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Revision of the Malagasy genus *Lechius* Iwan, 1995 (Coleoptera: Tenebrionidae: Pedinini)

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Abstract

The taxonomic concept of the genus *Lechius* Iwan, 1995 and the hypotheses of all its species, are tested basing on newly available material from Madagascar. Comparative analysis showed that the male and female genitalia most apparently reflect the evolutionary trends within this genus. Two new *Lechius* species are described: *L. aalbui* **sp. nov.** and *Lechius longiclavis* **sp. nov.** A distributional map is presented with complete faunistic data on the genus. An identification key is provided to all known species of *Lechius.*

Key words: taxonomy, new species, darkling beetles, Platynotina, Madagascar

Introduction

The genus *Lechius* Iwan, 1995 is one of three genera representing the platynotoid lineage of the subtribe Platynotina which are distributed on Madagascar (Iwan 2010). The present taxonomical concept of this genus was proposed by Iwan in 1995 and is mainly based on the characteristic head structure—ventral margin near tempus with distinct groove (Fig. 1). Until now, this genus consisted of three species (Iwan 2010): *Lechius abacoides* (Fairmaire, 1902), *L. steineri* Iwan, 1995 and *L. madagascariensis* (Iwan, 1998).

During our study, we have found several specimens which represent intermediate forms between *L. abacoides* and *L. steineri*, which suggested that the taxonomic hypotheses of these species should be verified.

The aim of this paper is to provide a new and stable classification of genus *Lechius*.

Material and methods

Measurements, taken using a filar micrometer, were as follows: width of anterior elytral margin—from humeral angle to scutellum; body length—from anterior margin of labrum to elytral apex; body width—maximum elytral width; pronotal length—in the middle of pronotum (pl), from tip of anterior pronotal angle to tip of posterior pronotal angle (apl).

This study was based on material from the California Academy of Sciences (CASC), Ditsong National Museum of Natural History (TMNH), Smithsonian National Museum of Natural History (USNMNH), Muséum National d'Histoire Naturelle in Paris (MNHN), and Musee Royal de l'Afrique Centrale in Tervuren, Belgum (MRAC).

For examination of internal structures, insects were dissected and whole abdomens were cleared in 10% cold potassium hydroxide overnight.

Images were taken using a Canon 1000D body with accordion bellows and Industar 61L/3 MC 50 mm f/2.8 lens, and with a Hitachi S-3400N SEM in MIIZ. Chosen SEM photographs were colored using Photoshop CS5.

The distribution of species (Fig. 19) was illustrated and analyzed using DIVA-GIS version 7.5 (Hijmans *et al.* 2012). The analysis of species richness in different Malagasy ecoregions was made using the WWF vector layer (Olson *et al.* 2001).

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