

MAMMALS FROM THE CAATINGA: AN UPDATED LIST AND SUMMARY OF RECENT RESEARCH

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RESUMO

Mamíferos da Caatinga: Lista Modificada e Resumo de Recente Pesquisa

O estado taxionômico dos mamíferos da Caatinga, avaliado por Mares *et al.* (1981), é modificado aqui, e uma lista dos mamíferos sobreviventes é incluída. Uma revista breve das contribuições recentes à literatura científica sobre os mamíferos da Caatinga é transmitida também.

Palavras-chave: Caatinga, Nordeste do Brasil, Sertão, mamíferos, morcegos, roedores.

ABSTRACT

The taxonomic status of Caatinga mammals, considered by Mares *et al.* (1981), is updated herein and a checklist of extant mammals is included. A brief survey of recent contributions to the scientific literature on Caatinga mammals is also provided.

Key words: Caatinga, Northeast Brazil, Sertão, mammals, bats, rodents.

INTRODUCTION

The Caatinga is a large semiarid tropical region that occupies 650,000 km² in the northeast of Brazil (Frota-Pessoa *et al.*, 1971; Reis, 1976). It contains a diverse assemblage of habitats and the mammalian fauna has been described recently by Mares *et al.* (1981),

based primarily upon field collections in the vicinity of Exu, Pernambuco, and museum specimens in the Museu Nacional in Rio de Janeiro. Since that time, many aspects of the biology of Caatinga mammals have been elucidated as part of a comprehensive program initiated by the Academia Brasileira de Ciências. Mares *et al.* (1985) presented a review of the biogeography and paleoecology of the Caatinga and concluded that the non-volant mammal fauna failed to exhibit characteristics usually considered adaptive in semiarid environments. Moreover, they suggested that although the Caatinga may

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have undergone expansions and fractionations during Pleistocene times, such events did not act as a mechanism promoting mammalian speciation and the production of endemic species. In fact, *Kerodon rupestris* is the only endemic Caatinga mammal, and it avoids the vicissitudes of life in an unpredictable and xeric environment by inhabiting mesic enclaves (serrotes and lajeiros) within the Caatinga. In a series of papers, Streilein (1982a, b, c, d, e, f) provided detailed ecological information (species composition, water relations, reproductive biology, population dynamics, habitat selection, and behavior) on the small mammals of the Caatinga. Molting patterns of Caatinga small mammals were considered by Mares *et al.* (1982). Macedo and Mares (1987) analyzed individual and geographic variation in *Bolomys lasiurus*. Lacher (1981) and Mares and Lacher (1986) presented a comprehensive treatment of comparative social behavior and ecology of *Kerodon rupestris* and *Galea spixii*, both important components of the rodent fauna in Caatinga baixa habitats. Lacher (1979) examined growth in *Kerodon* and evaluated its potential as a domesticated food source. In addition, Lacher *et al.* (1982) analyzed food preference of *Kerodon* within the framework of optimality theory. The Caatinga non-volant mammal community was compared to other Neotropical communities by Lacher and Mares (1986). Various aspects of chiropteran biology, including microgeographic variation and sexual dimorphism (Willig, 1983; Willig *et al.*, 1986; Willig and Moulton, 1989), and systematics (1985a, b, c), population biology (Willig, 1985a), community ecology (Willig, 1986; Willig and Moulton, 1988), and systematics (Alvarez *et al.*, in press; Gannon *et al.*, 1988; Willig and Hollander, 1986; Willig and Jones, 1985; Willig *et al.*, 1988), have been presented for Caatinga and edaphic Cerrado bats. Finally, Mares *et al.* (1988) have examined the systematics, distribution, and ecology of a number of Caatinga species in xeric parts of the Cerrado. Although much research remains to be done, the Caatinga is now one of the best understood neotropical faunas in terms of mammalian biology; at least

a solid foundation for future studies has been provided.

Since the preliminary assessment of the mammals of Northeast Brazil by Mares *et al.* (1981), the taxonomy and systematics of a number of species have been revised. An updated taxonomic list of the mammals of the Caatinga follows. It should not be interpreted as a complete species list; rather, it represents a revision of the information presented in Mares *et al.* (1981) and provides distributional information, including the type locality, for each species (after Honacki *et al.*, 1982).

