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

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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 anteriorally 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*.

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