

Constitution of ethnozoological semantic domains: meaning and inclusiveness of the lexeme "insect" for the inhabitants of the county of Pedra Branca, Bahia State, Brazil

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ABSTRACT

This article deals with the sociocultural construction of the 'insect' and 'animal' domains by the inhabitants of the county of Pedra Branca (municipality of Santa Terezinha, Bahia State, Brazil). The fieldwork was performed from September 2006 to July 2007. The data was obtained by means of open-ended interviews of 74 individuals of both genders whose ages ranged from 4 to 89 years old. The results show that the interviewees were unable to say in an accurate and secure way a specific definition for each domain. Depending on how a given animal is culturally interpreted, it could belong to the semantic domain 'animal' or 'insect', being representative of one or another group. However, in practice, such a distinction between these two semantic domains appears as something tenuous and ambiguous. Researchers who carry out biodiversity inventories should pay attention to the ethnocategory 'insect' during their studies, especially if these involve the participation of traditional community representatives.

Key words: cognition, ethnotaxonomy, ethnozoology, semantics.

INTRODUCTION

Human beings answer to the biotic, abiotic and supernatural diversities in their surrounding environs by grouping or separating the elements according to their similarities and differences (Brown and Chase 1981), considering not only the intrinsic and extrinsic characters associated with them, but, more importantly, the symbolic representations that are very important to categorize them. Such processes of categorization are culturally influenced (cognitive categories) and organized in logical patterns (taxonomic structures) that can be distinctive to each society (Hunn 1982, Hays 1983, Brown 1985, Berlin 1992).

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The human need to impose order to the universe is a matter of survival, since only through order could one understand, reference, insert and adapt himself to the world (Lévi-Strauss 1989). It is considered that this requirement of order is not an epistemological criterion sufficient for judging types of knowledge because order can be established and achieved from very different epistemologies, not necessarily just from the western one. The patterns of linguistic expression of a particular ethnic group would show some regularity in classification systems since in accordance with Greene (2007). On this assumption, Berlin et al. (1973) established the three main areas of study in ethnobiological systematic: classification, which refers to the set of principles by which the classes of organisms are naturally

organized in the mind; nomenclature, which refers to the description of the linguistic principles of designation of the organized classes of living beings in a given language; and identity, which relates to the physical characteristics used to assign a particular organism to a specific category. For these authors, the ethnobiological taxonomy has a hierarchical character because the most exclusive categories (ethnogenus or generic and ethnospecies or specific) occur at the lower levels, while more inclusive categories (for example, life forms) occur at the higher levels. This hierarchical character, which involves relations of inclusion, and the contrast relations manifest the two basic procedures of classifications: grouping and distinguishing.

Regarding the categorization of animals by humans, ethnozoological classification systems are closely linked to the way in which each culture, in a very particular way, thinks, feels and acts towards the animals in their environment. Analytic tools provided by linguistics give the opportunity to understand not only how each ethnozoological classification is built and structured, but also the causes and consequences of perception, identification, categorization and naming of animals, both real and/or mythological, that populate the universe of ethnic groups from all over the world. The selection for classification criteria denotes some subjectivity and impartiality from who builds it, not exerting a simple rational activity, but also expressing feelings and behaviors. Thus, perceptions, feelings (affective-emotional reactions) and attitudes (positive or negative) determine, ultimately, the types of relationships that societies maintain with animals (Nolan et al. 2006). It is, therefore, the relationship among what is thought (cognition), what is spoken (a word) and what is done (an action) (Viertler 2002). Ethnotaxonomy can be an indicator of this cognitive-linguistic-behavioral process (Couto 2007).

Of the thousands of animal species with which human beings share the planet, insects stand out because they are the most numerically dominant animal group on the face of the Earth, constituting 4/5 of the animal kingdom and being found in virtually all habitats (Stork 2008). Based on the concept of the comprehensive ethnoecology proposed by Marques (2001), ethnoentomology can be defined as the ethnozoological

subfield that studies the cognitive (thoughts and perceptions), emotional (affective-emotional reactions) and behavior (attitudes) processes that mediate the relationships between human populations and the insect species of the ecosystems where they live, as well as the environmental impacts arising subsequently.

Studies show that, in different human cultures, the animals that are not systematically related (e.g., slugs, earthworms, scorpions, spiders, frogs, lizards, snakes, rats, bats etc.) are nominally gathered under the same linguistic label: 'insect' or other similar term in local language (Curran 1937, Lenko 1963, Morge 1973, Harpaz 1973, Brown 1979, Posey 1983, Hays 1983, Laurent 2007, Marques 2001, Souza et al. 2002, Santos-Fita et al. 2006, among others). Some scholars have attempted to explain why phylogenetically and systematically different organisms are categorized and labeled as 'insects' (Costa-Neto 2000, Costa-Neto and Pacheco 2004, Costa-Neto and Magalhães 2007).

