



Article

urn:lsid:zoobank.org:pub:2605B6E2-18D3-4025-942C-E546925895B0

Identity of *Nyctimystes cheesmani* (Anura: Hylidae), with description of two new related species

FRED KRAUS

Bishop Museum, 1525 Bernice St., Honolulu, Hawaii, USA. E-mail: fkraus@hawaii.edu

Abstract

Using morphological and call data, I redescribe the taxonomically problematic Papuan hylid frog *Nyctimystes cheesmani* based on specimens collected at similar elevation to and within 5 km of the type locality. It has long been known that several species of *Nyctimystes* closely related to *N. cheesmani* remain to be described in New Guinea, but diagnosis and description of these species has languished for decades in the absence of a clear exposition of what constitutes true *N. cheesmani*. This species is characterized by having vocal slits; a small heel tubercle; basal webbing on hand; exposed tympanum; vertical lines of palpebral reticulum oriented obliquely and with relatively few horizontal cross-connections; pale-tan iris; rear of thighs barred/mottled with brown, caramel, or blue-gray; and call a single, quiet pulsed croak delivered relatively slowly in long trains and with a dominant frequency around 1.9 kHz. It is currently known only from the immediate vicinity of the type locality, and its exact distribution throughout the Owen Stanley Mts. remains to be determined. I also describe two new species related to *N. cheesmani* from Milne Bay Province, Papua New Guinea. Both are similar to *N. cheesmani* in morphometric measurements but are easily distinguished from that species by their advertisement calls and by details in color pattern. The first species is known only from the southernmost extent of the Owen Stanley Mts and the adjacent Cloudy Mts., the second is endemic to the D'Entrecasteaux Archipelago.

Key words: cryptic species; Milne Bay Province; Owen Stanley Mts.; Papua New Guinea

Introduction

The genus *Nyctimystes* is a group of stream-breeding pelodyadine hylid frogs that is largely restricted to the island of New Guinea and a few of its satellite islands; they mostly inhabit montane and foothill rainforests. The genus has traditionally been morphologically defined on the basis of having vertical pupils, a palpebral reticulum, and (in all but one species) large unpigmented eggs (Zweifel 1958). One species (*N. rueppelli*) currently assigned to the genus is restricted to Halmahera, Indonesia, but it has small, pigmented ova and may prove upon investigation of freshly collected material to be an unrelated lineage. Recent molecular evidence supports the monophyly of this genus among pelodyadine hylids (Rossauer et al. 2009, Faivovich et al., 2010; Wiens et al. 2010). I maintain *Nyctimystes* as a valid genus based on these molecular analyses and my own unpublished results showing that Frost et al.'s (2006) presumptive test of monophyly of *Nyctimystes* was invalid because of problematic taxonomic sampling. This Papuan clade contains twenty-three currently recognized species, and one may tentatively add to that the Halmaheran *N. rueppelli* pending re-investigation of its relationships.

Within *Nyctimystes*, frogs referred to *N. cheesmani* have long been recognized as of uncertain taxonomic identity. That species was originally described from Mondo, 5000 feet [1524 m], Central Province, Papua New Guinea, as *N. montana* by Parker (1936), but this proved to be a secondary homonym of *N. montana* (Peters and Doria 1878), and Tyler (1964) provided the replacement name of *N. cheesmani*. [This was later emended to *N. cheesmanae* because the name was intended to be a genitive honorific for Evelyn Cheesman, a female (Menzies 1976, 2006). However, this was an incorrect emendation because there was no evidence in the original publication of an inadvertent spelling error (Article 32, International Commission on Zoological Nomenclature, 1964, 1999).] The type locality was noted by Parker (1936) to be 5 mi (8 km) northwest of Mt. Tafa and 9 mi (14.5 km) southeast of Mafulu. *Nyctimystes cheesmani* has proven to be taxonomically problematic because it has long been known