



A relict new species of *Oreobates* (Anura, Strabomantidae) from the Seasonally Dry Tropical Forests of Minas Gerais, Brazil, and its implication to the biogeography of the genus and that of South American Dry Forests

MAURO TEIXEIRA JR.¹, RENATA CECÍLIA AMARO, RENATO SOUSA RECODER,
MARCO AURÉLIO DE SENA & MIGUEL TREFAUT RODRIGUES

Departamento de Zoologia, Instituto de Biociências, Universidade de São Paulo, São Paulo, SP, Caixa Postal 11.461, CEP 05508-090, Brazil. E-mail: ¹tropidurus@gmail.com.

Abstract

A new species of *Oreobates* is described from Cavernas do Peruaçu National Park, Januária, Minas Gerais state, in the Atlantic Dry Forests of Brazil. The new species is distinguished from all other *Oreobates* by having the following combination of characters: large tympanum, discs broadly enlarged and truncate on Fingers III and IV, smooth dorsal skin, nuptial pads absent, snout subacuminate, and a very short pulsatile (2–3 pulses) single-noted advertisement call with dominant frequency of about 3150 Hz, and no harmonic structure. Molecular phylogenetic analyses using partial sequences of the mitochondrial genes cytochrome *b* (*cyt b*) and 16S using multiple outgroups recovered the new species within *Oreobates* and sister to *O. heterodactylus*. The latter species inhabits the Dry Forests of Mato Grosso (Cerrado) and Bolivia (Chiquitano forests), and is strictly associated to these habitats, which suggests a preterit connection between Chiquitano and Atlantic Dry Forests. The discovery of a new *Oreobates* in the Atlantic Dry Forest is of great importance for the conservation of these dry forests, as it is known only from this type of habitat.

Key words: Peruaçu valley, Pandeiros River, Terrarana

Introduction

The distribution patterns of species with physiological restrictiveness to certain kinds of habitats are always of great importance to understanding the biogeographic history of those habitats because of the common history they share (Croizat 1964). Habitat range and connectivity are affected by environmental changes, such as those promoted by climatic fluctuations, resulting generally in species dispersal or isolation, leading ultimately to speciation (Lomolino *et al.* 2006). Therefore phylogenetic relationships among species occurring in different and/or same habitats can inform us about the history of habitats (Crisci *et al.* 2003; Morrone 2009).

Frogs of genus *Oreobates* seem to be habitat-specialists. Most of its 16 species are restricted to Yungas montane forests from the eastern versant of the Cordillera Oriental of the Andes, from northern Argentina to Ecuador. However one species, *O. quixensis*, is an eminently Amazonian lowland dweller that occurs throughout the Upper Amazon Basin, from Colombia to Bolivia. All but one species of *Oreobates* occur in the Andes or close to them in the adjacent Amazonian lowlands. The exception is *O. heterodactylus*, an inhabitant of Cerrado and Chiquitano forests in eastern Bolivia and western Brazil (see Padial & De la Riva 2005; Padial *et al.* 2008a; Duellman & Lehr 2009).

The taxonomy of *Oreobates* has been in constant change since its description, and only recently has a molecular phylogenetic approach been used to infer relationships among its species closely related genera (Hedges *et al.* 2008; Padial *et al.* 2008a; Padial *et al.* 2009; Pyron & Wiens 2011). The genus *Oreobates*, and its type species, *Oreobates quixensis*, were originally described by Jiménez de la Espada (1872) and placed in the family Cystignathidae. A few years later, Boulenger (1882) recognized *Oreobates* as a junior synonym of *Borborocoetes* Cope, 1865. At the end of the 19th Century, *Cystignathus* was recognized as a junior synonym of *Leptodactylus*, and *O. quixen-*