Platyceroidini, a new tribe of North American stag beetles
(Coleoptera: Lucanidae: Lucaninae)

M.J. Paulsen
Systematic Research Collections
University of Nebraska State Museum
W436 Nebraska Hall
Lincoln, NE 68588-0546
mpaulsen@unlserve.unl.edu

and

David C. Hawks
Department of Entomology
University of California
Riverside, CA 92521
david.hawks@ucr.edu

Date of Issue: December 5, 2008
M.J. Paulsen and David C. Hawks
Platyceroidini, a new tribe of North American stag beetles
(Coleoptera: Lucanidae: Lucaninae)
Insecta Mundi 0058: 1-2

Published in 2008 by
Center for Systematic Entomology, Inc.
P. O. Box 141874
Gainesville, FL 32614-1874 U. S. A.
http://www.centerforsystematicentomology.org/

Insecta Mundi is a journal primarily devoted to insect systematics, but articles can be published on any non-marine arthropod taxon. Manuscripts considered for publication include, but are not limited to, systematic or taxonomic studies, revisions, nomenclatural changes, faunal studies, book reviews, phylogenetic analyses, biological or behavioral studies, etc. Insecta Mundi is widely distributed, and referenced or abstracted by several sources including the Zoological Record, CAB Abstracts, etc.

As of 2007, Insecta Mundi is published irregularly throughout the year, not as quarterly issues. As manuscripts are completed they are published and given an individual number. Manuscripts must be peer reviewed prior to submission, after which they are again reviewed by the editorial board to insure quality. One author of each submitted manuscript must be a current member of the Center for Systematic Entomology.

Managing editor: Paul E. Skelley, e-mail: insectamundi@gmail.com
Production editor: Michael C. Thomas, e-mail: insectamundi@gmail.com
Editorial board: J. H. Frank, M. J. Paulsen

Printed copies deposited in libraries of:
CSIRO, Canberra, ACT, Australia
Museu de Zoologia, São Paulo, Brazil
Agriculture and Agrifood Canada, Ottawa, Ontario, Canada
The Natural History Museum, London, England
Muzeum I Instytut Zoologii Pan, Warsaw, Poland
National Taiwan University, Taipei, Taiwan
California Academy of Sciences, San Francisco, CA, USA
Florida Department of Agriculture and Consumer Services, Gainesville, FL, USA
Field Museum of Natural History, Chicago, IL, USA
National Museum of Natural History, Smithsonian Institution, Washington, DC, USA

Electronic copies in PDF format:
Printed CD mailed to all members at end of year.
Florida Center for Library Automation: purl.fcla.edu/fcla/insectamundi
University of Nebraska-Lincoln, Digital Commons: http://digitalcommons.unl.edu/insectamundi/

Author instructions available on the Insecta Mundi page at:
http://www.centerforsystematicentomology.org/insectamundi/

Printed Copy ISSN 0749-6737
On-Line ISSN 1942-1354
CD-ROM ISSN 1942-1362
Platyceroidini, a new tribe of North American stag beetles (Coleoptera: Lucanidae: Lucaninae)

M.J. Paulsen
Systematic Research Collections
University of Nebraska State Museum
W436 Nebraska Hall
Lincoln, NE 68588-0546
mpaulsen@unlserve.unl.edu

David C. Hawks
Department of Entomology
University of California
Riverside, CA 92521
david.hawks@ucr.edu

Abstract. The tribe Platyceroidini is created to accommodate two genera of North American stag beetles, Platyceroides Benesh and Platyceropsis Benesh (Lucanidae: Lucaninae). These genera are removed from the tribe Platycerini Mulsant.

Tribal placement of Platyceroides Benesh and Platyceropsis Benesh

The genus Platyceroides is currently recognized to contain seven species from western North America (Benesh 1946, Paulsen 2005). The species' distributions range from British Columbia to California throughout the Cascade, Sierra Nevada, and Coast mountain ranges. Species of Platyceroides have fully-winged males, but flightless females (Benesh 1946). This situation is found in two other groups of scarabaeoids from the region, the families Pleocomidae LeConte and Diphyllostomatidae Holloway.

