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Scientific note

New records of *Boana raniceps* (Cope, 1862) (Anura, Hylidae) in Distrito Federal, Central Brazil: evidence of recent distribution expansion?

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The increased human population and alterations of the environment have made changes in land cover and have differential impacts on biodiversity (Hansen *et al*. 2013, Ordeñana *et al.* 2010). Some anthropogenic activities offer new vacant habitats that may be explored by generalist species (Howell *et al.* 2019). The preponderance of these opportunistic species over local fauna leads to biological homogenization (Vitule *et al.* 2021). The result are communities formed by supertramp species that can thrive under a wide array of conditions, as well as have high growth rates relative to the availability of the local resources (Clavel *et al.* 2011). Unfortunately, the ecological consequences of the biotic homogenization process may be significant and can lead to reductions in overall community and ecosystem function, stability, and adaptability (Olden *et al*. 2004). In the Distrito Federal, Brazil it is no different. According to the goal to develop and colonize the interior of Brazil as a public policy during the '50s (Vidal 2009), the local vegetation cover and land use have been altered (UNESCO 2002), involving the replacement of native vegetation by pasture, agriculture, dams, urbanization, and highways (Ferreira 2010).

Boana raniceps (Cope, 1862) is a generalist medium-sized neotropical hylid characterized by a yellowish dorsum and by the presence of stripes on the thighs and inguinal regions (Faivovich *et al.* 2005). The species occurs from the north of the Amazon, passing through the Cerrado, Caatinga and reaching the Argentine and Paraguayan Chacos (Frost 2017) and is found in permanent or temporary water bodies associated with the gallery forest and natural and anthropized open environments (Vaz-Silva *et al*. 2020). *Boana raniceps* is the most ubiquitous and conspicuous hylid frog in the hotter and humid lowlands of the Cerrado landscape (Pacheco *et al.* 2018), emitting its load and

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characteristic call usually during the rainy season (Vaz-Silva *et al.* 2020).

The herpetofauna of Distrito Federal (DF) is one of the most studied in the Cerrado biome (Nogueira et al., 2010), but *B. raniceps* was never inventoried in any of the former herpetofauna works within the DF (Moreira & Barreto 1996, Brandão & Araujo 1998, Brandão & Araujo 2001, Brandão *et al*. 2006, Colli *et al.* 2011, Crema *et al.* 2014, Vaz-Silva *et al.* 2020). Herein, we report the first records of the species for the Distrito Federal and its possible recent colonization in the region.

We recorded *Boana raniceps* in three locations in Distrito Federal. We found two adult individuals (respectively CRC = 74 millimeters, 28 grams, and CRC = 87mm, 45,5g) during active night search on March 29, 2016 and December 26 of the same year in Lagoa Bonita, Estação Ecológica de Águas Emendadas, Planaltina-DF (15º'35'15.80"S; 47º41'54.81"W, 959 meters above sea level). The site has open vegetation with the presence of buriti palms (*Mauritia flexuosa*), a predominance of invasive grasses and it has old, abandoned fish farms that are currently silted and colonized by several aquatic plants. It's worthwhile to cite that Lagoa Bonita is one of the most studied areas for the DF anurans. The individuals were found in buriti palms, where both were photographed (Figure 1), captured, measured, and released.



Figure 1. *Boana raniceps* individual near Lagoa Bonita, Estação Ecológica de Águas Emendadas, Planaltina-DF. Antonio G. T. Cardoso.

On another field trip, on December 19, 2019, we found a *Boana raniceps* individual in a bush near an artificial lake at Fazenda Mangabeiras, Planaltina-GO (15°28'54.15"S; 47°51'57.13"W, 741 m a.s.l.), integrated into the Integrated Economic Development Region of Distrito Federal. At the time, it was possible to hear more individuals vocalizing. The area where the species was found had many shrub and arboreal plants and is located in the farm Legal Reserve, a zone for rural properties intended for vegetation conservation and ecological tourism (Brasil 2012).

On May 18, 2021, the team of the Brasília Botanical Garden, Brasília-DF (15°52'32.4"S; 47°50'13.0"W, 1116 m a.s.l.), was managing the *Cyperus papyrus* L. stands in a small lake when they found another *Boana raniceps* individual, hidden in the dry foliage.

Despite being quite abundant in the state of Goiás (Vaz-Silva 2020), *Boana raniceps* had no records in the Distrito Federal until now. The species commonly colonizes anthropic habitats (Souza *et al.* 2010), using the available food sources and new habitats and breeding environments (Collins & Fahrig 2017). Possibly these records refer to new and recent colonization of the species in the region, since the areas where the species was found are in or near anthropized environments and the species is associated to permanent or temporary water bodies associated to gallery forest and natural and anthropized open environments (Vaz-Silva *et al*. 2020). We are unaware if the species was benefited by recent habitat changes in the Distrito Federal caused by the deep removal of natural habitats during the region colonization in the recent decades (Scariot *et al.* 2005). As a geographically widespread species, *B. raniceps* is subjected to a broad range of climatic conditions (Bonnefond *et al.* 2020), so another possibility is related to changes in local climate, caused by recent increments in Distrito Federal temperatures in the last decades (Hofmann *et al.* 2021).

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