

# INSECTA MUNDI

A Journal of World Insect Systematics

---

0297

Description of a new species of *Adelorhagus* Horn, 1890  
(Coleoptera: Eucnemidae) from Honduras with a key to the species

Robert L. Otto  
2301 Cypress Way  
Apt. 22  
Madison, WI 53713

Date of Issue: May 10, 2013

Robert L. Otto

Description of a new species of *Adelorhagus* Horn, 1890 (Coleoptera: Eucnemidae)  
from Honduras with a key to the species  
Insecta Mundi 0297: 1-4

ZooBank Registered: urn:lsid:zoobank.org:pub:51F2C17F-53FF-4D7F-8968-8EB16B99B44B

**Published in 2013 by**

Center for Systematic Entomology, Inc.  
P. O. Box 141874  
Gainesville, FL 32614-1874 USA  
<http://www.centerforsystematicentomology.org/>

**Insecta Mundi** is a journal primarily devoted to insect systematics, but articles can be published on any non-marine arthropod. Topics considered for publication include systematics, taxonomy, nomenclature, checklists, faunal works, and natural history. **Insecta Mundi** will not consider works in the applied sciences (i.e. medical entomology, pest control research, etc.), and no longer publishes book reviews or editorials. **Insecta Mundi** publishes original research or discoveries in an inexpensive and timely manner, distributing them free via open access on the internet on the date of publication.

**Insecta Mundi** is referenced or abstracted by several sources including the Zoological Record, CAB Abstracts, etc. **Insecta Mundi** is published irregularly throughout the year, with completed manuscripts assigned an individual number. Manuscripts must be peer reviewed prior to submission, after which they are reviewed by the editorial board to ensure quality. One author of each submitted manuscript must be a current member of the Center for Systematic Entomology. Manuscript preparation guidelines are available at the CSE website.

**Managing editor:** Paul E. Skelley, e-mail: [insectamundi@gmail.com](mailto:insectamundi@gmail.com)

**Production editor:** Michael C. Thomas, Brian Armitage, Ian Stocks

**Editorial board:** J. H. Frank, M. J. Paulsen

**Subject editors:** G.B. Edwards, J. Eger, A. Rasmussen, F. Shockley, G. Steck, Ian Stocks, A. Van Pelt, J. Zaspel

**Spanish editors:** Julieta Brambila, Angélico Asenjo

**Printed copies (ISSN 0749-6737) annually deposited in libraries:**

CSIRO, Canberra, ACT, Australia  
Museu de Zoologia, São Paulo, Brazil  
Agriculture and Agrifood Canada, Ottawa, ON, Canada  
The Natural History Museum, London, Great Britain  
Muzeum i Instytut Zoologiczny 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  
Zoological Institute of Russian Academy of Sciences, Saint-Petersburg, Russia

**Electronic copies (On-Line ISSN 1942-1354, CDROM ISSN 1942-1362) in PDF format:**

Printed CD or DVD mailed to all members at end of year. Archived digitally by Portico.  
Florida Virtual Campus: <http://purl.fcla.edu/fcla/insectamundi>  
University of Nebraska-Lincoln, Digital Commons: <http://digitalcommons.unl.edu/insectamundi/>  
Goethe-Universität, Frankfurt am Main: <http://edocs.ub.uni-frankfurt.de/volltexte/2010/14363/>

**Author instructions** available on the Insecta Mundi page at:

<http://www.centerforsystematicentomology.org/insectamundi/>

Copyright held by the author(s). This is an open access article distributed under the terms of the Creative Commons, Attribution Non-Commercial License, which permits unrestricted non-commercial use, distribution, and reproduction in any medium, provided the original author(s) and source are credited. <http://creativecommons.org/licenses/by-nc/3.0/>

Description of a new species of *Adelorhagus* Horn, 1890 (Coleoptera: Eucnemidae) from Honduras with a key to the species

Robert L. Otto  
2301 Cypress Way  
Apt. 22  
Madison, WI 53713  
tar1672@yahoo.com

**Abstract.** *Adelorhagus bicoloratus*, **new species** (Coleoptera: Eucnemidae: Melasinae: Dirhagini) is described from Honduras. Dorsal, ventral and lateral habitus, along with male aedeagus are illustrated and a key is provided to distinguish the new species from that of *Adelorhagus lateralis* Horn, 1890.

**Introduction**

Among a lot of specimens from the Florida State Collection of Arthropods (FSCA), two eucnemid specimens were determined to belong to an undescribed *Adelorhagus* Horn (Coleoptera: Eucnemidae) species collected from Honduras and are described below. Generic identification was conducted through an on-line interactive diagnostic key created by Muona (2011) and Horn's (1890) paper. Specimens were further compared with syntypes of *Adelorhagus lateralis* Horn. The new species brings the number of Neotropical *Adelorhagus* to two.

