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Zootherapy goes to town: The use of animal-based remedies in urban areas of NE and N Brazil

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Abstract

This paper examines the therapeutic possibilities offered by animal-based remedies in five Brazilian cities. Information was obtained through semi-structured questionnaires applied to 79 traders of medicinal animals at São Luís, Teresina, João Pessoa and Campina Grande (Northeastern) and Belém (Northern) Brazil. We recorded the use of 97 animal species as medicines, whose products were recommended for the treatment of 82 illnesses. The most frequently quoted treatments concerned the respiratory system (58 species; 407 use-citations), the osteomuscular system and conjunctive tissue (46 species; 384 use-citations), and the circulatory system (34 species; 124 use-citations). Mammals (27 species), followed by reptiles (24) and fishes (16) represented the bulk of medicinal species. In relation to users, 53% of the interviewees informed that zootherapeuticals resources were sought after by people from all social classes, while 47% stated that low income people were the main buyers. The notable use and commercialization of medicinal animals to alleviate and cure health problems and ailments in cities highlights the resilience of that resource in the folk medicine. Most remedies quoted by interviewees depend on wild-caught animals, including some species under official protection. Among other aspects, the harvesting of threatened species confers zootherapy a role in the discussions about biodiversity conservation in Brazil.

Keywords: Zootherapy; Brazil; Traditional medicines

1. Introduction

The use of biological resources for various therapies has been documented in different parts of the world, largely on the basis of studies carried out in remote regions, where traditional medicines (TM) may provide a *de facto* alternative for primary health care systems (e.g., Robineau and Soejarto, 1996; Agra et al., 2006; Uniyal et al., 2006).

Recent studies, however, have highlighted the relevant role played by TM in cosmopolitan areas (e.g., Balick et al., 2000, 2003; Macía et al., 2005), where health care needs generally are met by mainstream services, such as hospitals and allopathic pharmacies. Such co-existence of TM and conventional medicine points to strong socioeconomic and cultural ties which prevent the later from completely displacing the former in urban areas, and to a perceived efficacy of TM by consumers.

While the connections between traditional botanical remedies and conventional medicine in urban settings have been explored in scientific publications (e.g., Vivienne et al., 2000; Balick et al., 2000, 2003; Macía et al., 2005; Albuquerque et al., 2007), there is a dearth of information on the use of animals as medicine by city dwellers.

Here we examine the therapeutic possibilities offered by animal-based remedies in five Brazilian cities situated in the regions with the lowest socioeconomic development within the country (IBGE, 2006). By investigating TM and use of animal-based remedies in urban settings in a biologically and culturally diverse developing country, we hope to further stimulate discussions about the cultural and socioeconomic ties which allow TM to persevere in metropolitan areas, and to further explore the connections between primary health care, zootherapy and wildlife conservation.

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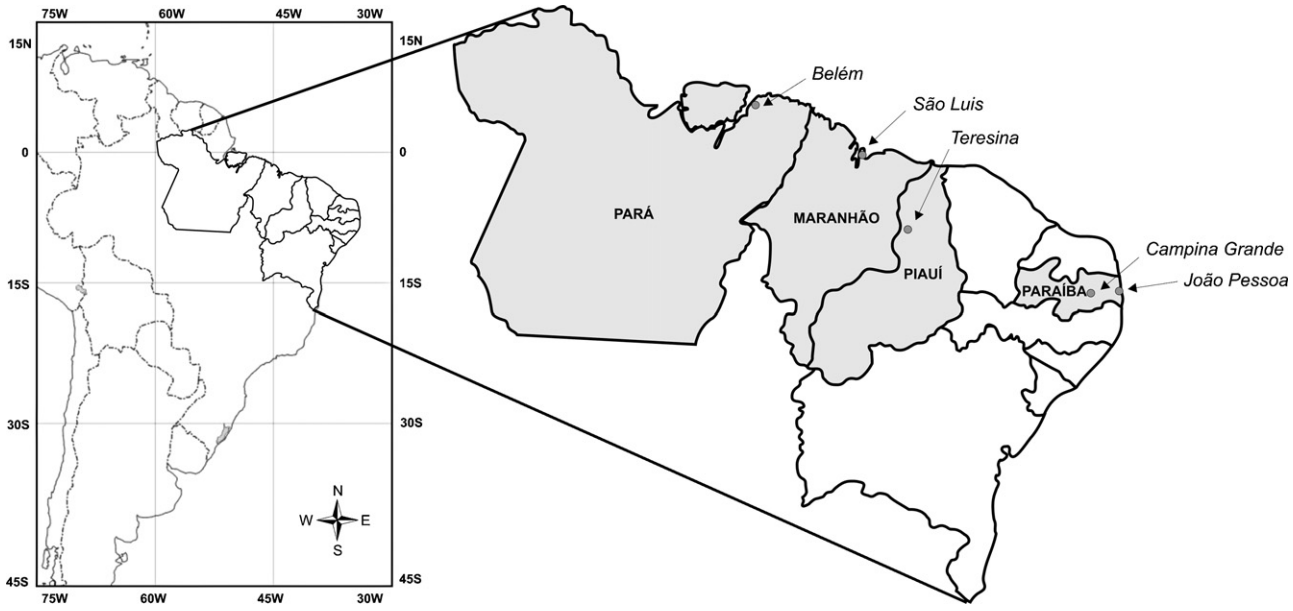

