

SNAKES FROM MARAJÓ AND MEXIANA ISLANDS, PARÁ STATE, BRAZIL

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ABSTRACT - During the curation of the Museu Paraense Emílio Goeldi herpetological collection, the snake fauna of Marajó and Mexiana islands, Pará state, Brazil, was examined and eight species are included in the fauna (Boidae: *Corallus h. hortulanus*. Colubridae: *Atractus sp.*, *Drepanoides anomalus*, *Helicops angulatus*, *Pseudoboa coronata*, *Thaeniophallus occipitalis*, *Thamnodynastes pallidus* and *T. strigilis*). Three species were confirmed for the region: one Colubridae *Chironius flavolineatus* and two Elapidae *Micrurus filiformis* and *M. s. surinamensis*). Two topotype of *Psomophis joberti* were also registered. Presently, 52 species of snakes are known from these islands.

KEY WORDS: Amazon snakes, Boidae, Colubridae, Elapidae, Marajó Island, Mexiana Island.

RESUMO - Durante a revisão das coleções de répteis do Museu Paraense Emílio Goeldi (MPEG), a fauna de serpentes das ilhas de Marajó e Mexiana, Pará, Brasil, foi analisada, constatando-se a ocorrência de mais oito espécies para a fauna local (Boidae: *Corallus hortulanus*. Colubridae: *Atractus sp.*, *Drepanoides anomalus*, *Helicops angulatus*, *Pseudoboa coronata*, *Thaeniophallus occipitalis*, *Thamnodynastes pallidus* e *T. strigilis*). Três espécies tiveram suas ocorrências confirmadas: uma Colubridae, *Chironius flavolineatus*, e duas Elapidae, *Micrurus filiformis*

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e *M. s. surinamensis*. Também identificou-se dois topótipos de *Psomophis joberti* (Colubridae). Atualmente há 52 espécies registradas para a região.

PALAVRAS-CHAVE: Serpentes amazônicas, Boidae, Colubridae, Elapidae, Ilha de Marajó, Ilha de Mexiana.

INTRODUCTION

The herpetofauna of Marajó and Mexiana islands, both at the mouth of Amazon River, northern Brazil, was listed by Nascimento *et al.* (1991). They used literature data and specimens collected in the region, deposited in the British Museum (Natural History), London, England and in the Museu Paraense Emílio Goeldi, Belém, Brazil. Thirty eight species of snakes were cited by Nascimento, *et al.* (1991) for the region.

During curation of the Museu Paraense Emílio Goeldi's herpetological collection, we examined the snake fauna of Marajó and Mexiana Islands (see Nascimento, *et al.* 1991, for the area). New geographical records for the islands' site fauna are presented here.

MATERIALS AND METHODS

All specimens cited are deposited in the herpetological collection of the Museu Paraense Emílio Goeldi (MPEG) at Belém, State of Pará, Brazil.

For species identifications we used the keys of Campbell & Lamar (1989) for *Micrurus* Wagler, 1824; Gorzula & Ayarzagüena (1995) for *Thamnodynastes* Wagler, 1830; Dixon *et al.* (1993) for *Chironius* Fitzinger, 1826; and Myers & Cadle (1994) for *Thaeniophalus* Cope, 1895 and *Psomophis* Myers & Cadle, 1994. All

identifications were checked with others specimens from other localities from the MPEG collection.

The following abbreviations are used: SV: snout-vent length. TL: tail length. DO: dorsal scales rows. VE: ventral scales. SC: caudal scales, SL(oOC): supralabial (supralabials entering in eye); IL(MA): infralabials in contact with anterior mental.

Figure 1 should be consulted for the localization of the cited municipalities.

RESULTS

Table 1 - Lists the snake species registered from Marajó and Mexiana islands.

TAXON	Literature Data ^a	Nascimento et al. (1991)	New Records
Family TYPHLOPIDAE	X		
<i>Typhlops reticulatus</i> ^b			
Family BOIDAE			
<i>Boa c. constrictor</i> ^b	X		
<i>Corallys h. hortulanus</i> ^b			X
<i>Epicrates c. cenchria</i> ^b	X		
<i>Epicrates c. barbouri</i> ^b	X		
<i>Eunectes barbouri</i>	X		
<i>Eunectes deschauenseei</i>	X		
<i>Eunectes murinus</i>	X		
Family VIPERIDAE			
<i>Bothrops atrox</i> ^b	X		
<i>Bothrops marajoensis</i>	X		
<i>Crotalus durissus marajoensis</i> ^b	X		
<i>Lachesis m. muta</i>	X		

