

Ethnobiological Studies from *Manusmruti* : III. The Pioneer Attempt For Biological Classification

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ABSTRACT The ancient biological classification, was depicted first in *Manusmruti*.

INTRODUCTION

Survey of ancient literature is a very useful tool in ethnobiological research (Rao and Hajra, 1987). The vast heritage of vedic literature in India, contains valuable informations regarding plants and animals which are yet to be explored (Raghunathan, 1987). The legendary epic *Manusmruti* is given highest regard in vedic literature and the sayings of Manu are construed to be the medicine of medicines (see Das, 1976). But the contents of *Manusmruti* are mostly presented as the laws of Manu reflected as the highest doctrine for the formulation of human ethics (Goldstrucker, 1977). In searching the efficacy of the contents of *Manusmruti* with modern scientific perception (Padhy and Dash, 1995; Padhy et al., 1997 a,b), the present piece of work brings out the most ancient biological classification described in *Manusmruti* ever since the civilization (see Buhler, 1886; Roy, 1968; Das, 1995). Even though the work of Manu related to animals and plants is depicted in fanciful and symbolic terms in 2000 BC, an attempt is made to reveal the mystery of the ancient scientific thoughts locked in sanskrit terminology.

CLASSIFICATION OF ANIMALS

The first chapter of *Manusmruti* is devoted

to focus on the creation of this world with living beings in it. In *slokas* 42 to 49 of this chapter, the biological classification is presented. The various groups of plants, animals and human forms depicted by Manu, can be rearranged from scientific view of studies. He has categorised the different sub groups of plants and animals with typical representative forms which can be correlated in the present classification.

Manusmruti, chapter 1, *sloka* 42 states :

Yeshaam tu yaadrusham karmabhutaanaamiha keertitam

Tattathaa bobhidhaasyaami karmayogancha janmani //42//

Meaning : But whatever act is stated (to belong) to (each of) those creatures here below, that I will truly declare to you, as well as their order in respect to birth (Buhler 1886).

This *sloka* indicates that Manu has considered basis of birth as criterion for his classification unlike considering morphological characters contrary to modern science.

Sloka 43 states :

Passabascha mrugaaschaiba byaalaaschobhayatodah

Raakshyaansi cha pisaachaascha manushyaascha jaraayujaah //43//

Meaning : Cattle, deer, carnivorous beasts with two rows of teeth, Raakshas, Pisaakas and men are born from the womb (Buhler, 1886).

Sloka 44 states :

Andajaah pakshinah sarpaa nakraa matschyaaschak achhapah

Yaanichaibam prakaaraani sthalajaan-yaudakaani cha //44//

Meaning : From eggs are born birds, snakes, crocodiles, fishes, tortoise, as well as similar terrestrial and aquatic (animals) (Buhler, 1886).

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Sloka 45 states :

Swedajam danssamassaham yukaamak-shikamatkunam

Ushna naschopajaayante yachhaanyat kinchideedrusham //45//

Meaning : From hot moisture spring stinging and biting insects, lice, flies, bugs and all other (creatures) of that kind which are produced by heat (Buhler, 1886).

All categories of animals including man, who born from womb (*Jaraayuja*) are regarded as highest evolved (mammals), followed by groups like fishes, reptiles and birds born from eggs (*Andaja*) both aquatic and terrestrial forms; and all other lower animals are regarded as *Swedaja* i.e. born out of hot moist and filthy substratum (*Sweda-filthy* substance). Presently this classification is also followed in Ayurvedic literature (see Tripathy, 1953). The animals born from womb, are divided as herbivores, carnivores and human forms.

The herbivore animals are divided into two groups on ethnic point of view, as :

1. Domesticated animals (*Passaba*) and
2. Free living animals (represented by a form *Mriga* i.e. deer).

Even though all the animals are considered to be *Passaba*, the word *Pasu* is specifically used for an animal, which is domesticated, tamed, hard working and used for carrying luggage (human beings with such hard work are often compared with *Passaba*) and *Mriga* is an ideal representative of free living animal.

