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The Bruchidae (Insecta: Coleoptera) of La Reserva de la Biósfera Sierra de Huautla, Morelos, Mexico, with descriptions of two new species and an annotated checklist

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The Bruchidae (Insecta: Coleoptera) of La Reserva de la Biósfera Sierra de Huautla, Morelos, Mexico, with descriptions of two new species and an annotated checklist

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The Bruchidae (Insecta: Coleoptera) of La Reserva de la Biósfera Sierra de Huautla, Morelos, Mexico, with descriptions of two new species and an annotated checklist

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Abstract. From 1995 to 2004 collections for Bruchidae (Coleoptera) were made in La Reserva de la Biósfera Sierra de Huautla, Morelos, Mexico. Specimens were reared from mature seedpods, but also collected by net, malaise trap, and light trap. In total 72 species in 13 genera of Bruchidae were recovered. Of those two **new species** are here described: *Amblycerus montalvoi* Romero and *Acanthoscelides camerinoi* Romero. We record 27 host plants for the bruchids found in the study area.

Key words. Bruchidae, Mexico, Morelos, new species, new records, checklist.

Introduction

There are very few works referring to Bruchidae of a specific area or in natural reserves, or even entire countries. The majority of literature is devoted to reviews of genera or associated host plants. In the last ten years many countries have designated natural areas to preserve biodiversity. However, cataloging that biodiversity involves an enormous amount of work.

La Reserva de la Biósfera Sierra de Huautla (RBSH) is located in southern Morelos between 18°18'21"–18°46'26" N and 98°20'35"–99°08'01" W (Dorado 1997), containing 59,310 hectares and ranging in altitude from 700–2200 meters. The climate of RBSH is defined as subhumid hot, with the median annual temperature of 22°C and a precipitation range of 500–2500 mm. The rainy season normally is from June to October. The topography of RBSH is generally mountainous due to the presence of the Eje Neovolcánico to the south and the Sierra Madre del Sur in the west. These form a multitude of canyons and gorges that serve as refuges for a wide variety of organisms (Dorado et al. 2005). The fauna is diverse (Dorado 1999, Noguera et al. 2002, Westcott et al. 2008), notable examples being reptiles such as the boa constrictor and Mexican beaded lizard, mammals such as the jaguarundi and ocelot, and various butterflies, longhorn beetles (Cerambycidae), and flatheaded woodborers or jewel beetles (Buprestidae). The vegetation consists largely of tropical deciduous forest (Rzedowski 1978), with large trees mostly restricted to canyon bottoms along waterways. Dominant trees include *Conzattia multiflora* (Robinson) Standl., *Lysiloma acapulcense* (Kunth) Benth., *L. divaricatum* (Jacq.) J.F. Macbr., *Bursera* spp., and *Ceiba* spp. In places that have been disturbed, the dominant secondary vegetation largely includes spiny legumes such as *Acacia farnesiana* (L.) Willd., *A. cochliacantha* Willd., *A. pennatula* (Schltdl. and Cham.) Benth., *A. bilimekii* J.F. Macbr., *Mimosa polyantha* Benth., *M. benthamii* J.F. Macbr., *Pithecolobium acatlense* Benth. and *Prosopis laevigata* (Willd.) M.C. Johnst. Additionally, at higher elevations, there are small areas of medium subdeciduous forest and those with oaks and pines (Dorado 1983). Significant parts of RBSH are dedicated to agriculture, and a wide variety of crops are grown (Maldonado 1997).

Records for Bruchidae in Morelos state are scattered in the literature, most being found in only a few publications (Romero and Johnson 1999, 2000, 2004b; Romero et al. 1996, 2009). However, the most complete information is included in the Checklist of the Bruchidae (Coleoptera) of Mexico, which includes 111 species in 14 genera for this state (Romero and Johnson 2004a).

Material and methods

From 1995 to 2004 collections were made in La Reserva de la Biósfera Sierra de Huautla, Morelos, Mexico. We collected specimens using traditional methods such as net, malaise trap, and light trap. To establish host relations we collected mature pods which were put in jars in order to wait emergence of adults.

To prepare genitalia, in order to identify the bruchids, methods described by Kingsolver and Whitehead (1974) and Kingsolver (1970) were used. Romero and Johnson (1999) were followed for interpretation of genitalia.

The majority of the material studied is deposited at Colección Entomológica del Instituto de Fitosanidad, Colegio de Postgraduados, Montecillo, Estado de México (**CEAM**). Some specimens are deposited at the following collections: Florida State Collection of Arthropods Division of Plant Industry, Florida, USA (**FSCA**); W. F. Barr Entomological Museum University of Idaho, College of Agriculture, USA (**WFBM**); Klaus Werner Anton personal collection, Germany (**KWAC**); Rafael Yus Ramos personal collection, Spain (**CRYC**); Juan Enrique Barriga Tuñón personal collection, Chile (**JEBC**); Colección de Artropodos, El Colegio de la Frontera Sur, Quintana Roo, México (**ECOC**); Colección Nacional de Insectos, Instituto de Biología, UNAM, México (**CNIN**); Colección de Insectos del Instituto Nacional de Investigaciones Forestales, Agrícolas y Pecuarias, CEBAJ, México (**INIA**); Colección Entomológica del Instituto de Ecología A. C., México (**IEXA**); U.S. National Museum, USA (**USNM**).

Description of new species

Amblycerus montalvoii Romero, new species

Description. Male. Length (pronotum-elytra) 3.6 to 3.75 mm. Width 2.34 to 2.4 mm; maximum thoracic depth 1.86 to 1.89 mm.

Integumental color. Uniformly reddish brown; eyes shining black. Vestiture: Body covered with whitish and yellowish pubescence arranged in a very fine mottled pattern, abdominal segments with one spot of dense whitish setae on lateral areas; pygidium with one large, oval, central spot flanked by whitish setae (Figures 1a, 1b).

Structure. *Head.*- Subtriangular, densely punctulate; frons smooth, without median linear carina or impunctate median line. Eye ovoid, cleft to 0.23 to 0.31 its length by ocular sinus; medial margin of eye with row of long, fine, golden setae. First segment of antenna 1.5 to 2.2 times as long as second; third segment 1.2 to 1.5 times as long as second; segments 4 to 10 more or less with proportions of third but eccentric, 11 rounded apically; antenna reaching anterior margin of hind coxa. Clypeus covered with punctures about 0.02 mm of diameter. Labrum only with row of fine punctures on basal margin. *Prothorax.*- Disk subcampanulate, median basal lobe weakly convex, basal margin with carina; dorsal surface of pronotum punctulate with fine foveolae on lateral areas; carina on lateral margin reaching anterior margin of pronotum; three cervical setae. Prosternum flat, constricted between coxae, carinate laterally and rounded at apex; proepisternum finely punctulate, without foveolae. *Mesothorax and Metathorax.*- Scutellum slightly elongate, finely punctulate, sparsely setose, two times as long as wide, tridentate at apex. Elytron 2.45 to 2.87 times as long as broad; striae regular, moderately impressed and punctulate; strial intervals finely punctured. Mesosternum finely punctulate, tongue-like in apical area. Mesepisternum and mesepimeron finely punctulate without foveolae. Metasternum finely punctulate, without foveolae; median sulcus of metasternum 0.33 to 0.42 as long as sternum; antecoxal suture of metasternum interrupted before reaching median sulcus, bending caudad and reaching posterior margin near mesal area of metasternum. Metepisternum finely punctulate, with scattered foveolae and without transverse, fusiform curved and striate file; metepisternal sulcus forming slightly obtuse angle, with transverse axis straight and reaching lateral margin of metepisternum. *Legs.*- Middle and hind legs with femur punctulate, without foveolae; surface of hind coxa densely punctulate and setose in lateral two-thirds, mesal one-third polished and impunctate, except for cluster of punctures near trochanteral insertion, foveolae and cluster of punctures contiguous or nearly so; metafemur without angulate tooth on ventral margin; lateral tibial calcarium almost straight, 0.40 to 0.60 as long as basitarsus; mesal calcarium 0.80 to 0.96 as long as lateral calcarium. *Abdomen.*- Sterna finely punctulate, first to fourth sterna with sinuate row of foveolae;

