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# A New Species of the Genus *Anthonomus* Germar (Curculionidae) in Mexican Amber

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**Abstract**—A new species, *Anthonomus dilatofemurus* Poinar et Legalov, sp. nov., from Mexican amber is described and illustrated. The new species is close to *A. cruraluma* Poinar et Legalov and differs from it in the wider elytra with narrow striae and strongly swollen pro- and metafemora. It differs from *A. browni* Poinar et Legalov in the wide and short elytra, shorter and thicker weakly curved rostrum, and strongly swollen metafemur. It is distinguished from *A. camoiranensis* Clark by the metatitibia with uncus and from *A. sulcatus* Kirsch by the protibia with uncus, metatibia with ventral fringe of medium scales, narrower elongate pronotum, weakly convex elytra and weakly curved rostrum.

*Keywords*: Coleoptera, Curculioninae, *Anthomorphus*, new taxa, weevil, Tertiary, Mexico

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## INTRODUCTION

Curculionid beetles are numerous and well represented in amber deposits (Legalov, 2013, 2015; Poinar and Legalov, 2014a, 2014b). In the New World, weevils have been found in Mexican and Dominican amber as well as in Colombian copal. About 120 species of the families Belidae, Rhynchitidae, Attelabidae, Brentidae, Curculionidae, Scolytidae, and Platypodidae have recently been described from Dominican amber (Bright and Poinar, 1995; Davis and Engel, 2006a, 2006b, 2006c, 2007a, 2007b, 2009; Poinar, 2009; Poinar and Brown, 2011; Poinar at all., 2013, 2016; Poinar and Legalov, 2014a, 2014b, 2014c, 2014d, 2015a, 2015b, 2015c, 2015d, 2015e, 2015f). So far, only one rhynchitid species (*Eugnamptus proterus* Poinar et Brown, 2007); three weevil species (*Semnorhynchus hurdi* (Zimmermann, 1971), *Neoulosomus* sp. (Cryptorhynchini), and *Geratozygops durhami* (Zimmermann, 1971) (Zygopini); and five Platypodidae species (*Cenocephalus hurdi* Schedl, 1962, *C. quadrilobus* Schedl, 1962, *C. succinicaptus* Schedl, 1962, *C. tenuis* Peris et Solórzano Kraemer, 2015, *Tesserocerus simojovelensis* Peris et Solórzano Kraemer, 2015) have been described from Mexican amber (Schedl, 1962; Zimmermann, 1971; Poinar and Brown, 2007; Poinar and Legalov, 2014b, 2014c; Peris et al., 2015); Solórzano Kraemer (2007) also provides a photograph of a beetle of the subfamily Cossoninae (Curculionidae).

The present study describes the first representative of the subfamily Curculioninae from Mexican amber.

## MATERIAL AND METHODS

The specimen comes from an amber mine in the northern mountain ranges or Chiapas Highlands of the Simojovel area in Chiapas, Mexico. Maps of the area were presented by Poinar (1992) and Solórzano Kraemer (2010). Amber from Chiapas, which was produced by *Hymenaea mexicana* (Fabaceae) (Poinar and Brown, 2002), occurs in lignitic beds among sequences of primarily marine calcareous sandstones and silt. The amber is associated with La Quinta Formation, Balumtun Sandstone and Mazantic Shale with radiometric ages from 15 to 20 Ma (Solórzano Kraemer, 2007).

## SYSTEMATIC PALEONTOLOGY

**Family Curculionidae Schoenherr, 1825**

**Subfamily Curculioninae Schoenherr, 1825**

**Tribe Anthonomini Thomson, 1859**

**Genus *Anthonomus* Germar, 1817**

**Subgenus *Anthomorphus* Weise, 1883**

***Anthonomus* (*Anthomorphus*) *dilatofemurus* Poinar et Legalov sp. nov.**

Plate 6, fig. 1.

Etymology. From the Latin *dilato* (enlarged) and *femur*.

Plate 6



Explanation of Plate 6

**Fig. 1.** *Anthonomus dilatofemurus*, holotype: (1a) lateral view; scale bar, 0.83 mm; (1b) dorsal view; scale bar, 0.62 mm.

Holotype. Male, deposited in the Poinar amber collection (accession #C-165) maintained at Oregon State University, Corvallis, Oregon.

Description. The body is reddish brown, with dense covering of pale, recumbent, setiform scales. The rostrum is elongate, 1.2 times as long as the pronotum, 7.9 times longer than wide at the apex, 7.3 times longer than wide in the middle, 6.2 times longer than wide at the base, weakly curved, without carinae, finely and slightly punctate; the antennal scrobes are lateral and directed toward the ventral margin of eye; the forehead is narrow, 0.4 times as wide

