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A new species of *Choerophryne* (Anura, Microhylidae) from the central cordillera of Papua New Guinea

AMY IANNELLA[1,2,] STEPHEN RICHARDS[1] & PAUL OLIVER[3,4]

[1]*South Australian Museum, Adelaide 5000, Australia*
[2]*School of Earth and Environmental Sciences, University of Adelaide, Adelaide, South Australia 5000, Australia*
[3]*Department of Zoology, University of Melbourne, Melbourne, Victoria 3000, Australia*
[4]*Museum Victoria, Melbourne, Victoria 3001, Australia*

Abstract

We describe a new species of very small microhylid frog in the genus *Choerophryne* from the upper Strickland River area, Western and Southern Highlands Provinces, Papua New Guinea. *Choerophryne gracilirostris* **sp. nov.** can be distinguished from congeners by the following combination of characters: small size (SUL 13.5–14.7 mm), moderately long and narrow snout, first finger without expanded disk and advertisement call consisting of 3–5 distinctly pulsed notes repeated in long sequences. Males in the type series were calling from within leaf litter in primary hill rainforest (213–1368 m a.s.l.). The new species is the third *Choerophryne* known from the southern side of New Guinea's central cordillera. Measurements of a juvenile specimen (rare because most *Choerophryne* collected are calling males) demonstrate that the distinctive rostral projection of this genus exhibits pronounced positive allometry.

Key words: frog, miniaturisation, Muller Range, rostral projection, systematics

Introduction

Microhylids are the most species-rich radiation of frogs in New Guinea. Over 250 species are currently recognised, and this number is rapidly increasing (AmphibiaWeb 2013; Kraus and Allison 2009a; Papuan Herpetofauna 2013). Although Melanesian microhylids (all in the subfamily Asterophryinae) remain poorly studied they have attracted interest for the apparently repeated evolution of parental care of their direct-developing eggs (Bickford 2004; Köhler and Günther 2008). The existence of numerous lineages (many of them recently discovered) that have independently approached minimum size thresholds for terrestrial vertebrates has also attracted recent attention (Kraus 2010, 2011; Rittmeyer *et al.* 2012).

The newly discovered genus *Paedophryne* is the most miniaturised lineage of Melanesian microhylids (and possibly of tetrapods (Kraus 2010, 2011; Rittmeyer *et al.* 2012)), but a number of other Melanesian microhylid genera also contain species with very small body sizes (e.g Kraus and Allison 2009a; Richards and Iskandar 2000; Kraus 2011). Perhaps the most notable of these is *Choerophryne*, a genus of nine recognised species of small to very small size (11.5–23.2 mm SVL) characterised by a unique extension of the nasal bones and the alary processes of the premaxillae, giving them a distinctively elongate snout. Despite this unique snout morphology a suite of morphological and molecular datasets indicates that *Choerophryne* is related to *Albericus,* a widespread genus of small to miniature blunt-snouted, largely arboreal microhylid frogs (Köhler and Günther 2008; Kraus and Allison 2001).

Most recognised *Choerophryne* species (seven of nine) occur on the ranges and lowlands of the northern half of New Guinea and immediately adjacent islands, from Japen Island in the west to the Adelbert Mountains in the east (Günther 2008; Kraus and Allison 2001). Although a few species are widespread (*Choerophryne rostellifer*, *C. proboscidea*), most are currently known from a small number of localities, often at moderately high altitudes (>1000 m a.s.l.) in mountain ranges such as the Bewani and Torricelli Mountains (*C. longirostris*) or on the island of Japen (*C. amomani*) (Günther 2008; Kraus and Allison 2001)

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APPENDIX 1. Material examined.

Specimens denoted by SJR field numbers are held at the South Australian Museum, pending repatriation to countries of origin or registration.

Choerophryne allisoni SAMA R56075 (holotype), UPNG 9962 (paratype) Mt Sisa, Southern Highlands Province, PNG

Choerophryne burtoni SAMA R62475 (holotype), SAMA R62476 (paratype), SJR 3295, SJR 3309 Moran, Southern Highlands Province, PNG; SAMA R65102 Sawetau, Western Province, PNG.

Choerophryne longirostris SAMA R65929-32 Mt Menawa, West Sepik Province, PNG.

Choerophryne nigrescens SJR 6052, SJR 6186 Marina Valen Village, Papua Province, Indonesia.

Choerophryne proboscidea SAMA R60661-69 Wamangu, East Sepik Province, PNG

Choerophryne rostellifer SAMA R60653-55, SAMA R60657, SAMA R60659-60 Utai, West Sepik Province, PNG

Choerophryne 'rostellifer' SAMA R15347 Moiyokabip, Western Province, PNG