

The Buprestidae (Coleoptera) of Morelos, Mexico, with description of six new species, and a partially annotated checklist

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Abstract

Beetles of the family Buprestidae are treated for Morelos, the second smallest state in Mexico, in a partially annotated checklist, with the following new species being described: *Acmaeodera noguerai* Westcott, *A. tenuivittata* Westcott, *Agilus cyphothoracoides* Hespeneheide, *A. pseudosallei* Hespeneheide, *Brachys exquisitus* Hespeneheide, and *Chrysobothris tessellatus* Westcott. Special emphasis is placed on the fauna of La Reserva de La Biosfera Sierra de Huautla. Twenty-six genera and 139 species from Morelos are recorded herein.

Key words: Buprestidae, Mexico, Morelos

Introduction

There has been much interest of late in the flora and fauna of Morelos, Mexico, mostly due to study in La Reserva de La Biosfera Sierra de Huautla (RBSH) by faculty and students of Universidad Autónoma de Morelos and others, including ourselves. Many of the collections that form the basis of this paper, and almost all from RBSH, have been made during the last decade. Although most of our collections have been from in and near the reserve, we have decided to incorporate that information into an overall review of the Buprestidae fauna of Morelos.

Located in south-central Mexico, Morelos is the second smallest state (~4942 km²); however, it contains diverse habitats across elevations ranging from about 700–3460 meters. The vegetation is mostly tropical deciduous forest, and second to that are pine-oak forests, but there are also other tropical and temperate vegetation types. Of course, much of this is disturbed, particularly by agriculture. For more detailed data on the state and its beetle fauna see Burgos-Solorio & Trejo-Loyo (2001).

In southern Morelos between 18°18'21"–18°46'26" N and between 98°20'35"–99°08'01" W is RBSH (Dorado, 1997; includes map), 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 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 very diverse (Dorado, 1999; Noguera *et al.*, 2002), notable examples being

reptiles such as the boa constrictor and Mexican beaded lizard, mammals such as the jaguarundi and ocelot, and various butterflies and longhorn beetles. The vegetation consists largely of tropical deciduous forest (Rzedowski, 1978), with big trees mostly restricted to canyon bottoms along waterways. Dominant trees include *Conzattia multiflora*, *Lysiloma acapulcense*, *L. divaricata*, *Bursera* spp., and *Ceiba* spp. In places that have been disturbed, the dominant secondary vegetation largely includes spiny legumes such as *Acacia farnesiana*, *A. cochliacantha*, *A. pennatula*, *A. bilimekii*, *Mimosa polyantha*, *M. benthamii*, *Pithecellobium acatlensis* and *Prosopis laevigata*. 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 Buprestidae in Morelos are scattered in the literature, most being found in only a few publications. In the epic *Biología Centrali-Americana*, Waterhouse (1882–1889) included only 16 species, all from Cuernavaca. Westcott *et al.* (1990) recorded 25 species new to the state. Hesperheide (1990) added 16 species, mostly without specific locality data. Burgos Solorio & Trejo-Loyo (2001) listed a total of 14 genera and 59 species, providing reference sources for most. Herein, we include from Morelos 26 genera (for two of which the species are unidentified) and 139 species. During the course of our studies numerous new species have been collected in Morelos, mostly from RBSH, by others and ourselves. Six of those species are described below. Of those remaining the great majority is in the difficult genus *Agrilus*, and we must leave them for future study. Unless otherwise indicated collection and institutional codens follow the “Insect and Spider Collections of the World” web site, Bishop Museum: (www.bishopmuseum.org/bishop/ento/codens-r-us.html, as of September, 2007). Codens appear at the end of label data and may refer to multiple records preceding them.