Fig. 1. Map showing the surveyed cities and states in Brazil.

2. Methods

2.1. Study sites

Our research focused on the following cities: Belém (North), São Luís, Teresina, João Pessoa and Campina Grande (Northeast), the first four being state capitals (Fig. 1).

Generally, human communities in the surveyed areas represent a mixture of native tribes, Europeans and Africans. In São Luis and Belém, however, the presence of black and native ethnic groups is more pronounced (http://www.ibge.gov.br).

2.2. Procedures

To gain an initial understanding of the medicinal animal trade we visited (January 2002–March 2003) outdoor markets situated in the cities of Salvador, Teresina, São Luís, Vitória, Maceió, Recife, Goiânia, Belém, and Porto Alegre. Subsequently, we visited outdoor markets in the cities of São Luís (January–February/2004), João Pessoa and Campina Grande (March–June/2004), Teresina and Belém (November–December/2005), where we interviewed 79 merchants (45 men and 34 women) about the use and commercialization of medicinal animals (23 interviewees in Belém, 21 in São Luís, 21 in Teresina, 10 in João Pessoa and 4 in Campina Grande). Demographics of the interviewees are summarized in Table 1.

The sampling method was non-random, and the interviewees were pre-defined (Albuquerque and Paiva, 2004). Attempts were made to interview all animal merchants in the markets visited, however some interviews were cancelled, or failed to provide much information, because interviewees were reluctant to answer questions.

The information obtained through semi-structured interviews was complemented by free interviews (Huntington, 2000). In the structured interviews, the interviewees were requested to furnish for each animal: vernacular name, folk use, parts used, preparation and administration of remedy, restrictions of use and storage conditions. Additionally, they were asked to cite reasons why the remedy was sought after by the consumer, how they learned about the remedy, how far back in time they thought the use of a given remedy started, and cultural aspects related to the zootherapeutic practices.

Vernacular names of species were recorded as quoted during interviews; zoological material was identified with the aid of specialists, through (a) examination of voucher specimens

Table 1
Information on educational attainment, age, income, and gender of interviewees. Brazilian minimum wage approximately equivalent to US$ 105 at the time surveys took place

Gender	
Male	45 (57%)
Female	34 (43%)
Age	
20–29	11 (14%)
30–39	16 (20%)
40–49	12 (15%)
50–59	23 (29%)
60–69	14 (18%)
70 or older	3 (4%)
Educational attainment	
Illiterate	3 (4%)
Attended school for 8 years	17 (22%)
Attended school for less than 8 years	47 (59%)
Finished high school	12 (15%)
Monthly income	
Less than minimum wage	2 (3%)
One to two times minimum wage	49 (62%)
Three to four times minimum wage	16 (20%)
Four to five times minimum wage	8 (10%)
Over five times minimum wage	4 (5%)