

**Zootherapy in Brazil: An Urgent Necessity of  
Interdisciplinary Studies**

The Editor,

Sir,

In recent years, a substantial number of work focussed on animal-based medicines used by traditional people or local communities. This traditional medicine theme is significantly relevant as the World Health Organization estimates that as many as 80% of the world's more than six billion people rely primarily on animal and plant-based medicine (1).

In Brazil, at least 283 animal species used for medicinal purposes have been recorded (2), including some species used in ethnoveterinary medicine (3). Nevertheless, the use of animal species as remedies, although representing an important component of traditional medicine, has been much less studied than medicinal plants in this country. Additionally, the studies about zotherapy are being developed by biologists and ethnobiologists in this country. This fact associated with other points, stresses the need for interdisciplinary studies. Firstly, it is unknown how many of those animals are really effective for the treatment of diseases and illnesses. Scientific validation of the effects and side effects of these animals is needed before they can be recommended for use. Research is also needed to establish whether medicinal animals have fewer long term adverse complications, such as antibiotic resistance, than commercial drugs.

Secondly, the use of animals as remedies has direct consequences for conservation of biodiversity. From the zotherapeutics species in Brazilian Traditional Medicine (BTM), 71 are listed in IUCN Red List of Threatened Species (with 19 species classified as vulnerable, two endangered and five critically endangered) and 54 are listed in the Convention on International Trade in Endangered Species of Wild Fauna and Flora [CITES] (2). Such numbers alert to the importance of including medically explored species in management and conservation systems and when designing public health programmes for communities where traditional medicine is used. Thirdly, ingredients commonly used in the preparation of medicines such as fat, flesh, bone, cartilage, skin, liver, bile, penis, blood, head, heart, guts, eye and offal, besides resulting in the animal death, also raise public health concerns about ideal conditions of storage. Organs and various tissues including bones and bile can be a source of *Salmonella* infection causing chronic diarrhoea and endotoxic shock (4). The possibility of transmission of other

serious and widespread zoonoses such as tuberculosis or rabies should be considered whenever animal tissues from unknown sources are handled and used as remedies (5).

Traditional knowledge of the use of animals in BTM needs to be approached as an integrated and holistic structure by various branches of science making it possible that these studies link to conservation biology, public health policies, sustainable management of natural resources and biological prospection.

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