

FIRST RECORD OF *Desmodus rotundus* IN URBAN AREA FROM THE CITY OF OLINDA, PERNAMBUCO, NORTHEASTERN BRAZIL: A CASE REPORT

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SUMMARY

The objective of this report is to describe the first record of *Desmodus rotundus* in urban area from the city of Olinda, Pernambuco State, Northeastern Brazil, and to draw attention to the possible risk of rabies transmission in this place. After the complaint of a dog owner who observed three bats attacking his dog, images registering attacks of *D. rotundus* were captured with a video camera. From 09:00 p.m. on 13 February 2004 to 04:00 a.m. of the next day, a high frequency of haematophagic activity and the presence of several bites on the dog's body were observed. This finding represents a serious risk to public health. Thus, it is necessary to further study the bat fauna, with special attention to their feeding behaviour in this place, in order to better know their biology and to adopt pertinent control measures. This is, to our knowledge, the first record of *D. rotundus* in urban area of Olinda.

KEYWORDS: Common vampire bat; Urban area; Olinda; Northeastern Brazil.

Haematophagous bats, also called vampire bats, occur only in Latin America, from Mexico to the Northern Argentina and are represented by three species: *Desmodus rotundus*, *Diphylla ecaudata* and *Diaemus youngi* (Phyllostomidae). Only *D. rotundus*, the common vampire bat, causes livestock losses and could be a vector for the rabies virus^{1,3}.

Dogs, humans, zoo animals and small backyard animals are potential food sources for haematophagous bats in urban areas¹⁰. All reports of outbreaks of human aggression and human rabies caused by vampire bats are related to activities of *D. rotundus*².

The common vampire bat plays an important role in the transmission of rabies to humans in several countries⁴, including Brazil^{3,7}. Thus, the presence of this bat in urban areas must be seen as a potential risk to public health.

Several species of bats were described in Brazil^{5,6,8,10}, but few researchers dedicated their studies to the bat fauna of Pernambuco state, Northeastern Brazil, mainly in municipalities of the metropolitan region of Recife.

This report's objective is to describe the occurrence of *D. rotundus* in urban area from the city of Olinda, Pernambuco State, Brazil, and to draw attention to the possible risk of rabies transmission in this place.

In February 2004, attacks of bats to a male Doberman dog were communicated by a dog owner who had two more dogs and lives in a house located in a residential urban area of Olinda. The city (8°00'48"S

34°50'42"W) has a tropical climate with an average annual temperature of 27 °C, annual relative humidity of 80%, and annual precipitation between 1,000 and 2,000 mm. The house is located next to a small reserve of primary Atlantic rain forest.

From 09:00 p.m. on 13 February 2004 to 04:00 a.m. of the next day, the attacks of bats were captured in the house with the help of a video camera (JVC S-VHS Compact Camcorder, type GR-SXM337UM).

The images showed the individual attacks of the bats with morphological characteristics¹ and feeding behaviour⁹ compatible with *D. rotundus* (Figs. 1 and 2). It was observed a rather long thumb and forearm, dark brown fur on the back and body with approximately 90 mm of length.

A total of nine attacks from the bats were witnessed. In addition, the number and the distribution of bites on the dog's body (scrotum, lombar and perianal region and feet) suggested feeding activity of several bats. However, it was not possible to estimate the number of bats.

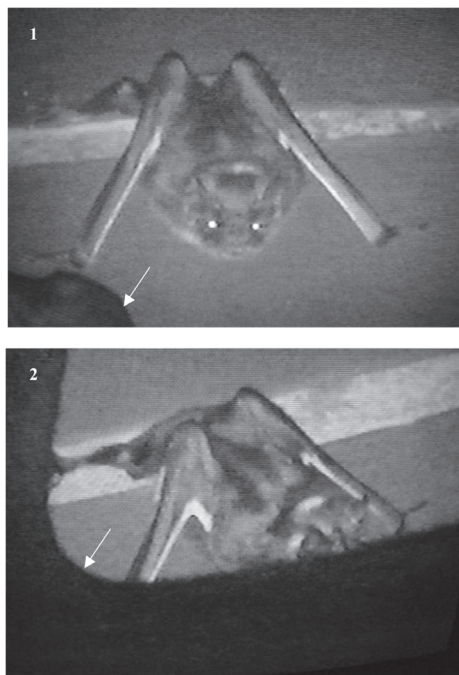
Skin lesions due to previous exposure to bat bites and also new lesions were observed. Bites on the limbs and anal region were found, showing an unusual feeding activity.

The attacks occurred only when the dog was sleeping and the bats were not seen on the dog's body but only while landing on the floor. Thus, this finding shows that there is an evidence of the existence of a *D. rotundus* population adapted to feed on dogs.

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Figs. 1 and 2 - (1) An individual of *Desmodus rotundus* next to the dog (arrow). (2) The same individual feeding on the dog (arrow).

Other domestic animals, like chickens and goats, were observed in that place. Probably, these animals are also acting as sources of food to common vampire bats although we did not obtain reliable data to confirm this hypothesis.

To our knowledge, this is the first report of *D. rotundus* in the urban area of Olinda, although its presence in urban areas was already reported by UIEDA¹⁰ in the cities of São Paulo (State of São Paulo), Rio de Janeiro (State of Rio de Janeiro), Belo Horizonte (State of Minas Gerais) and Salvador (State of Bahia). Fortunately, there is no evidence of bat attacks on humans in this place. Moreover, the dog was revaccinated against rabies.

Vampire bats are the second major rabies transmitter to humans⁴. Thus, it is necessary to investigate the rabies virus infection in this bat population from the city of Olinda, to evaluate the potential risk of rabies virus transmission to humans and dogs.

Finally, it is also important to study the bat fauna, with special attention to their feeding behaviour in this place, in order to improve our knowledge of their biology, mainly of haematophagous bats, and to adopt pertinent control measures.

RESUMO

Primeiro registro de *Desmodus rotundus* na área urbana da cidade de Olinda, Pernambuco, Nordeste do Brasil: relato de caso

O objetivo deste relato é descrever o primeiro registro de *Desmodus rotundus* na área urbana da cidade de Olinda, estado de Pernambuco,

Nordeste do Brasil, e chamar atenção para o possível risco de transmissão da raiva nesta localidade. Após a queixa de um proprietário que observou três morcegos atacando um de seus cães, foram capturadas imagens com auxílio de uma câmara de vídeo que registram ataques de *D. rotundus* ao referido cão. No período das 21:00h do dia 13 de fevereiro de 2004 às 4:00h da manhã do dia seguinte, foram observados nove ataques de *D. rotundus* e também a presença de mordidas em várias partes do corpo do cão. Esse achado representa um sério risco para saúde pública. Conseqüentemente, faz-se necessária a realização de novos estudos a fim de conhecer melhor a biologia desta população de morcegos, com atenção especial para o comportamento alimentar, e adotar as medidas de controle pertinentes. Este é, para o nosso conhecimento, o primeiro relato da presença de *D. rotundus* em área urbana de Olinda.

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