

First record of *Physalaemus albonotatus* (Steindachner, 1864) (Anura, Leiuperidae) for the state of Goiás, Brazil

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Currently, the *Physalaemus cuvieri* species group comprises the following species: *Physalaemus albonotatus* (Steindachner, 1864); *P. centralis* Bokermann, 1962; *P. cicada* Bokermann, 1966; *P. cuqui* Lobo, 1993; *P. cuvieri* Fitzinger, 1826; *P. ephippifer* (Steindachner, 1864), *P. erikae* Cruz and Pimenta, 2004; *P. fischeri* (Boulenger, 1890), *P. atim* Brasileiro and Haddad, 2015 and *P. kroyeri* (Reinhardt and Lütken, 1862) (Nascimento et al., 2005; Lourenço et al., 2015; Brasileiro and Haddad, 2015). *P. albonotatus* occurs in Argentina, Bolivia, Brazil, and Paraguay (Frost, 2019). In Brazil, specifically, this species currently known for the states of Mato Grosso and Mato Grosso do Sul (Frost, 2019).

On January 26, 2017, during fieldwork in the Emas National Park, municipality of Mineiros (-18.26305°S, -52.88972°W; Datum = WGS84; 783 m a.s.l.), state of Goiás, Brazil, we found two males of *P. albonotatus* in calling activity. We observed these individuals in a temporary pond (e.g., dammed water), next to Formoso River (~ 215 meters), characterized by having scarce vegetation in its interior, but dense vegetation in its margin. We manually collected these individuals, euthanized with 5% benzocaine, fixed in

10% formaldehyde and preserved in 70% ethanol and housed at the Herpetological Collection of the Instituto Federal Goiano – Campus Rio Verde (IFGoianoRV 405 and 420).

We identified the specimen based on morphological visual characters (Lobo, 1993; Kehr et al., 2004), such as dark grey coloration (Fig. 1) with discrete dark horizontal stripes on the legs and a whitish ventral colour (Fig. 2). We also measured morphometric characteristics for the collected individuals with a calliper (nearest 0.05 mm) following Brasileiro and Haddad (2015) (Table 1).



Figure 1. Dorsal view of an adult specimen of *Physalaemus albonotatus* collected in the Emas National Park.

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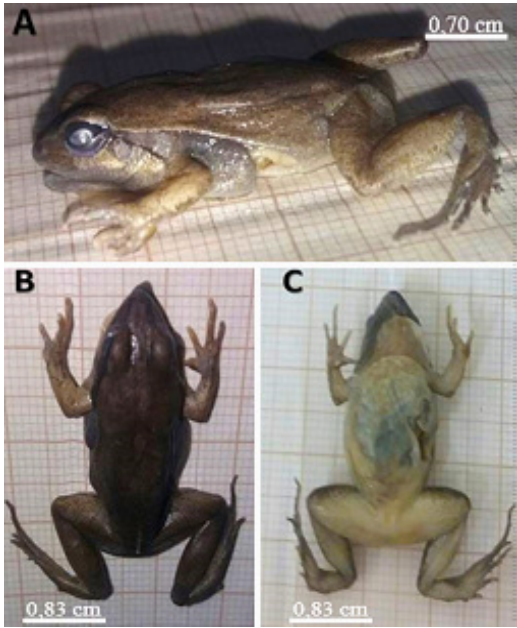


Figure 2. Side view (A), dorsal (B) and ventral (C) of the adult specimen of *Physalaemus albonotatus* collected in the Emas National Park.

Studies carried out in the Southwest Goiania, such as that of Kopp *et al.* (2010) in the Emas National Park, and the intense sampling of Morais *et al.* (2011) to a series of cities neighbouring the Conservation Unit, do not record this species in the region. Later, Morais *et al.* (2012) reported the occurrence of *P. aff. albonotatus* at Silvânia National Forest, Goiás state. The authors report that, additional sampling and analyses (e.g., acoustical and/or morphological) are necessary to confirm the identification of this population, which can also be *P. atim* due to the morphological and acoustic resemblance to *P. albonotatus* (Morais *et al.*, 2012). In this sense, in the present registry these standards were confirmed, by similarity with the description the specie (Lobo, 1993; Kehr *et al.*, 2004; Forti *et al.*, 2012).

