

<http://dx.doi.org/10.111646/zootaxa.4048.2.3>
<http://zoobank.org/urn:lsid:zoobank.org:pub:0964C238-A12F-4334-B42A-26726A66996F>

A new species of limestone karst inhabiting forest frog, genus *Platymantis* (Amphibia: Anura: Ceratobatrachidae: subgenus *Lupacolus*) from southern Luzon Island, Philippines

RAFE M. BROWN¹, LOUISE ABIGAIL DE LAYOLA², ANTONIO LORENZO II², MAE LOWE L. DIESMOS² & ARVIN C. DIESMOS³

¹ Department of Ecology and Evolutionary Biology and Biodiversity Institute, The University of Kansas, Lawrence, Kansas 66045-7561, USA. E-mail: rafe@ku.edu

² College of Science and the Graduate School, TARC Building, University of Santo Tomas, España Boulevard, 1015 Manila, Philippines; E-mail: MLLD: maediesmos@yahoo.com; LADL: abigail.delayola@gmail.com; AL: tonylorenzo08@yahoo.com

³ National Museum of the Philippines, Padre Burgos Ave. Ermita 1000, Manila, Philippines; E-mail: arvin.diesmos@gmail.com

Abstract

We describe a new species of limestone karst dwelling forest frog of the genus *Platymantis* from the Quezon Protected Landscape in southeastern Luzon Island, Philippines. We assign *Platymantis quezoni*, sp. nov., to the diverse assemblage of terrestrial species in the *Platymantis dorsalis* Group, subgenus *Lupacolus* on the basis of its body size and proportions, only slightly expanded terminal discs of the fingers and toes, and its terrestrial microhabitat. The new species is distinguished from these and all other Philippine congeners by features of its external morphology, its restriction to a distinctive limestone karst microhabitat, and its advertisement call, which is unique among frogs of the family Ceratobatrachidae. Several distinguishing morphological characters include its moderate body size (22.1–33.9 mm SVL for 16 adult males and 32.4–39.7 mm SVL for five adult females), slightly expanded terminal discs of the fingers and toes, smooth skin with limited dermal tuberculation, and a dorsal color pattern of mottled tan to dark brown with black blotches. The new species is the sixth Philippine *Platymantis* known to occur exclusively on limestone karst substrates (previously known karst-obligate species include: *P. bayani*, *P. biak*, *P. insulatus*, *P. paengi*, and *P. speleaus*). Recently accelerated discovery of limestone karst anurans across the Philippines suggests that numerous additional species may await discovery on the hundreds of scattered karst formations throughout the archipelago. This possibility suggests that a major conservation priority in coming years will be to study, characterize, describe, and preserve the endemic species supported by this patchy, unique and imperiled type of forest ecosystem in the Philippines.

Key words: Biodiversity; Evolutionary convergence; Limestone ecomorph; Microhabitat preference; Species discovery

Introduction

Endemic frogs of the genus *Platymantis* (family Ceratobatrachidae) are a species rich component of the Philippine anuran fauna (Siler *et al.* 2007, 2009, 2010; Brown *et al.* 2008; Brown & Diesmos 2009), with 31 species known to date (Diesmos & Brown 2011; Diesmos *et al.* 2014, in press). The rate of discovery of new species in this genus has increased in recent years (Brown *et al.* 2002, 2008; Brown & Gonzalez 2007; Siler *et al.* 2010; Brown & Stuart 2012), keeping pace with a renaissance of endemic vertebrate biodiversity discovery in the archipelago (Brown & Diesmos 2009; Brown *et al.* 2013a). In the Philippines, three species groups have been defined on the basis of external morphology, ecological characteristics, and advertisement calls (Brown *et al.* 1997a,b,c; Alcala & Brown 1999): the *P. hazelae* Group, the *P. guentheri* Group, and the *P. dorsalis* Group (W. Brown *et al.* 1997a; R. Brown *et al.* 2002; Brown, 2004; Brown & Gonzales 2007). A recent phylogenetic analysis of the family (Brown *et al.* 2015) identified five clades of Philippine ceratobatrachid frogs. Three of these were partially consistent with the widely used former species groups of Brown *et al.* (1997a) but numerous cases of phenotypic similarity in unrelated taxa (principally species formerly assigned to the *P. guentheri* and *P. dorsalis* groups) have confirmed