The genus Platyceropsis contains one species in which both sexes are flightless and is distributed from British Columbia to northern California along the Pacific coast (Benesh 1946), where it is found under beach driftwood. The validity of Platyceropsis with respect to the monophyly of Platyceroides has not yet been examined.

Species in these genera are similar in appearance to species of the Holarctic genus Platycerus Geoffroy, with which they have been placed in the tribe Platycerini Mulsant, variably considered to form the subfamily Platycerinae Mulsant (Maes 1992, Paulsen 2005) or to belong in the Lucaninae (Holloway 1969, Howden and Lawrence 1974, Paulsen 2008). The Lucaninae can be defined by the presence of an ocular canthus, as well as a permanently everted internal sac of the male genitalia (Holloway 1969). Thus, Platyceroides and Platyceropsis are here considered to belong to the Lucaninae. The association of these two genera with Platycerus into a single, higher-level taxon, whether Platycerinae or Platycerini, necessitates hedging on some characters, in particular the visible 6th abdominal ventrite used by Benesh (1946) to define the Platycerini. Although present in Platycerus species, the character is not clearly present in Platyceroides or Platyceropsis species, and its usefulness in defining relationships between these taxa was questioned by Holloway (1969). Howden and Lawrence (1974) listed the following characters present in the Platycerini: eye canthus short (less than 1/4 length of eye), partially geniculate antennae, body length usually less than 15 mm, and lateral margin of pronotum arcuate. Other characters of Platycerus species are not found in the other genera, especially the strongly excised anterior margin of the head, indistinct labrum, and distinct sexual dimorphism in both the mandibular form and number of antennomeres that form the club. Furthermore, the eye canthus, while still short, is more pronounced in Platyceroides and Platyceropsis species. Holloway (1969: 973) first discussed the dissimilarity between the genera of Platycerini and noted that “nothing in either the male or female genitalia or in external morphological characters suggests that they are particularly closely related”. The two groups have very different biogeographic patterns, and preliminary molecular analyses indicate a great degree of molecular divergence between the two groups (Paulsen and Hawks, unpublished data). Based on the molecular and
morphological differences between these genera and *Platycerus*, we hypothesize that they are not closely related, and propose a new tribal placement for *Platyceroides* and *Platyceropsis* below.

**Platyceroidini, new tribe**

Type genus: *Platyceroides* Benesh 1946: 175, here designated.

**Description.** Coleoptera: Scarabaeoidea: Lucanidae: Lucaninae. Length: 7.6-13.2 mm. Width: 3.2-5.8 mm. Color: Black to reddish-brown, occasionally with metallic reflections. *Head*: Anterior margin straight or weakly emarginate, not deeply, semi-circularly excised. Eye canthus weak but distinct (anterior margin of eye located on dorsal surface of head, per Holloway 1969). Antenna partially geniculate; antennal club composed of 3 antennomeres in both sexes. Mandibles small in both sexes, approximately 1/3 to 1/2 length of head; form not strongly sexually dimorphic, simply falcate, at most with weakly indicated tooth internally near base. *Pronotum*: Form broadly rounded, narrowly to broadly explanate. *Elytra*: Surface punctate, weakly striate. *Wings*: Males mostly with functional flight wings (one species with flightless males), females flightless in all species. *Abdomen*: Sixth ventrite rarely visible beyond apex of 5th ventrite unless genitalia protruding. Male genitalia with internal sac permanently everted, with saclike accessory lobes not strongly sclerotized; flagellum present or absent.

**Composition.** *Platyceroides* (7 species), *Platyceropsis* (1 species).

**Acknowledgments**

We gratefully acknowledge B. C. Ratcliffe (University of Nebraska State Museum), A. B. T. Smith (Canadian Museum of Nature) and an anonymous reviewer for providing reviews of the manuscript.

**Literature Cited**


Received November 20, 2008; accepted November 26, 2008.