ETHNOECOLOGY IN PERSPECTIVE: THE ORIGINS, INTERFACES AND CURRENT TRENDS OF A GROWING FIELD

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Introduction

Local ecological knowledge (LEK), also known as indigenous ecological knowledge (IEK) or traditional ecological knowledge (TEK), has been defined as a body of repertoire about the relations among species and between species and the environment (CONKLIN, 1961; TOLEDO, 1992, 2002; MARTIN, 1995; GRAGSON and BLOUNT, 1999; NAZAREA, 1999, 2006; MORAN, 2000; HUNN, 2007). LEK can also be understood as the body of knowledge a given population has concerning the ecological aspects of the environment in which it lives and its various practical implications (STURTEVANT, 1964; JOHNSON, 1974), which can be extensively or partially shared by its members (D'ANDRADE, 1981; ROMMEY *et al.*, 1986; AUNGE, 1999; REYES-GARCÍA *et al.*, 2003; ROCHA, 2005). For a critical review of the definitions in the literature, see Davis and Ruddle (2010).

The LEK concept is most closely associated with the field of ethnoecology (GRAGSON and BLOUNT, 1999; NAZAREA, 1999; ALVES *et al.,* 2010), which, along with other subdisciplines such as ethnobotany (MINNIS, 2000; NOLAN and TURNER, 2011) and ethnozoology (ALVES and SOUTO, 2011; HUNN, 2011), composes the broader area of ethnobiology (STEPP *et al.*, 2002; ELLEN, 2006; ANDERSON, 2011). In general, the ethnosciences encompass a set of sub-disciplines that have the study of local knowledge systems and cognitive processes in common (CONKLIN, 1954; GOODENOUGH, 1956; FRAKE 1962; STURTEVANT, 1964).

In the literature, ethnobiology is most closely associated with studies focused on local classification systems for biological species (STEPP *et al.*, 2002; ELLEN, 2006; ANDERSON, 2011). Ethnoecology, in turn, is associated with local ways of understanding the relationships between humans and their natural environment, which includes ecological aspects such as soil, climate, ecological communities and other environmental factors in addition to the species themselves (TOLEDO, 1992; HUNN, 2007).

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In spite of the differences between the specialties of ethnobiology, in reality, these subdisciplines share many of their main topics of interest. These topics include: (1) the identification of universal principles in LEK (BERLIN, 1973, 1992); (2) its adaptive dimensions (HUNN, 1982, 2007); (3) its interface with belief systems (ELLEN, 1993); (4) implications of LEK for human practices (STURTEVANT, 1964; JOHNSON, 1974); and (5) similarities and differences between LEK and normative scientific knowledge (BERLIN, 1973, 1992; HUNN, 2006).

Other topics common to ethnobiological studies are the modes of transmission (D'ANDRADE, 1981; OHMAGARI and BERKES, 1997; ROSS, 2002a; ROSS and REVILLA-MINAYA, 2011) and distribution (GARRO, 1986; BOSTER, 1986; ROMNEY and MOORE, 1998; REYES-GARCIA *et al.*, 2003, 2007a) of local knowledge in a given society and their transformations in the face of the historical changes experienced by local/rural populations (ZENT, 1999; HUNN, 1999; BENZ and WORTH, 2000; ROSS, 2002b; ELLEN, 2006; REYES-GARCIA *et al.*, 2007b).

In this article, we comprehensively analyze the theoretical landmarks and central debates in ethnobiology as well as their development in current and incipient lines of research, especially in Brazil. In addition, considering the importance of identifying the singularities present in different knowledge systems, we focus on comparative analyses regarding LEK and scientific knowledge, with emphasis on studies of vertebrates. Finally, as an example, we present a case study on the topic, which was conducted among *quilombola*s in the Ribeira Valley (São Paulo State, Brazil). In this region, *quilombola* communities are formed by descendants of freed or runaway slaves during colonial period (mid-18th century) (SANTOS and TATTO, 2008; ADAMS *et al.* 2013).