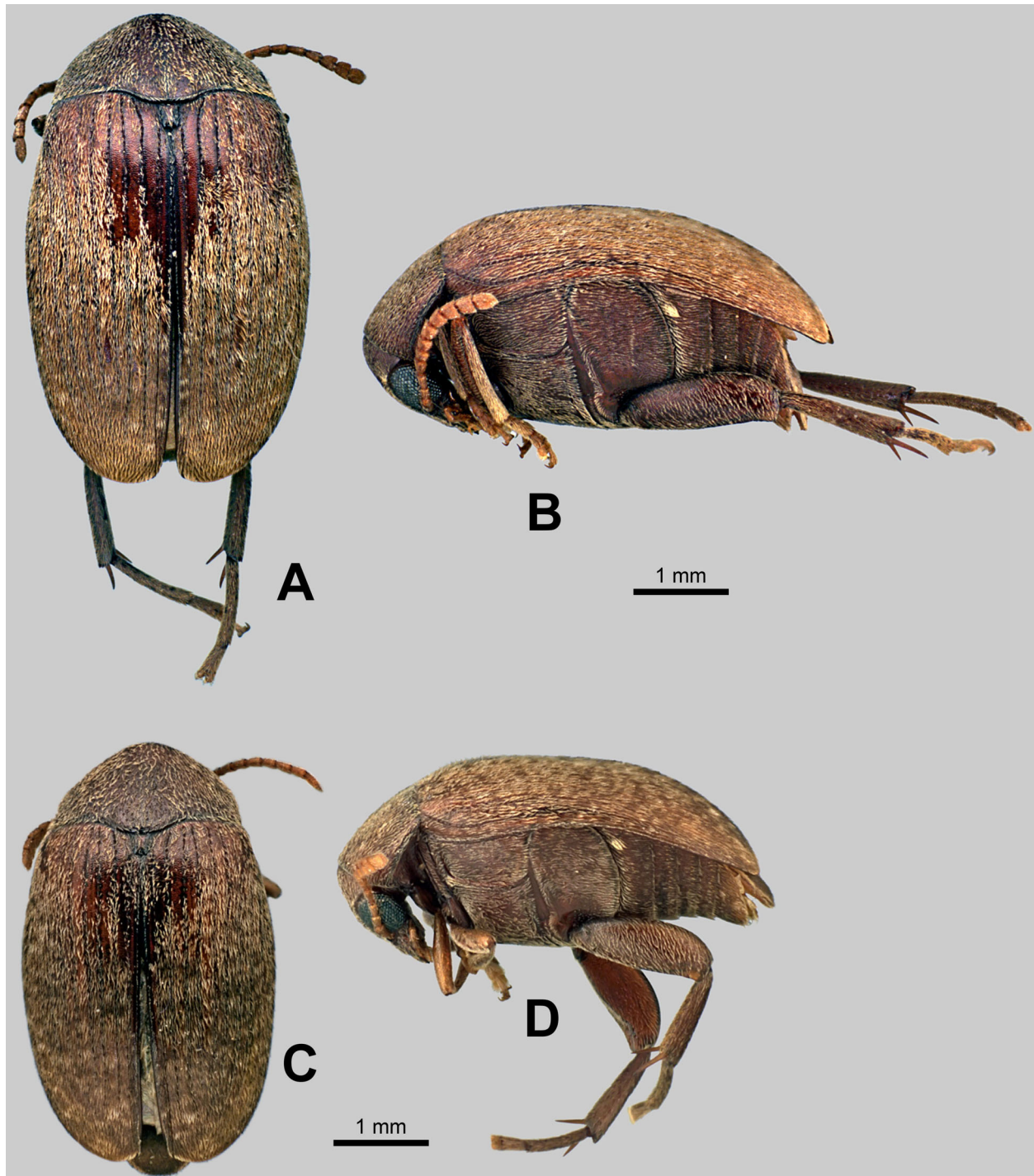


Figure 1. *Amblycerus montalvoi*. **A)** Male dorsal view. **B)** Male lateral view. **C)** Female dorsal view. **D)** Female lateral view.

fifth sternum slightly emarginate at apex; pygidium with terminal margin rounded, surface finely punctulate, without foveolae.

Genitalia. Median lobe with lateral margins parallel or nearly so; ventral valve acuminate at apex, arcuate in lateral view; dorsal valve slightly narrower and strongly concave at base; armature of internal sac with a shoe-shaped apical sclerite; median wishbone-shaped sclerite flanked on either side by a blade with outer margin serrate, two lateral spine-shaped sclerites with tooth on lateral margin near apex, and

two basal thin angulate sclerites; ejaculatory duct lined with spinules (Figure 2a). Lateral lobes cleft to one-tenth their length, clothed with fine pubescence; a pair of pads between lateral lobes near apex (Figure 2b).

Female. Length (pronotum-elytra) 2.76-4.80 mm. Width 1.44-2.94 mm; maximum thoracic depth 1.2-2.34 mm. Females are very similar to males, except 5th abdominal sternum not emarginate at apex (Fig. 1c, 2d).

Distribution. Mexico (Morelos).

Host plant. *Cordia morelosana* Standl.

Etymology. This species is named to honor my professor and friend Dr. Julio César García Montalvo, who introduced JRN to the marvelous insect world.

Type series. Holotype male, allotype female, and paratypes: Mexico, Morelos, Reserva de la Biósfera Sierra de Huautla, 27/V/2000, 1090 m, Romero N., J., reared seed *Cordia morelosana* Standl., 18°28'26" N, 99°02'27" W. Holotype male, allotype and two paratypes at FSCA, remainder of paratypes in CNIN (4), USNM (5), and CEAM (10).

Diagnosis. *Amblycerus montalvo* belongs to the scutellaris species-group, together with *A. atkinsoni* Romero, Johnson and Kingsolver, *A. baracoensis* Kingsolver, *A. biolleyi* (Pic), *A. cerdanicola* Kingsolver, *A. maria* Romero, Johnson and Kingsolver, *A. pygidialis* (Suffrian), *A. scutellaris* (Sharp), and *A. veracruz* Romero, Johnson and Kingsolver. They share the following characters: absence of a frontal carina; all antennal segments brown; presence of foveolae only on the lateral margins of the pronotum; absence of foveolae on the metasternum, metepisternum, and hind femur; lateral tibial calcarium straight; and pygidium with an oval, central spot. All these species feed on species of *Cordia* (Boraginaceae), except the host for *A. veracruz*, is unknown. The nearest species to *A. montalvo* is *A. baracoensis*, and they share a similar external morphology; however the difference in number and shape of the sclerites in the internal sac of the genitalia easily separates them.