This article deals with the sociocultural construction of the 'insect' and 'animal' domains and discusses the cognitive, emotional, and attitudinal aspects that are involved in the cognitive representation, and the interactions that the dwellers of the county of Pedra Branca (municipality of Santa Terezinha, Bahia State, Brazil) maintain with animals locally categorized as 'insects'.

STUDY AREA

The region, known as Serra da Jibóia (literally boa's mountain), is located on the approximate coordinates 12°51′ south latitude and 39°28′ west longitude. Extending from the north-south direction, its crest measures 26 km long and reaches a maximum elevation of about 820 m above sea level. This massive mountain is located in an ecotone zone, giving it a wide variety of climates, relief, soil, vegetation and wildlife (Tomasoni and Dias 2003).

The county of Pedra Branca is situated at the base of the Serra da Jibóia (12°50′S and 39°29′W), within the municipality of Santa Terezinha (which is also the capital), but it is about 13 km away from it. This region, which is totally included in the Drought Polygon, has a semi-arid climate, with a mean annual temperature of 24.3°C and a mean annual rainfall of 582 mm. The rainy period lasts from November to January. The vegetation

of the Serra da Jibóia includes Campos Rupestres savannas on the peaks; dense, ombrophilous Atlantic Coastal Forest in the valleys and on the slopes; semi-deciduous forest at the base; and arboreal Caatinga in the north (Centro de Estatística e Informações 1994).

According to the local health agent, there were about 380 residents distributed among 123 families (meaning more than one family per residence) in June 2007. The total population for the entire municipality of Santa Terezinha was 9,914 inhabitants (IBGE 2007). Being a basically rural area, the population of Pedra Branca depends on the cultivation of cassava (*Manihot esculenta* Crantz, Euphorbiaceae) as the main economic activity. There is the cultivation of grapes (*Vitis* sp.) for the production of homemade wine and the fruit trade. Livestock is also important, especially cattle and goat herds.

METHODOLOGY

The fieldwork was performed from September to November 2006, totaling up to 53 days of living in the village. Later, there was a stay of 15 days between June and July 2007 with the aim of giving testimony to previous statements and to record new information, as well as to take part in some sociocultural activities of the community.

A total of 74 individuals was interviewed, namely 39 men and 35 women whose ages ranged from 4 to 89 years old. The contact with individuals of different age groups allowed the registration of transgenerational diffusion of ethnozoological knowledge. Local inhabitants are mainly small farmers, and most of them are of Afro-Brazilian origin.

A Free and Informed Consent Term was elaborated based on the National Health Council Resolution number 196/1996, which rules the ethical aspects of the research involving human beings. It was read to the villagers and distributed among those who participated in the study. The main objectives of the research were explained clearly in the beginning of each new interview, and people were asked if they wanted to participate. All terms are stored at the Laboratory of Ethnobiology at UEFS.

Initially, we interviewed any inhabitant about the sociocultural construction of the term 'insect'. The 'snowball' technique (Bailey 1994) was used, as some

villagers indicated others more knowledgeable on the surveyed subject. The data were recorded using a digital tape-recorder and camera following various techniques of qualitative research for ethnographic records, such as: open (free talks) and semi-structured interviews (based on a list of topics previously chosen), and free observation of the individuals during interviews (including their facial and body expressions). The interviews were individual and/or collective and occurred in a variety of contexts: residences, plantations, the street, grocery stores, the health center, the local school, manioc flour house, and during trips to the forest.

The collected 'insect' specimens, the photographs from wildlife guides (Freitas 2003, Freitas and Silva 2006), as well as pamphlets and posters showing pictures of these animals made it possible to carry out interviews stimulated by the presentation (and representation) of animals depicted in these materials, asking the respondents about the 'insects' they observed (local name and aspects of their biology and ecology), their impressions and attitudes towards them.

The data were analyzed using the union model (Hays 1976 in Marques 1991). According to this model, all available information on the surveyed subject is to be considered. Controls were done both through consistency checking tests and reply validity tests, which make use of repeated inquiries in synchronic and diachronic conditions, respectively. The former occurred when the same question was put to different people soon after each other; the latter occurred when the same question was asked to the same person at different times (Marques 1991).

All ethnographic materials (recordings, transcripts, photographs, and drawings) are stored at the Laboratory of Ethnobiology of the Feira de Santana State University, state of Bahia, for evidential purposes.