Theoretical landmarks and central debates in ethnobiology

As an interdisciplinary field, ethnobiology has always had established relationships with disciplines from various areas, such as biology, anthropology, ethnology and economics. However, for some time, these relationships were not seen as symmetrical, and ethnobiology stood as a peripheral discipline that only appropriated methods and theories from other areas (ELLEN, 2006). More recently, however, the importance of the ethnobiological approach in other fields of study and research programs has increasingly been observed in, for example, ecology, conservation biology, political ecology, cognitive anthropology and environmental anthropology (STEPP *et al.*, 2002; ANDERSON, 2011).

Regarding its development, two key moments, or research stages, can be identified in the field of ethnobiology (CLÉMENT, 1998; ELLEN, 2006). Its early stage is characterized primarily by studies focused on determining the economic potential of biological species known and used by local populations, usually in indigenous contexts. Hunn (2007), for example, argues that this first phase began in the sixteenth century with the first European travelers and explorers in the New World and extended until the mid-twentieth century. In general, this approach was used to produce lists of names of plants and animals and their use by the populations under study. In this sense, until the first half of the twentieth century, a utilitarian perspective guided most ethnobiological studies.

The second phase of the discipline has been identified based on the studies of Harold Conklin (1954; 1961), Ward Goodenough (1956) and William Sturtevant (1964). The novel contribution of these authors was the adoption and strengthening of the emic approach in the ethnosciences. Consequently, a greater appreciation of local knowledge and criticism of the alleged universal superiority of Western science in relation to indigenous knowledge systems became increasingly common (FORD, 2011). From that point of conversion, during the second half of the twentieth century, ethnobiological studies were focused on understanding the human conceptualization and classification of the natural world (NAZAREA, 1999; ELLEN, 2006).

During this period, two different approaches were at the center of the debate on the mechanism by which classification systems are structured: the "ideationist" and the "functionalist" theoretical approaches (HAYS, 1982). The so-called "ideationist" approach was more closely associated with elucidating the universal cognitive bases of human perception and classification of the environment. This approach assumed that the complexity involved in the processes of identifying and classifying nature did not depend on the material dimensions (of subsistence) of human life (LÉVI-STRAUSS, 1966; BERLIN, 1973, 1992).

Brent Berlin and his group (BERLIN, 1973, 1974, 1992) argued that the discontinuities present in nature, such as the differences among species, are so evident to humans that it is very unlikely that they would not be perceived as such by individuals from different cultures. Without theorizing about human thought models as Levi-Strauss did, Berlin (1974) considered local classification systems prototaxonomic systems that were developed based mainly on simple morphological differences between species. Also noteworthy is the contribution to the understanding of human universals derived from studies in cognitive anthropology (ROSS and REVILIA-MINAYA, 2011) and studies involving the biological/evolutionary bases of human thought (MITHEN, 2006).

In contrast, the approach called "functionalist" primarily involved investigating how materialistic human relations with the environment shape ethnobiological knowledge (HUNN, 1982). This approach suggested that local classification systems should be understood primarily as products of processes linked to human survival. It is worth mentioning that the famous article *The Utilitarian Factor in Folk Biological Classification* by Eugene Hunn (1982) seems to reflect, in part, broader movements aimed at strengthening the functionalist/adaptationist and adaptationist/evolutionist approaches used in anthropology in the 1960s and 1970s. The first case is represented by the ecosystem ecological anthropology of Roy Rappaport and Andrew Vayda (RAPPAPORT, 1984 [1967]; VAYDA and RAPPAPORT, 1968), and the second is represented by the cultural materialism of Marvin Harris (HARRIS, 1979). According to these academic traditions, material conditions (especially ecological ones) and modes of production are the real drivers of human thought and behavior and of the prevailing cultural patterns.

Beyond the polarization between the two currents presented above, other authors believed that such paradigms only reflected theoretical approaches focused on the different operational levels of human cognitive systems (BOSTER, 1986; NAZAREA, 1999), one directed toward universal patterns of classification (LÉVI-STRAUSS, 1966; BERLIN,

1973, 1992) and the other toward the way in which the material dimension of human life shapes (but does not determine) local systems of knowledge and the classification of nature (HUNN, 1982). In this sense, these two explanations gradually became regarded as models of cognitive functioning that could operate simultaneously and complementarily in the way individuals grasp the elements of the natural world (BOSTER, 1986; NAZAREA, 1999; MORRIS, 2000; TURNER, 2000).