Among the *Amblycerus* species keyed in Romero et al. (1996), *A. montalvo* should be separated by the following modifications in the key:

- 26' Metepisternal sulcus forming an obtuse angle, metacoxa with foveolae and cluster of punctures near trochanteral insertion contiguous or nearly so 27
- 27(26'). Eye cleft more than 3/10 its length by ocular sinus, cervical sulcus indistinct, reared from seeds of *Cordia alliodora* ***A. cerdanicola* Kingsolver**
- Eye cleft 2/10 to 3/10 its length by ocular sinus, cervical sulcus distinct 28

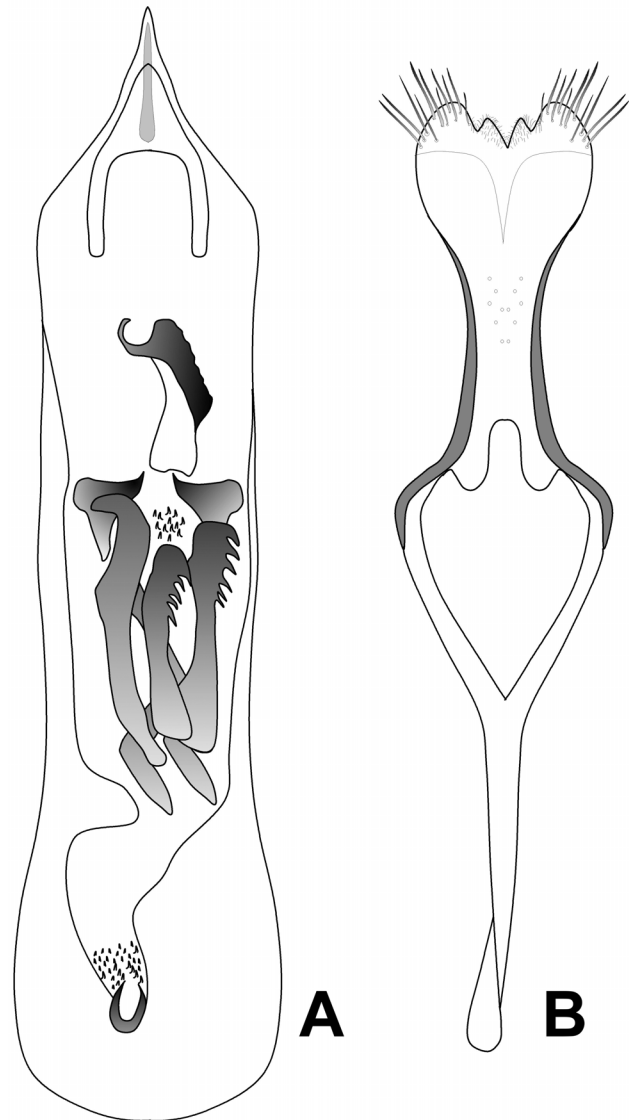


Figure 2. *Amblycerus montalvo* genitalia. **A)** Median lobe. **B)** Lateral lobes.

- 28(27). Internal sac with a campanulate apical sclerite, reared from seeds of *Cordia gerascanthus* *A. baracoensis* Kingsolver
 – Internal sac with a shoe-shaped apical sclerite, reared from seeds of *Cordia morelosana* *A. montalvoi*, new species

Acanthoscelides camerinoi Romero, new species

Description. Male. Length (pronotum-elytra) 1.59 to 2.01 mm. Width 1.05 to 1.35 mm. Maximum thoracic depth 0.72 to 0.90 mm.

Integumental color. Head reddish brown with frons and clypeus dark brown, antenna yellow to reddish brown; pronotum all reddish brown varying to dark brown; elytron all reddish brown varying to dark brown with a reddish brown stripe encompassing intervals between striae 2 to 5; mesothoracic and metathoracic sterna and all coxae dark brown to black, remainder of undersurface reddish brown to black; legs yellow to reddish brown. Vestiture: With recumbent white, golden, brown, and black pubescence as follows: eye with medial fringe of white pubescence; postocular lobe with short white setae; postocular patch of dense white pubescence; remainder of head with moderately dense white or intermixed white or golden pubescence; pronotum variegated with dense intermixed patches of white, golden, and black pubescence; scutellum clothed with dense white pubescence; elytral vestiture varies with maculations of golden yellow, white, and brown setae in a distinct pattern; intervals between striae 1 and 2, 3 and 4, 5 and 6, 7 and 8, 9 and 10 usually with uniform white or golden or intermixed white and golden setae; intervals between striae 2 and 3, 4 and 5, 6 and 7, 8 and 9 with large elongate patches of dense white pubescence interrupted by shorter patches of darker pubescence; legs with sparse white setae; undersurfaces with moderately dense white to golden pubescence; pygidial pubescence varying from uniform moderately dense white setae to white or brown setae with a dense patch of white pubescence at middle of base (Fig. 3a,3b).

Structure. Head.- Short and broad, densely punctulate; frons with faint median carina extending from frontoclypeal suture to vertex; vague transverse sulcus between upper limits of eyes; distance between eyes 0.66 to 0.78 as wide as eye width; eye cleft to 0.60 to 0.74 its length by ocular sinus; posterior margin of eye protruding from adjacent surfaces; postocular lobe rounded; distance from base of antennae to apex of labrum 0.40 to 0.50 as long as distance from upper limits of eyes to apex of labrum; antennal segments 1 to 4 filiform, 5 to 10 eccentric, 11 acute apically; antenna extending to humerus or slightly beyond. *Prothorax.*- Disk campanulate; punctulate with many scattered coarser punctures; cervical sulcus moderately deep, extending from near coxal cavity to about 0.6 distance to pronotal midline; lateral prothoracic carina extending from base to 0.3 distance to coxal cavity; short median impressed line on median basal lobe; prosternum separating procoxae for about 0.60 to 0.75 their length. *Mesothorax and Metathorax.*- Scutellum quadrate, ground color obscured by dense white pubescence, apex bifurcate; elytron about twice as long as broad; striae deep, punctate; striae intervals punctulate; striae 2 and 3 closer to one another at base than to adjacent striae, others subequal at base; striae 2 and 3 and with small denticles at their bases; humerus glabrous, shiny dark brown. *Legs.*- Undersurfaces and all of hind coxa punctate; hind femur constricted apically and basally. expanded medially to slightly more than width of coxa; inner ventral surface with a glabrous, brown longitudinal carina; femur armed with a subapical acuminate spine about as long as width of tibial base and 3 spinules, about 0.60 length of spine; tibia with ventral, lateroventral, lateral and dorsomesal glabrous longitudinal carinae; ventral carinae separated by a shallow sulcus; dorsal surface of tibia without fossa; tibial corona with 4 small spinules; mucro reaching to one-sixth as long as first tarsomere; not sinuate at base of mucro; first tarsomere with ventral, lateral, and mesal glabrous longitudinal carinae. *Abdomen.*- First sternum with median oval depression, clothed with dense white pubescence; sternum not arched to posterior, about as long as remaining sterna; sterna 2 to 4 unmodified, 5 emarginate; pygidium microrugose, convex in lateral view.

Genitalia. Median lobe moderate in length; in ventral view ventral valve gently rounded apically, lateral margins convex, base slightly broader as apex of median lobe, in lateral view slightly concave; armature of internal sac consisting of an anterior mass of tiny scales, a small median mass of very fine spinules, and a basal mass of spines (Fig. 4a). Lateral lobes expanded at apex, cleft to 0.7 their length (Fig. 4b).

