

## Long-term sampling enables a new record of an anuran at the Silvânia National Forest, Central Brazil

Alessandro Ribeiro de Moraes<sup>1,2\*</sup>, Rafael Márquez<sup>3</sup>, Mariana N. Siqueira<sup>4</sup> and Rogério Pereira Bastos<sup>5</sup>

The Cerrado is the second largest phytogeographical domain in Brazil and one priority area for conservation, since it is a biodiversity hotspot (Myers et al., 2000). In Brazil, the implementation of protected areas is the most important mechanism to conserve the biodiversity (Araújo et al., 2012). However, only 4% of Cerrado's original area is protected as federal conservation units (Cabral and Brito, 2013). About 210 anuran species occur in the Cerrado, of which 51.7% are endemic to it (Valdujo et al., 2012), but many localities remain poorly sampled or only short-term studies are available (e.g., Kopp et al., 2010; Moraes et al., 2011). Examples of long-term monitoring of anuran species in the Cerrado are scarce in the literature, and in this sense the Silvânia National Forest (SNF) is one of the most studied localities from Cerrado biome (e.g., Bastos et al., 2003; Bini et al., 2003; Moraes et al., 2012).

The SNF is located in Silvânia county, Goiás state, central Brazil and has only 466 ha of protected area. The anuran species from this locality have been sampled for many years (e.g., Bastos et al., 2003; Moraes et al., 2012). Bastos et al. (2003) studied the anuran species in this area from 1995 to 2000, with different sampling

methods (e.g., pitfall traps with drift fences and active search) and found 29 anuran species. Moraes et al. (2012) sampled intensively the anuran species in the SNF from 2008 to 2009 and updated the species list of this locality. The results presented by Moraes et al. (2012) included four new records of anuran species. Therefore, currently 33 species may be found in this locality, of which 15 species are endemic to the Cerrado biome (Valdujo et al., 2012) and two species are listed as Data Deficient in the IUCN Red List (IUCN, 2013).

Despite these previous studies, we continued to study the anurans in the SNF. Accordingly, we annually monitor this locality, with sampling restricted to rainy season (from October to March). Herein, we present a new record of an anuran species in this area. On January 17th of 2013, at 2240 h, a male of *Leptodactylus mystaceus* (Spix, 1824) (SVL = 49.13 mm; Mass = 10.02 g; Air temperature = 21°C; Fig. 1) was found by us (16°38'18"S, 48°38'47"W, DATUM=WGS84; 936 m a.s.l.). We identified the specimen based in the



**Figure 1.** *Leptodactylus mystaceus*, adult male from Floresta Nacional de Silvânia, Goiás state, central Brazil.

<sup>1</sup> Programa de Pós-Graduação em Ecologia & Evolução, Universidade Federal de Goiás, Goiás, Brazil.

