Brazilian Journal of Biology®

ISSN 1519-6984 (Print)
ISSN 1678-4375 (Online)

Notes and Comments

A first approximation for the Herpetofauna species composition of the Taiamã Ecological Station, Pantanal of Mato Grosso, Brazil

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The Taiamã Ecological Station (TES) is a federal conservation unit created in 1981 to preserve nature and to support scientific research. The TES is a river island delimited by a bifurcation of the Paraguay River, with a total area of 11,555 ha. It is located in the north of the Pantanal biome (16°51'S 57°35'W), and the area of TES is part of the Cáceres and Poconé municipalities of Mato Grosso state in Brazil (ICMbio, 2017). Several groups of animals have been studied within the TES; however, lists of any amphibian and reptile species have been compiled for this conservation unit (ICMBio, 2017). Our objective was to generate a list of amphibian and reptile species for the TES. TES macrohabitats include floating fields (batumes), flooded fields, monospecific forests (*Erythrina fusca*), lakes and polyspecific forests (Frota et al., 2017). Polyspecific forests (pioneer forests along rivers) were the study area because they have firm land areas in the dry season and an adequate environment for installing traps in the soil.

We sampled different groups of local herpetofauna in two distinct periods, August 2017 and January/February 2018, and used four methods: pitfall traps, autonomous recorders, nightly censuses, and occasional encounters. The pitfall trap method was used to sample amphibians and Squamata reptiles in four points of polyspecific forests in August 2017. At each point, three sets of pitfall traps were installed, each set comprised four 60-L buckets arranged in a Y shape and placed 15 m from the nearest bucket (Cechin and Martins, 2000). All buckets were buried to their rims and linked at ground level by a 70-cm-tall plastic guide fence. The first set of pitfalls was installed riverside, the second set was installed 100 m from the river and the third set was installed 200 m from the river. The traps were checked daily in the morning for ten consecutive days, totaling a sampling effort of 480 bucket/nights.

A second sampling method was carried out during the flood season, with a focus on bioacoustic recordings of anurans, using autonomous recorders (ARBIMON Acoustics). Two recorders were installed at each sampling point of polyspecific forests, one placed five meters from the Paraguay riverbank and the other 200 meters from the bank. Thus, a total of eight recorders were programmed to record for one minute every 10 minutes for 10 consecutive days. From this, we analyzed 240 minutes from each recorder, covering daytime and nighttime, totaling a sampling effort of 32 hours of bioacoustic recordings.

We carried out nightly censuses to register crocodilians. During the censuses, we covered six kilometers; in August 2017, the same transect was covered for five nights. We used a 15 hp stern motor-powered aluminum boat and artificial light powered by a 12v battery for individual focus (Mangini and Nicola, 2003). The individual's location was evaluated by their red reflective eyes. Sighted individuals were approached, identified, and captured whenever possible. The individuals were captured with Ketch All® poles, bamboo sticks with steel cable tied at the tip, or manually, when small (<60 cm of Snout-Vent Length). After being identified, all captured crocodilians were released at the same place of capture. To complement the data, all the records made during the installation of the methods and displacement between the sample points were categorized as an occasional encounter.

The collection of voucher specimens was granted by the Authorization System and Biodiversity Information (SISBIO), regulated by Chico Mendes Institute for Biodiversity Conservation (ICMBio), and the Brazilian Institute of Environment and Renewable Natural Resources and the Brazilian Ministry of Environment (MMA) (permit number 8849-1 and 59443-1, expedition number 10128). Amphibians and Squamata reptiles captured were euthanized by injection of lidocaine chloridrate 2% (Xylestesin®) and fixed in 10% formalin. They were preserved in 70% ethanol and deposited in the Centro de Pesquisa de Limnologia, Biodiversidade, Etnobiologia do Pantanal (CELBE), at the Universidade do Estado de Mato Grosso (UNEMAT), Cáceres, Mato Grosso, Brazil. In addition, we used the registration of *Podocnemis unifilis*

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Received: June 6, 2022 – Accepted: October 15, 2022

(Testudines, Podocnemididae), exotic species for TES (Silva-Diogo et al., 2022).