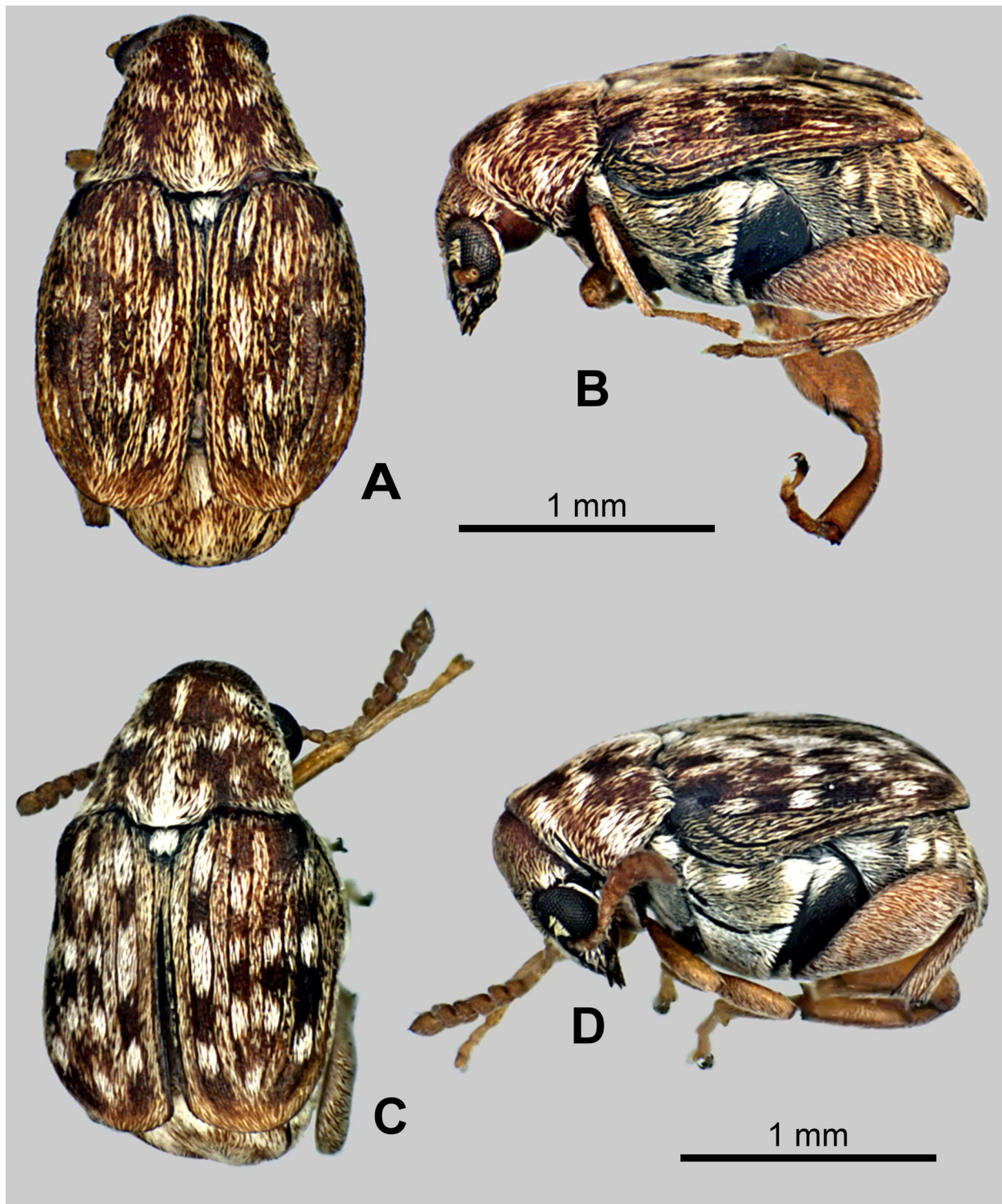


Figure 3. *Acanthoscelides camerinoi*. A) Male dorsal view. B) Male lateral view. C) Female dorsal view. D) Female lateral view.

Female. Length (pronotum-elytra) 1.77 to 1.95 mm. Width 1.20 to 1.32 mm. Maximum thoracic depth 0.93 to 1.10 mm. Similar to male except first sternum without median oval depression, clothed with dense white pubescence (Fig. 3c, 3d).

Distribution. Mexico (Morelos).

Host plant. *Senna holwayana* (Rose) H.S. Irwin and Barneby.

Etymology. This species is named to honor Camerino Romero Beristain, uncle of JRN, who is the last of the Romero-Beristain dynasty.

Type series. Holotype male, allotype female, and paratypes. Mexico, Morelos, Reserva de la Biósfera Sierra de Huautla, 3/II/1996, Romero N., J., reared seed *Senna holwayana* (Rose) H.S. Irwin & Barneby. Holotype male, allotype and one paratype at FSCA, remainder of paratypes in CNIN (2), USNM (3), and CEAM (6).

Diagnosis. *Acanthoscelides camerinoi* belongs to the mexicanus species-group, together with nineteen more species: *A. aldanai* Johnson, *A. barinas* Johnson, *A. boneti* Johnson, *A. clitellarius* (Fahraeus), *A. cordifer* (Sharp), *A. desmanthi* Johnson, *A. guanare* Johnson, *A. jolyi* Johnson, *A. lapsanae* (Motschulsky), *A. leucaenicola* Johnson, *A. macrophthalmus* (Schaeffer), *A. mankinsi* Johnson, *A. mexicanus* (Sharp), *A. obrienorum* Johnson, *A. piceoapicalis* (Pic), *A. sennicola* Johnson, *A. speciosus* (Schaeffer), *A. suramerica* Johnson, and *A. yepezi* Johnson. They share the following characters: mucro about one-sixth as long as first tarsomere, metafemur broader than hind coxa, elytra usually variegated, elytral striae 3 and 4 abbreviated, and vertex of head has a globose area. Most have a truncate apex of the ventral valve and similar armature of the internal sac of male genitalia. All of the host plants are mimosoid legumes except for *A. obrienorum*, which feeds in seeds of the genus *Senna* Mill. (Caesalpinioideae). The closest relative of *A. camerinoi* is *A. obrienorum*, and they share a similar external morphology, including the first sternum of male with median oval depression that is clothed with dense white pubescence. *Acanthoscelides camerinoi* is the second species known to feed on plants in the genus *Senna*. The latter two species can be separated easily by the difference in sclerites of the internal sac.

Among the *Acanthoscelides* species keyed in Johnson (1983) *A. camerinoi* should be separated by the following modifications in the key:

- 18'. Hind femur with large subapical spine followed by 2-3 smaller spines, first abdominal sternum of male with median oval depression covered by dense white hairs 19
- 19(18'). Armature of internal sac consisting of two elongate setaceous structures *A. obrienorum* Johnson
- Armature of internal sac consisting of an anterior mass of tiny scales, a small median mass of very fine spinules, and a basal mass of spines *A. camerinoi*, new species

