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A new species of upland Stream Toad of the genus *Ansonia* Stoliczka, 1870 (Anura: Bufonidae) from northeastern Peninsular Malaysia

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Abstract

A new species of *Ansonia* is described based on genetic and morphological differentiation. *Ansonia lumut* **sp. nov.** is most closely related to three other Peninsular Malaysian species, *A. penangensis*, *A. malayana*, and *A. jeetsukumarani* but differs from these and other congeners by at least 6.9% sequence divergence at the 12S, 16S rRNA and t-RNA-val genes and the following combination of morphological characters: (1) SVL 21.0–23.6 mm in males, 27.7–31.6 mm in females; (2) first finger shorter than second; (3) interorbital and tarsal ridges absent; (4) light interscapular spot absent; (5) presence of large, yellow rectal tubercle; (6) dorsum black with greenish-yellow reticulations; (7) flanks with small yellow spots; (8) fore and hind limbs with yellow cross-bars; and (9) venter light gray with fine, white spotting.

Key words: conservation, morphology, phylogeny, Southeast Asia, systematics

Introduction

The Bufonid genus *Ansonia* is currently represented by 26 species and collective range from as far north as northwestern Thailand, southward through Myanmar, the Malay Peninsula, Indonesia, and as far east as Borneo and the Philippines (Frost 2013). Of these, six species occur exclusively in Peninsular Malaysia (*A. endauensis* Grismer, *A. jeetsukumarani* Wood, Grismer, Grismer, Norhayati, Chan & Bauer, *A. latiffi* Wood, Grismer, Grismer, Norhayati, Chan & Bauer, *A. latirostra* Grismer, *A. penangensis* Stoliczka, and *A. tiomanica* Hendrickson). The exception is *A. malayana* Inger, which occurs in Perak, Peninsular Malaysia (type locality), but has also been reported from Peninsular Thailand, south of the Isthmus of Kra (Inger 1960).

Recent expeditions to the poorly studied and highly fragmented Banjaran Timur (=Timur mountain range) in northeastern Peninsular Malaysia have begun to reveal the undiscovered diversity that lies therein (Dring 1979; Grismer 2006; Grismer *et al.* 2013; Wood *et al.* 2008). Our fieldwork to the previously unsurveyed Gunung Tebu (=Tebu Mountain) in the northeastern state of Terengganu uncovered a population of Stream Toad (genus *Ansonia*) that could not be readily assigned to any currently known species. This population closely matches Dring's (1979) description of *A. malayana* from Gunung Lawit, an adjacent peak on the same mountain range, but is incongruent with topotypes of true *A. malayana* from Bukit Larut, Perak from a different mountain range (Banjaran Bintang) in northwestern Peninsular Malaysia. We adopted a pluristic approach, combining morphology and molecular phylogenetics to evaluate the taxonomic and phylogenetic placement of this population. Our results show that the population from Gunung Tebu represents a genetically distinct lineage that is also morphologically diagnosable. Under the Unified Concept of Species (De Queiroz 2005), we consider this separately evolving lineage as a new species that is morphologically distinct from other species in this genus.



FIGURE 5. Habitat of *Ansonia lumut* sp. nov. at Gunung Tebu, Terengganu.

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APPENDIX. Material examined.

Ansonia jeetsukumarani. MALAYSIA: Kelantan, Gunung Stong, LSUHC 11122–34; 11140–41.