RESULTS AND DISCUSSION

CONSTITUTION OF THE SEMANTIC DOMAINS 'ANIMAL' AND 'INSECT' 1

The interviewed subjects, regardless of age or gender, recognized the existence of two main ethnozoological semantic domains: 'animal' and 'insect'. The ambigu-

¹ Throughout the text, the terms animal and insect, written with inverted commas, refer to the ethnozoological semantic domains 'animal' and 'insect', in order to differ them from the homonymous taxa of the scientific classification.

ities and doubts emerged only when the subjects were asked to demarcate the borders, that is, to tell which animals were the representatives of each group and the reason for this division. The distinction between an 'animal' and an 'insect' can be evidenced in the statements below, and the way in which inhabitants identify and describe each ethnosemantic domain is based on the citation of examples of organisms that belong to one or another dominium, but never by a single, comprehensive definition:

Insects are ants, grasshoppers, bird-spiders, scorpions, snakes, butterflies, and cicadas. All of these are insects. They are not animals (Mr. E., 67 years old).

Insects from here, we have snakes, spiders, scorpions, ants, geckos, blood-sucker bugs [...]. The animals are the other ones. Oxen, horses, asses, dogs, hens [...] (Mr. M., 37 years old).

In general, the interviewees were unable to say in an accurate and secure way a specific definition for each domain:

It is not easy to distinguish. I have learned that insects are insects and animals are animals [...], but I do not know the explanation. Just because my parents and grandparents have already talked about that [...] (Mr. N., 68 years old).

Zoological common terms, like 'fish', 'amphibian' and 'mammal', were also cited in some circumstances, but in a confused way and always in opposition to 'insects', being included in the broader domain 'animal' as the statements below show:

For me, animals are mammals [...]. Insects are the rest [...], but chickens are birds (Mrs. L., 68 years old).

Fishes are amphibians. Fishes cannot be insects. I think they are animals (D., 18 years old).

Based on the ethnobiological classification principles proposed by Berlin (1992), the ethnotaxon 'Insect' should be considered as a Life Form category, which, in turn, would be included (hierarchically) in the Unique

Beginner category 'Animal'. However, in the ethnozoological classification system of the inhabitants of Pedra Branca, the ethnocategory 'Insect' is located at the same hierarchical level of 'Animal', taking into account that both are included in the Berlinean Life Form rank and, thus, they are not mutually exclusive. Depending on the cultural circumstance (linguistic- cognitive-affective representation) in which the animal could be, it will belong to the semantic domain 'animal' or 'insect', being representative of one or another group (see the particular cases of the bee and the butterfly further). However, in practice, such a distinction between these two linguistic domains appears as something tenuous and ambiguous, as shown in the statements below:

Snakes are insects because they are animals that offend people (Mr. B., 64 years old). I think that insects are not animals [...]. I think that they are related to each other, being animals, but it is good to differentiate, isn't it? [...] some of them will be classified as animals and others as insects [...] it is just classification (E., 26 years old).

These examples show the interrelationships between the two analyzed semantic terms (animal ↔ insect), since the elements categorized as 'insects' can be cognitively perceived as animals, but almost never called (linguistically) as such. In fact, the very academic definition of animal seems here to lose all its meaning and representativeness, thus acquiring another type of biological and cultural concept, as 'opposition' to the set of 'insect'-labeled organisms. This social fauna has some sociocultural and socio-environmental significance for the residents of the Serra da Jibóia (Costa-Neto 2004).

SEMANTIC DOMAIN 'INSECT': DEFINITION AND SCOPE

The inhabitants of Pedra Branca use the linguistic label 'insect' to bring together several animal species not systematically related, besides the members of the Class Insecta. In general, this lexeme is used to refer to those elements that present the following culturally perceived characteristics: a) they are small; b) they do not have any utility, especially as food; c) they can cause illness, sometimes fatal; d) they cause reactions of disgust and repulsion; e) and they are considered harmful and/or dangerous to human health:

There is indeed, but it is a very small animal, a bug [...] (Mr. F., 44 years old).

We eat some animals, but insects are not to be eaten. They're of no use! (Mrs. C., 38 years old).

Insects are like the blood-sucker bugs. I caught the illness transmitted by it (Mr. B., 64 years old).

Cockroaches don't bite, but they're very nauseating. They're insects for sure! (Mrs. N, 57 years old)

Snakes, scorpions, caterpillars [...]. All of these are bad insects that hurt. [...] Very dangerous! (Mr. A., 79 years old).

For the residents of Pedra Branca, the true insects (Class Insecta) are also perceived and classified in the ethnosemantic domain 'insect'. However, a reasonable explanation for such a classification was not found, since:

They are insects simply because they are (Mrs. V., 59 years old).