Parallel to this discussion, the dissolution of the nature/culture dichotomy, which has important consequences for understanding the processes of human perception of the environment, has been proposed. The main consequence of these ideas is the increasing acceptance of the premise that the perception of the environment—as well as the classification systems originating in this process—cannot be understood exclusively as a materialistic or ideationist process. Rather, this process could be better understood as the result of the ways in which individuals engage in their daily activities (INGOLD, 1996, 2000a, b) and of processes of human socialization of nature (DESCOLA and PALSSON, 1996; DESCOLA 1998; VIVEIROS DE CASTRO, 2002).

In short, these discussions of the mechanisms associated with the human acquisition of knowledge about the natural world seem to have led to an increasing emphasis on the conditions—material (ecology and modes of production), socio-political (political economy) and symbolic-cognitive (local forms of representation)—into which the processes of transmission (D'ANDRADE, 1981; HEWLETT and CAVALLI-SFORZA, 1986; OHMAGARI and BERKES, 1997; ROSS, 2002a; ROSS and REVILLA-MINAYA, 2011) and distribution (GARRO, 1986; BOSTER, 1986; ROMNEY and MOORE, 1998; REYES-GARCIA *et al.*, 2007a) of knowledge are inserted. Taking into consideration the abovementioned research contributions, and considering that rural/local populations have undergone significant economic and socio-cultural changes all over the globe, studies have increasingly focused on the transformations of local knowledge associated with this process (ZENT, 1999; HUNN, 1999; BENZ and WORTH, 2000; ROSS, 2002b; ELLEN, 2006; REYES-GARCIA *et al.*, 2007b).

Studies focused on this topic have found that such historical transformations in rural communities affect different aspects of individuals' lives and influence the way they develop their practices and knowledge about the environment in which they live (ROSS, 2002a; CRISTANCHO and VINING, 2009). It is known, for instance, that the integration or greater participation of local communities in the regional economic market is often associated with the loss of LEK. In fact, there are examples of this process in Honduras (GODOY *et al.*, 1998), Bolivia (GODOY *et al.*, 2009), Mexico (ROSS, 2002b), Ecuador (LU, 2007), and Spain (GÓMEZ-BAGGETHUN *et al.*, 2010).

The establishment of rural schools with educational programs unrelated to the local community's customs and values has been identified as another factor that triggers or accelerates the process of LEK loss or that at least causes deep changes (BONSI, 1980; GODOY, 1994; OHMAGARI and BERKES, 1997; ZENT, 1999; BENZ and WORTH, 2000; WILBERT, 2002; CRISTANCHO and VINING, 2009; REYES-GARCIA *et al.*, 2010). In this process, the massifying role of television shows produced in large urban centers (STENBAEK, 1987; OHMAGARI and BERKS, 1997) and the migration of

young people to the city (BONSI, 1980) are also cited as factors that greatly accelerate such processes.

In this sense, in spite of cases in which LEK is maintained (ZARGER and STEPP, 2004) and even increased (GUEST, 2002; GODOY *et al.*, 2009; AHMED *et al.*, 2010; FURUSAWA, 2009) in younger generations, the general pattern that has emerged from the studies of this subject indicates that the changes that have been experienced by local populations in recent decades are strongly associated with the loss of part of the repertoire of these systems in different regions of the world.

Given this scenario of change, elucidating the mechanisms by which local knowledge is generated and transmitted to new generations as well as the conditions and factors that drive or inhibit its maintenance has become even more pressing (HEWLETT and CAVALLIS-FORZA, 1986; OHMAGARI and BERKES, 1997; WILBERT, 2002; ZARGER, 2002; CRISTANCHO and VINING, 2009; ATRAN and MEDIN, 2010).