CHECKLIST

Order: Marsupialia

Family: Didelphidae

1. *Didelphis albiventris* Lund, 1840
Type Locality: Brazil, Minas Gerais, Lagoa Santa.
Distribution: From Central Argentina through western Venezuela, including western Bolivia and eastern Brazil.
2. *Marmosa cinerea* (Temminck, 1824)
Type Locality: Brazil, Bahia, Rio Mucuri.
Distribution: From eastern Colombia to extreme northeastern Argentina.
3. *Marmosa karimii* Petter, 1968
Type Locality: Brazil, Pernambuco, Exu.
Distribution: From west-central to northeastern Brazil.
4. *Monodelphis domestica* (Wagner, 1842)
Type Locality: Brazil, Mato Grosso, Cuiaba
Distribution: Bolivia, Paraguay, and southwestern to northeastern Brazil.

Order: Chiroptera

Family: Emballonuridae

5. *Peropteryx macrotis* (Wagner, 1843)
Type Locality: Brazil, Mato Grosso.
Distribution: From southern México in forested habitats to Paraguay and southern Brazil, also on several Caribbean islands.
6. *Saccopteryx bilineata* (Temminck, 1838)
Type Locality: Surinam.
Distribution: From central and southern México to northern South America, including Bolivia and eastern Brazil.
7. *Saccopteryx leptura* (Schreber, 1774)
Type Locality: Surinam.
Distribution: Southernmost México to northern South America including Perú and eastern Brazil; also on several Caribbean islands.

Family: Noctilionidae

8. *Noctilio leporinus* (Linnaeus, 1758)
Type Locality: Surinam.
Distribution: From west and central México to northern Argentina, as well as on many Caribbean islands.

Family: Mormoopidae

9. *Pteronotus gymnotus* Natterer, 1843
Type Locality: Brazil, Mato Grosso, Cuiaba.