This way of perceiving and categorizing insect species becomes a little complex when one takes into account what the interviewees commented about butterflies and bees. During the interviews sessions, various inhabitants had doubts and asked if these arthropods were indeed 'insects' or 'animals'. This is probably due to the perception and cultural values assigned to these animals. Regarding the bees, for example, honey has nutritional, medicinal and economical values (Costa-Neto 2004). With the exception of *Apis mellifera scutellata* Linnaeus, 1758 (locally known as Italian bee or 'oropa'), which is venomous, stingless bees almost never 'offend' people. The following statements show the different perceptions (ambiguities) that interviewees have on bees:

Bees make honey. They're domestic too, but they're still insects [...], even if they stay close to home and make honey (Mrs. E., 39 years old).

Uruçu is not an insect because it doesn't cause injuries and provides honey [...] because insects are the ones that cause harm. Italian bees are insects because they harm. They're from the woods (Mrs. C., 79 years old).

This kind of classification related to bees is found in other human cultures. For instance, the Pankararé Indians from the state of Bahia have the ethnotaxon 'abeia' to refer to both social wasps and bees that produce honey. This category is perceived differently from that of the group of 'insects' that includes poisonous animals such as snakes (except for the snake *Boa constrictor* Linnaeus, 1758 because it is used as food) and other organisms (Costa-Neto 1998).

As for butterflies, some interviewees considered them as 'insects', even though they do not 'offend' anyone; others see them as 'non-insects' because they do not cause harm to people. The statements below also show the aesthetic-contemplative value of these arthropods:

Butterflies are also insects, but they don't bite (Mr. A., 54 years old).

I don't think they're insects, since they don't cause harm to anything [...] and they're so cute! (Mrs. V., 59 years old).

Butterflies are insects that don't offend people [...], but if they don't offend, they couldn't be insects because insects harm us. They must be animals (Mr. F., 44 years old).

In this study, interviewees have cited nine non-insect animals (according to the scientific classification) as kinds of 'insects'. The total number of respondents who mentioned these elements and their inclusion in the domains 'insect' or 'animal' is shown in Figure 1. Although some individuals have categorized these animals as belonging to the semantic domain 'animal', most of the interviewed inhabitants have ranked them as 'insects'. Snakes are notable both for the total number of received citations and for the number of respondents who considered them as 'insects'. Scorpions, geckos, spiders and lizards were always referred to as 'insects'. On the other hand, toads and bats, even though they are preferably labeled as 'insects', were also included in the domain 'animal' by some of the interviewees. It is interesting to note that, unlike lizards and toads, both tegu lizards and frogs are always 'animals':

Tegu lizards aren't insects. They're game; they're animals (Mr. J., 40 years old). Frogs aren't insects because they're eaten (Mr. N., 63 years old).

Regarding scorpions (*Tityus serrulatus* Lutz and Mello 1922) and spiders (different species, including

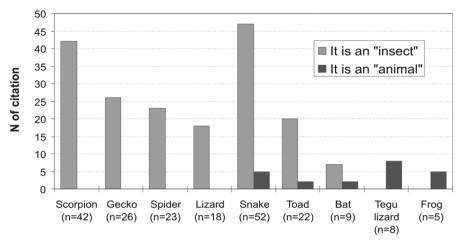


Fig. 1 – Distribution of the non-insect animals in the ethnozoological domains 'insect' and 'animal'.

bird-spiders), one could understand their inclusion in the 'insect' domain due to the high degree of morphological-anatomical similarity they share with true insects, since they all belong to the phylum Arthropoda. The other non-insects - geckos (Hemidactylus mabuia Moreau de Jonnès 1818), lizards (Tropidurus hispidus Spix 1825), snakes (several species in different families), toads (Chaunus jimi Stevaux 2002) and bats (Artibeus sp.) - stand out due to the fact they are boned animals. For this reason, it seems that the distinction between vertebrates and invertebrates is not relevant for the dwellers of Pedra Branca when they are constructing the 'insect' folk taxon. Few respondents who commented about the presence of bone made it clear that, whether the animal causes accidents or not, when it has bones, it belongs to the 'animal' domain (for snakes: n = 5; toads: n = 2; bats: n = 2). One interviewee said:

Snakes have bones, but they are insects because they offend (Mrs. N., 57 years old).

Even though one perceives the element as an 'animal', it does not mean that this organism has bones, at least not in the speech of the interviewees.

The reunion of animals with so diverse evolutionary histories into just one ethnotaxonomic category has been observed in different cultures, both ancient and extant (Costa-Neto and Pacheco 2004). For example, the Aztecs classified centipedes, millipedes and small lizards as insects (Curran 1937). This author said that the term 'insect' is used to describe reptiles in Canada and Ireland. The Central Kalahari San categorize insects as *goowaha* – 'useless things', and found it is highly

amusing that the anthropologist is interested in such life-forms. Even so, they use some kinds of insects as food, medicine, arrow poison and decoration (Morris 2004). Among the Nyanja (Chewa) and related peoples of Malawi, the smaller forms of animals that are considered useless or harmful are described as *kachirombo*, and this term thus comes to cover a wide variety of small animals – insects, millipedes, centipedes, scorpions, spiders and crustaceans (Morris 2004).