Taxonomy

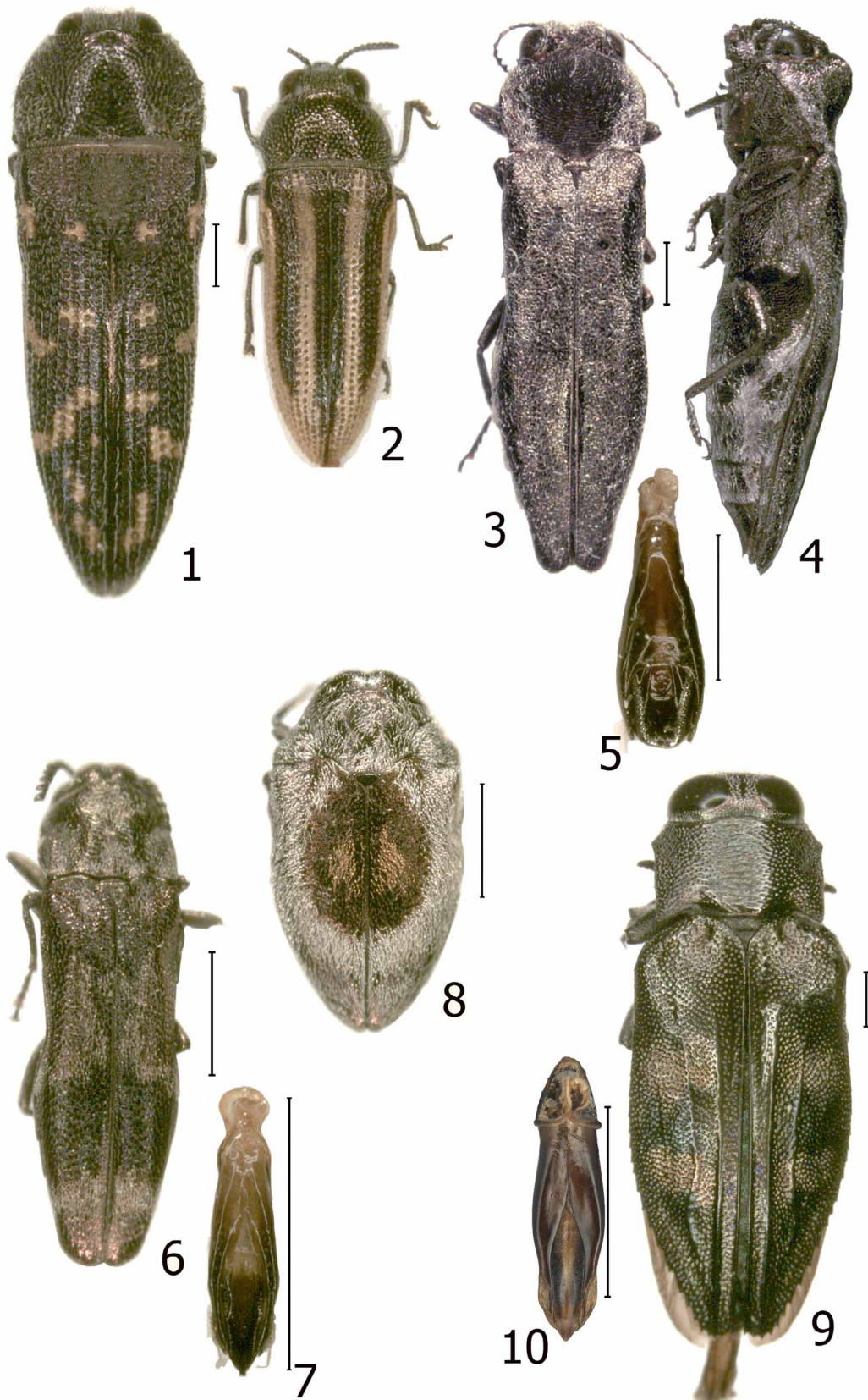
Descriptions of new species

Acmaeodera noguerai, Westcott, new species

(Fig. 1)

Holotype male: Length 9.13 mm, width 2.83 mm, widest across base of elytra, but almost equally wide across middle of pronotum; head, pronotum and ventral surface black with slightly coppery reflections that are more pronounced on head, pronotum with a small lateral sub-basal spot on each side, elytra black with purple and, to a lesser extent, blue reflections, and with yellow markings as in Fig. 1, submarginal interval yellow between and slightly beyond each median spot that reaches it; appendages black; setae white.