- Distribution: From southern México to Perú and southwestern Brazil.
10. *Pteronotus parnellii* (Gray, 1843)
Type Locality: Jamaica.
Distribution: From northwestern México to Perú and Brazil, including numerous Caribbean islands.
11. *Pteronotus personatus* (Wagner, 1843)
Type Locality: Brazil, Mato Grosso, São Vicente.
Distribution: From northwestern México to Perú and Brazil, as well as Trinidad.
- Family: Phyllostomidae
Subfamily: Phyllostominae
12. *Lonchorhina aurita* Tomes, 1863
Type Locality: Trinidad and Tobago, Trinidad.
Distribution: Southern México to southeastern Brazil; also on Trinidad.
13. *Micronycteris megalotis* (Gray, 1842)
Type Locality: Brazil, São Paulo, Pereque.
Distribution: Central México to southeastern Brazil and Perú; also on several Caribbean islands.
14. *Micronycteris minuta* (Gervais, 1856)
Type Locality: Brazil, Bahia, Capela Nova.
Distribution: Nicaragua to southern Brazil and eastern Bolivia; also on Trinidad.
15. *Mimon crenulatum* (É. Geoffroy St.-Hilaire, 1810)
Type Locality: Brazil, Bahia.
Distribution: From the Yucatán peninsula in México, to Brazil; also on Trinidad.
16. *Phyllostomus discolor* Wagner, 1843
Type Locality: Brazil, Mato Grosso, Cuiaba.
Distribution: Eastern México to northern Argentina, as well as on Trinidad and Margarita Island.
17. *Phyllostomus hastatus* (Pallas, 1767)
Type Locality: Surinam.
Distribution: Honduras to eastern Brazil; also on the islands of Trinidad, Tobago, and Margarita.
18. *Tonatia silvicola* (d'Orbigny, 1836)
Type Locality: Bolivia, Yungas between Secure and Isiboro Rivers.
Distribution: México to northern Argentina.
19. *Tonatia brasiliense* (Peters, 1866)
Type Locality: Brazil, Bahia.
Distribution: Eastern México to Brazil; also on Trinidad.
20. *Trachops cirrhosus* (Spix, 1823)
Type Locality: Brazil, Pernambuco.
Distribution: Southern México to Brazil and Bolivia; also on Trinidad.
- Subfamily: Glossophaginae
21. *Anoura geoffroyi* Gray, 1838
Type Locality: Brazil, Rio de Janeiro.
Distribution: Northeastern México to northeastern and southeastern Brazil; also on Trinidad and Grenada.
22. *Glossophaga soricina* (Pallas, 1766)
Type Locality: Surinam.
Distribution: Western México to southeastern Brazil and northern Argentina; also on several Caribbean islands.
23. *Lonchophylla mordax* Thomas, 1903
Type Locality: Brazil, Bahia, Lamarão.
- Distribution: From Costa Rica to eastern Brazil and Ecuador; perhaps including Perú and Bolivia.
- Subfamily: Carollinae
24. *Carollia perspicillata* (Linnaeus, 1758)
Type Locality: Surinam.
Distribution: Eastern México to Paraguay and southeastern Brazil; also on many Caribbean islands.
25. *Carollia brevicauda* (Schinz, 1821)
Type Locality: Brazil, Espirito Santo, Jucu River, Fazenda de Coroaba.
Distribution: From central México to Bolivia and eastern Brazil.
- Subfamily: Stenodermatinae
26. *Artibeus cinereus* (Gervais, 1856)
Type Locality: Brazil, Pará, Béliem.
Distribution: Eastern México to northeastern Brazil and Bolivia; also on Trinidad, Tobago, and Grenada.
27. *Artibeus concolor* Peters, 1865
Type Locality: Surinam, Paramaribo.
Distribution: Northern South America to northern Brazil and Perú.
28. *Artibeus fuliginosus* Gray, 1838
Type Locality: "South America"
Distribution: Northern South America to Bolivia.
29. *Artibeus lituratus* (Olfers, 1818)
Type Locality: Paraguay, Assunción.
Distribution: Western México to northern Argentina; also on several Caribbean islands.
30. *Artibeus planirostris* (Spix, 1823)
Type Locality: Brazil, Bahia, Salvador.
Distribution: Northern South America to northern Argentina.
31. *Sturnira lilium* (É. Geoffroy St.-Hilaire, 1810)
Type Locality: Paraguay, Assunción.
Distribution: Western México to northern Argentina and eastern Brazil; also on Trinidad.
32. *Uroderma magnirostrum* Davis, 1968
Type Locality: Honduras, Valle, 10 km E. San Lorenzo.
Distribution: Southern México to Bolivia.
33. *Vampyrops lineatus* (É. Geoffroy St.-Hilaire, 1810)
Type Locality: Paraguay, Assunción.
Distribution: From Colombia to northern Argentina.
- Subfamily: Desmodontinae
34. *Desmodus rotundus* (É. Geoffroy St.-Hilaire, 1810)
Type Locality: Paraguay, Assunción.
Distribution: Northwestern México to central Argentina; also on the islands of Margarita and Trinidad.
35. *Diphylla ecaudata* Spix, 1823
Type Locality: Brazil, Bahia, Rio São Francisco.
Distribution: Southern Texas (U.S.A.) to eastern Brazil.
- Family: Natalidae
36. *Natalus stramineus* Gray, 1838
Type Locality: Brazil, Minas Gerais, Lagoa Santa.
Distribution: Western México and adjacent Baja California to Brazil; also on the Lesser Antilles.

Family: Furipteridae

37. *Furipterus horrens* (F. Cuvier, 1828)
Type Locality: French Guiana, Mana River.
Distribution: Costa Rica to eastern Brazil; also on Trinidad.

Family: Vespertilionidae

38. *Eptesicus furinalis* (d'Orbigny and Gervais, 1847)
Type Locality: Argentina, Corrientes.
Distribution: Northeastern México to northern Argentina.
39. *Lasiurus borealis* (Muller, 1776)
Type Locality: U.S.A., New York.
Distribution: Canada to Argentina; also throughout the Caribbean and on the Galápagos.
40. *Lasiurus ega* (Gervais, 1856)
Type Locality: Brazil, Amazonas, Ega.
Distribution: Southwestern U.S.A. to Argentina; also on Trinidad.
41. *Myotis riparius* Handley, 1960
Type Locality: Panamá, Darién, Río Puerro, Tacarcuna Village.
Distribution: From Honduras to Uruguay and eastern Brazil; also on Trinidad.
42. *Rhogeessa tumida* H. Allen, 1866
Type Locality: México, Veracruz, Mirador.
Distribution: Northeastern México to Ecuador and northeastern Brazil; also on Trinidad.