The distance from the *P. aff. albonotatus* (Morais *et al.*, 2012), compared to the area where we sampled the *P. albonotatus* specimen was 488 km. However, the distance between the confirmed locality of *P. atim* (Campo Largo, state of Goiás; Brasileiro and Haddad, 2015) and the area studied by Morais *et al.* (2012) are approximately 70 km, which suggests that probably the species observed by these authors is *P. atim*. In contrasts,

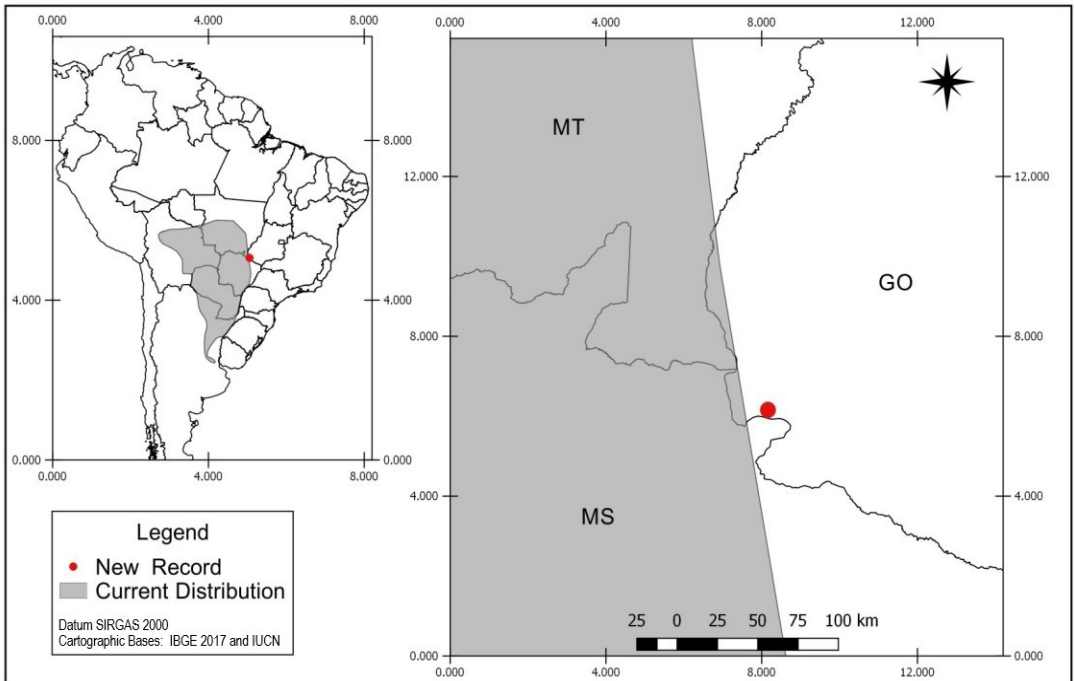


Figure 3. Current distribution of *Physalaemus albonotatus* and location of the new record of the species.

Table 1. Morphometric traits of the collected male specimens of *Physalaemus albonotatus* (in mm; $n = 2$). Total length (LT), head width (WH), interocular distance (DI), eye-nostril distance (DEN), distance inter-nostril (DIN), length of thigh (LTH), length of tibia (LTB), head length (LH); a snout length index (ILS) was calculated by DEN/ LH according to Brasileiro and Haddad (2015).

<i>P. albonotatus</i>	LT	WH	DI	DEN	DIN	LTH	LTB	LH	ILS
Specimen 1	29.12	10.09	5.18	2.33	2.02	10.97	11.30	10.79	0.22
Specimen 2	29.16	9.57	5.25	2.36	2.04	10.94	11.39	11.05	0.21

our record of *P. albonotatus* (Fig. 3) is 413 km from the nearest locality already registered for this species (-19.57611°S, -56.22388°W in Aquidauana, Mato Grosso do Sul, Brazil) according to Aquino et al.(2004) and AmphibiaWeb (2019).

The discovery of *P. albonotatus* in the State of Goiás reinforces the need for further surveys to understand patterns of occurrence and distribution of anurans species of the southwest region of the state; especially due to the strong anthropogenic pressures that threaten the fauna of the Brazilian Cerrado amphibians.

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