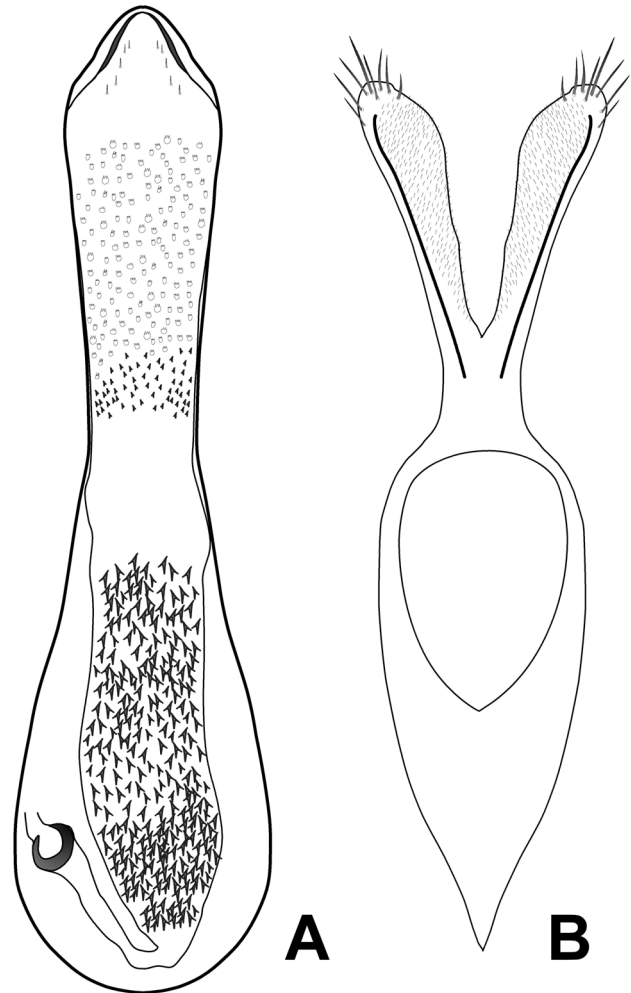


Figure 4. *Acanthoscelides camerinoi* genitalia. A) Median lobe. B) Lateral lobes.

Annotated checklist of the Bruchidae in the RBSH

For each species we include collection data, and when host plants were collected they are mentioned together with the words "reared seeds". Collections where specimens are deposited are indicated by codens, followed by the number of specimens in parentheses. Since most material was collected around the station of the Reserva de la Biósfera Sierra de Huautla, we abbreviated it only as **RBSH**. All of the listed specimens below were collected by the JNR unless otherwise indicated.

Subfamily Amblycerinae**Tribe Amblycerini**

Amblycerus alternatus (Pic), 1954.

RBSH, 10/VII/1995, 940 m, R. L. Westcott., 18°25' N, 99°02' W, WFBM (1).

Amblycerus guazumicola Kingsolver and Johnson, 1971.

RBSH, 3/II/1996, reared seeds *Guazuma tomentosa* Kunth, CEAM (2); 3/XI/1996, CEAM (50), FSCA (7).

Amblycerus perfectus (Sharp), 1885.

1 km SE RBSH, 9/VII/2000, 1160 m, 18°28'08" N, 99°01'43"W, CEAM (1); 4 km W RBSH, 18/VI/1997, 940 m, R. L. Westcott, 18°28' N, 98°02' W, CEAM (1).

Amblycerus spondiae Kingsolver, 1980.

RBSH, 5/X/1996, 1080 m, CEAM (1).

Tribe Spermophagini

Zabrotes chavesi Kingsolver, 1980.

3 km S Hornos, Valle de Vázquez, RBSH, 4/XI/2000, 1030 m, 18°30'35" N, 99°04'56"W, KWAC (1), CEAM (6); RBSH, 15/IV/2000, 891 m, 18°27'38" N, 99°00'04" W, CEAM (2).

Zabrotes densus (Horn), 1885.

Camino al Limón, RBSH, 29/IX/2000, 1280 m, 18°28'22" N, 99°00'58" W, CEAM (1).

Zabrotes obliteratus (Horn), 1885.

RBSH, 15/IV/2000, 891 m, 18°27'38" N, 99°00'04" W, CEAM (1); 16/IV/2000, 1060 m, I. Figueroa de la R., 18°27'38" N, 99°00'42" W, CEAM (4); RBSH, 5/II/2000, 954 m, 18°27'48" N, 99°02'10" W, CEAM (1).

Zabrotes planifrons (Horn), 1885.

Carretera a Huautla, RBSH, 15/IV/2000, 1145 m, I. Figueroa de la R., 18°26'10" N, 99°01'25" W, CEAM (2); 13/IV/2000, 1060 m, I. Figueroa de la R., 18°27'38" N, 99°00'42" W, CEAM (1); 15/IV/2000, 1535 m, 18°26'03" N, 99°02'51" W, CEAM (7); 16/IV/2000, 1060 m, I. Figueroa de la R., 18°27'38" N, 99°00'42" W, CEAM (10); 4/IV/1996, CEAM (12); 5/II/2000, 954 m, 18°27'48" N, 99°02'10" W, CEAM (1).

Zabrotes propinquus (Sharp), 1885.

RBSH, 20/X/1995, CEAM (1).

Zabrotes spectabilis Horn, 1885.

RBSH, 5/IV/2000, 891 m, 18°27'38" N, 99°00'04" W, CEAM (1); 27/V/2000, 891 m, I. Figueroa de la R., 18°27'38" N, 99°00'04" W, CEAM (1).

Subfamily Bruchinae**Tribe Acanthoscelidini**

Acanthoscelides chiricahuae (Fall), 1910.

RBSH, 11/XII/1999, 1057 m, 18°27'47" N, 19°02'20" W, CEAM (4).

Acanthoscelides clitellarius (Fahraeus), 1839.

Camino al Limón, RBSH, 29/IX/2000, 1280 m, 18°28'22" N, 99°00'58" W, CEAM (1); 15/IV/2000, 1060 m, I. Figueroa de la R., 18°27'38" N, 99°00'42" W, CEAM (1); 4/II/2000, 954 m, 18°27'36" N, 99°02'10" W, CEAM (1); 4/IV/1996, CEAM (1).

Acanthoscelides cordifer (Sharp), 1885.

RBSH, 21/X/1995, CEAM (6).

Acanthoscelides cornis Johnson, 1983.

RBSH, 27/V/2000, 1090 m, reared seeds *Heliocarpus pallidus* Rose (Tiliaceae); 18°28'26" N, 99°02'27" W, CEAM (24). This is a new host record for bruchids.

Acanthoscelides cuernavaca Johnson, 1983.

3 km S Hornos, Valle de Vázquez, RBSH, 1/X/2000, 1030 m, 18°30'35" N, 99°04'56" W, CEAM (2); Estación Micoondas, El Salto, Puente de Ixtla, RBSH, 5/II/2000, 1534 m, I. Figueroa de la R., 18°27'54" N, 99°16'37" W, CEAM (8); 5/II/2000, 1650 m, 18°39'49" N, 99°11'30" W, CEAM (8); 4/II/2000, 954 m, 18°27'36" N, 99°02'10" W, CEAM (2), FSCA (4).

Acanthoscelides desmodicola Johnson, 1983.

3 km S Hornos, Valle de Vázquez, RBSH, 1/X/2000, 1030 m, 18°30'35" N, 99°04'56" W, CEAM (1); Camino al Limón, RBSH, 30/X/2000, 1280 m, I. Figueroa de la R., 18°28'22" N, 99°00'56" W, CEAM (1); Carr. Huautla-Huautla, RBSH, 15/IV/2000, 1145 m, I. Figueroa de la R., 18°26'10" N, 99°01'25" W, CEAM (1); Estación Microondas, El Salto, Puente de Ixtla, RBSH, 5/II/2000, 1534 m, I. Figueroa de la R., 18°27'54" N, 99°16'37" W, CEAM (3); 5/II/2000, 1534 m, 18°27'54" N, 99°16'37" N, CEAM (2); 5/II/2000, 1650 m, 18°39'41" N, 99°11'30" W, CEAM (3); Km 6 terracería Chimalacatlán-Valle de Vázquez, RBSH, 4/XI/2000, 1190 m, 18°30'24" N, 99°05'30" W, CEAM (1); 11/XII/1999, 1057 m, 18°27'47" N, 99°02'20" W, CEAM (2); 12/XII/1999, 1057 m, 18°27'47" N, 99°02'20" W, CEAM (2); 20/X/1995, 940 m, 18°27'38" N, 99°00'04" W, CEAM (1).