The carnivores are rightly represented as the group of animals with two rows of teeth (*Ubhayodattah byalah*). Else where Manu has also represented the groups, of animals without fangs and with fangs to explain the nature of food chain (Padhy et al., 1997 b).

The next major group of animals *Andaja* which includes the fishes, reptiles and birds. But the amphibians like frogs and other lower creatures born out of egg, are not represented in this group (May be due to the morphological indiscernability in their egg structure). Among the reptiles three categories are represented like

snakes, crocodiles and tortoises because of their morphological diversity, behaviour and habitat. Moreover emphasis is given on animal groups highly developed which are with direct contact of human beings.

In order to explain all the other lower creatures like mosquitos, lice, bugs and other animals created similarly out of filthy atmosphere are categorised to the group *Swedaja*. Undoubtedly the *swedaja* condition (filthy atmosphere) can be related to the phenomenon of eutrophication, which gives the scope for generation of such organisms. But the basis of such classification in respect to birth (may be pre-size), accomodating such a vast group of creatures (non-cordates) into one category of *Swedaja*, does not hold true. In this context the basis of animal classification given by Aristotle (384-322 B.C.) may be discussed with pleads, "animals may be characterized according to their ways of living, their action, their habitat and their body parts. Characters like mendibulets, haustellate, wing and wingless, blood and bloodless, two footed and four footed, hairy or feathered and with or without an outer shell are taken into consideration for classification of animals by Aristotle is definitely more scientific and advanced. Accordingly he divided the major group of animals as birds, fishes, whales and insects (almost similar as that of Manu). This classification dominated for the next 2000 years, yet it did not supply an orderly fully classification of animals (Mayer, 1976).

In the major group of *Jaraayuja*, three other sub-groups along with the animals are included such as 1. *Raakshaasa*, 2. *Pisaacha* (*Pisakaa* : Buhler, 1886) and 3. *Manushya*. From modern scientific view, no forms like the earlier two are existing. A deep insight into *Manusmruti* in other chapters like chapter 3 *sloka*s 21, 23, 24, 26, 41, 42, 170, 204); chapter 5 (*sloka* 50); chapter 11 (*sloka* 96) and chapter 12 (*sloka* 44, 57) clearly indicate that the *Rakshasas* and *Pisaachas* are no other than human forms but categorised such, on the basis of their food habit, social and cultural activities. Evi-

dences for this are also available in *Puraans* of Hindu Mythology where *Raakshaasas* like Hiranyakahyapu, Raavana, Khumbhakarana, Indrajeeta and Kansa were the demon kings, worriers and powerful with austerities. They were never free from carnivorous food habit and drinking alcohol. The great demon king Hiranyakashyapu was existing in *Kreta yuga*, who was killed by Lord *Vishnu* in his Lion-man (*Nrusingha*) incarnation (Vitasaxis, 1977). But his son Prahallaada was a pious person (see *Nrusingha Puraan*). In *Raamaayana*, Raavana and Kumbhakkarna were the sons of a great Brahmin saint Bishraba, while their younger brother Bibheeshana was a saintly person (see *Sree Raamacharitmaanas*). Similarly the father of Kansa named Ugrasena (a devoted one), who was tortured by his son and rescued by Lord Krishna (see *Sreemad Bhaagabat Mahaapurana*). In *Mahabhaarata* also it is found that Bheemsen had married Hidimbikee, the sister of *Rakshaas* Hidambaka. Many such marital and kinship links between human beings and so called *Raakshaasas*, are seen in Hindu my-

thology, which are convincing to the above facts.

The next group *Pisaacha* is of lower quality of human forms with food habit based on less graded creatures like frogs, rats, snakes, termites and other insects and all other animals declared as forbidden food by Manu (see chapter 5 - *Manusmruti*). Drinking wine, sheltering under tress, living in unhealthy atmosphere without any cultural base (aboriginal vagabonds) and involved in black magic are the intrinsic value of *Pisaachas*. They are rightly represented as filthy eaters (see Das, 1976). Human beings with such food habit and culture are also found in the present day world. This shows Manu has not given status of man (*Manushya*) to all the human forms.