In Brazil, the Kayapó Indians who live in the state of Pará classify the millipedes and other arthropods as *maja*, which means 'shell-less and fleshless animals' (Posey 1983). The Waurá Indians who inhabit in the region of the Upper Xingu River, in the northeast of the Mato Grosso State, have the word *yakawaka* that is the corresponding category to 'small bugs with many legs that fly or not' (Barcelos Neto 2000). For the rubber tappers from Upper Juruá, state of Acre, the terrestrial or flying animals that sting and are venomous belong to the 'insect' category, such as the snakes, scorpions, ants, spiders, and wasps (Souza et al. 2002).

Considering Berlin's ethnobiological classification principles, the Life Form category is formed by organisms sharing the same easily recognizable aspects (Berlin 1992), that is, some ecological patterns and body shape (Mourão 2000). Therefore, one would not expect to find out that, both in the county of Pedra Branca and in many other surveyed cultures, the 'insect' Life Form had grouped elements anatomically and morphologically so different from each other, such as butterflies, scorpions, toads and snakes. At least in Pedra Branca, the morphological characteristics of

'insects' seem to have little importance for the constitution of this ethnotaxon, given that other criteria were more stressed by the interviewees: utilitarian, including the role as food, medicine and decoration; anthropomorphic, such as ugliness, dirtiness, dangerousness, and uselessness; and medical-hygienic conditions. Literature records that human beings include or exclude the faunistic elements in a given ethnotaxonomic category according to diverse, complex and multifaceted criteria: not only grouping and separating by their anatomical-physiological, behavioral and ecological similarities and differences, but also due to symbolic, psychological, ethical, economic, practical, and educational criteria (Jara 1996).

It could be inferred that the residents of the county of Pedra Branca employ both the cognitive (perception of morphology) and the utilitarian (cultural roles played by the animals) aspects to categorize and classify the biological discontinuities with which they coexist and interact with. Apparently, the utilitarian aspects seem to have a greater influence to people when they define the representatives of each ethnozoological domain. However, it is important to note that the most utilitarian aspect given to an element, in most cases, does not denote a strictly material utility (food, medicine or crafts), but rather it allows the subject to better adjust and adapt himself to a given socio-environmental context. According to Begossi (1993), it is likely the 'utility' that better explains a large number of ethnobiological studies. This author emphasizes that '[...] 'utility' here should be seen not only in terms of food, medicine or exchange. Often, a species is important because it is dangerous. For example, to have a good knowledge about snakes must be advantageous in terms of survival (Begossi 1993). Bentley and Rodríguez (2001) emphasized the importance of both the cognitive and utilitarian aspects to the Ethnobiology: people classify and use the resources at the same time.

REPRESENTATIVENESS OF THE CONCEPT OF 'INSECT'

Whether considering or not organisms as 'insects', all the interviewees gave special emphasis on the negative aspects related to them, such as ugliness, disgust, danger, and specially harmfulness (*People refer to everything that is harmful and ugly as insects, even though they are not insects*, Mr. C., 69 years old). This emotional-affective representation is transmitted through

generations, even in an unconscious way, as shown in the excerpt below:

I do not know [...] people say that snakes are insects just by saying it. Even I do it myself, but they do not know what it is [...]. I think people say that snakes are insects due to the fact they bite and live in the woods. [...]. I do not understand if they are insects, animals or what it is [...]. Insect is the word that was always used, but not everything is an insect. The older ones once talked about it [...]. (Mrs. V., 59 years old).

As regards to Insecta, people's perception, affection and attitudes generally range from indifference to extreme aversion (entomophobic reaction). Although some species are really a serious threat to human health and well-being, causing direct harm, more than 99.9% of all insect species are directly or indirectly beneficial to humans or at least do not cause inconvenience to them (Moore et al. 1982, Prince 1997, Fisher 1998). However, there is a cultural construction of the concept of insect according to which most of the individuals considers: that these animals are disgusting, dangerous, harmful and unnecessary. Hence, humans express the desire to eliminate them from our lives. This is observed mainly in Western cultures where people's attitudes rarely favor these animals (Hardy 1988), unlike what is found among Asian people and, to a lesser extent, among Africans (Pemberton 1999).