Acanthoscelides desmoditus Johnson, 1983.

RBSH, 5/II/2000, 954 m, 18°27'46" N, 99°02'10" W, CEAM (3). This is the first distribution record for the state of Morelos.

Acanthoscelides difficilis (Sharp), 1885.

RBSH, 20/X/1995, reared seeds *Mimosa albida* var. *strigosa* (Willd.) B.L. Rob., CEAM (4); 21/X/1995, CEAM (11), CRYC (4).

Acanthoscelides flavescens (Fahraeus), 1839.

RBSH, 20/X/1995, 940 m, CEAM (1).

Acanthoscelides griseolus (Fall), 1910.

RBSH, 20/X/1995, 940 m, reared seeds *Sesbania* sp. CEAM (14). This is the first distribution record for the state of Morelos.

Acanthoscelides guazumae Johnson and Kingsolver, 1971.

RBSH, 20/X/1995, 940 m, CEAM (3); 3/XI/1996, reared seeds *Guazuma tomentosa* Kunth, CEAM (7).

Acanthoscelides kingsolveri Johnson, 1974.

Camino al Limón, RBSH, 29/IX/2000, 1280 m, 18°28'22" N, 99°00'58" W, CEAM (2); Cruz Pintada, RBSH, 20/X/1995, 940 m, reared seeds *Indigofera* sp., CEAM (1); RBSH, 16/II/1996, reared seeds *Indigofera* sp., CEAM (50); 18/I/1997, reared seeds *Indigofera suffruticosa* Mill., CEAM (24); 19/1/1997, reared seeds *Indigofera suffruticosa* Mill., CEAM (50); 20/X/1995, reared seeds *Indigofera suffruticosa* Mill., CEAM (7); 4/V/1995, reared seeds *Indigofera suffruticosa* Mill., CEAM (50).

Acanthoscelides mazatlan Johnson, 1983.

Quilamula, RBSH, 16/IV/2000, 1060 m, 18°31'07" N, 99°00'29" W, CEAM (1); RBSH, 4/IV/1996, CEAM (1); RBSH, 5/II/2000, 954 m, 18°27'48" N, 99°02'10" W, CEAM (1). This is the first distribution record for the state of Morelos.

Acanthoscelides megacornis Kingsolver, 1980.

Camino al Limón, RBSH, 29/IX/2000, 1280 m, 18°28'22" N, 99°00'58" W, CEAM (3); Camino al Limón, RBSH, 30/X/2000, 1280 m, I. Figueroa de la R., 18°28'22" N, 99°00'58" W, CEAM (2); Crucero Huautla-Estación, RBSH, 1/X/2000, 18°27' N, 99°00' W, CEAM (1); RBSH, 12/XII/1999, 1057 m, 18°27'47" N, 99°02'20" W, CEAM (6); RBSH, 20/X/1995, 940 m, reared seeds *Aeschynomene americana* L., 18°27' N, 99°00' W, CEAM (20), ECOC (3); RBSH, 20/X/1995, 940 m, *Desmodium* sp., 18°27' N, 99°00' W, CEAM (1000).

Acanthoscelides mexicanus (Sharp), 1885.

Cañada Pájaro Verde, RBSH, 16/XI/1996, reared seeds *Mimosa polyantha* Benth., ECOC (10), CEAM (100); Estación Micoondas, El Salto, Puente de Ixtla, RBSH, 2/II/2000, 1534 m, 18°27'54" N, 99°16'37" W, CEAM (1); RBSH, 5/II/2000, 1650 m, 18°39'49" N, 99°11'30" W, CEAM (2); Quilamula, RBSH, 16/II/1996, *Mimosa benthamii* J.F. Macbr., CEAM (6); RBSH, 11/XII/1999, 1057 m, 18°27'47" N, 99°02'20" W, CEAM (1); RBSH, 6/XI/1996, 925 m, reared seeds *Mimosa polyantha* Benth., CEAM (300); RBSH, 3/XI/1996, reared seeds *Mimosa polyantha* Benth., CEAM (88). *Mimosa benthamii* is a new host plant record for bruchids.

Acanthoscelides mimosicola Johnson, 1983.

RBSH, 20/X/1995, 940 m, reared seeds *Mimosa* sp., CEAM (50).

Acanthoscelides mundulus (Sharp), 1885.

1 km SE Estación RBSH, 9/VII/2000, 1060 m, I. Figueroa de la R., 18°28'08" N, 99°01'43" W, CEAM (1); RBSH, 18/I/1997, reared seeds *Nissolia fruticosa* Jacq. CEAM (2).

Acanthoscelides obrienorum Johnson, 1970.

La Mezquitera, Tlaquiltenango, RBSH, 2/II/1997, 970 m, reared seeds *Acacia mammifera* Schltld., CEAM (100). This is a new host record for bruchids.

Acanthoscelides obtectus (Say), 1831.

RBSH, 6/III/2001, reared seeds *Phaseolus vulgaris* L. CEAM (7).

Acanthoscelides pertinax (Sharp), 1885.

RBSH, 21/X/1995, CEAM (6); Estación de Microondas El Salto, RBSH, 18/VIII/2002, 1740 m, 18°27'75" N, 99°16'38" W, CEAM (1).

Acanthoscelides puellus (Sharp), 1885.

RBSH, 16/IV/2000, I. Figueroa de la R., CEAM (1).

Acanthoscelides pusillimus (Sharp), 1885.

RBSH, 12/XII/1999, 1057 m, 18°27'47" N, 99°20'20" W, CEAM (1).

Acanthoscelides sanfordi Johnson, 1983.

Km 6 terraceria Chimalacatlán-Valle de Vázquez, RBSH, 4/XI/2000, 1190 m, reared seeds *Pachyrhizus erosus* (L.) Urb., 18°30'24" N, 99°05'30" W, CEAM (150), CRYC (3), ECOC (5).

Acanthoscelides triumfettae Kingsolver, 1980.

RBSH, 4/IV/1996, CEAM (1). This is the first distribution record for the state of Morelos.

Algarobius johnsoni Kingsolver, 1986.

La Mezquitera, Tlaquiltenango, RBSH, 2/II/1997, 903 m, reared seeds *Havardia acatlensis* (Benth.) Britton & Rose, CEAM (30).

Algarobius nicoya Kingsolver, 1986.

RBSH, 4/V/1996, reared seeds *Prosopis juliflora* (SW.) DC., CEAM (7). This is the first distribution record for the state of Morelos.

Cosmobruchus russelli Bridwell, 1931.

Micoondas El Salto, RBSH, 18/VIII/2002, 1740 m, R. L. Westcott, 18°27'45" N, 99°16'23" W, CEAM (2). This is the first distribution record for the state of Morelos.

Ctenocolum janzeni Kingsolver and Whitehead, 1974.

RBSH, 27/V/2000, 1090 m, reared seeds *Lonchocarpus rugosus* Benth., 18°28'26" N, 99°02'27" W, CEAM (170), JEBC (5), KWAC (4), CRYC (5). This is the first distribution record for the state of Morelos.