We registered 11 species of amphibians (Anura), eight species of reptiles, six Squamata reptiles and two Crocodylia throughout the sampling periods (Table 1). We recorded abundant populations (n=99) of Cuvier's dwarf Caiman, *Paleosuchus palpebrosus*, a species until then with a doubtful occurrence for the Pantanal floodplain (see Figure 1). Several studies affirm that the species *P. palpebrosus* is restricted to areas surrounding the Pantanal wetland without occurrence in the floodplain (Muniz et al., 2018). We observed that individuals or groups of *P. palpebrosus* were close to the riverbank where there were branches, trunks or roots of shrubs or trees, while *Caiman yacare* was mostly found in open areas such as small temporary channels and bays.

The use of autonomous recorders proved to be an effective method that helped to record the composition of anurans in the Pantanal, especially for tree frogs. Autonomous recorders contributed to recording 27% of amphibian

Table 1. Composition and abundance of amphibians and reptiles from the Taiamã Ecological Station, Pantanal of Mato Grosso, Brazil. Family/Species: the number of species in each family is in parentheses.

	RECORDS				
TAXON (20)	**P**	**B**	**O**	**C**	**Voucher**
ANURA (11)					
Bufonidae (2)					
Rhinella diptycha (Cope, 1862)	6	0	0	0	A0067, A0074-77, A0086
Rhinella scitula (Caramaschi & Niemeyer, 2003)	4	0	0	0	A0604-05
Hylidae (4)					
Boana punctata (Schneider, 1799)	0	4	0	0	FNJV_0046445
Boana raniceps (Cope, 1862)	0	7	7	0	A0068-70, A0081, FNJV_0046444
Dendropsophus nanus (Boulenger, 1889)	0	5	0	0	FNJV_0046443
Scinax acuminatus (Cope, 1862)	0	0	1	0	-
Leptodactylidae (3)					
Leptodactylus luctator (Hudson, 1892)	0	0	1	0	A0080
Leptodactylus podicipinus (Cope, 1862)	8	0	0	0	A0065, A0078, A0084-85, A0605
Leptodactylus cf. *brevipes* Cope, 1887	1	0	0	0	A0073
Microhylidae (2)					
Elachistocleis corumbaensis Piva, Caramaschi, and Albuquerque, 2017	2	0	0	0	A0066, A0072
Elachistocleis matogrosso Caramaschi, 2010	2	0	0	0	A0063, A0071
LACERTILILIA (3)					
Iguanidae (1)					
Iguana iguana (Linnaeus, 1758)	0	0	6	0	-
Mabuyidae (1)					
Copeoglossum nigropunctatum (Spix, 1825)	0	0	2	0	L0010
Teiidae (1)					
Tupinambis matipu Silva, Ribeiro-Júnior & Ávila-Pires, 2018	4	0	15	0	L0009, L0011-24
SERPENTES (3)					
Colubridae (1)					
Chironius laurenti Dixon, Wiest & Cei, 1993	0	0	5	0	S0002, S0009, S0017, S0019
Dipsadidae (1)					
Helicops leopardinus (Schlegel, 1837)	1	0	0	0	S0008
Typhlopidae (1)					
Amerotyphlops brongersmianus (Vanzolini, 1976)	18	0	0	0	S0003-07, S0010-16, S0018, S0020-24
CROCODYLIA (2)					
Alligatoridae (2)					
Caiman yacare (Daudin, 1802)	0	0	0	85	-
Paleosuchus palpebrosus (Cuvier, 1807)	0	0	0	99	-
TESTUDINES (1)					
Podocnemididae (1)					
Podocnemis unifilis Troschel, 1848	-	-	-	-	Silva-Diogo et al. (2022)

Records: P = pitfall trap; B = bioacoustic records; O = occasional encounter; and C = nightly censuses. Voucher: FNJV = Fonoteca Neotropical Jacques Vielliard (UNICAMP, 2022).

