Range extension of the Peale’s Free-tailed Bat
_Nyctinomops aurispinosus_ (Molossidae) in Brazil

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Abstract: There is a lack of knowledge of the biology and distribution of _Nyctinomops aurispinosus_. Herein, we report the southernmost record of this species, from the city of Curitiba (25° 25’ S and 49° 15’ W, 920 m), state of Paraná, Brazil, and summarize its distribution in South America.

Keywords: Chiroptera, distribution, Molossidae, new record, South America.


Resumo: Há uma grande lacuna no conhecimento da biologia e corologia de _Nyctinomops aurispinosus_. Nesta comunicação, nós apresentamos o registro mais austral deste molossídeo, realizado na cidade de Curitiba (25° 25’ S e 49° 15’ W, 920 m), estado do Paraná, Brasil, e somarizamos a distribuição geográfica conhecida para a espécie na América do Sul.

Palavras-chave: Chiroptera, distribuição, Molossidae, novo registro, América do Sul.

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Introduction

Presently, four species are recognized within the New World molossid bat genus Nyctinomops Miller, 1902: N. aurispinosus (Peale, 1848), N. laticaudatus (E. Geoffroy, 1805), N. macrotis (Gray, 1840), and N. femorosaccus (Merriam, 1889). Only the latter does not occur in Brazil (Koopman 1982, Simmons 2005). Nyctinomops was described by Miller (1902), who included eight species in the genus, and the type-species is N. femorosaccus. Later, Nyctinomops was considered a synonym of Tadarida by Shamel (1931), who included four species in the macrotis-group that was subsequently designated as a subgenus of Tadarida (e.g., Koopman 1982). Freeman (1981) recognized Nyctinomops as a valid genus, with which we concur. Species of Nyctinomops are distinguishable from other molossid species in having 1) deeply wrinkled upper lips, 2) ears touching each other over forehead, 3) upper incisors parallel and separated from each other by a gap due to a narrow and long maxillary emargination, 4) long and narrow rostrum, 5) very deep basioccipital pits, 6) plagiocrest and protoloph paralleling each other in the first two upper molars, and 7) two pairs of lower incisors (Freeman 1981, Legendre 1984). Gregorin 2000, Gregorin & Taddei 2002).

Nyctinomops aurispinosus is distributed from northwestern Mexico to southern South America with records in Venezuela, Colombia, Peru, Bolivia, and Brazil (Carter & Davis 1961, Taddei & Garutti 1981, Ochoa 1984, Ibáñez & Ochoa 1989, Eger 2007; Figure 1). The type-locality of the species is 161 km off Cape São Roque, State of Rio Grande do Norte, Brazil, or more precisely “on board the U.S.S. Peacock off the coast of Brazil […] about 100 miles from land, south of Cape St. Roque” (Shamel 1931: p. 12). Nyctinomops aurispinosus is a biometrically intermediary species within the genus (Taddei & Garutti 1981, Ochoa 1984, Ibáñez & Ochoa 1989, Jones & Arroyo-Cabrales 1990, Gregorin & Taddei 2002). Dorsal pelage is usually dark brown but also varies from reddish to grayish-brown (Jones & Arroyo-Cabrales 1990). Shamel (1931) mentioned the note made by Gerrit Miller, “belly wood brown, back between wood brown and russet”. However, specimens of N. aurispinosus in collections are very scarce, affecting our comprehension of the variation of characters throughout its distribution. The purpose of this paper is to report a range extension of N. aurispinosus in Brazil, and present a summary of the known distribution of this species in South America.

Material and Methods

On 11 April 2005 a male specimen of Nyctinomops was captured alive on the ninth floor of an apartment in Curitiba municipality, State of Paraná, Brazil (25° 25’ S e 49° 15’ W, 920 m a.s.l.). The specimen was sent to the State Central Laboratory (Secretaria de Estado da Saúde do Paraná) and it was diagnosed as rabies-negative. It is currently preserved in alcohol at the Departamento de Biologia of the Universidade Federal de Lavras, Brazil (field-number RA 24116).

The specimen had its skull removed, which was much damaged but the basicranium broken. Linear measurements of external and craniodental dimensions are reported in millimeters (mm).

Results and Discussion

Pelage coloration agrees with what is known for the species, and although measurements are slightly larger than the variation recorded for other Brazilian and South American specimens (Table 1), we considered the specimen as being identifiable as N. aurispinosus. Among the species of Nyctinomops that occur in Brazil, there is a gap in our knowledge of the biology and distribution of N. aurispinosus with scarce records for the states of Rio Grande do Norte (type-
Table 1. Measurements (mm) of Nyctinomops aurispinosus from Brazil: State of Paraná, Curitiba (our specimen); State of São Paulo, São José do Rio Preto (Taddei & Garutti 1981); State of Piauí, Paulistana (Vizotto et al. 1980); and Colômbia (Carter & Davis 1961), Peru (Carter & Davis 1961) and Bolivia (Ibáñez & Ochoa 1989).