In Brazil, however, the issue of LEK transformations has not yet been addressed despite the significant economic and socio-cultural changes that its rural/local populations have experienced; which include native peoples (GROSS *et al.*, 1979; FORLINE 1997; COIMBRA JR. *et al.*, 2002; PRADO *et al.*, 2012), *caboclos* (MURRIETA 1998,2001; BRONDIZIO, 2008; ADAMS *et al.*, 2009), *caiçaras* (ADAMS, 2000; HANAZAKI and BEGOSSI, 2003; SANCHES, 2004) and *quilombolas* (PENNA-FIRME and BRONDIZIO, 2007; PENNA-FIRME, 2012; ADAMS *et al.*, 2013).

In this sense, Brazilian rural areas can be considered socio-environmental contexts that have high potential for ethnoecological research in the field of LEK transformations and related topics (i.e., the distribution and modes of transmission of LEK). Therefore, the development of this line of research in Brazil may produce both theoretical and empirical contributions to this important and current theme in ethnoecology. Next, we analyze the ethnoecological literature on comparisons between LEK and the scientific approach.

Contrasting local repertories and normative science

In addition to the aspects mentioned previously, a number of studies conducted over the last two decades have contributed to a better understanding of the central features of local knowledge systems and their potential ways of interacting with normative scientific knowledge, both in theory (AGRAWAL, 1995; HUNN, 2006; DAVIS and RUDDLE, 2010) and in the practice of conservation and natural resource management (POSEY *et al.*, 1984; PRANCE *et al.*, 1987; MACKINSON and NOTTESTAD, 1998; BERKES *et al.*, 2000; BECKER and GHIMIRE, 2003; MOLLER *et al.*, 2004; NAZAREA, 2006; DAVIS and RUDDLE, 2010).

In general, studies addressing the interfaces between LEK and scientific knowledge have highlighted the potential complementarity and convergence of the two types of knowledge as well as the singularities in their contents and methods of acquisition. Here, this comparative approach to the two types of knowledge is discussed in light of ethnoecological studies of vertebrates.

The few research that explicitly contrast LEK and ecological studies of vertebrates have focused on distribution and abundance of species in different habitats and over time. Birds (HUNTINGTON 2004a; GILCHRIST *et al.*, 2005; GAGNON and BERTAUX, 2009) and fish (NEIS *et al.*, 1999; ASWANI *et al.*, 2004; BERGMAN *et al.*, 2004; FRASER *et al.*, 2006; BEGOSSI and SILVANO, 2008) have been the main object of these research. Regarding specifically terrestrial mammals, only the caribou (*Rangifer tarandus*) (FERGUSON *et al.*, 1998), the arctic fox (*Vulpes lagopus*) (GAGNON and BERTAUX, 2009) and the medium- and large-bodied mammals of the Brazilian Atlantic Forest (Ribeira Valley, São Paulo State) (PRADO *et al.*, 2014) have been considered in such studies.

Research in this area has shown that LEK provides information with greater temporal depth involving wild population fluctuations and tends to recognize a wider range of habitats used by animals (FERGUSON *et al.*, 1998; NEIS *et al.*, 1999; LYVER, 2002; MOLLER *et al.*, 2004; GILCHRIST *et al.*, 2005; FRASER *et al.*, 2006; GAGNON and BERTAUX, 2009). In contrast, ecological studies can complement LEK by accessing information about the regional occurrences of species (FERGUSON *et al.*, 1998; HUNTINGTON, 2004a; MACKINSON, 2001; ASWANI *et al.*, 2004; BERGMAN *et al.*, 2004; FRASER *et al.*, 2006; BEGOSSI and SILVANO, 2008; GAGNON and BERTAUX, 2009). In this case, the complementarity of the two knowledge systems is observed.

The convergence and divergence of LEK and scientific knowledge can only be identified when they are systematically compared on the same observational scale (in the same landscape units or in the same habitats, for example), which is still very incipient in the ethnoecological literature on fauna (HUNTINGTON *et al.*, 1999; HUNTINGTON *et al.*, 2004b; GAGNON and BERTAUX, 2009; HIBERT *et al.*, 2011; PRADO *et al.*, 2014). From the point of view of the natural sciences, identifying points at which the two knowledge systems converge mainly represents a way in which science validates local knowledge. This same logic also permeates, although not explicitly, many of the studies comparing local and scientific knowledge.