Basically the human beings which are to be designated as *Maanaba/Manushya* are expected to be vegetarian. From physical and physiological point of view, man is a vegetarian (Swami Sivavanada, 1986 and Gupta, 1986).

Many *slokas* of chapter 5 in *Manusmruti* are devoted to explain lawful and forbidden food

Table 1: Classification of Animal Kingdom by Manu

ANIMAL KINGDOM (<i>Bhootaanaam</i>)				
Born from womb (<i>Yarayuaja</i>)		Born from egg Terrestrial / Aquatic (<i>Andaja</i>)		Born out of hot moisture and filthy substratum (<i>Swedaja</i>)
Herbivore (Without Fangs)	Carnivore (With fangs)	Human form	Fishes (<i>Matshya</i>)	All other animals e.g. (Mosquitoes) (<i>Masakam</i>)
Domesticated (<i>Pasaba</i>)	Beast with two rows of teeth (<i>Ubhayodattah byalah</i>)	Carnivore man Energetic, Healthy, Powerful with austerities; <i>Raakshaas</i>) Carnivore man Less energetic Live on eating low graded (insipid, putrid and stale) food, (<i>Pisaachas</i>)	Reptiles Snakes (<i>Sarpa</i>) Tortoise (<i>Kachhapa</i>) Crocodiles (<i>Nakra</i>)	Lice (<i>Yukaa</i>)
Free living (<i>Mriga</i>)			Aves-birds (<i>Pakshi</i>)	Flies (<i>Makshikaa</i>) Bed bugs (<i>Matkuna.n</i>) etc.
Human beings (herbivore-vegetarian) (<i>Manushya</i>)				

which emphasizes on vegetarianism only and strictly against consumption of liquor (which will be reflected in detail in our forthcoming paper). Further the narrations in Geeta on divisions of human beings on the basis of *guna* (quality and property) as *saattvik* (the quality of purity or goodness), *Raajasik* (the quality of egotism or selfishness) and *Taamasik* (the quality of delusion or ignorance) is reflected in their food habit (see *Sreemad Bhagavad Geeta, Adhyaya 17, sloka 8-10*). The sole aim of *Manusmriti* is to elevate the noble characters of man to distinguish himself as supreme. Instead of the morphological consideration, the character (*chaitra*) and culture (*sanskara*) of human beings are emphasized in the classification of man from anthropological point of view.

CLASSIFICATION OF PLANTS (UDVIDA)

The earliest record for use of plants are found in *Rig-* and *Autherva-Veda*, compiled around 6000 B.C. (?), which contains the wealth of information on plants. It is estimated that about 248 plants have been listed from *veda* (Sarmah, 1969). In the Indian system of medicines the ancient classical work is very well presented in *Charack Samhita, Shusruta Samhita* and *Ash-taanga Hridayam*. The full glossary of medicinal plants included in these legendary epics, has been published by Singh and Chunikar (1972). As a contemporary vedic literature the pioneering system of plant classification is depicted in *Manusmriti* vide *slokas 46 to 49* of chapter-I.

*Udvijjaah sthaabaraah sarbe beejakaan-
da prarohinah*

*Aushadhyah phalapaakaantaa bahupush-
pa phlopagaah //46//*

*Apushpaa phalabanto ye te banaspatayah
smrutaah*

*Pushpinah phalinaschaiba brukshyaas-
tqo bhayatah smrutaah //47//*

Meaning : All plants, propagated by seeds or by slips, grow from shoots; annual plants (are

those) which bearing many flowers and fruits, perish after the ripening of their fruit; //46//

(Those trees) which bear fruits without flowers called *Vanaspati* (Lords of the forests); but those which bear flowers and fruits are called '*Vriksha*'. //47// (Buhler, 1886).

