

Isolation of rabies virus in *Artibeus fimbriatus* bat in the State of Sao Paulo, Brazil

Elenice M Sequetin Cunha^a, Maria do Carmo C S H Lara^a, Alessandra Figueiredo de Castro Nassar^a, Miriam M Sodr e^b and Luis Fl vio Vani Amaral^c

^aCentro de Pesquisa e Desenvolvimento de Sanidade Animal. Laborat rio de Raiva e Encefalites Virais. Instituto Biol gico de S o Paulo. S o Paulo, SP, Brasil. ^bCentro de Controle de Zoonoses de S o Paulo. S o Paulo, SP, Brasil. ^cCentro de Controle de Zoonoses de S o Jos  do Rio Preto. S o Jos  do Rio Preto, SP, Brasil

Keywords

Rabies virus, isolation. Purification. Quiroptera. Rabies.

Abstract

This is the first report of the isolation and identification of the rabies virus in the frugivorous bat *Artibeus fimbriatus* in the city of S o Jos  do Rio Preto, S o Paulo State, Brazil. The virus was isolated from an animal found in an urban area. The animal was found on the ground under a tree, still alive. Diagnosis was made by direct immunofluorescence and intracerebral inoculation of mice.

The formulation of control programs for rabies is directly related to the different species of animals infected by the virus and involved in the dissemination of the disease. The urban cycle of rabies, in the great majority of Brazilian cities, is still maintained by the dog, which was responsible for 80% of cases of human rabies registered between 1994 and 2003.² Nevertheless, bats also partake in the transmission of this disease, and are playing an increasingly relevant role. According to Uieda,⁴ rabies has been found in 27 bat species in Brazil, among which are both hematophagous and non-hematophagous species.

Of the bats of the Phyllostomidae family, samples of the *Artibeus lituratus*, *A. jamaicensis*, and *A. planirostris* species positive for rabies virus have been reported.^{3,4} However, there is no prior description of the disease in bats of the *Artibeus fimbriatus* species.

Bats of the *Artibeus fimbriatus* species are found in Brazil from the Southern state of Rio Grande do Sul to the Northeastern state of Bahia, being more common in Atlantic Forest areas. This species is part of the Phyllostomidae family of frugivorous or phytophagous bats, which feed mainly on fruit, leaves, and parts of flowers. The feeding, sheltering, and reproduction habits of this species are largely unknown,

differently from *Artibeus lituratus*, another species of the same genus, but which is common in urban areas.

The case described in this report is a male bat found alive on the foot of a *Terminalia catappa* (Combretaceae) fructiferous tree – popularly known in Brazil as *setecopas* (seven crowns) or *chap u de couro* (leather hat) – in the urban area of the municipality of S o Jos  do Rio Preto, State of S o Paulo. The bat was identified by its external morphologic and morphometric characteristics (in millimeters), according to Taddei.⁵ Following identification, the specimen was deposited in the Chiropteran Sector of the *Centro de Controle de Zoonoses de S o Paulo* (S o Paulo Zoonosis Control Center), under registry no. 190/04.

The specimen was examined for the presence of the rabies virus by direct immunofluorescence (DIF) and by intracerebral inoculation of mice.¹

Analysis by direct immunofluorescence (DIF)¹ showed positive staining, and all six mice inoculated intracerebrally died with clinical signs of rabies within eight to ten days.

Twenty bats were captured in the municipality of S o Jos  do Rio Preto between 1998 and 2003. These

Correspondence to:

Elenice M Sequetin Cunha
Laborat rio de Raiva e Encefalites Virais
Instituto Biol gico
Av. Conselheiro Rodrigues Alves, 1252
04014-002 S o Paulo, SP, Brasil
E-mail: cunha@biologico.sp.gov.br

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bats, of urban frugivorous and insectivorous species, were diagnosed as positive for rabies, and some had a history of aggression or contact with household animals and humans.* *Artibeus fimbriatus* bats have been observed feeding on *Terminalia catappa* fruit also in other cities of Sao Paulo. This suggests that the growing of certain vegetable species attrac-

tive to bats may determine or contribute to their permanence in these locations, favoring synanthropy and generating potential risk to human and animal health.

Thus, the present report describes the first occurrence of rabies in this species in Brazil.

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