Head flattened, very shallowly depressed along middle, surface coarsely reticulate-punctate; clypeus deeply depressed at base, front margin broadly, arcuately emarginate; antennae abruptly and widely serrate from antennomere 5, reaching to about hind margin of pronotum. **Pronotum** broadly, rather steeply evenly convex, with a well-defined narrow median depression extending from base to shortly before apex; punctures coarse, reticulate and well-defined medially, becoming larger and more closely reticulate laterally; anterior margin deeply emarginate, with a distinct narrow lobe at middle; posterior margin truncate; lateral margins well-defined, broadly and evenly arcuate, scarcely visible from above; front angles distinctly pronounced, subquadrate, hind angles quadrate; setae rather long and suberect on disc, distinctly thicker and subrecumbent on sides. **Elytra** weakly convex on disc, rather steep-sided, with very prominent shining black finely and sparsely punctured umbones; humeral angles blunt-triangular, projecting to apex of hind angles; lateral margins becoming weakly serrate past middle, then distinctly and more strongly so apically; sutural area flattened basally but becoming elevated from just in front of middle and more distinctly so apically; striae punctures coarse dense deep and well-defined except somewhat confused basally, and becoming smaller and placed in



FIGURES 1–10. 1, *Acmaeodera noguerai* Westcott, **sp. nov.**, dorsal habitus. 2, *Acmaeodera tenuivittata* Westcott, **sp. nov.**, dorsal habitus. 3–5, *Agrilus cyphothoracoides* Hesperheide, **sp. nov.**: 3, dorsal habitus; 4, lateral view; 5, dorsal view aedeagus. 6–7, *Agrilus pseudosallei*, Hesperheide **sp. nov.**: 6, dorsal habitus; 7 dorsal view aedeagus. 8, *Brachys exquisitus* Hesperheide, **sp. nov.**, dorsal habitus. 9–10, *Chrysobothris tessellata* Westcott, **sp. nov.**: 9, dorsal habitus; 10, dorsal view aedeagus.

grooves apically on disc, interstitial punctures tiny to indistinct; intervals 4–8 very narrow, ninth most prominent, especially before apex, sixth and eighth ending well before apex; setae shorter and thicker than on pronotal disc, suberect, becoming subrecumbent to recumbent laterally, some of them becoming narrowly and shortly bifurcate along margin. **Underside** with setae mostly recumbent, squamiform, finely and deeply dissected, moderately dense on thorax, very dense on abdominal ventrites 1–4, except those of ventrite 5 unmodified, thin, erect, more sparsely placed; prosternum with front margin broadly evenly shallowly emarginate, not attaining front angles of pronotum; ventrite 5 with apical margin rather narrowly subtruncate and a well-developed thickened subapical plate.

Type specimens: Holotype (UNAM) labeled “MEXICO, Morelos, 2.5 km N, 4 km O Huautla, Estación CEAMISH, 13-VI-1996, Alt. 940 m, 18°27.671’ N, 99°02.475’ O, Col. F.A. Noguera, 120 RA. One male paratype (EBCC) with exact same data.

Variation: The single male paratype is a close match to the holotype, the only significant difference being that it lacks pronotal spots.

Comparison: This species seems most closely related to the recently described *A. rodriguezae* Westcott (2005), based primarily on arrangement and type of ventral abdominal setae, which are digitate except on the fifth ventrite, where they are long, hair-like and suberect. Also, *A. rodriguezae* is distinctly smaller, more robust, and the elytral markings are fewer and more regularly placed.

Etymology: I take pleasure in dedicating this species to my friend and fellow Coleopterist, Felipe Noguera, who has collected many specimens of Buprestidae in Mexico and has extended to me numerous courtesies during my years of study in his country.

Acmaeodera tenuivittata Westcott, new species

(Fig. 2)

Holotype male: Length 6.8 mm, width 2.4 mm, widest across elytra just behind umbones; head, pronotum and underside shining black, appendages brown-black; elytra with brownish black and yellow vittate pattern as in Fig. 2, umbones yellow below, sides entirely yellow; setae erect to semi-erect, above mostly light brown with a few white ones at base and sides of pronotum, more so on head, white on underside, long and densely placed on head and pronotum, moderately placed on elytra, less dense on underside.