On analysis of the above *slokas*, according to Manu the plant classification is based on three important characters as follows :

A. On the basis of propagation : They are subgrouped into

- a. by seeds (*Beejaprarohinah*)
- b. by vegetative means (*Kaanda prarohinah*)

B. On the basis of ethnic use :

- a. Crop plants - annuals (*Phalapaakaantaa* - life ends with the ripening of fruit)
- b. Medicinal - bearing many flowers and fruits (*Aushadha*)

It is worthy to mention here that the early study of Botany was based on the ethnic use of plants *i.e.* agricultural and medicinal than in any other form (Baker, 1970).

C. On the basis of flowering :

- a. bear fruits without flowers (*Vanaspati*)
- b. bear both flowers and fruits (*Vrukshya*)

In Buhler's meaning for *sloka 46* the word *Aushadha* is not presented (omitted) and the plants which produce fruits without flowers (*Vanaspati*) are regarded as Lords of the forest. Similarly in one recent compilation (Das, 1995) *Vanaspati* is attributed to plants like Banyan (*Ficus benghalensis* L.) and Pipal (*Ficus religiosa* L.). This may be due to the special type of inflorescence-like hypanthodium in these plants, where the flowers can not be discernible by common man. Moreover these two plants are worshipped by Hindus and regarded as Lords of the forests. But the group of plants which bear fruits without flowers is ambiguous. The word 'fruit' means 'a part of a plant in which seed is formed and 'seed' means 'a part of a plant from which a new plant of same kind can grow'

(Hornby, 1989). Hence the word fruit does not necessarily mean only to the fruit of Phanerogams, rather the fruiting body of higher fungi, oospore, zygosporangium, simple and unicellular sporangia in Algae and Fungi, multicellular sporangia of Bryophytes and lower vascular Cryptogams, are to be regarded as fruit. If considered from above view point, the groups of plants which bear fruits without flowers may be regarded as Cryptogams and obviously the plants with both flowers and fruits are Phanerogams.

Similarly Manu has recognised the various morphological forms of the plants like a. Herbs (*Guchha*), b. Shrubs (*Gulman*), c. Grasses (*Trunajaatayah*), d. Creepers (*Pratanaa*) and e. Lianas (*Ballya*) which is presented in the following *sloka*.

Guchham gulman tubibidham tathaiba trunajaatayah

Beeja kaandaruhaanyeba pratanaa baliya aeba cha //48//

Meaning : But the various plants with many stalks, growing from one or several roots, the different kinds of grasses, the climbing plants and the creepers spring all from seed or from slips //48// (Buhler 1886).

THE INTERNAL CONSCIOUSNESS IN PLANTS) (ANTAHSAGNYAA)

The most promising philosophy of Manu is expressed in the *sloka* 49 of chapter I. such as :

Tamasaabrahmaroopena beshtitaah kar-mahetuna

Antahsangnyaa bhabantyyete sukhaduh-kha samanuitaah //49//

Meaning : These (plants) which are surrounded by multiform Darkness, the result of their acts (in former existences), possess internal consciousness and experience pleasure and pain //49// (Buhler, 1886).

The presence of dormant or latent consciousness and the capability of feeling pleasure and pain in plants, is well depicted in most ancient Hindu scriptures. And this idea exists in minds of every Indian. As a lore, no one disturbs nor plucks a flower or leaf from a plant in night

time, with regard that they are taking rest (scientifically the plant can not recover from the injury due to lack of photosynthesis at night). Much of the ancient knowledge in this regard, is highlighted by Prof. Seal (1915) in his book *The Positive Science of Ancient Hindus*. The electro-physical studies of Sir J.C. Bose (1924) has further proved the latent consciousness in plants. The legendary work in this aspect was published in 1973 by Tompkins and Bird, who claimed that plants have mental capabilities such as ability to perceive and respond to human thoughts, emotions to distinct traumatic events such as injury or death of other organisms, response to music and prediction of earthquakes and storms etc. This work has faced challenges (Galston and Slayman, 1979). Interestingly, the language of plants which is conveyed through a compound 'Methyle Jasmonate' (Methyle ester of Jasmonic acid), a plant growth regulator discovered recently, is believed to act as plant signaling system (anonymous, 1995).

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