By extension, these non-insect animals culturally perceived as disgusting, harmful, dangerous and/or transmitters and carriers of diseases are also cognitively taken and labeled as 'insects' (Gruzman and Leandro 2001), and then they are seen as a representational category since they become metaphorical realizations of other beings and their qualities (Greene 2007).

The information recorded in the county of Pedra Branca and data from literature reinforce the assumption that the semantic domain 'insect' occurs as a pattern in the ethnozoological classification systems (paying attention to the equivalent local terms and to the unnamed categories). This pattern was explained by means of the entomoprojective ambivalence hypothesis. According to this, human beings have a tendency to project attitudes of disgust, fear, and disdain on those animals associated to the culturally 'insect' group (Costa-Neto

1999, 2000). Ambivalence can be exemplified by the perception that the respondents have about the butterfly, since they sense it through 'good eyes' and hesitate to consider it as a kind of 'insect' or 'animal'. When the interviewees (n = 63) were questioned about a possible similarity and/or difference between snakes and butterflies, none of them gave a reasonable explanation why snakes are 'insects' and butterflies are sometimes not. Or the fact that dogs and snakes can cause harm, but the first is always categorized as an 'animal' and the second as an 'insect'.

Residents from the county of Pedra Branca (and from surrounding communities) show themselves to have affective-emotional reactions that range from indifference to disgust towards animals perceived as 'insects'. Even though several aspects denoting some ambiguity (depending on the organism under consideration) have been recorded, the predominant behavior (attitude) is much more negative, and many times extreme like biophobic reactions. This negative view, reinforced in part by the use and significance of the word 'insect' to qualify the animals included in this semantic category, often bears an attitude (action) directed to the removal of these animals. Several testimonies make clear this nonconservationist thinking:

To me they are not important [...]. They should be extinct (E., 26 years old).

Offending insects must be killed regularly [...], one is compelled to defend himself (Mr. W., 41 years old).

People eliminate those insects that represent a danger (F., 25 years old).

The emphasis given to feelings of dread and fear shows, once again, the importance of addressing the emotional factors that are involved in the perception and the human relationship with animals by means of educational campaigns more efficiently and culturally contextualized (especially with children). It is believed that, by changing the emotional plan, a better access to cognitive and behavioral plans can be achieved (Maturana 2001, Driscoll 2007). In other words, if the emotional-affective referential is changed, the way how the elements (in this case, the 'insects') are perceived, esteemed and treated by the subjects could be transformed, thus creating a less conflictive coexistence with these animals. Hence, it is important to understand

the formation of the semantic domain 'insect' and the cultural representations associated with this ethnotaxonomic complex.

CONCLUSION

The following question seems to be extremely useful in human-animals studies (specially regarding 'insects'), ethnozoological classification system, conservation of biological diversity, and valorization of traditional knowledge: Would it be more important to discuss, for example, if a snake is categorized or not as an 'insect' or, on the contrary, would it be more important to know if a snake is venomous or not? The testimony of a resident answers the question:

'I just say that a snake is an insect [...]. It is important if it bites or does not. Not its name' (Mrs. V., 57 years old).

However, at the moment when the linguistic term 'insect' is culturally associated to all organisms considered as ugly, disgusting, disease-bearer, dangerous, harmful, and, therefore, more inclined to be eliminated, then the ethnoclassificatory aspect becomes into an important aggregate value. Even if both groups of serpents (venomous and non-venomous) are recognized, people will probably continue to kill all snakes they find in their way due to the deep-rooted perception we have that all snakes are an imminent threat. If the people's perception of snakes is to be changed, then people's behavior (attitude) towards these reptiles would have to be improved. Therefore, it is more important to disrupt the popular notion according to which 'insect' is 'bad', as well as that all snakes are venomous.

The future perspectives point out to studies on zoological ethnotaxonomy in order to corroborate the entomoprojective ambivalence hypothesis. Researchers who carry out biodiversity inventories should pay attention to the ethnocategory 'insect' during their studies, especially if these involve the participation of traditional community representatives. Those interested in ethnotaxonomical studies must be vigilant to not to presume an academic category as universal nor impose it on the society under study. As he points out, traditional biological classification systems do not always fit in artificial classificatory schemes that biologists attempt to create.

RESUMO

Este artigo discute a construção sociocultural dos domínios 'inseto' e 'animal' pelos moradores do povoado de Pedra Branca (município de Santa Terezinha, Estado da Bahia, Brasil). O trabalho de campo foi realizado de setembro de 2006 a julho de 2007. Os dados foram obtidos por meio de entrevistas semi-estruturadas com 74 indivíduos de ambos os gêneros, cujas idades variam de 4 a 89 anos. Os resultados mostram que os entrevistados não foram capazes de emitir uma definição segura para cada domínio. Dependendo de como um dado animal é culturalmente interpretado, ele poderá pertencer ao domínio semântico 'animal' ou 'inseto', sendo representante de um ou outro grupo. No entanto, na prática, a distinção entre esses dois domínios linguísticos parece algo ambíguo e tênue. Pesquisadores que realizam inventários de biodiversidade deveriam prestar atenção à etnocategoria 'inseto' durante seus estudos, especialmente se eles envolvem a participação de moradores de comunidades tradicionais.