Head flattened above, slightly convex below middle, coarsely and densely punctate; clypeus depressed on base, front margin broadly triangularly emarginate; antennae abruptly serrate from antennomere 5, which is slightly narrower than following antennomeres. **Pronotum** strongly, evenly convex, slightly depressed behind front margin, with a shallow median basal depression; punctures coarse and dense on disc, becoming much larger and reticulate laterally; anterior margin pronouncedly and broadly lobed at middle; posterior margin truncate; lateral margins distinct, broadly evenly arcuate, scarcely visible from above; front angles subquadrate; hind angles quadrate and slightly depressed within. **Elytra** subflattened on disc, sides moderately steep, umbones prominent and smooth above with few small punctures below; humeral angles moderately triangular, slightly projecting below to about level with apex of hind angles; lateral margins weakly and sparsely serrate on about apical third, more strongly so near apex; sutural area not noticeably elevated; striae punctures coarse, dense, distinctly regular throughout, not placed in grooves, interstitial punctures indistinct; intervals more or less flattened throughout, ninth wider and most prominent. **Underside** with punctures of medium size and moderately densely placed, except small and sparse on middle of abdominal ventrite 1; prosternum with front margin truncate on middle, then evenly angling to almost attain front angle of pronotum; ventrite 5 truncate apically, with a weak, broadly subtruncate subapical plate.

Type specimens: Holotype (UNAM) labeled “Mexico, Oaxaca, 14 mi NW Tehuantepec, 700 ft., 26 June 1961, U.Kans.Mex.Exped./HOLOTYPE *Acmaeodera tenuivittata* Westcott” [red label]. Paratypes: 1 M, same

data as holotype except 27 June, on *Opuntia* [undoubtedly meaning the flower], FSCA; 1 M, OAXACA, 183 m, 4 km W Magdalena Tequisistlán, 16.25 N, 95.38 W, 1-VII-96, CLB 563, Bellamy, Barrera, Brailovsky, CLBC; 1 F, MORELOS, San Pablo, 955 m, 18°34'36" N, 99°02'16" W, 25-VI-2000, R. L. Westcott, yellow 'Solo' bowl trap, bosque espinoso, RLWE.

Variation: The fifth abdominal ventrite on the female paratype is broadly rounded apically and bears a very well developed, rounded subapical plate, notably in contrast to the other specimens. The elytral vittae vary slightly in width, and there is a dark median subapical spot just before the elytral apex on the female specimen. There is no significant difference in size of the four specimens examined.

Comparison: Although superficially resembling several known species with vittate elytra, *A. tenuivittata* does not appear related to any of them. It does not appear related to any species known to me.

Etymology: The adjectival specific epithet is from the Latin *tenuis*, thin, and *vitta*, ribbon or stripe, referring to elytral marking.

Agrilus cyphothoracoides Hespenseide, new species

(Figs. 3–5)

Holotype male: Length 8.60 mm long, width 2.50 mm; rather robust, in cross section flattened above and rounded below; black throughout with dark reddish-copper reflections, except elytra with golden reflections; setae silvery and more or less recumbent, short and relatively inconspicuous beneath except on abdominal ventrites 2–5, longer and denser on lower 2/3 of front, on lateral margins of pronotum, on elytra, and in irregular swirls on ventrites 3–4; ventrite 5, upper 1/3 of front, and broad medial band on pronotum glabrous Fig. 3.