Table 1 - Lists the snake species registered from Marajó and Mexiana islands. (Continued)

TAXON	Literature Data ^a	Nascimento et al. (1991)	New Records
Family ELAPIDAE			
<i>Micrurus s. surinamensis</i> ^b	X		
<i>Micrucus filiformis</i> ^b	X		
Family COLUBRIDAE			
<i>Atractus sp.</i> ^b			
<i>Chironius carinatus</i> ^b	X		
<i>Chironius exoletus</i> ^b		X	
<i>Chironius flavolineatus</i> ^b			
<i>Chironius fuscus</i> ^b		X	
<i>Chironius multiventris</i> ^b			
<i>Clelia clelia plumbea</i> ^b	X		
<i>Dispsas indica ssp.</i>	X		
<i>Drepanoides anomalus</i> ^b			X
<i>Drymarchon c. corais</i> ^b	X		
Family COLUBRIDAE			
<i>Helicops angulatus</i> ^b			X
<i>Helicops leopardinus</i> ^b	X		
<i>Helicops polylepis</i> ^b	X		
<i>Helicops trivittatus</i> ^b		X	
<i>Hydrodynastes gigas</i> ^b	X		
<i>Imantodes cenchoa</i> ^b	X		
<i>Leptodeira a. annulata</i> ^b	X		
<i>Leptophis a. ahaetulla</i> ^b	X		
<i>Liophis almadensis</i> ^b	X		
<i>Liophis cobellus ssp.</i> ^b	X		
<i>Liophis lineatus</i> ^b	X		
<i>Liophis poecylogyrus ssp.</i> ^b	X		
<i>Liophis reginae ssp.</i> ^b	X		

Table 1 - Lists the snake species registered from Marajó and Mexiana islands. (Continued)

TAXON	Literature Data ^a	Nascimento et al. (1991)	New Records
<i>Mastigodryas b. bifossatus</i> ^b		X	
<i>Mastigodryas b. boddaerti</i> ^b	X		
<i>Oxybelis aeneus</i>	X		
<i>Oxybelis fulgidus</i> ^b	X		
<i>Oxyrhopus melanogenys orientalis</i> ^b		X	
<i>Oxyrhopus trigeminus</i>	X		
<i>Philodryas viridissimus</i> ^b	X		
<i>Pseudoboa coronata</i> ^b			X
<i>Psomophis joberti</i> ^b			X
<i>Spilotes pullatus</i>	X		
<i>Thaeniophallus occipitalis</i> ^b			X
<i>Tantilla m. melanocephala</i>	X		
<i>Thamnodynastes strigilis</i> ^b			X
<i>Thamnodynastes pallidus</i> ^b			X
<i>Tripanurgos compressus</i> ^b			

a. Apud Nascimento, et al. (1991).

b. Specimens present in MPEG collection.

I. New records

Family BOIDAE

Corallus h. hortulanus (Linnaeus, 1758)

Breves municipality: Tancredo Neves: MPEG 18801, female, SV: 1066 mm, TL: 338 mm, DO: 40-57-27, VE: 277, SC: 27, 14 May 1990, leg. R.A.T. Rocha, J.O.M. Dias, A.C.M. Lima and J.S. Lima-Verde.