Palavras-chave: cognição, etnotaxonomia, etnozoologia, semântica.

REFERENCES

- BAILEY K. 1994. Methods of social research. New York: The Free Press, 588 p.
- BARCELOS NETO A. 2000. Monstros amazônicos. Imagens Waurá da (sobre) natureza. Ciência Hoje 27(162): 48–53.
- BEGOSSI A. 1993. Ecologia humana: um enfoque das relações homem-ambiente. Interciencia 18: 121–132.
- BENTLEY J AND RODRÍGUEZ G. 2001. Honduran folk entomology. Current Anthrop 42: 285–301.
- BERLIN B. 1992. Ethnobiological classification: principles of categorization of plants and animals in traditional societies. New Jersey: Princeton University Press, 335 p.
- BERLIN B, BREEDLOVE D AND RAVEN P. 1973. General principles of classification and nomenclature in folk biology. Am Anthrop 75: 214–242.
- Brown CH. 1979. Folk zoological life-forms: their universality and growth. Am Anthrop 81: 791–812.
- Brown CH. 1985. Mode of subsistence and folk biological taxonomy. Current Anthrop 26: 43–64.
- Brown CH AND CHASE PK. 1981. Animal classification in Juchitan, Zapotec. J Anthrop Res 37: 61–70.
- CENTRO DE ESTATÍSTICA E INFORMAÇÕES. 1994. Informações básicas sobre os municípios baianos: Recôncavo Sul. Salvador: Governo do Estado da Bahia, 654 p.

- COSTA-NETO EM. 1998. Folk taxonomy and cultural significance of "abeia" (Insecta, Hymenoptera) to the Pankararé, Northeastern Bahia State, Brazil. J Ethnob 18: 1–13.
- COSTA-NETO EM. 1999. A etnocategoria "inseto" e a hipótese da ambivalência entomoprojetiva. Acta Biol Leopold 21: 7–14.
- COSTA-NETO EM. 2000. Introdução à etnoentomologia: considerações metodológicas e estudo de casos. Feira de Santana: UEFS, 131 p.
- COSTA-NETO EM. 2004. Os insetos pelos moradores da Serra da Jibóia, Bahia. Feira de Santana: UEFS, 134 p.
- COSTA-NETO EM AND MAGALHÃES HF. 2007. The ethnocategory insect in the conception of the inhabitants of Tapera county, São Gonçalo dos Campos, Bahia, Brazil. An Acad Bras Cienc 79: 239–249.
- COSTA-NETO EM AND PACHECO JM. 2004. A construção do domínio etnozoológico "inseto" pelos moradores do povoado de Pedra Branca, Santa Terezinha, Estado da Bahia. Acta Sci Biol Sci 26: 81–90.
- COUTO HH. 2007. Ecolingüística: estudo das relações entre língua e meio ambiente. Brasília: Thesaurus, 462 p.
- CURRAN CH. 1937. Insect lore of the Aztecs. Nat Hist 39: 196–203.
- DRISCOLL JW. 2007. Attitudes toward animals: species ratings. Available at: http://www.psyeta.org/sa/sa3.2/driscoll.html. [10 February 2007].
- FISHER BL. 1998. Insect behaviour and ecology in conservation: preserving functional species interactions. Ann Entomol Soc Am 91: 155–158.
- Freitas M. 2003. Serpentes brasileiras. Lauro de Freitas: Malha-de-sapo Publicações e Consultoria Ambiental/ Proquigel/CIA/BA, 160 p.
- FREITAS M AND SILVA T. 2006. Animais venenosos e peçonhentos no Brasil. Pelotas: USEB, 154 p.
- GREENE E. 2007. Ethnocategories, social intercourse, fear and redemption. Comment on Laurent. Available at: http://www.psyeta.org/sa/sa3.1/greene.html. [27 June 2007].
- GRUZMAN E AND LEANDRO A. 2001. Problematização do conceito de inseto. Busca de uma abordagem interdisciplinar integrando entomologia e ecologia. In: ENCONTRO REGIONAL DE ENSINO DE BIOLOGIA, 1, Niterói. Atas..., Niterói: UFF, p. 392–393.
- HARDY T. 1988. Entomophobia: the case for miss Muffet. Bull Ent Soc Am 34: 64–69.
- HARPAZ I. 1973. Early entomology in the Middle East. In: SMITH RF, MITLER TE AND SMITH CN (Orgs), His-