This asymmetric way of addressing the different knowledge regimes only reproduces—in a naturalized form—the power relation that also characterizes the anthropological enterprise and is primarily fixed on the encounter of the different world views. However, the scientific logic of validating LEK misses the point expounded by the postmodern critic movement in anthropology during the second half of the twentieth century. This critique was synthesized by Clifford and Marcus (1986) in edited volume *Writing Culture*. The authors that contribute to this book criticize the realistic ethnographic narrative in which local epistemologies and ontologies were neglected by the uncritical use of the Western scientistic logic of observing and describing societies (CLIFFORD, 1986; MARCUS, 1986; RABINOW, 1986).

Interestingly, it is possible to identify solutions that seem to respond to this criticism in ethnobiological studies, even those published before this great debate. For example, as noted by Hunn (2006), *Birds of My Kalam Country* by Ian Saem Majnep (a member of the *karam* ethnic group from the highlands of New Guinea) and ethnobiologist Ralph Bulmer (MAJNEP and BULMER, 1977) is a paradigmatic case of collaboration between local and Western systems of knowledge. In it, Majnep's speeches about the world of

birds, which were translated and transcribed by Bulmer, are reproduced in full alongside passages written by Bulmer himself that provide his Western (scientific) view of the avifauna of the region.[i]

However, because of the still-prevalent asymmetry in comparisons between scientific and local knowledge, it is not surprising that by delegating to Western science the role of validating local knowledge, such approaches tend to emphasize their convergent aspects at the expense of what makes them different. Nevertheless, if understanding LEK in its entirety is the central goal of modern ethnobiology, it is also necessary to promote, during the research process, conditions under which the singularities of LEK are revealed and then analyzed with the same diligence that has been dedicated to the similarities. We continue this argument by briefly presenting one of our case studies on the topic as an example.

Revealing singularities in LEK: a study among *quilombolas* in the Ribeira Valley (São Paulo State, Brazil)

The study that is now described was conducted as part of one of the authors' doctoral research (PRADO, 2012), in which the knowledge of *quilombolas* from the Ribeira Valley (São Paulo State, Brazil) about the diet and habitat use of large wild mammals was systematically contrasted with the scientific knowledge of this same subject. The research was conducted in the remaining *quilombola* communities of São Pedro, Pedro Cubas and Pedro Cubas de Cima, which are located along the middle part of the Ribeira River (SANTOS and TATTO, 2008).

The landscape in which these communities are inserted is partly anthropogenic and primarily reflects the slash-and-burn shifting cultivation practiced in the region by these populations for at least 200 years (PEDROSO-JR *et al.*, 2008; ADAMS *et al.*, 2013). Therefore, in addition to the fields under cultivation (MUNARI, 2009) and the yards and their surroundings (TAQUEDA, 2009), two other major forest (or habitat) categories are observed in the area: (1) a mature forest continuum and (2) a more anthropogenic portion composed of secondary forests (old and newly abandoned fields) in different regeneration stages (GOMES *et al.*, 2013).

Initially, based on our ethnographic perception of the refined knowledge of the local residents about the plant foraging habits of large mammals and on the still-incipient scientific repertoire of the subject (PRADO, 2013), we began to compare these two knowledge systems to identify a possible complementarity between them. For this purpose, we conducted a systematic survey of the academic literature on the diets of the region's ungulates (brocket deer (*Mazama* spp.), collared peccary (*Pecari tajacu*), white-lipped peccary (*Tayassu pecari*) and lowland tapir (*Tapirus terrestris*)) (PRADO, 2013). In parallel, we prepared a set of interview questions using the free listing method; these were posed to local residents (QUINLAN, 2005).

While the ethnoecological data on faunal diet was being compiled, it was noted that plants that were typical of anthropogenic environments, especially cultivated fields, gardens and secondary forests (old fields laid fallow) were prevalent in the responses of the interviewees. This was the case, for example, for plants such as cassava (*Manihot esculenta*

Crantz), corn (*Zea mays* L. subsp. *mays* L.), bean (*Phaseolus vulgaris* L.), cecropia (*Cecropia pachystachya* Trécul) and juçara palm (*Euterpe edulis* Mart.) (PRADO *et al.*, 2013).