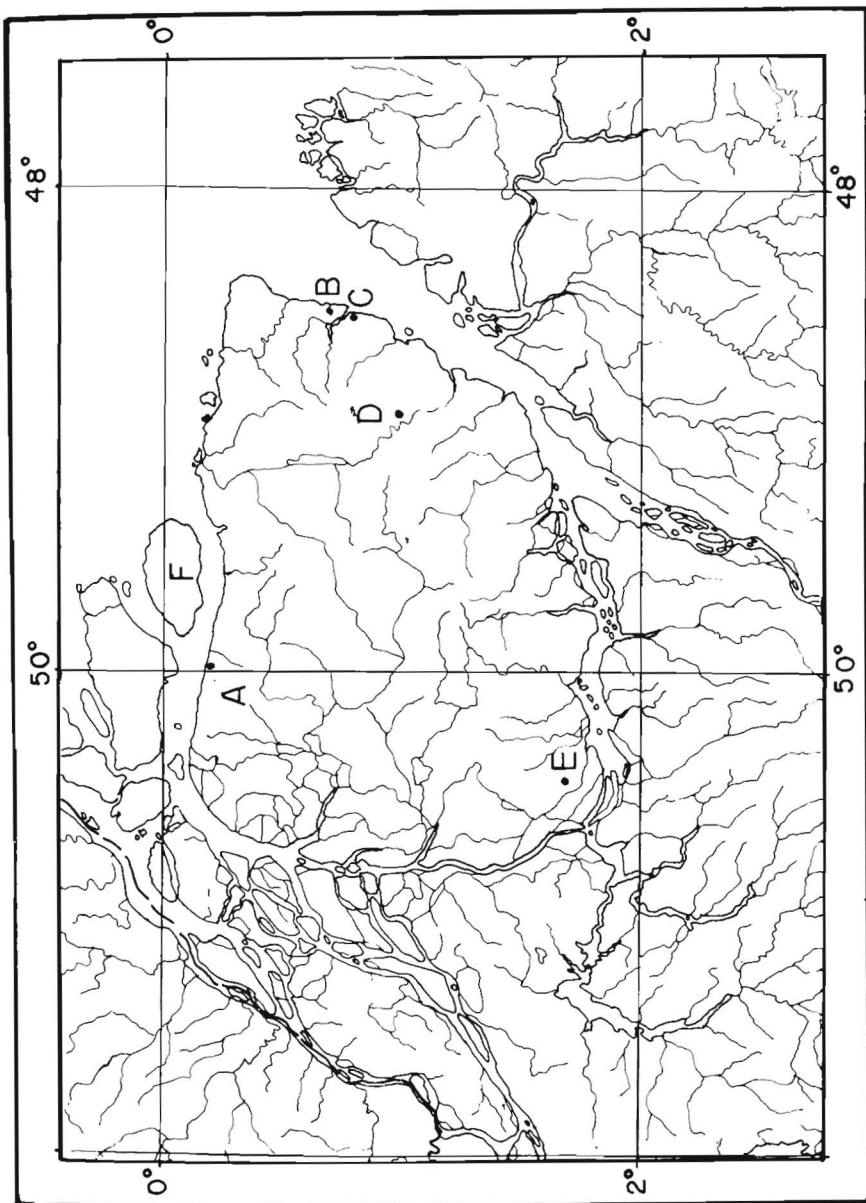


Figure 1 - Marajó and Mexiana islands, Pará state, Brazil: A = Chaves, B = Soure, C = Salvaterra, D = Cachoeira do Arari, E = Breves, and F = Mexiana.

Salvaterra municipality: MPEG 18636, female, SV: 480 mm, TL: 164 mm, DO: 40-58-27, VE: 274, SC: 124, December 1992, leg. ?.

Remarks: We utilized *hortulanus* apud McDiarmid *et al.* (1996).

Family COLUBRIDAE

Atractus sp.

Salvaterra municipality: Caldeirão: MPEG 18340, female, DO: 17-17-17, MPEG 18342, female, DO: 17-17-17, 14 February 1991, leg. R.J. Moraes, R.A.T. Rocha and I. Gutierrez; Taperiaçú: MPEG 18420, male, DO: 17-17-17 and MPEG 18421, male, DO: 17-17-17, 21 October 1991, leg. R.A.T. Rocha and R. Silva.

Remarks: These specimens seemingly represent a new species, but they are still under study by the authors.

Drepanoides anomalus (Jan, 1863)

Cachoeira do Arari municipality: Sé: MPEG 18315, male, SV: 401 mm, TL: 121 mm, DO: 15-15-15, VE: 164, SC: 65, SL(oOC): 6(3-4)/6(3-4), IL(MA): 7(4)/7(4), 07 December 1990, leg. R.A.T. Rocha and R. Rodrigues.

Remarks: This species is poorly represented in collections.

Helicops angulatus (Linnaeus, 1758)

Salvaterra municipality: MPEG 18416, female, SV: 305 mm, TL: 147 mm, DO: 19-19-17, VE: 123, SC: 86, SL(oOC): 8(4)/8(4), IL(MA): 11(6)/11(6), FO: 1+3/1+3, FT: 1+3/2+3; MPEG 18417, female, SV: 317 mm, TL: 163 mm, DO: 19-19-17, VE: 118, SC: 80, SL(oOC): 8(4)/8(4), IL(MA): 10(6)/10(6), FO: 1+2/1+2, FT: ?+?/1+3; MPEG 18418, male, SV: 387 mm, TL: 255 mm, DO: 19-19-17, VE: 113, SC: 93, SL(oOC): 8(4)/8(4), IL(MA): 10(6)/10(6), FO:

1+2/1+2, FT: 2+3/2+3; MPEG 18419, male, SV: 378 mm, TL: 238 mm, DO: 19-19-17, VE: 112, SC: 92, SL(oOC): 8(4)/8(4), IL(MA): 12(6)/12(6), FO: 1+2/1+2, FT: 2+3/1+?; 18 October 1991; MPEG 18423, male, SV: 163 mm, TL: 94 mm, DO: 19-19-17, VE: 108, SC: 108, SL(oOC): 8(4)/8(4), IL(MA): 10(6)/10(6), FO: 1+2/1+2, FT: 1+3/1+3; MPEG 18424, female, DO: 19-19-19, SV: 181 mm, TL: 83 mm, DO: 19-19-19, VE: 119, SC: 81, SL(oOC): 8(4)/8(4), IL(MA): 9(5)/10(6), FO: 1+2/1+2, FT: ?+?/?+?; leg. R.A.T. Rocha and R. Silva. All specimens were collected in brooklet.

Remarks: (1) the stomach content of MPEG 18419 was a Characidae fish, *Astyanax bimaculatus* (SV = 67 mm); (2) the number of dorsal scales rows in MPEG 18424 is anomalous; (3) the senior author and Douglas A. Rossman (LSUMZ) are working in a systematic revision and phyllogenetic study of the genus.

Pseudoboa cf. coronata Schneider, 1801

Breves municipality: Tancredo Neves, km 18 Breves-Anajás (=PA-159): MPEG 18284, male, SV: 604 mm, TL: 247 mm, DO: 17-17-17, VE: 177, SC: 102, SL(oOC): 7(2)/7(2), IL(MA): 8(5)/8(5), FO: 1+2/1+2, FT: 2+2/2+2, 15 May 1990, leg. J.S. Lima-Verde, A.C.M. Lima, R.A.T. Rocha and J.O.M. Dias. Collected in bosk' glond.

Cachoeira do Arari municipality (Marajó Island): Sé: MPEG 18313, female, SV: 674 mm, TL: 201 mm, DO: 17-17-17, VE: 183, SC: 78, SL(oOC): 7(2)/7(2), IL(MA): 8(4)/8(4), FO: 1+2/1+2, FT: 2+2/2+2, 05 December 1990, leg. R.A.T. Rocha and R. Rodrigues. Collected in grassland.

Remarks: The hemipenis of MPEG 18284 differs from the figure presented by Zaher & Caramaschi (1992). The Amazon *Pseudoboa cf. coronata* of the MPEG collection is under study by the senior author.

Thaeniophallus occipitalis (Jan, 1863)

Breves municipality: MPEG 17362, female, SV: 327 mm, TL: 118 mm, DO: 15-15-15, VE: 186, SC: 77, SL(oOC): 8(3-5)/8(3-5), IL(MA): 8(4)/8(4), FO: 1+2/1+2, FT: 2+2/1+2, 27 March 1988, leg. I.N.F.F. Santos, R.J. Moraes and S. Ramos.

Remarks: The TL/SV = 0.36 is the largest registered for this species. Myers (1974) registered 23.9-29.4, mean 26.3 (male) and 17.0-27.1, mean = 23.8 (female).

Thamnodynastes strigilis (Thunberg, 1787)

Cachoeira do Arari municipality: Comunidade de Jabuti: MPEG 18327, female, SV: 244 mm, TL: 71 mm, DO: 19-19-15, VE: 146, SC: 67, SL(oOC): 8(4-5)/8(4-5), IL(MA): 9(5)/9(5), FO: 2+2/2+2, FT: 2+2/2+3, 12 December 1990, leg. R.A.T. Rocha and R.R. da Silva. Collected in grassland.

Remarks: (1) Some authors (e.g., Vanzolini 1986) refer the systematic confusion to the species of the genera; (2) identification is provisional and awaits the conclusion of a study being undertaken by our colleague F.L. Franco.

Thamnodynastes pallidus (Linnaeus, 1758)

Chaves municipality: Fazenda Santana: MPEG 18665, male, SV: 372 mm, TL: 125 mm, DO: 17-17-15, VE: 143, SC: 79, SL(oOC): 8(4-5)/8(4-5), IL(MA): 9(5)/9(5), FO: 2+2/2+2, FT: 2+3/2+3, 17 December 1992, leg. R.R. Silva, M. Henriques, J.C. Roma and D. Pimentel; Fazenda Tijucaquara, Rio Tijucaquara: MPEG 17715, female, SV: 379 mm, TL: 150 mm, DO: 17-17-15, VE: 137, SC: 78, SL(oOc): 8(4-5)/8(4-5), IL(MA): 9(5)/9(5), FO: 2+2/2+2, FT: 2+3/2+3, 22 September 1988, leg. I.N.F.F. Santos, R.J. Moraes and S. Ramos.