Head with front irregular: excavate on upper 1/3, broadly depressed along midline, vague prominences interior to eyes at middle, narrowly transversely depressed above epistoma, surface coarsely rugose, more so above middle; epistoma between antennal insertions 1/4 width of distance between inner margins of eyes, slightly emarginate below, eyes convex, oval, slightly emarginate on inner margins; antennae serrate from antennomere 5, antennomeres 5–11 rounded-triangular. **Pronotum** slightly narrower than elytra at posterior margin, posterior angles quadrate, pointed, with sides shallowly expanded outward then arcuately rounded to apex; marginal and submarginal carinae slightly undulate, separated for entire length and widest at middle when viewed from side; from above anterior margin slightly produced and angulate; basal margin nearly transverse except for broad, truncate lobe before scutellum; disk with shallow transverse depression at base, narrowing to anterior angles, and broad, blunt conical prominence at middle on apical 1/2 (Fig. 4); prehumeral carinae absent; surface finely transversely rugose at base, rugae becoming concentric around the conical prominence. **Scutellum** trapezoidal, narrower at apex, with very narrow, acuminate projection to posterior. **Elytra** broader behind humeri and widest beyond middle, lateral margins shallowly emarginate between, apices separately rounded, minutely toothed; disk relatively flat, each elytron with oval depression at base and indistinct costa along suture to apex; surface transversely coarsely imbricate-punctate, more rugose at base. **Prosternum** with sides of prosternal process slightly narrowing between coxae, triangular and deflexed behind coxae, prosternal lobe narrow, nearly transverse. **Legs** with metatarsomere 1 as long as the next two combined, tarsal claws similar on all feet, cleft with narrow inner tooth slightly shorter than outer. Posterior margin of metacoxae irregularly emarginate, upper angles somewhat produced and obtusely rounded. **Abdomen** with suture obsolete between ventrites 1 and 2, ventrites 1 and 2 broadly convex and unmodified, posterior dorsal portion of ventrite 1 conspicuously wider than anterior portion of ventrite 2. **Genitalia** as in Fig. 5.

Allotype female: As male except 9.80 mm long, 3.00 mm wide.

Type specimens: Holotype (UNAM), México, Guerrero, 2.5 km S Taxco, 5900', 19-IX-89, E. Giesbert; allotype, Guerrero, 4 mi W Chilpancingo, 15-VII-84, Carroll, Schaffner, Friedlander (TAMU); paratypes,

Guerrero, same data as allotype (1, TAMU), ± 4000 ft., 15-VII-84, J.B. Wooley (1, TAMU); 10.3 km NE Iguala, 1280 m, 5-VII-87, R. Anderson 87-3, acacia woodland (1, RLWE); 6 km W Taxco, 21/24-VII-84, J. Chemsak, A&M Michelbacher (2, EMEC); Morelos, 2-4 km N Coaxitlán, ± 940 m, vic. 18°28' N, 99°11' W, 18-VIII-2002, R. L. Westcott, beaten from shrubby species of *SALVIA* (?) sp. (4, CHAH, RLWE); Oaxaca, 5.2 km S Huapanapan, 1750 m, 18.07 N, 97.41 W, 17-VII-96, C. L. Bellamy, CLB:591 (1, CLBC); 11 mi SE Nochixtlán, 7300', 1-VI-74, C. W. & L. O'Brien & Marshall, at night (2, CLBC); Puebla, Tehuacán, 23-VI-1951, P. D. Hurd, on fls. of *Eysenhardtia polystachya* (Ort.) (1, EMEC); 3.9 mi SE Tepexco, 15-VII-87, B. K. Dozier (1, FSCA).

Discussion: This striking species appears to be related to *A. pilosus* Waterhouse and the common *A. vermiculatus* (Waterhouse). The three species share the complex structure of the front and a somewhat prominent anterior portion of the pronotum, but *A. pilosus* is smaller, inconspicuously setose beneath, and has a vague pattern in the setae on the elytra whereas the setae on *A. cyphothoracoides* are uniform. *Agrilus vermiculatus* is smaller, uniformly reddish in coloration, possesses well-defined prehumeral carinae, different antennae and male genitalia, etc. There is an undescribed species from Oaxaca that is even more similar, but lacks the conical pronotum and its associated coloration and possesses well-defined prehumeral carinae, among other differences. *Agrilus cyphothoracoides* is unusual in having no obvious sexual dimorphism, and males and females cannot easily be distinguished externally. Specimens measure 7.40–9.80 mm long (mean = 8.70 mm for 17 specimens). Because only a few specimens were dissected, measurements for both sexes are combined, although known males are smaller (7.40–8.60 mm) than known females (9.10–9.80 mm).