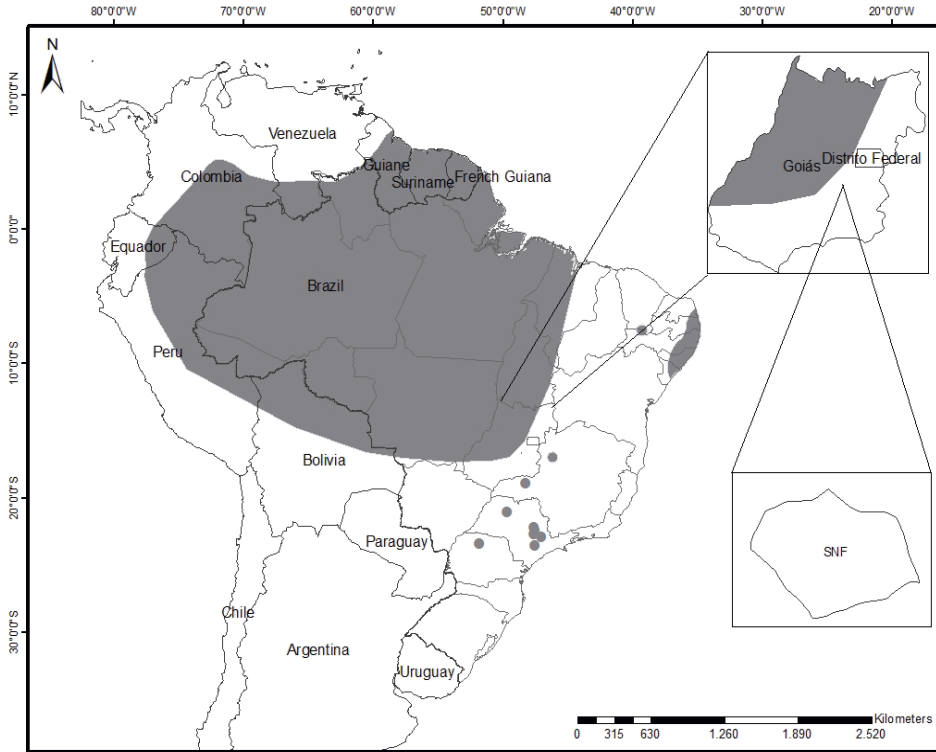
<sup>2</sup> Instituto Federal Goiano, Campus Rio Verde, Rio Verde, Goiás, Brazil.

<sup>3</sup> Fonoteca Zoológica. Dept. Biodiversidad y Biología Evolutiva. Museo Nacional de Ciencias Naturales - CSIC. José Gutiérrez Abascal 2, 28006 Madrid. Spain.

<sup>4</sup> Programa de Pós-graduação em Ciências Ambientais, Instituto de Ciências Biológicas, Universidade Federal de Goiás, Campus Samambaia, 74001-970, Cx. Postal 131, Goiânia, GO, Brazil.

<sup>5</sup> Departamento de Ecologia, Instituto de Ciências Biológicas, Universidade Federal de Goiás, Brazil.

\*Corresponding author: [alessandro.ribeiro.morais@gmail.com](mailto:alessandro.ribeiro.morais@gmail.com)



**Figure 2.** Map showing the geographic distribution of *Leptodactylus mystaceus* (in gray) in South America and occurrence at the Silvânia National Forest (SNF), Silvânia county, Goiás state, Brazil. Map based in IUCN (2014), Affonso *et al.* (2011), and Toledo *et al.* (2005).

morphological characters proposed by de Sá *et al.* (2014). Then, we observed the following characters: spatula-like snout shape, dorsal folds absent, dorsolateral folds distinct, complete, lateral folds absent, upper shank barred, brownish dorsal coloration and shoulder blades readily perceptible. After identification, we released the individual in the same place.

*Leptodactylus mystaceus* is known from the Amazon basin in Brazil, Bolivia, Peru, Ecuador, Colombia, Venezuela, Guianas and recently some populations have been reported in northeastern, southeast and south of Brazil (de Sá *et al.*, 2014; Frost, 2014; Affonso *et al.*, 2011; Toledo *et al.*, 2005) (Fig. 2). The occurrence of *L. mystaceus* at SNF was not reported by Bastos *et al.* (2003) and Morais *et al.* (2012). Therefore, this report increases the anuran species richness of SNF to 34 species. Although SNF is the second smallest conservation unit of this phytogeographical domain (ICMBIO, 2012), its anuran richness represents about

16% of that found in the Cerrado. This anuran richness of this area is larger than that registered in other representative protected areas of this biome, with an area more than 100.000 ha, such as Serra da Canastra National Park (29 species - Haddad *et al.*, 1988) and Emas National Park (27 species - Kopp *et al.*, 2010).

This finding reinforces the importance of long-term studies with anuran species, because these may be useful to support conservation action about the most threatened vertebrates in the world. Furthermore, this discussion demonstrates that SNF is playing an important role in the conservation of anurans from phytogeographical domain as proposed by conservation policy in Brazil (SNUC, 2000).

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