Cachoeira do Arari municipality: Fazenda Santo Antônio, Rio da Sé: MPEG 16532, female, SV: 410 mm, TL: 163 mm, DO: 17-17-15, VE: 143, SC: 79, SL(oOC): 8(4-5)/8(4-5), IL(MA): 9(5)/9(5), FO: 2+2/2+2, FT: 2+3/2+3, 24-30 July 1983, leg. F. Pôrres; Sé: MPEG 18311, female, SV: 335 mm, TL: 123 mm, DO: 17-17-15, VE: 142, SC: 75, SL(oOC): 8(4-5)/8(4-5), IL: 9(5)/9(5), FO: 2+2/2+2, FT: 2+3/2+3, 07 December 1990, leg. R.A.T. Rocha and R.R. Silva.

Salvaterra municipality: MPEG 18639, female, SV: 294 mm, TL: 112 mm, DO: 17-17-15, SC: 75, December 1990, leg.?

Remarks: (1)The same remarks made for *T. strigilis* also apply to this species (2) MPEG 18639 is somewhat battered and it is impossible to gather some data. The specimen has five brood in advanced stage of development.

II. Records confirmed

Family COLUBRIDAE

Chironius flavolineatus (Boettger, 1885)

Salvaterra municipality: Caldeirão: MPEG 18341, female, SV: 521 mm, TL: 295 mm, DO: 12-12-10, VE: 151, SC: 122, SL(oOC): 9(2)/9(2), IL(MA): 11(5)/11(5), FO: 1+2/1+3, FT: 1+1/1+1, 14 February 1991, leg. R.A.T. Rocha and I. Gutierrez.

Family ELAPIDAE

Micrurus filiformis (Günther, 1859)

Breves municipality, km-5 Breves-Corcovado: MPEG 17340, male, SV: 247 mm, TL: 22 mm, DO: 15-15-15, VE: 296, SC: 38, SL(oOC): 7(3-4)/7(3-4), IL(MA): 7(4)/7(4), FO: 1+1/1+1, FT: 1+1/

1+1, 30 November 1987, leg. I.N.F.F. Santos, R.J.R. Moraes and S. Ramos.

Cachoeira do Arari municipality: Pedras, Rio Caracará: MPEG 18136, male, SV: 710 mm, TL: 55 mm, DO: 15-15-15, VE: 315, SC: 38, SL(oOC): 7(3-4)/7(3-4), IL(MA): 8(4)/8(4), FO: 1+1/1+1, FT: 1+1/1+1, 10 June 1989, leg. R. Souza, F. Braga and D. Pimentel Neto. Collected in forested area.

Micrurus surinamensis surinamensis (Cuvier, 1817)

Breves municipality: MPEG 17336, female, SV: 202 mm, TL: 23 mm, DO: 15-15-15, VE: 174, SC: 30, SL(oOC): 7(4)/7(4), IL(MA): 7(4)/7(4), FO: 1+1/1+1, FT: 1+2/1+2, 26 November 1987, leg. I.N.F.F. Santos, R.J.R. Moraes and S. Ramos. Collected in area of forest.

III. Topotypes

Psomophis joberti (Sauvage, 1884).

Cachoeira do Arari municipality: Comunidade Bacuri, Marajateua: MPEG 18320, female, SV: 370 mm, TL: 84 mm, DO: 17-17-15, VE: 216, SC: 63, SL(oOC): 8(4-5)/8(4-5), IL: 10(6)/10(6), FO: 1+2/1+2, FT: 1+2/1+2, 11 December, 1990, R.A.T. Rocha and R. Rodrigues.

Soure municipality: community Fazenda Bacury: MPEG 16824, female, SV: 312 mm, TL: 82 mm, DO: 16-17-15, VE: 211, SC: 63, SL(oOC): 8(4-5)/8(4-5), IL: 10(6)/10(6), FO: 1+2/1+2, FT: 1+2/1+2, July 1984, leg. R.T. Pena.

CONCLUSION

At the moment, 52 species of serpents are known to compose the snake fauna from Marajó and Mexiana islands, distributed in five families: Boidae (13,5%), Colubridae (73,1%), Elapidae (3,8%), Typhlopidae (1,9%) and Viperidae (7,7%).

Probably there will be new records for snake fauna of the region with new field work, especially in the central region of Marajó that has always been much less investigated.

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