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A new dwarf species of *Proceratophrys* Miranda-Ribeiro, 1920 (Anura, Cycloramphidae) from the highlands of Chapada Diamantina, Bahia, Brazil

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Abstract

A new species of *Proceratophrys* is described from the highlands of northeastern Brazil. Molecular and morphological data suggests that *Proceratophrys redacta* **sp. nov.** is sister to *P. minuta*, and related to *P. schirchi* and *P. cristiceps*. The new species is diagnosed by its small size, absence of rostral and palpebral appendages, sagittal ridges interrupted, absence of postocular swellings, snout vertical in profile and dorsal coloration lacking distinct ocelli. The new species represents another example of endemism for the genus *Proceratophrys* in Chapada Diamantina region, and of another appendageless small-sized species associated with highlands. The phylogenetic results indicate that current morphological groupings in *Proceratophrys* may not represent natural groups.

Key words: *Proceratophrys redacta* **sp. nov.**, mountain endemism, frog diversity

Introduction

After his travel through the Brazilian coast, the German naturalist Alexander Phillip Maximilian, Prinz zu Wied-Neuwied (see Myers *et al.* 2011), described the horned frog, *Ceratophrys boiei* (Wied 1824), which underwent taxonomic rearrangement (Gravenhorst (1825; 1829), ending up to be the first described species in the currently recognized genus *Proceratophrys*. After that several species were described (Peters 1872; Günther 1873; Müller 1883; Miranda-Ribeiro 1920; 1926; 1937; Jim & Caramaschi 1980; Izecksohn & Peixoto 1981; Weygoldt & Peixoto 1985; Giaretta & Sazima 1993; Mercadal de Barrio & Barrio 1993; Eterovick & Sazima, 1998; Izecksohn *et al.* 1999; Giaretta *et al.* 2000; Kwet & Faivovich 2001; Cruz *et al.* 2005; Prado & Pombal 2008; Cruz & Napoli 2010; Frost 2011; Martins & Giaretta 2011; Napoli *et al.* 2011; Cruz *et al.* 2012) and its taxonomy rearranged (Lynch 1971; Prado & Pombal 2008; Amaro *et al.* 2009).

Currently the genus comprises 27 species of small to medium/large-sized frogs, occurring in forests, savannas, grasslands and shrubby lands of eastern, central and southern South America, in Brazil, Argentina and Paraguay (Prado & Pombal 2008; Frost 2011; Martins & Giaretta 2011; Napoli *et al.* 2011). However, its present richness is likely underestimated, as indicated by the constant discovery of new species (Prado & Pombal 2008; Ávila *et al.* 2011; Martins & Giaretta 2011; Napoli *et al.* 2011; Cruz *et al.* 2012). Furthermore, preliminary molecular phylogenies are showing that species formerly attributed to *Odontophrynus*, are indeed members of *Proceratophrys* (Amaro *et al.* 2009).

Recently, a dwarf species of *Proceratophrys* (*P. minuta* Napoli, Cruz, Abreu & Del Grande 2011) was described from the highlands of Chapada Diamantina, at the northern portion of Espinhaço range in state of Bahia (Napoli *et al.* 2011). This small-sized highland species seems to be restricted to the cloud forest patches of high elevations (above 800 m a.s.l., being very common at about 1170 m a.s.l.). Based on similarities in external morphology this new species was supposed to be allied to *P. schirchi*, (Napoli *et al.* 2011).

Both *P. schirchi* and *P. minuta* are not currently assigned to any species group, as well as *P. rondonae*, however the remaining species have been informally assigned to three or four species groups, based on overall