



Zootaxa 2854: 1–73 (2011)  
www.mapress.com/zootaxa/

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Monograph

ISSN 1175-5326 (print edition)

**ZOOTAXA**

ISSN 1175-5334 (online edition)

# ZOOTAXA

2854

## A multilingual key to the genera and subgenera of the subfamily Scarabaeinae of the New World (Coleoptera: Scarabaeidae)

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Magnolia Press  
Auckland, New Zealand

Accepted by A. Smith: 22 Dec. 2010; published: 29 Apr. 2011

Fernando Z. Vaz-de-mello, W. D. Edmonds, Federico C. Ocampo & Paul Schoolmeesters  
**A multilingual key to the genera and subgenera of the subfamily Scarabaeinae of the New World**  
**(Coleoptera: Scarabaeidae)**  
(*Zootaxa* 2854)

73 pp.; 30 cm.

29 April 2011

ISBN 978-1-86977-699-2 (paperback)

ISBN 978-1-86977-700-5 (Online edition)

FIRST PUBLISHED IN 2011 BY

Magnolia Press

P.O. Box 41-383

Auckland 1346

New Zealand

e-mail: [zootaxa@mapress.com](mailto:zootaxa@mapress.com)

<http://www.mapress.com/zootaxa/>

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ISSN 1175-5326 (Print edition)

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## Abstract

Presented is a multilingual (English, Portuguese, Spanish, Dutch and French) key to the 119 currently recognized genera and subgenera of scarabaeine dung beetles (Coleoptera: Scarabaeidae: Scarabaeinae) occurring in the New World. Also included are illustrations of representative species of all taxa included in the key as well as supplementary references to studies at the species level.

**Key words:** Scarabaeinae, Americas, dung beetles, keys

## Introduction

The Scarabaeinae Research Network (ScarabNet) was formed in 2004 to provide an informal forum to stimulate communication and cooperation among the worldwide community of researchers dedicated to the study of the scarabaeine dung beetles (Coleoptera: Scarabaeidae: Scarabaeinae). Among the important issues confronting the group at that time was the general lack of comprehensive, reliable identification tools that would permit ecologists, conservationists, taxonomists and other specialists to identify the subjects of their studies. In response to this need, various members of the group have undertaken to compile generic identification keys and other guides to the various dung beetle faunas of the World. The first version of this contribution on the Americas was prepared for the 2006 ScarabNet meeting in Santa Cruz de la Sierra, Bolivia; a second version incorporating corrections, additional taxa and editorial changes was distributed at the 2007 ScarabNet meeting in Portal, Arizona. The expanded and corrected key to the New World genera and subgenera appearing here culminates our efforts to provide a basic multilingual guide to the New World fauna. It is presented in the five official languages of European origin currently used in the New World: English, Portuguese, Spanish, Dutch and French. Like any other taxonomic work of broad scope, this paper incorporates the efforts of many specialists, past and present, and would not have been possible without the fruits of their labors.

As with any key, this contribution reflects our current knowledge and current taxonomic opinions. It will certainly change as we discover more about the New World fauna and reassess and revise our taxonomic point of view. Even as it is published, it does not accommodate several new generic taxa whose descriptions have not yet been published formally. Moreover, the key does not consider three names which we tentatively consider to be synonyms of included genera; these names are (with senior synonyms in parentheses): *Hypocanthidium* Balthasar, 1938 (*Anomiopus*); *Pleronyx* (often erroneously spelled *Pteronyx*) Lansberge, 1874 (*Canthidium*); and *Pseuduroxys* Balthasar, 1938 (*Uroxys*).

An alphabetical listing of all 119 included genera and subgenera, their authorship and the couplet number where they appear precedes the keys. Listings of recent works—reviews, revisions, etc.—that provide species-level identification tools follow the keys. The final section comprises illustrations depicting all taxa referenced in the keys. Among these (Figs. 182–186) are diagrams of basic dung beetle external morphology that will serve as a general orientation. Characters used in the keys are for the most part external and easily assessed using a microscope. However, in those few instances where secondary sexual characters are employed (e.g., couplet 40), dissection may be required to confirm sexual identity (by presence or absence of an aedeagus). Key users desiring a more detailed