Dahlbruchus conradti Bridwell, 1931.

Estación Micoondas, El Salto, Puente de Ixtla, RBSH, 18/VIII/2002, 1740 m, R. L. Westcott, 18°27'45" N, 99°16'22" W, CEAM (3).

Meibomeus hidalgo Kingsolver and Whitehead, 1976.

Estación Micoondas, El Salto, Puente de Ixtla, RBSH, 7/X/2004, 1775 m, reared seeds *Desmodium* sp., 18°27'47" N, 99°16'20" W, CEAM (3).

Meibomeus ptinoides (Sharp), 1885.

3 km S Hornos, Valle de Vazquez, RVSH, 1/X/2000, 1030 m, 18°30'35" N, 99°04'56" W, CEAM (1).

Meibomeus serraticulus (Sharp), 1885.

Estación Micoondas, El Salto, Puente de Ixtla, RBSH, 7/X/2004, 1775 m, reared seeds *Desmodium* sp. 18°27'47" N, 99°16'20" W, CEAM (70).

Merobruchus insolitus (Sharp), 1885.

RBSH, 6/II/1996, reared seeds *Lysiloma divaricatum* (Jacq.) J.F. Macbr., CEAM (50); RBSH, 9/I/1997, reared seeds *Lysiloma acapulcense* (Kunth) Benth. CEAM (2); RBSH, 2/II/1996, *Lysiloma* sp., CRYC (2), CEAM (23); RBSH, 3/II/1996, reared seeds *Lysiloma acapulcense* (Kunth) Benth. CEAM (9); RBSH, 4/IV/1996, CEAM (1).

Merobruchus julianus (Horn), 1894.

RBSH, 10/VII/1996, 940 m, R. L. Westcott, 18°28' N, 98°02' W, CEAM (1). This is the first distribution record for the state of Morelos.

Merobruchus placidus (Horn), 1873.

RBSH, 3/XI/1996, CEAM (3).

Merobruchus terani Kingsolver, 1980.

4 km W Huautla, RBSH, 18/VI/1997, 940 m, R. L. Westcott, 18°28' N, 98°02' W, CEAM (1); La Mezquitera, Tlaquiltenango, RBSH, 2/II/1997, 970 m, reared seeds *Albizzia guachapele* (Kunth) Dugand, 18°28' N, 98°02' W, CEAM (22). This is a new host record for bruchids.

Merobruchus vacillator (Sharp), 1885.

Cruz Pintada, RBSH, 20/X/1995, 940 m, reared seeds *Lysiloma divaricatum* (Jacq.) J.F. Macbr., CEAM (5).

Mimosestes humeralis (Gyllenhal), 1833.

El Salto, Est. de Microondas, Tilzapotla, RBSH, 3/II/2000, 1534 m, reared seeds *Acacia pennatula* (Schldl. & Cham.) Benth. 18°27'54" N, 49°16'37" W, CEAM (20).

Mimosestes mimosae (Fabricius), 1781.

Cruz Pintada, RBSH, 3/II/1996, reared seeds *Acacia cochliacantha* Humb. & Bonpl., CEAM (200); RBSH, 6/XI/1996, 1080 m, reared seeds *Acacia cochliacantha* Humb. & Bonpl., CEAM (100); RBSH, 18/I/1997, 1080 m, reared seeds *Acacia cochliacantha* Humb. & Bonpl., CEAM (100), CRY (20); RBSH, 3/II/1996, 1080 m, reared seeds *Acacia farnesiana* (L.) Willd., CEAM (30); RBSH, 4/X/1996, 1080 m, reared seeds *Bauhinia variegata* L., CEAM (3). The latter plant is a new host record for bruchids.

Mimosestes nubigena (Motschulsky), 1874.

RBSH, 3/II/1996, 954 m, reared seeds *Acacia farnesiana* (L.) Willd., CEAM (100); 5/II/2000, 954 m, CEAM (1).

Sennius auricomus Johnson and Kingsolver, 1973.

RBSH, 3/II/1996, *Senna holwayana* (Rose) H.S. Irwin & Barneby, CEAM (3). This is a new host record for bruchids.

Sennius ensiculus Johnson and Kingsolver, 1973.

Cruz Pintada, RBSH, 20/X/1995, 940 m, *Chamaecrista nictitans* (L.) Moench, 18°27' N, 99°02' W, CEAM (1); Estación Micoondas, El Salto, Puente de Ixtla, RBSH, 3/VIII/2000, 1645 m, 18°27'54" N, 99°16'30" W, CEAM (2); RBSH, 20/X/1995, 1057 m, *Chamaecrista nictitans* (L.) Moench, 18°27'47" N, 99°02'20" W, CEAM (50).

Sennius lebasii (Fahraeus), 1839.

Cañón Pájaro Azul, RBSH, 17/XI/1996, 1000 m, *Senna occidentalis* (L.) Link, CEAM (6); 3 km S Hornos, Valle de Vázquez, RBSH, 4/XI/2000, 1030 m, 18°30'35" N, 99°04'56" W, CEAM (3); Estación Micoondas, El Salto, Puente de Ixtla, RBSH, 5/II/2000, 1650 m, 18°39'36" N, 99°11'25" W, CEAM (1); RBSH, 15/IV/2000, 1060 m, I. Figueroa de la R., 18°27'38" N, 99°00'42" W, CEAM (1); RBSH, 16/XI/1996, 925 m, reared seeds *Senna hirsuta* (L.) H.S. Irwin & Barneby, 18°27' N, 99°02' W, CEAM (5); RBSH, 20/X/1995, reared seeds *Senna occidentalis* (L.) Link, 18°27' N, 99°02' W, CRYC (2), CEAM (28); RBSH, 3/II/1996, reared seeds *Sesbania herbacea* (Mill.) McVaugh, CEAM (50); RBSH, 4/V/1996, reared seeds *Senna occidentalis* (L.) Link, CEAM (500); RBSH, 5/II/2000, 954 m, 18°27'46" N, 99°02'10" W, CEAM (1). *Sesbania herbacea* is a new host plant record for bruchids.

Sennius medialis (Sharp), 1885.

RBSH, 5/II/2000, 1090 m, I. Figueroa de la R., 18°28'23" N, 99°02'24" W, CEAM (1); RBSH, 3/XI/1996, 1080 m, reared seeds *Senna obtusifolia* (L.) H.S. Irwin & Barneby, 18°28'23" N, 99°02'24" W, CEAM (25). This is a new host record for bruchids.

Sennius morosus (Sharp), 1885.

3 km S Hornos, Valle de Vázquez, RBSG, 1/X/2000, 1030 m, 18°30'35" N, 99°04'56" W, CEAM (2); 3 km S Hornos, Valle de Vázquez, RBSH, 4/XI/2000, 1030 m, 18°30'35" N, 99°04'56" W, CEAM (14); Camino al Limón, RBSH, 29/IX/2000, 1280 m, 18°28'22" N, 99°00'58" W, CEAM (3); RBSH, 30/X/2000, 1280 m, I. Figueroa de la

R., 18°28'22"N, 99°00'58" W, CEAM (14); Estación Micoondas, El Salto, Puente de Ixtla, RBSH, 2/II/2000, 1534 m, 18°27'54" N, 99°16'37" W, CEAM (3); Estación Micoondas, El Salto, Puente de Ixtla, RBSH, 5/II/2000, 1534 m, I. Figueroa de la R., 18°27'54" N, 99°16'37" W, CEAM (1); Quilamula, RBSH, 16/IV/2000, 1060 m, 18°31'07" N, 99°00'25" W, CEAM (1); RBSH, 1/X/1999, 953 m, I. Figueroa de la R., 18°27'50" N, 99°02'11" W, CEAM (11); RBSH, 5/II/2000, 954 m, 18°27'46" N, 99°02'10" W, CEAM (16).

