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Taxonomic revision of the *Dichotomius speciosus* (Waterhouse, 1891) species group (Coleoptera: Scarabaeidae: Scarabaeinae)

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Abstract

The *Dichotomius speciosus* species group, endemic to the highlands of the Brazilian Atlantic Forest and included in the subgenus *Luederwaldtinia* is taxonomically revised. *Dichotomius alvarengai* **new species** and *D. malyi* **new species** are described. *Dichotomius bucki* is here considered to be a **new synonym** of *D. opalescens*, for which a **lectotype is designated**. The group, as well as its species, is diagnosed. A taxonomic key, illustrations and discussions on systematics and conservation of the group are provided.

Key words: Atlantic forest, highlands, dung beetles, new species, Dichotomiini

Resumo

O grupo de espécies de *Dichotomius speciosus,* endêmico de áreas altas da Floresta Atlântica Brasileira e inserido no subgênero *Luederwaldtinia* é revisado taxonomicamente. *Dichotomius alvarengai* **nova espécie** e *D. malyi* **nova espécie** são descritos. *D. bucki* é aqui considerado como **novo sinônimo** de *D. opalescens*, para o qual um **lectótipo é designado.** O grupo, assim como suas espécies, são diagnosticados. Uma chave taxonômica, ilustrações e discussões em sistemática e conservação do grupo são apresentadas.

Introduction

Beetles of the family Scarabaeidae are copro-necrophagous and play an important role in nutrient cycling because they bury dung and carcasses, thus promoting several ecosystem functions (Halffter & Matthews 1966, Nichols *et al*. 2008). The subfamily Scarabaeinae, commonly known as dung beetles, is mainly distributed in all tropical and subtropical landmasses of the world (Davis & Scholtz 2001). Since the 1990's, this *taxon* has been a focus of ecological and conservation research (Halffter & Favilla 1993; Spector 2006; Nichols *et al.* 2008; Culot *et al*. 2013).

Dichotomius (Hope, 1838) is one of many Scarabaeinae genera exclusive to the Americas (Vaz-de-Mello *et al.* 2011). The more than 150 species of the genus are present in almost all neotropical terrestrial habitats, sometimes in great abundance (Louzada & Carvalho e Silva 2009) or with extremely restricted distributions (Nunes & Vaz-de-Mello 2013), and even in danger of extinction (Vieira *et al*. 2011). The genus is divided in four subgenera (Martínez 1951): *Dichotomius s. str., Homocanthonides, Selenocopris,* and *Luederwaldtinia.*

The subgenus *Luederwaldtinia* includes more than 60 species divided into thirteen species groups by their morphological affinities and geographical distributions, each named after the oldest described species

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