<table>
<thead>
<tr>
<th>Measurements</th>
<th>Paraná Brazil</th>
<th>São Paulo Brazil</th>
<th>Piauí Brazil</th>
<th>Colombia</th>
<th>Peru</th>
<th>Bolivia</th>
</tr>
</thead>
<tbody>
<tr>
<td>Length of head and body</td>
<td>71.2</td>
<td>73.0</td>
<td>70.6 (69.7-71.6)</td>
<td>-</td>
<td>-</td>
<td>-</td>
</tr>
<tr>
<td>Length of tail</td>
<td>45.3</td>
<td>-</td>
<td>44.1 (40.7-46.6)</td>
<td>-</td>
<td>-</td>
<td>-</td>
</tr>
<tr>
<td>Length of forearm</td>
<td>53.4</td>
<td>51.5</td>
<td>51.2 (50.4-51.9)</td>
<td>49.5</td>
<td>51.5</td>
<td>49.7 (48.7-50.3)</td>
</tr>
<tr>
<td>Length of metacarpal III</td>
<td>51.6</td>
<td>51.0</td>
<td>47.3 (46.0-48.1)</td>
<td>-</td>
<td>48.4</td>
<td>-</td>
</tr>
<tr>
<td>Length of metacarpal IV</td>
<td>50.7</td>
<td>50.6</td>
<td>45.2 (43.6-46.2)</td>
<td>-</td>
<td>46.8</td>
<td>-</td>
</tr>
<tr>
<td>Length of metacarpal V</td>
<td>28.9</td>
<td>31.0</td>
<td>25.3 (25.1-25.6)</td>
<td>-</td>
<td>26.9</td>
<td>-</td>
</tr>
<tr>
<td>Length of ear</td>
<td>22.5</td>
<td>-</td>
<td>21.1 (20.2-21.5)</td>
<td>-</td>
<td>29.0</td>
<td>-</td>
</tr>
<tr>
<td>Breadth across upper molars</td>
<td>8.3</td>
<td>8.2</td>
<td>8.1 (7.9-8.3)</td>
<td>8.5</td>
<td>8.4</td>
<td>8.4 (8.3-8.6)</td>
</tr>
<tr>
<td>Breadth across upper canines</td>
<td>4.7</td>
<td>4.7</td>
<td>4.2 (4.2-4.4)</td>
<td>4.7</td>
<td>4.9</td>
<td>-</td>
</tr>
<tr>
<td>Length of upper toothrow</td>
<td>8.1</td>
<td>8.1</td>
<td>7.4 (7.3-7.6)</td>
<td>7.8</td>
<td>7.8</td>
<td>7.9 (7.8-8.0)</td>
</tr>
<tr>
<td>Length of mandible</td>
<td>15.5</td>
<td>15.0</td>
<td>-</td>
<td>-</td>
<td>-</td>
<td>-</td>
</tr>
<tr>
<td>Length of lower toothrow</td>
<td>8.6</td>
<td>8.7</td>
<td>7.7 (7.5-7.9)</td>
<td>8.5</td>
<td>8.9</td>
<td>-</td>
</tr>
</tbody>
</table>

Acknowledgements

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References


Range extension of Nyctinomops aurispinosus

locality; Shamel 1931), Piauí (Vizotto et al. 1980), Minas Gerais (Tavares et al. in press), São Paulo (Taddei & Garutti 1981, Silva et al. 1996, Pedro et al. 2001), and Distrito Federal (Bredt 2003) (Figure 1). This is the first record for the State of Paraná and the southernmost record of N. aurispinosus for South America. The nearest localities where it has been reported are the Estação Ecológica de Caetetus (Pedro et al. 2001) and the city of São Paulo (Silva et al. 1996), which are 337 km north and 340 km northeast, respectively.

Some of these Brazilian records (e.g. Taddei & Garutti 1981, Silva et al. 1996, Bredt 2003) are equally based on specimens captured in buildings and we recommend that bats sent to health centers for rabies test should also be forwarded to specialists for confirmation of identification. This procedure will certainly lead to an improvement of our knowledge on the diversity and distribution of rare and synanthropic species, particularly of molossid bats.


Acknowledgements

We are indebted to the Divisão de Vigilância em Zoonoses e Intoxicações (Secretaria de Estado da Saúde do Paraná), especially to Paulo de Araújo Guerra for their essential support, to Uribatan M. S. Suckow and Luiz Dino Vizotto for assistance with the data. We also thank two anonymous reviewers and Ariovaldo P. Cruz Neto, Sandra Bos Mikich, Fabiana Rocha-Mendes for editorial assistance and additional suggestions that improved the manuscript, and Alexandre Lorenzetto and Carlos E. Conte for help in preparing the map.

References