Etymology: The name reflects the unusual and conspicuous gibbose structure of the pronotum that resembles species in the agriline genus *Cyphothorax* Waterhouse, which was revised by Bellamy (1997). *Agrilus cyphothoracoides* is easily distinguished from *Cyphothorax* by the lack of a deep median frontal groove.

Agrilus pseudosallei Hespeneheide, new species

(Figs. 6, 7)

Holotype male: Length 3.90 mm, width 1.10 mm; slender, in cross section flattened above, moderately convex below; black with vague reddish-coppery reflections on front and below, pale golden reflections on pronotum, elytra with reddish-coppery reflections except along suture on anterior 1/2 and in transverse glabrous area from middle to posterior 3/4; setae pale and recumbent, short, sparse and relatively inconspicuous beneath, denser on dorsal portions of abdominal ventrite 1, lower 1/2 of front, on lateral margins and medial depressions of pronotum, on each elytron in small spot in basal depression, in J-shaped fascia along costa to margin at basal 1/4 to 1/2, and in fascia on apical 1/4 (Fig. 6); setae dense and semi-erect on prosternum and in small patch on base of abdominal ventrite 1 at midline.

Head with front very convex, but narrowly depressed along midline, surface smooth, finely punctate; epistoma between antennal insertions narrow, 2/10 width of distance between inner margins of eyes, nearly transverse below, eyes small, oval, antennae serrate from antennomere 5, antennomeres 5–11 rounded-triangular. **Pronotum** subequal to elytra at posterior margin, with sides shallowly expanded outward then slightly converging to apex; marginal and submarginal carinae slightly undulate, joined for basal 1/4 when viewed from side; from above anterior margin broadly rounded; basal margin nearly transverse, slightly emarginate before middle of each elytron and scutellum; disk rather flat, with distinct depression along basal 1/2 of midline, a small transverse depression at apical 3/4, and oblique depressions interior to and in front of prehumeral carinae to lateral margins; prehumeral carinae strong, nearly straight, almost 1/2 length of pronotum; surface weakly transversely rugose. **Scutellum** pentagonal with transverse ridge. **Elytra** subequal in width at humeri and beyond middle, lateral margins slightly narrower between, apices broadly, separately rounded, minutely toothed; disk slightly convex in cross-section and from the side, each elytron with oval depression at base and

narrower, raised spot along suture at basal 1/4, almost indistinct costa along suture to apex; surface transversely imbricate-punctate, smoother in blue area, more rugose at base. **Prosternum** with sides of prosternal process slightly narrowing between coxae, rounded-truncate at apex, prosternal lobe narrow, nearly transverse. **Legs** with first metatarsomere 1–1/2 length of second, tarsal claws similar on all feet, cleft with short inner tooth. Posterior margin of metacoxae slightly emarginate, nearly straight, upper angles obtusely rounded. Abdomen with suture between ventrites 1 and 2 faintly indicated at sides. **Genitalia** as in Fig. 7.

Allotype female: As male except 4.05 mm long, 1.20 mm wide; uniformly sparsely setose below.

Type specimens: Holotype (UNAM), México, Morelos, 2.5 km N, 4 km W Huautla, Est. CEAMISH, 940 m, 18°28' N 98°02' W, 19-VI-97, R. L. Westcott; allotype, same data as holotype (RLWE).

Paratypes, México, Guerrero, 8 mi W Iguala, 18-VII-84, J. B. Wooley 84-041 (1, TAMU); Morelos, same data as holotype (3, RLWE), and 10.VII. 96, R. L. Westcott (2, RLWE); Sa. Huautla Reserve, 2.5 km W Aju-chitlán, 950m, 18°28' N 99°00' W, 9-VII-1996, R. L. Westcott (1, RLWE).

Discussion: *Agrilus pseudosallei* differs from *A. sallei* in many details, including color and setation patterns and male genitalia, but most conspicuously in having strong prehumeral carinae and the apices of the elytra entire and rounded, whereas *A. sallei* has indistinct prehumeral carinae and deeply emarginate elytral apices. Males measure 3.00–3.90 mm long (mean = 3.40 mm for 3 specimens), and females measure 3.10–4.65 mm long (mean = 3.92 mm for 6 specimens).