This was, in fact, an interesting aspect of the LEK that was analyzed because the cultivated areas in the forms of yards and fields occupied less than 5% of the area studied, secondary forests occupied between 4 and 13% (depending on the community) of the area studied and mature forests occupied approximately 80 to 90% of the area studied (data from 2007; SANTOS and TATTO, 2008). In this sense, it was possible to suggest that the LEK studied reflected not the foraging of species in the landscape as a whole but rather the partial view of the local residents of the feeding habits of the animals in specific landscape units (PRADO *et al.*, 2013). At that moment, we began to work with the hypothesis that historically, local agricultural practices played a central role in defining a certain experience for the residents of the landscape to the extent of influencing other areas of knowledge that were not directly linked to agriculture, as was the case with knowledge of the fauna.

However, if this hypothesis were correct, one would also expect a similar cultural bias regarding other ecological aspects of these mammals, such as the spatial distribution of species in the landscape. This was, in fact, what we evaluated by comparing the LEK with an *in situ* survey of large mammals in the landscape (PRADO *et al.*, 2014). For this purpose, we made ethnoecological and ecological measurements of the frequency of animals in the two major types of environment in the area: mature forests and secondary (anthropogenic) forests. In our analytical logic, a cultural bias toward the anthropogenic environment would be identified if the interviewees indicated that the secondary forests provided the primary environment for the animals and the *in situ* ecological record of the species showed the opposite (or, simply, the indiscriminate use of these two habitats by mammals).

The faunal survey was conducted using the camera-trap method, which consists of using cameras coupled with motion- and heat-sensitive infrared detectors (PRADO *et al.*, 2014). A standardized record was made in the field by selecting 30 sampling points in the mature forest and 30 points in the secondary forests. The survey lasted for a period of 18 months, between 2009 and 2011. For the ethnoecological research, structured questionnaires addressing the occurrence and frequency of the mammals in mature and secondary forests were developed (PRADO *et al.*, 2014). In this way, the types of environment that were selected for ecological recording of the species *in situ* were also addressed in the interviews. As the main result, we found that our hypothesis was generally confirmed because in the view of the residents, mammal species use secondary forests much more often, while our faunal survey of the area suggested that the animals use these two environments in very similar ways (with no significant differences) (PRADO *et al.*, 2014).

Therefore, by comparing the two systems of knowledge concerning the diets and habitat use of large mammals, we observed a greater emphasis on the anthropogenic portion of the landscape in the LEK, which seems to reveal its historical and cultural dimensions. Based on current knowledge of these populations, it is possible to argue that in some ways, their way of life, which was centered on itinerant agriculture, imprinted an experience in the landscape that was more closely associated with such environments

on the individuals. In this process, the main scenarios in which interactions with and the acquisition of knowledge of the fauna took place were defined: they were the mosaic formed by secondary forests (old cultivation fields) and cultivated fields and yards. Finally, through this case study, we reinforce the argument in favor of using the comparison of LEK with scientific knowledge as an analytical method to identify the singularities present in the LEK. In this study, LEK was at the center of the investigation, and scientific knowledge provided a counterpoint from which LEK particularities were identified.

Final remarks

In this article, we presented the main theoretical landmarks that define ethnobiology in general and ethnoecology in particular. Beginning from a merely utilitarian perspective, then, passing on to the establishment of an emic approach, and culminating in overcoming the polarization between the ideationist and functionalist models, ethnobiology/ethnoecology now deals mainly with the conditions into which the processes of transmission and transformation of knowledge are inserted. We also observed that the topic of transformation of knowledge in the face of the historical changes experienced by local/rural populations remains absent from the Brazilian ethnobiological literature, despite Brazil's high potential for studies in this field.

Concerning comparisons between LEK and scientific knowledge, convergent aspects of the two knowledge systems have been widely recorded in studies of vertebrates. Additionally, it is observed that such studies have been guided, explicitly or not, by a logic in which LEK is validated by science. The complementary character of the two systems of knowledge has been recognized and, therefore, has promoted collaborative projects between researchers and local populations, particularly those concerning fauna management on local and regional scales. In contrast, LEK singularities have received less attention and still lack rigorous methods that allow better access to them.

