (Jamir, 2005) (Kakati, 2006)(Solavan,2004)
19.	Sheep	Ovisaries (Linnaeus, 1758)	Menda	Milk	Muscular pain	25	83%	Used as massage cream in muscular pain.	
20.	Indian ass	Equus asinus (Linnaeus, 1758)	Gadha	Dung	Jaundice	7	23%	Dung kept in water and after one day filtered water is given to cure jaundice.	
21.	Human	Homo sapiens (Linnaeus, *1758)*	Manakh	Urine and spit(thook)	Wound healing	30	100%	Human urine is used as antiseptic for wound healing first fresh spit of morning is used in skin infection.	Also reported by Naga tribe of Nagaland (Jamir, 2005)
22.	Human	Homo sapiens (Linnaeus, 1758)	Manakh	Milk	Eyeache	5	16%	Mother's milk is applied as eye drop to relieve eyeache in children.	Also reported by Naga tribe of Nagaland (Jamir,2005)
23.	Indian Hare	Lepus nigricollis (F.Cuvier, 1823)	Khargosh	Flesh	Cough	3	10%	Flesh of hare is given to cure cough.	
24.	Indian Flying Fox	Pteropus giganteus (Brunnich, 1782)	Chankadad (chamgadad)	Flesh	Asthma	2	6%	Flesh is given to cure asthma.	Also reported by Sharma (2002) Bhil tribe.

S. No	English Name	Scientific Name	Local Name	Part Used	Medicinal use	Citation No. of mentions (30)	Fidelity level (FL)	Method of preparation	Related earlier reported use in India **(Reference)**
25.	Pig	Sus scrofa domestica	Soor	Fat	Muscular pain	16	53%	Fat of pig is use as massage cream in muscular pain.	Also reported by Ao tribe of Nagaland (Kakati,2006). Fat of pig used for Hemorrhoids in Tamilnadu (Solavan, 2004).

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