Etymology: The name reflects the similarity of this species to *A. sallei* Dugès.

***Brachys exquisitus* Hesperheide, new species**

(Fig. 8)

Holotype female: Length 3.20 mm long, width 1.70 mm; ovate, robust, truncate and narrowly impressed in front (Fig. 8), nearly flat above and shallowly convex below when viewed from side; above black with reddish-coppery reflections, elytra strongly shining in broad, nearly glabrous oval along suture behind and including scutellum; pronotum and elytra otherwise densely and nearly uniformly covered with silvery setae, dark glabrous spot ringed by band of denser setae, small oval patches of orange setae on either side of suture in middle of glabrous spot; beneath black, uniformly, inconspicuously setose, more densely so on abdominal ventrites.

Head from above convex, narrowly impressed along midline; antennae inserted in depressions just interior to base of eyes, epistoma narrowly emarginate at base, linear transverse groove above epistomal area and antennal depressions joining pores at inner margin of eyes and paired medial pores; surface nearly smooth between eyes, inconspicuously punctate above and beneath, inconspicuously setose on upper 1/2 of front; antennae nearly linear. **Pronotum** shallowly convex in transverse section, 1.65 mm wide at base, 1.00 mm wide at apex, 0.70 mm long at midline; sides slightly rounded at base then nearly straight to apical angles; anterior margin very shallowly convex; base undulate, angulately emarginate in front of elytral lobe, then produced and truncate anterior to scutellum; surface broadly, shallowly transversely depressed along base, depression angled forward to lateral margins, vague raised ridges anterior to elytral humeri; surface regularly, minutely punctate, faintly shagreened between punctures. **Scutellum** triangular, transversely depressed. **Elytra** subequal to pronotum at base and slightly wider and angulate just behind humeri; humeral angles quadrate; sides nearly parallel to middle, then attenuate to tips, which are narrowly, conjointly rounded; post-humeral carina absent; humeri narrow, moderately prominent, each elytron with shallow triangular depression at base interior to humerus and very shallow depressions along lateral margin between humerus and middle and near suture at apical 3/4; surface densely, coarsely punctate. **Beneath** densely inconspicuously ocellate-punctate, prosternal process deeply, narrowly grooved between coxal cavities; profemora minutely denticulate on interior margins; abdominal ventrite 5 narrowly emarginate at apex.

Type specimens: holotype (UNAM), México, Morelos, 2.5 km N, 4 km O Huautla, Estación CEAMISH, Alt. 940 m, 18°27.671' N 99°02.475' O, 8-X-96, C. Uribe 200RA; paratypes, Morelos, 2.5 km N, 4 km O Huautla, Estación CEAMISH, Alt. 940 m, 18°27.671' N 99°02.475' O, 7-12-VII-96, F. A. Noguera, E. Ramírez, B. Rodríguez, M. A. Morales, S. Zaragoza, M. E. Guardado, A. Pérez, C.A. Uribe, E. González, Trampa Malaise 1 (1, EBCC); 2.5 km O Ajuchitlán, Alt. 950 m, 18°28.065' N 98°59.546' O, 16.II.1996, B. Rodríguez (1, EBCC). Ver[acruz], Est. Biol. de Los Tuxtlas, alt. 480 m S.N.M., 30 Junio 1986, P. Sinaca, T. M. (1, UNAM).

Discussion: *Brachys exquisitus* is very unusual among North and Central American *Brachys* in lacking posthumeral carinae on the elytra and in the pattern of setae. Only *B. elegans* Fisher and *B. simplex* Waterhouse lack the carinae, and two related but undescribed species from Hidalgo in México and from Costa Rica lack carinae and also share similar patterns of setae. *Brachys exquisitus* differs from the species from Hidalgo and Costa Rica in being more robust, having the dark glabrous spot ringed by a band of denser setae, and possessing patches of orange setae in the dark spot. Superficially the species somewhat resembles *Hylaeogena cincta* (Waterhouse) and other species of *Hylaeogena* and *Pachyschelus* that may, in turn, be mimicking members of the Coccinellidae (Hespenheide, in preparation), although there is no obvious model in the case of *B. exquisitus*. The three paratypes, also females, measure 2.85–3.20 mm in length. The specimen from Ajuchitlán is proportionately slightly narrower than the other three specimens.