Bringing to light the unique part of the LEK repertoire in turn fosters new hypotheses about its construction, which are of interest to both ethnoecologists and anthropologists—assuming that all knowledge is derived, ultimately, from the human experience in the environment in its various dimensions. This type of supra-disciplinary analytical development once again leads us to the reflections of Ellen (2006) and Atran and Medin (2010), for whom, more than being a peripheral and accessory discipline, ethnobiology/ethnoecology gathers in its analytical spectrum the potential to be a key discipline in several related fields, including anthropology and biology.

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Note

i See also Tengö et al. (2014) for a current analysis of the opportunities and challenges inherent to the dialogue between different knowledge systems concerning nature in the context of the management and governance of ecosystems.

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ETHNOECOLOGY IN PERSPECTIVE: THE ORIGINS, INTERFACES AND CURRENT TRENDS OF A GROWING FIELD

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Abstract: Ethnoecology has approached local ecological knowledge (LEK) based on its cognitive and historical aspects, and regarding its interfaces with science. However, a comprehensive understanding of the potential in LEK studies also relies entirely on the awareness of the academic background that have formed the ethnosciences and, particularly, the ethnobiology throughout the 20th century. Focusing on it, this paper brings a synthesis of the central debates in ethnobiology history, and discusses its influences on current and incipient research venues, especially in Brazil. Topics about inter-generational changes in LEK repertory and the comparisons between LEK and science are also discussed herein. This article highlights mainly that the divergences between LEK and science can be more informative for a comprehensive understanding of LEK than the convergences. I addition, it is argued that bringing to the light the singular repertory of LEK can better support new anthropological insights about its acquisition.

Keywords: Local Ecological Knowledge, Ethnoecology, Ethnozoology, Quilombolas, Vertebrates.

Resumo: O conhecimento ecológico local (CEL) tem sido abordado em suas dimensões cognitivas, históricas e de interface com a ciência normativa. Para uma compreensão mais aprofundada das potencialidades presentes nos estudos sobre o CEL é imprescindível uma visão mais abrangente dos marcos teóricos que pontuaram a história das etnociências, notadamente da etnobiologia. Assim, o presente artigo traz uma síntese dos debates centrais na etnobiologia e dos seus desdobramentos em linhas de pesquisa correntes e também incipientes, sobretudo no Brasil. As transformações no CEL e as comparações deste com o conhecimento científico também são aqui abordadas. Também é desenvolvido o argumento de que, mais do que nas similaridades, são nas divergências entre esses conhecimentos que reside o maior potencial para se aprofundar no entendimento do CEL. Trazer à luz a parcela de seu repertório que lhe é particular alimenta novas hipóteses de interesse tanto etnoecológico quanto antropológico sobre seu processo de aquisição individual.

Palavras Chave: Conhecimento Ecológico Local, Etnoecologia, Etnozoologia, Quilombolas, Vertebrados.

Resumen: El conocimiento ecológico local (CEL) ha sido abordado en sus dimensiones cognitivas, históricas, y de interfaz con la ciencia. Para una mayor comprensión del potencial presente en los estudios sobre el CEL es imprescindible una perspectiva más integral de los marcos teóricos que conceptuaron la historia de las etnociencias. El presente artículo expone una síntesis de los debates centrales en la etnobiología y de sus desdoblamientos en líneas de investigación desarrolladas y también incipientes, sobre todo en Brasil. Las transformaciones en el CEL y las comparaciones de este con el conocimiento científico también son abordadas aquí. Además, se desarrolla el argumento de que, más que en las similitudes, es en las divergencias entre estos sistemas de conocimiento donde reside el mayor potencial para profundizar en la comprensión del CEL. Revelar la parte de su repertorio que le es particular sustenta nuevas hipótesis de interés antropológico sobre su construcción.

Palabras Clave: Conocimiento Ecológico Local, Etnoecología, Etnozoología, Quilombolas, Vertebrados.