Family: Molossidae

43. *Eumops aripendulus* (Shaw, 1800)
Type Locality: French Guiana.
Distribution: Southern México to northern Argentina.
44. *Molossops abrasus* (Temminck, 1827)
Type Locality: "Brazil."
Distribution: Northern South America to northern Argentina.
45. *Molossops temminckii* (Burmeister, 1854)
Type Locality: Brazil, Minas Gerais, Lagoa Santa.
Distribution: From Colombia to Bolivia and northern Argentina.
46. *Molossus ater* É. Geoffroy St.-Hilaire, 1805
Type Locality: French Guiana, Cayenne.
Distribution: Northern México to northern Argentina; also on Trinidad.
47. *Molossus molossus* (Pallas, 1766)
Type Locality: Martinique (Lesser Antilles).
Distribution: Eastern and central México to northern Argentina; widely distributed in the Caribbean.
48. *Neoplaticomys mattogrossensis* (Vieira, 1942)
Type Locality: Brazil, Mato Grosso, Juruena River, São Simão.
Distribution: From Guyana and Venezuela to central Brazil.
49. *Promops* sp.
50. *Tadarida laticaudata* (É. Geoffroy St.-Hilaire, 1805)
Type Locality: Paraguay, Asunción.
Distribution: Eastern México to northern Argentina; also on Trinidad and Cuba.

Order: Primates

Family: Cebidae

51. *Cebus apella* (Linnaeus, 1758)
Type Locality: French Guiana.

Distribution: South America from Venezuela to Argentina.

Family: Calithricidae

52. *Callithrix jacchus* (Linnaeus, 1758)
Type Locality: Brazil, Pernambuco.
Distribution: Brazil.

Order: Edentata

Family: Myrmecophagidae

53. *Tamandua tetradactyla* (Linnaeus, 1758)
Type Locality: Brazil, Pernambuco.
Distribution: From northern South America to northern Argentina, east of the Andes; also on Trinidad.

Family: Dasypodidae

54. *Dasypus novemcinctus* (Linnaeus, 1758)
Type Locality: Brazil, Pernambuco.
Distribution: Central U.S.A. to northern Argentina; also on numerous Caribbean islands.
55. *Euphractus sexcinctus* (Linnaeus, 1758)
Type Locality: Brazil, Pará.
Distribution: From southern Surinam to northern Argentina.

Order: Lagomorpha

Family: Leporidae

56. *Sylvilagus brasiliensis* (Linnaeus, 1758)
Type Locality: Brazil, Pernambuco.
Distribution: Northeastern México to northern Argentina.

Order: Rodentia

Family: Muridae

57. *Bolomys lasiurus* (Lund, 1841)
Type Locality: Brazil, Minas Gerais, Rio das Velhas, Lagoa Santa.
Distribution: Brazil, Paraguay, and central Bolivia.
58. *Calomys callosus* (Rengger, 1830)
Type Locality: Paraguay, Villa Pilar Dept., Río Paraguay, opposite mouth of Río Bermejo.
Distribution: Northeastern Brazil though Bolivia to Argentina.
59. *Calomys* sp.
60. *Holochilus brasiliensis* (Desmarest, 1819)
Type Locality: Brazil, Minas Gerais, Lagoa Santa.
Distribution: Central Brazil to central Argentina.
61. *Oryzomys nigripes* (Olfers, 1818)
Type Locality: Paraguay, Parguari Dept., Ybycui Nat. Park, 85 km S.S.E. Atyra.
Distribution: Eastern Brazil to northern Argentina.
62. *Oryzomys subflavus* (Wagner, 1842)
Type Locality: Brazil, Minas Gerais, probably Lagoa Santa.
Distribution: From the Guianas to central Brazil.
63. *Oxymycterus angularis* Thomas, 1909
Type Locality: Brazil, Pernambuco, São Lourenço.
Distribution: Eastern Brazil.
64. *Rhipidomys mastacalis* (Lund, 1840)
Type Locality: Brazil, S.W. Minas Gerais, Rio das Velhas, Lagoa Santa.
Distribution: Venezuela to central Brazil; also on Margarita and Tobago Islands.

65. *Wiedomys pyrrhorhinos* (Wied-Neuwied, 1821)
Type Locality: Brazil, Bahia Prov., Rio Ressaro.
Distribution: Eastern Brazil, perhaps in Paraguay.
66. *Mus musculus* (Linnaeus, 1766)
Type Locality: Sweden, Uppsala County, Uppsala.
Distribution: Eurasia; introduced world-wide as a commensal of man.
67. *Rattus rattus* (Linnaeus, 1758)
Type Locality: Sweden, Uppsala County, Uppsala.
Distribution: India and southeast Asia; introduced worldwide as a commensal of man.