*Adelorhagus* Horn, 1890

**Type species:** *Adelorhagus lateralis* Horn, 1890 (by monotypy)

**Diagnosis:** Dirhagini genus with apex of clypeus fairly evenly rounded and more than twice as wide as between antennal sockets; lateral pronotal ridges interrupted (Fig. 7); notosternal antennal grooves obliterated caudally (Fig. 6), usually with smooth surfaces; male protarsomere 1 simple, without sex combs; metacoxal plates gradually narrowing laterad; acutely produced apex of last ventrite; male aedeagus (Fig. 8) dorsoventrally compressed, with well-developed secondary lateral lobes attached basally; lateral lobes bilobed and directed dorsocaudad; median lobe simple, deeply and widely bifurcate apically; flagellum complex and tubular.

**Key to the species of *Adelorhagus* Horn, 1890**

- 1. Pronotum red-orange, elytra black; anterior lateral pronotal ridge more angulated, elongate; antennomere XI black in color (Fig. 1-4) ..... ***A. bicoloratus* Otto, new species**
- Dorsum reddish-yellow, darker laterally, elytra evenly colored; anterior lateral pronotal ridge evenly rounded, short; antennomere XI yellow (Fig. 5-8) ..... ***A. lateralis* Horn**

***Adelorhagus bicoloratus* Otto, new species**

Figures 1-4

**Diagnosis.** Angulated, elongate anterior lateral pronotal ridge, along with parallel-sided pronotum and coloration will distinguish this species from *A. lateralis*.

**Type material,** female, in FSCA, with label data: "HONDURAS: Yoro; PN Pico Pijol; 14 May 2002; R. Turnbow" / "**HOLOTYPE:** *Adelorhagus; bicoloratus*; Otto; det. R.L. Otto; 2013 [red printed label].  
**Paratype,** male, in Robert Turnbow private collection (TC), with label data: "HONDURAS: Yoro; PN



**Figures 1-4.** *Adelorhagus bicoloratus* Otto, n. sp. **1-3)** Dorsal, ventral and lateral of holotype. **4)** Aedeagus of paratype, ventral view. Scale line = 0.5 mm.

Pico Pijol; 3 June 2003; R. Turnbow" / "**PARATYPE:** *Adelorhagus bicoloratus*; Otto; det. R.L. Otto; 2013 [yellow printed label].

**Description. Body:** Subcylindrical, moderately elongate and tapering towards the apex; bicolored with frons, pronotum, legs, antennomere II and ventral surface red-orange; head, clypeus, antennae, pronotal hind angles and elytra dull black; pronotum and elytra clothed with vestiture of short, decumbent yellow setae; delicate, narrow vittae consisting of elongate, yellow setae extending from each elytral humerus down to caudal end (Fig.1). Length, 6.00 mm. Width, 2.00 mm.

**Head:** Very closely punctate to granulose, subspherical with convex frons; apical margin of clypeus rounded, about 2.5 times wider than base; mandibles stout, bidentate, densely punctate.

**Antennae:** Serrate, reaching about 2/3 the length of the body. Antennomere III slightly longer than IV; antennomeres IV-X each subtriangular, subequal and about two times longer than wide; antennomere XI slightly longer than X.

**Pronotum:** Very closely punctate, granulose; longer than wide, with moderately sized hind angles; basal 3/4 parallel-sided; anterior portion of pronotum slightly convex; disc simple, without impressions or ridges; lateral sides (Fig. 3) with two ridges; anterior lateral ridge extended straight back, about 1/3 the length of pronotum; posterior lateral ridge extend at least 3/4 the length of pronotum.

**Scutellum:** Slightly rugose, oblong and distally rounded.

**Elytra:** Faintly indicated striae present; interstices slightly elevated, very closely punctate to granulose.

**Legs:** First tarsomere shorter than the combined lengths of the remaining four in mesothoracic and metathoracic tarsi; tibiae rounded in cross section; lateral surfaces of mesothoracic and metathoracic tibiae with single spines; tarsomeres 1-3 simple; tarsomere 4 truncate and excavated; fifth metathoracic tarsomere elongate with basally swollen simple claws.

**Venter** (Fig. 2): Punctate, with decumbent yellow setae; hypomera with anteriorly indicated notosternal antennal grooves; metepisternum parallel-sided; metacoxal plates medially twice as wide as lateral sides.



**Figures 5-8.** *Adelorhagus lateralis* Horn, syntype. **5-7)** Dorsal, ventral and lateral. **8)** Aedeagus, ventral view.