- tory of entomology. California: Annual Reviews Inc., p. 21–36.
- HAYS T. 1983. Ndumba folk biology and general principles of ethnobotanical classification and nomenclature. Am Anthrop 85: 592–611.
- HUNN E. 1982. The utilitarian factor in folk biological classification. Am Anthrop 84: 830–847.
- IBGE INSTITUTO BRASILEIRO DE GEOGRAFIA E ESTA-TÍSTICA. 2007. IBGE Cidades@. Available at: http://www.ibge.gov.br. [8th December 2007].
- JARA F. 1996. La miel y el aguijón. Taxonomia zoológica y etnobiología como elementos en la definición de las nociones de género entre los Andoke (Amazonia colombiana). J Soc Amer Paris 82: 209–258.
- LAURENT E. 2007. Definition and cultural representation of the category mushi in Japanese culture. Available at: http://www.psyeta.org/sa/sa3.1/laurent.html [10 February 2007].
- LENKO K. 1963. Tchun-Van, deus dos insetos. Chac Quint 106: 522–526.
- LÉVI-STRAUSS C. 1989. O pensamento selvagem. Campinas: Papirus, 320 p.
- MARQUES JGW. 1991. Aspectos ecológicos na ictiologia dos pesacadores do Complexo Estuarino-lagunar Mundaú-Manguaba. 292 f. Tese (Doutorado em Ecologia). Campinas: Universidade Estadual de Campinas.
- MARQUES JGW. 2001. Pescando pescadores. Ciência e etnociência em uma perspectiva ecológica. São Paulo: NUPAUB, 258 p.
- MATURANA H. 2001. Cognição, ciência e vida cotidiana. Belo Horizonte: Ed. UFMG, 200 p.
- MOORE W, BOWERS D AND GRANOVSKY T. 1982. What are magazine articles telling us about insects? Journal Quart 59: 464–466.
- MORGE G. 1973. Entomology in the western world in antiquity and in medieval times. In: SMITH RF, MITLER TE AND SMITH CN (Orgs), History of entomology, California: Annual Reviews Inc., California, USA, p. 37–80.
- MORRIS B. 2004. Insects and human life. Oxford: Berg Publishers, 317 p.

- MOURÃO JS. 2000. Classificação e ecologia dos peixes estuarinos por pescadores do estuário do Rio Mamanguape-PB. Tese (Doutorado em Ecologia e Recursos Naturais).
 São Carlos: Universidade Federal de São Carlos.
- NOLAN J, JONES K, MCDOUGAL W, MCFARLIN M AND WARD M. 2006. The lovable, the loathsome, and the liminal: emotionality in ethnozoological cognition. J Ethnobiol 26: 126–138.
- PEMBERTON R. 1999. Insects and other arthropods used as drugs in Korean traditional medicine. J Ethnopharm 65: 207–216.
- Posey DA. 1983. Ethnomethodology as an emic guide to cultural systems: the case of the Kayapó Indians of Central Brazil. J Ethnobiol 1: 165–174.
- PRINCE P. 1997. Insect ecology. New York: J Wiley & Sons, 874 p.
- SANTOS-FITA D, SALINAS S, JIMENEZ A AND COSTA-NETO E. 2006. Etnoentomología en el municipio de San Antonio Cuaxomulco, Tlaxcala, México: un estudio de caso sobre los diferentes usos que se le dan a los insectos. Sitientibus Ser Ci Biol 6: 72–79.
- SOUZA M ET AL. 2002. Cobras. In: CUNHA MMLC AND ALMEIDA MWB (Orgs), Enciclopédia da Floresta. O Alto Juruá: práticas e conhecimentos das populações, São Paulo: Companhia das Letras, p. 577–600.
- STORK NE. 2008. Insect diversity: facts, fiction and speculation. Biol J Linn Soc 35: 321–337.
- TOMASONI M AND DIAS S. 2003. Lágrimas da Serra: os impactos das atividades agropecuárias sobre o geossistema da APA Municipal da Serra da Jibóia, no município de Elísio Medrado-BA. In: SIMPÓSIO NACIONAL DE GEOGRAFIA FÍSICA APLICADA, 10, Rio de Janeiro. Anais..., Rio de Janeiro: Editora da UFRJ. CD-ROM.
- VIERTLER R. 2002. Métodos antropológicos como ferramenta para estudos em etnobiologia e etnoecologia. In: AMOROZO MCM, MING LC AND SILVA SMP (Orgs), Métodos de coleta e análise de dados em etnobiologia, etnoecologia e disciplinas correlatas, Rio Claro: UNESP/CNPq, p. 11–29.