Family: Caviidae

68. *Galea spixii* (Wagler, 1831)
Type Locality: Brazil, Minas Gerais, Lagoa Santa.
Distribution: Brazil and Bolivia, east of the Andes.
69. *Kerodon rupestris* (Wied-Neuwied, 1820)
Type Locality: Brazil, Bahia, Rio Belmonte.
Distribution: Northeast Brazil.

Family: Dasyproctidae

70. *Dasyprocta* sp.

Family: Echimyidae

71. *Proechimys* sp.
72. *Thrichomys apereoides* Lund, 1839
Type Locality: Brazil, Minas Gerais, Lagoa Santa.
Distribution: Northeast Brazil to Paraguay.

Order: Carnivora

Family: Canidae

73. *Dusicyon thous* (Linnaeus, 1766)
Type Locality: Surinam.
Distribution: Colombia to northern Argentina.

Family: Procyonidae

74. *Procyon cancrivorus* (Cuvier, 1798)
Type Locality: French Guiana, Cayenne.
Distribution: Costa Rica to northern Argentina.

Family: Mustelidae

75. *Conepatus semistriatus* (Boddaert, 1784)
Type Locality: Colombia
Distribution: Eastern México to eastern Brazil.
76. *Galicis cuja* (Molina, 1782)
Type Locality: Brazil, Minas Gerais, São Francisco dos Campos, 1580 m.
Distribution: Peru and Brazil, south to Chile and southern Argentina.

Family: Felidae

77. *Felis concolor* Linnaeus, 1771
Type Locality: French Guiana, Cayenne.
Distribution: Northern Canada to southern Argentina.
78. *Felis onca* (Linnaeus, 1758)
Type Locality: Brazil, Pernambuco.
Distribution: Southwestern U.S.A. to central Argentina.
79. *Felis yagouaroundi* É. Geoffroy St.-Hilaire, 1803
Type Locality: Argentina, Buenos Aires.
Distribution: Southwestern U.S.A. to central Argentina.

Order: Artiodactyla

Family: Cervidae

80. *Mazama gouazoubira* (G. Fischer, 1814)
Type Locality: Brazil, Amazonia.
Distribution: Colombia to central Argentina.

DISCUSSION

This updated checklist contains 80 species, 61 genera, 23 families, and 8 orders of mammals. Specimens that were reported from the Atlantic Rainforest by Mares *et al.* (1981) were excluded from this listing; hence, *Desmodus* (= *Diaemus*) *youngi*, *Molossops greenhalli*, and *Akdon* sp. (= *A. cursor*) are not considered in this report. As pointed out by Willig (1983), specimens of *Micronycteris megalotis* were considered to be *M. minuta* by Mares *et al.* (1981), whereas specimens of *M. minuta* were reported as *Micronycteris* sp; the correct nomenclature is presented herein. All specimens of *Uroderma* reported by Mares *et al.* (1981) should be considered to be *U. magnirostrum*. The following alterations in systematic status result from taxonomic decisions presented in Honacki *et al.* (1982). Specimens previously considered to be *Artibeus jamaicensis* by Mares *et al.* (1981) and Willig (1983, 1985b, 1986) should be included in the taxon, *A. planirostris*. We have retained *A. fuliginosus* at the specific level, although Anderson *et al.* (1982) considered *fuliginosus* to be a subspecies of *A. jamaicensis*. All of the large *Tonatia* from our work in northeast Brazil are *T. silvicola*, rather than *T. bidens*, with the exception of three specimens which we tentatively associate with the name *T. childreni*, pending additional morphometric analyses. Specimens previously considered to be *Myotis nigricans* are correctly allocated to *M. riparius* herein. Moreover, examination of a large series of *Carollia* indicates a single occurrence of *C. brevicauda*, in addition to the more common *C. perspicillata*. Based upon a more detailed examination of skulls, specimens previously recorded as *Tadarida* sp. and *Eumops* sp. are now allocated to *Tadarida laticaudata* and *Eumops auripendulus*, respectively. Specimens that were considered to be *Oryzomys eliurus* by Mares *et al.* (1981) and Streilein (1982b, e, f) are referred to as *O. nigripes* in this listing. Two species reported

by Mares *et al.* (1981), *Cerdocyon thous* and *Galictis vittata*, should be considered as *Dasyprocta thous* and *Galictis cuja*, respectively. The systematic status of specimens reported as *Dasyprocta prymnolopha* in Mares *et al.* (1981) is controversial and we have therefore listed them here as *Dasyprocta* sp.

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