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Synonymy of *Discotettix adenanii* Mahmood, Idris & Salmah, 2007 with *D. belzebuth* (Serville, 1838) (Orthoptera: Tetrigidae)

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Abstract

According to a study of type specimens of *Discotettix adenanii* Mahmood, Idris & Salmah, 2007 and copious specimens of *D. belzebuth* (Serville, 1838) collected in different parts of Borneo, we found that all species-specific morphological characters of *D. adenanii*, according to its original description, fall into the morphological variability of *D. belzebuth*. Thus, we synonymize *D. adenanii* with *D. belzebuth.* The sequence of a segment of the mitochondrial 16S ribosomal RNA of *D. belzebuth* was also evaluated and added to GenBank as a DNA barcode.

Key words: Orthoptera, Tetrigidae, groundhopper, synonymy, taxonomy, Borneo, Indomalayan region

Introduction

Genus *Discotettix* Costa, 1864 (Tetrigidae: Discotettiginae) actually comprises 7 species distributed from India to Papua-New Guinea (Eades *et al.* 2015). This genus of groundhoppers is most diverse in Borneo, where 4 species occur: *D. belzebuth* (Serville, 1838), *D. adenanii* Mahmood, Idris & Salmah, 2007, *D. doriae* Bolívar, 1898 and *D. shelfordi* Hancock, 1907 (Steinmann 1970; Blackith 1992; Mahmood *et al.* 2007; Eades *et al.* 2015). *D. belzebuth* and *D. adenanii* are characterized by rugose body, huge spines on the dorsal pronotum, medial carina of pronotum anteriorly produced into a long spine that crosses the head, and long antennae (11 segments—7th and 8th segment compressed) (Serville 1838; Hancock 1907; Mahmood *et al.* 2007).

The groundhopper *D. adenanii* was originally described by Mahmood *et al.* (2007) from Gunung Serapi in Sarawak, Borneo. The identity of the type specimens has never yet been revised, but the information in the original description suggested that they may actually belong to *D. belzebuth*. In this study, the type specimen of *D. adenanii* is reviewed, and the taxonomic status and occurrence of *D. belzebuth* on Borneo is discussed.

Material and methods

The nomenclature and morphological terminology follow those used by Eades *et al.* (2015) and Tumbrinck (2014). Newly collected specimens were dry-mounted and examined with an Olympus SZ40 stereomicroscope (20–40× magnification). Morphometric parameters were measured with an Olympus CX70 binocular microscope (40× magnification) with a mounted Canon (EOS1100D) camera. Type material of *D. adenanii* deposited at University of Malaysia, Kuala Lumpur was documented by a Canon EOS 650 camera with a Canon 60 mm macro lens and an attached Canon flash (Macro Ring Lite MR-14EX). Newly collected specimens of *D. belzebuth* were deposited in the entomological collection of University of Ostrava.

The studied specimens were deposited in the following collections: UKCO—Universiti Kebangsaan Malaysia,

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