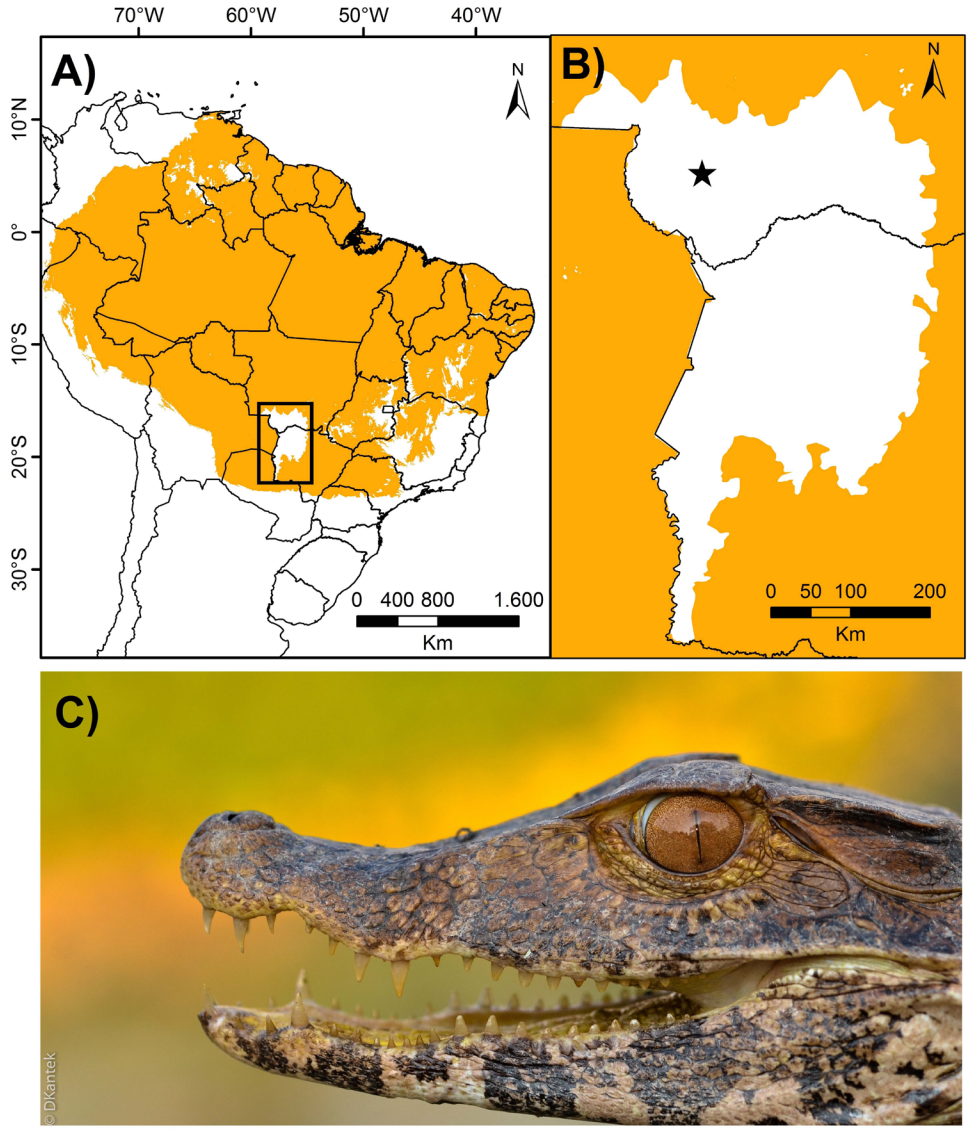

Figure 1. (A) Distribution map of *Paleosuchus palpebrosus* (orange color) (based on Magnusson et al., 2019); (B) New distribution record (star) for the Pantanal floodplain at the Taiamã Ecological Station, Mato Grosso, Brazil; (C) Registered specimen of *Paleosuchus palpebrosus* (Photograph by Daniel L. Z. Kantek).

species richness and had no limitations, recording the entire soundscape. TES has different macrohabitat patterns that create conditions where the herpetofauna patterns may also vary. The study of this area requires greater attention, as we believe that there is much to unravel. Here, we present the first list of herpetofauna species for the area, and we believe that this information can provide a basis to assist in the management and conservation of this important Pantanal conservation unit, the Taiamã Ecological Station.

Acknowledgements

We thank the field staff of the Erosion project, which has financial support from Foundation Mato Grosso State Research Support Service (FAPEMAT n° 589188/2016). We also thank the Coordination of Improvement of Higher Education Personnel (CAPES n°. 206/2018). We also thank ICMBio and the Taiamã Ecological Station team for the logistic support during the research and Daniel Luis Z. Kantek for the photo of the crocodile.

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