**Aedeagus** (Fig. 4): Basal piece elongate, caudally rounded; basally narrowed, apical two-thirds widened; lateral lobes elongate, simple, apically rounded, clusters of elongate setae present near apices; secondary lateral lobes short, hidden between lateral lobes; median lobe basally widened, elongate, apically bilobed, clusters of elongate setae present near apex.

**Variation.** The paratype is equal in length to the holotype. The male antennae are nearly as long as the length of its body. The underside and head exhibit some color variation, that being darker than the holotype specimen.

**Distribution.** The species is known only from a single locality in Honduras where the two specimens were collected.

**Etymology.** This species is named for the overall coloration of the species

### ***Adelorhagus lateralis* Horn, 1890**

Figures 5-8

*Adelorhagus lateralis* Horn, 1890: 254-255

**Diagnosis.** Uniformly pale reddish-yellow coloration with darker lateral sides, along with yellow antennomere XI and an evenly rounded anterior lateral pronotal ridge will distinguish the species from the new species, *A. bicoloratus*.

**Materials studied.** Three syntypes of *A. lateralis* from the Natural History Museum of London were studied and compared with the new species. All three specimens were taken in Panama. Two different sexes are represented in the series.

**Discussion.** *Adelorhagus bicoloratus*, in all aspects of the generic features present within the group is best placed in *Adelorhagus*, despite the differing aedeagal structure when compared with *A. lateralis*. The lateral lobes are simple and not bilobed in *A. bicoloratus*, bilobed in *A. lateralis*. The structure of the median lobe is very different between these two species. Although bilobed, the median lobe for *A. bicoloratus* is not spatulate or apically widened as found in *A. lateralis*.

Horn (1890) separated *Adelorhagus* from other eucnemid genera mainly by the acutely prolonged tip of the last visible ventrite. *Adelorhagus* is closely similar to *Rhagomicrus* Fleutiaux, 1902, *Adelothyreus* Chevrolat, 1867 and *Weyrauchiella* Cobos, 1972 and is best separated from these groups by the form of the metacoxal plates rather than the last visible ventrite. Metacoxal plates in *Adelorhagus* are two times wider medially than laterally. Metacoxal plates for the other three genera are parallel-sided.

Only seven species of Neotropical Eucnemidae have an entirely red or orange pronotum and black elytra. They include: *Rhagomicrus thoracicus* (Horn, 1890), *Ceratogonys spinicorne* (Fabricius, 1801), *Fornax atripennis* Horn, 1890, *F. notabilis* Bonvouloir, 1872, *Eucalosoma sanguinicolle* (Bonvouloir, 1872), *Phaenobolus bicolor* Horn, 1890 and *Suareziella bispinosa* Cobos, 1964. *Adelorhagus bicoloratus* can be distinguished from *R. thoracicus* based on several generic traits, that being the hypomeral antennal grooves, last abdominal ventrite and metacoxal plates. *Adelorhagus bicoloratus* can also be distinguished from *Fornax* species, *E. sanguinicolle*, *P. bicolor* and *S. bispinosa* by its hypomeral antennal grooves and metacoxal plates. Basally open, deep, lateral hypomeral antennal grooves as well as metacoxal plates being more than 2.5 times wider medially than lateral sides are present in *Fornax* species, *E. sanguinicolle*, *P. bicolor* and *S. bispinosa*. Notosternal antennal grooves in *A. bicoloratus* is apically indicated, but caudally obliterated. Metacoxal plates in *A. bicoloratus* are less than 2.5 times wider medially than laterally. *Adelorhagus bicoloratus* is further distinguished from *C. spinicorne* by the shape of the pronotum and surface. The basal 3/4 of the pronotum for *A. bicoloratus* is parallel-sided and dull with very closely punctate or granulose surface, whereas the pronotum is gradually narrowed apically with a shiny surface in *C. spinicorne*.

### Acknowledgments

I wish to thank Dr. Michael Thomas for the opportunity to examine Eucnemidae from the FSCA and Dr. Robert Turnbow for access to specimens from his personal collection. Malcolm Kerley and Max Barclay from the British Museum of Natural History are gratefully acknowledged for the loan of *A. lateralis* syntypes during this study. I thank both Dr. Paul Johnson and Dr. Michael Thomas for reviewing and offering their input on the manuscript.

### Literature Cited

- Horn, G. 1890. Fam. Eucnemidae. Biologia Centrali-Americana, *Insecta. Coleoptera. Serricornia*. Volume III, Part 1: 210-257, plate 10.
- Muona, J. 2011. Eucnemidae.info Homepage. Available from: [http://dol.luomus.fi:8080/cgi-bin/dol/dol\\_homepage.pl](http://dol.luomus.fi:8080/cgi-bin/dol/dol_homepage.pl) (accessed on 4 March 2012).

Received February 22, 2013; Accepted April 19, 2013.