Sennius rufomaculatus (Motschulsky), 1874.

3 km S Hornos, Valle de Vazquez, RBSH, 1/X/2000, 1030 m, I. Figueroa de la R., 18°30'35" N, 99°04'56" W, CEAM (1); Camino al Limón, RBSH, 29/IX/2000, 1280 m, 18°28'22" N, 99°00'58" W, CEAM (2); Crucero Huautla-Jojutla, RBSH, 13/IV/2000, 1045 m, I. Figueroa de la R., 18°32'41" N, 9°03'56" W, CEAM (1); Estación Micoondas, El Salto, Puente de Ixtla, RBSH, 5/II/2000, 1534 m, I. Figueroa de la R., 18°27'54" N, 99°16'37" W, CEAM (1); RBSH, 16/XI/1996, 925 m, reared seeds *Senna hirsuta* (L.) H.S. Irwin & Barneby, CEAM (20); RBSH, 20/V/1995, 940 m, reared seeds *Senna* sp., CEAM (50); RBSH, 4/V/1996, 1057 m, reared seeds *Senna occidentalis* (L.) Link, 18°27'47" N, 99°02'20" W, CEAM (100).

Sennius simulans (Schaeffer), 1907.

RBSH, 20/X/1995, 940 m, reared seeds *Chamaecrista nictitans* (L.) Moench, 18°27' N, 99°02' W, CEAM (3).

Stator huautlae Romero and Johnson, 2004.

Estación Micoondas, El Salto, Puente de Ixtla, RBSH, 2/II/2000, 1534 m, reared seeds *Salvia sessei* Benth., 18°27'54" N, 99°16'37" W, CEAM (2); IEXA (1), INIA (1), USNM (1); Estación Micoondas, El Salto, Puente de Ixtla, RBSH, 30/XI/2001, 1650 m, reared seeds *Salvia sessei* Benth., 18°27'54" N, 99°16'37" W, CNIN (3), CEAM (36), FSCA (6), CRYC (3).

Stator limbatus (Horn), 1873.

La Mezquitera, Tlaquiltenango, RBSH, 2/II/1997, 903 m, reared seeds *Havardia acatlensis* (Benth.) Britton & Rose, CEAM (1); Quilamula, RBSH, 16/IV/2000, 1060 m, 18°31'07" N, 99°00'27" W, CEAM (1); RBSH, 19/I/1997, reared seeds *Lysiloma acapulcense* (Kunth) Benth., CEAM (1); RBSH, 4/V/1996, 1090 m, reared seeds *Pithecellobium dulce* (Roxb.) Benth., CEAM (50).

Stator pruininus (Horn), 1873.

RBSH, 21/X/1995, CEAM (50).

Stator sordidus (Horn), 1873.

Carr. Huautla-Huautla, RBSH, 15/IV/2000, 1145 m, I. Figueroa de la R., 18°26'10" N, 99°01'25" W, CEAM (4); Quilamula, RBSH, 16/IV/2000, 1060 m, 18°31'07" N, 99°00'27" W, CEAM (1); RBSH, 11/XII/1999, 1057 m, 18°27'47" N, 99°02'20" W, CEAM (1); RBSH, 16/IV/2000, 1060 m, I. Figueroa de la R., 18°27'38" N, 99°00'42" W, CEAM (39); RBSH, 19/I/1997, reared seeds *Bauhinia variegata* L., CEAM (1); RBSH, 4/V/1996, 1050 m, reared seeds *Pithecellobium dulce* (Roxb.) Benth., CEAM (3).

Stator vachelliae Bottimer, 1973.

Quilamula, RBSH, 16/IV/2000, 1060 m, 18°31'07" N, 99°00'30" W, CEAM (1); RBSH, 5/II/2000, 954 m, CEAM (4).

Stator vittatithorax (Pic), 1930.

La Mezquitera, Tlaquiltenango, RBSH, 2/II/1997, 970 m, reared seeds *Albizia guachapele* (Kunth) Dugand, CEAM (14). This is a new host record for bruchids.

Tribe Megacerini

Megacerus alabani Teran and Kingsolver, 1977.

RBSH, 27/V/2000, 1090 m, 18°28'45" N, 99°02'46" W, CEAM (1). This is the first distribution record for the state of Morelos. This species was poorly represented in collections. In 2007 we found its host

plant, *Ipomoea purpurea* (L.) Roth, in Tabasco, Mexico and now there are more available specimens.

Megacerus callirhipis (Sharp), 1885.

1 km S crucero Huautla-Chimalacatlán, RBSH, 2/II/1997, 18°28' N, 98°02' W, reared seeds *Ipomoea* sp. CEAM (50); Crucero Huautla-Estación, RBSH, 1/X/2000, 18°28' N, 98°02' W, CEAM (2); RBSH, 10/VII/1996, 940 m, R. L. Westcott, 18°28' N, 98°02' W, CEAM (3); RBSH, 3/II/1996, 940 m, reared seeds *Ipomoea* sp., 18°28' N, 98°02' W, CEAM (3).

Megacerus contaminatus (Sharp), 1885.

RBSH, 20/X/1995, 940 m, CEAM (1).

Megacerus cubiculus (Casey), 1884.

Chimalacatlan, RBSH, 4/XI/2000, 1190 m, reared seeds *Ipomoea* sp., 18°30'24" N, 99°05'30" W, CEAM (1); RBSH, 16/IV/2000, 1060 m, I. Figueroa de la R., 18°27'38" N, 99°00'42" W, CEAM (1); RBSH, 4/V/1996, 1057 m, 18°27'47" N, 99°02'20" W, CEAM (1); RBSH, 5/II/2000, 954 m, 18°27'46" N, 99°02'10" W, CEAM (4).

Megacerus impiger (Horn), 1873.

RBSH, 13/IV/2000, 1060 m, I. Figueroa de la R., 18°27'38" N, 99°00'42" W, CEAM (1); RBSH, 5/II/2000, 954 m, 18°27'48" N, 99°02'10" W, CEAM (1).

Megacerus tricolor (Suffrian), 1870.

3 km S Hornos, Valle de Vazquez, RBSH, 1/X/2000, 1030 m, 18°30'35" N, 99°04'56" W, CEAM (1); Camino al Limón, RBSH, 29/IX/2000, 1280 m, 18°28'22" N, 99°00'58" W, CEAM (3); RBSH, 30/X/2000, 1280 m, I. Figueroa de la R., 18°28'22" N, 99°00'58" W, CEAM (1); Crucero Huautla-Estación RBSH, 1/X/2000, 18°27' N, 99°02' W, CEAM (1); Crucero Huautla-Jojutla, RBSH, 13/IV/2000, 1045 m, I. Figueroa de la R., 18°32'41" N, 99°03'56" W, CEAM (1); Km 6 terraceria Chimalacatlán-Valle de Vázquez, RBSH, 4/XI/2000, 1190 m, 18°30'24" N, 99°05'30" W, reared seeds *Ipomoea* sp., CEAM (1); RBSH, 20/X/1995, 940 m, CEAM (1); RBSH, 3/II/1996, 954 m, 18°27' N, 99°02' W, reared seeds *Ipomoea* sp., CEAM (1).

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