



<http://dx.doi.org/10.11646/zootaxa.3710.1.2>

<http://zoobank.org/urn:lsid:zoobank.org:pub:5B18A71C-F75C-4D61-8764-4809164F49CB>

A new shrub frog in the genus *Platymantis* (Ceratobatrachidae) from the Nakanai Mountains of eastern New Britain Island, Bismarck Archipelago

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Abstract

We describe a new species of high elevation rainforest shrub frog (genus *Platymantis*) from the Nakanai Mountains of eastern New Britain (Bismarck Archipelago), Papua New Guinea. The distinctive new species possesses a moderate body size (29.5–32.2 mm in four males), widely expanded finger and toe disks, smooth to slightly granular dorsal skin, low but distinctly protuberant supraocular and tarsal tubercles, a conspicuous series of bright yellow flank areolations, a low but distinct intraocular sagittal crest, bronze-brown iris, and a unique advertisement call. We compare the new species with congeneric New Britain taxa and to other phenotypically similar species from the Solomon-Bismarck-Admiralty archipelagos. The new species is phenotypically most similar to *P. macrosceles* Zweifel 1975, and has been collected at only one high elevation site (Tompoi Camp). The available data suggest that the new species, known from 1700 m, is elevationally segregated from *P. macrosceles* (to date, only recorded from 800–900 m in the Nakanai Mountains). New Britain Island has emerged as a major center of endemic ceratobatrachid species diversity. Additional species are anticipated to result from ongoing field work, especially in the western portion of the island, which remains largely unexplored.

Key words: Melanesian forest frogs, Southwest Pacific, within-island speciation

Introduction

The frog family Ceratobatrachidae is a diverse assemblage of anurans (at least 89 described species) with two primary centers of species diversity: one in the Philippines (30 species; Brown *et al.* 1997; Alcalá & Brown 1998, 1999; Siler *et al.* 2007; Brown & Gonzales 2007; Brown, 2007), and another in the Solomon-Bismarck archipelagos (55 species; Brown, 1949, 1952; Brown & Tyler 1968; Zweifel 1975; Brown & Menzies 1979; Allison & Kraus 2001; Foufopoulos & Brown 2004; Brown *et al.* 2006a, b; Richards *et al.* 2007; Brown & Richards, 2008). Other small island groups have moderate levels of species diversity, including: three or four species from eastern Indonesia (Menzies 1982a, b; Edgar & Lilley 1993), six species on the large island of New Guinea and smaller surrounding islands (Zweifel 1969; Allison 1996; Günther 1999, 2006), two species in Fiji (Gorham 1965; Morrison 2003), and one in Palau (Allison 1996; Brown 1997; Pregill & Crombie 1999). The family includes frogs of the genera *Platymantis* (70 species) *Batrachylodes* (8), *Ceratobatrachus* (1), *Discodeles* (5), *Palmatorappia* (1), and portions of *Ingerana* (2 or 3; Brown *et al.*, 1997 Kraus & Allison, 2007; Frost, 2013; AmphibiaWeb, 2013)

New Britain *Platymantis* (14 species) can be categorized into two distinct phenotypic groups (Brown 1952; Brown *et al.* 1997; Foufopoulos & Brown 2004; Brown *et al.* 2006a, b; Kraus and Allison, 2007, 2009). The first includes arboreal species with widely expanded disks on fingers and toes (*P. caesiops*, *P. nakanaiorum*, *P. nexipus*, *P. macrosceles*, *P. mamusiorum*). The second more variable group consists of terrestrial or scansorial forms with non-expanded or just slightly expanded finger and toe disks (*P. adiaastolus*, *P. akarithymus*, *P. boulengeri*, *P. bufonulus*, *P. magnus*, *P. mimicus*, *P. gillardi*, *P. schmidti*, *P. sulcatus*). Only *P. magnus* is shared with nearby New