



New brachypterous species of *Dichotomius* Hope, with taxonomic notes in the subgenus *Luederwaldtinia* Martínez (Coleoptera: Scarabaeidae: Scarabaeinae)

RAFAEL V. NUNES¹ & FERNANDO Z. VAZ-DE-MELLO²

¹Universidade Federal de Mato Grosso, Instituto de Biociências. Programa de Pós-graduação em Ecologia e Conservação da Biodiversidade. Av. Fernando Correa da Costa, 2367. Boa Esperança. Cuiabá MT 78060-900, Brazil. E-mail: rafavnunes@gmail.com

²Universidade Federal de Mato Grosso, Instituto de Biociências, Departamento de Biologia e Zoologia. Av. Fernando Correa da Costa, 2367. Boa Esperança. Cuiabá MT 78060-900, Brazil. E-mail: vazdemello@gmail.com

Abstract

An overview of the subgenus *Dichotomius* (*Luederwaldtinia*) and its species groups is presented with species groups proposed and a provisional identification key provided. *Dichotomius* (*Luederwaldtinia*) *vidaurrei*, a brachypterous new species from Bolivia, is described. Another brachypterous species, from Brazil, *D. mysticus* (Luederwaldt) is redescribed. *Dichotomius paraguayanus* Gandini & Aguilar is synonymized with *Canthidium kelleri* (Martínez, Halffter & Pereira). Some aspects of the evolution of flightlessness in *Dichotomius* are discussed.

Key words: Neotropics, brachypterism, dung beetles

Resumo

Um panorama do subgênero *Dichotomius* (*Luederwaldtinia*) e seus grupos de espécies é proposto juntamente com uma chave de identificação provisória. *Dichotomius* (*Luederwaldtinia*) *vidaurrei*, uma espécie nova braquíptera da Bolívia é descrita. Outra espécie braquíptera, esta do Brasil, *D. mysticus*, é redescrita. *Dichotomius paraguayanus* Gandini & Aguilar é sinonimizado com *Canthidium kelleri* (Martínez, Halffter & Pereira). Alguns aspectos da evolução do voo em *Dichotomius* são discutidos.

Introduction

Dichotomius Hope is a widespread dung beetle genus in the Western Hemisphere; it is comprised of 167 currently valid species assigned to four subgenera (*sensu* Martínez 1951): *Dichotomius* Hope, *Homocanthonides* Luederwaldt, *Luederwaldtinia* Martínez and *Selenocopris* Burmeister. Despite being a common, widespread genus (Kohlmann & Solís 1997; Vaz-de-Mello 1999; Vaz-de-Mello, 2000; Medina *et al.* 2001; Peraza & Deloya 2006; Almeida & Louzada 2009), its last synopsis (with emphasis of its Brazilian species) was done more than 80 years ago (Luederwaldt 1929). Current taxonomic work on the genus includes attempts to clarify the relationships among its species groups (“sections” of Luederwaldt) and with other genera, and the need for a modern revision of the genus has been voiced by several taxonomists, including Vaz-de-Mello (1999), Medina *et al.*, (2001) and Gandini & Aguilar (2009).

Luederwaldtinia was proposed by Martínez (1951) as a substitute name for the group improperly called *Selenocopris* by Luederwaldt (1929). *Luederwaldtinia* presently has 62 valid species distributed among the 12 species groups established by Luederwaldt (1929, 1931, 1936): *D. agenor*, *D. assifer*, *D. batesi*, *D. calcaratus*, *D. carbonarius*, *D. crinicollis*, *D. inachus*, *D. interstitialis*, *D. micans*, *D. nisus*, *D. sericeus* and *D. speciosus* species groups. Member of *Luederwaldtinia* can be distinguished from other *Dichotomius* by 1) bearing at least two distinct clypeal teeth separated by emargination; 2) having the head margin rounded and lacking an angulation at