as the rostrum base, flattened, punctate; eyes are large, oval, 1.2 times longer than wide, distinctly convex; the transversal diameter is equal to the rostrum base width; the vertex is weakly flattened, punctate; the temples are 0.6 times as long as eye, punctate; the antennae are inserted in the apical third of rostrum, elongate, almost reaching the pronotum base; the scape is elongate, 11.4 times longer than wide; in the funicle, demsomeres 1–7 are elongate conical; the club is compact, 1.9 times longer than wide, 0.4 times as long as the funicle. The pronotum is bell-shaped, 1.6 times longer than wide at the apex, 1.1 times longer than wide in the middle and at base; the disk is weakly convex, weakly narrowing at the apex, densely punctate; the scutellum is trapezoidal, convex. The elytra are elongate and distinctly convex, 1.7 times longer than wide at the base, 1.5 times longer than wide in the middle, 2.3 times longer than wide in the apical quarter, 2.3 times as long as the pronotum, without transverse basal patch of scales; the greatest width is behind the middle; the humeri are distinctly convex; the striae are narrow, regularly and distinctly punctate; the intervals are wide, weakly convex, 2.0–2.6 times as wide as striae. The apices of elytra are separately acuminate. The thorax is punctate; the pre- and postcoxal portions of the prothorax are short, almost equal in length; the procoxal cavities are contiguous; the middle coxal cavities are widely separated; the metaventrite is 2.1 times as long as the metacoxa, flattened, with some semierect scales; the metanepisternum is rather narrow, 5.5 times longer than wide in the middle. The abdomen is convex ventrally; ventrites are almost homogeneous; ventrites 1 and 2 are equal in length; ventrite 1 is 1.3 times as long as the metacoxa; ventrites 3 and 4 are slightly shorter than the preceding ones; ventrite 3 is 0.9 times as long as ventrite 2; ventrite 4 is 0.9 times as long as ventrite 3; ventrite 5 is weakly elongate, 1.2 times as long as ventrite 4, subquadrately emarginated. The pygidium is sulcate. The pygidial channel is narrow and shallow. The legs are long; pro- and mesocoxae are conical; metacoxae are transverse; the femora are distinctly clavate; the trochanters obconical; the profemora have two teeth, one large and one small; the meso- and metafemora have a tooth; the metafemora are swollen, 2.7 times longer than wide, with a distal tooth distinctly separated from large ventral tooth; the mesofemora are 3.8 times longer than wide; the metafemora are distinctly swollen, 3.0 times longer than wide; the pro- and mesofemora lack emargination; the tibiae have a prominence on the ventral margin, slightly curved, with uncus; the protibiae are 8.3 times longer than wide in the middle, with uncus, without ventral setiform scales; the metatibiae are 6.7 times longer than wide in the middle, with uncus and ventral fringe of medium scales; the tarsi are long; tarsomeres 1–3 are conical; tarsomere 5 elongate; tarsomeres with pulvilli on underside; claws free, large, with a large tooth, almost as large as the main claw.

Measurements, mm. Body length (without rostrum), 2.5; rostrum length, 1.0.

Material. Holotype.

Comparison. The new species is similar to *A. cruraluma* Poinar et Legalov, 2015 from Dominican amber and differs from it in the wider elytra with narrow striae and strongly swollen pro- and metafemora. It differs from *A. browni* Poinar et Legalov, 2015 from Dominican amber in the wide and narrow elytra, the shorter and thicker, weakly curved rostrum, and strongly swollen metafemur. It is distinguished from *A. camoiranensis* Clark, 1987 from Venezuela by the metatitibia with uncus. It differs from *A. sulcatus* Kirsch, 1874 from Mexico, Panama, Peru, and Brazil in the protibia with uncus, metatibia with ventral fringe of medium scales, the narrower elongate pronotum, weakly convex elytra, and weakly curved rostrum.

Remarks. The assignment of this species to the genus *Anthonomus* is based on the tarsal claws with basal teeth, contiguous procoxae, widely separated mesocoxae, slender rostrum, which is longer than the pronotum, 7-articled antennal funicle; the profemora with two teeth; the pro- and mesofemora lacking emargination; elytra without a transverse basal patch of scales; and the straight protibia. The new species is similar to species of the genus *Pseudanthonomus* Dietz, 1891 in having the antennal scrobes directed toward the ventral eye margin, but differs in the 7-articled antennal funicle and the profemora with two teeth. The new species belongs to the subgenus *Anthomorphus* (Clark, 1987), as evidenced by the 5th ventrite subquadrately emarginate and the sulcate pygidium.

## DISCUSSION

Several fossil representatives of the genus *Anthonomus* Germar, 1817 have been reported (Cockerell, 1925; Scudder, 1893, 1900). The oldest taxa are "*A.*" *sunchalensis* Cockerell, 1925 from the Palaeocene of Argentina and "*A.*" *soporus* Scudder, 1890 and "*A.*" *revictus* Scudder, 1893 from the Early–Middle Eocene Green River deposits; however, the assignment of these forms to the genus *Anthonomus* is plausible, but requires confirmation. Perhaps, only *A. debilatus* Scudder, 1893 from the terminal Eocene of Florissant (USA) actually belongs to this genus. A single representative (*Anthonomus* sp.) of this tribe has previously been recorded and described in Dominican amber (Poinar and Poinar, 1999; Poinar and Legalov, 2015c).

Mexican amber Curculionidae are poorly understood (Solórzano Kraemer, 2007), but it is possible to carry out a preliminary comparison with the weevil fauna of Dominican amber of the same age (Solórzano

Kraemer, 2007). The genera *Semnorhynchus* Faust, 1896, *Neoulosomus* O'Brien and Wibmer, 1982, and *Geratozygops* Davis et Engel, 2006, which were found in Mexican amber, are also known in Dominican amber and *Semnorhynchus* and *Neoulosomus* are still extant. However, these localities lack common species of these genera both in the past and at present.

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