Etymology: The name refers to the unusual and charming color pattern.

Chrysobothris tessellata Westcott, new species

(Figs. 9, 10)

Holotype female: Length 10.15 mm, width 3.79 mm, moderately strongly shining above and below, head and antennae dark brownish-copper, clypeus reddish-copper; pronotum gray-black with slight coppery reflections laterally; elytra bluish gray-black with discal quadrate fovea-like areas brownish copper and with slight brownish-copper reflections elsewhere, notable at sides along apical fourth; beneath gray-black with light to moderate gray-blue or coppery reflections, the latter most notable on thorax; legs black with light coppery reflections; vestiture white. **Head** slightly, evenly convex, densely punctured, the punctures moderate in size above, becoming coarse and reticulate below, then much finer on clypeus; vertex with a fine bold black carina which extends barely onto frons where it branches slightly to either side; vestiture short, moderately dense, subrecumbent; front margin of clypeus broadly triangularly emarginate, broadly and shallowly rounded on either side; antennae similar to *C. analis* LeConte, the distal antennomeres quadrate and compact. **Pronotum** shallowly evenly convex, without depressions; surface with punctures moderate and dense on disc becoming slightly larger, more dense and reticulate laterally; setae indistinct except apicolaterally, where they are short and recumbent; front margin broadly shallowly lobed at middle; hind margin strongly bisinuate, truncate at middle; sides parallel from base to abrupt, slight expansion at about apical fifth, then strongly converging to narrowly triangular front angles; lateral margins bold, especially on basal 4/5, entire; hind angles broadly triangular. **Scutellum** with normally visible portion equilaterally triangular, black, smoothly microreticulate, the portion usually hidden by pronotum finely rugose and with greenish tints. **Elytra** shallowly, evenly convex, each elytron with a bold, strongly elevated subsutural carina extending from just anterior of median fovea to apex, a much smaller median carina extending from front margin of antemedian fovea, becoming sinuate at postmedian fovea and ending well before apex, and a feeble, partially developed third carina extending from the antemedian fovea through the postmedian fovea; basal margin broadly rounded, moderately angulate in front of basal pit; lateral margins serrate from just anterior to antemedian fovea, weakly at first, becoming coarsely serrate apically; suture distinctly yet finely elevated from before middle, terminating in a small spine; surface densely and distinctly punctured throughout, the punctures fine along suture, becoming moderately

coarse and reticulate, somewhat rugose-punctate laterally, glabrate, a few tiny setae visible under high magnification at base and along sides. **Eighth tergite** black, broadly rounded apically, moderately and densely, somewhat rugosely punctate, without a trace of depressions or median carina. **Underside:** prosternum moderately depressed at middle behind front margin that bears a very well developed broadly rounded median lobe set with a line of tiny juxtaposed punctures, surface rather finely sparsely punctate, the punctures becoming more densely placed anteriorly, with short sparse pubescence on middle, the setae longer and much more densely placed laterally; propleurae very densely covered with long appressed setae; abdomen with lateral callosities large and well developed on ventrites 2–4, much smaller on ventrite 1, vaguely indicated on ventrite 5, median punctures fine and sparse on ventrite 1, becoming larger and apically elongated from middle of ventrite 2, on lateral ventrites fine and dense except becoming larger and elongated from apical portion of ventrite 5; setae on middle short, sparse, subrecumbent, and on sides long, dense, mostly appressed; fourth ventrite shallowly sulcate on middle; last ventrite broadly, moderately deeply sulcate on middle, lateral margins entire, with a coarsely serrate subapical ridge, and apical margin bisinuate, lobed at middle, with a large spine on each side. **Foreleg** with femur very finely denticulate on inner margin, with a large stout, broadly triangular tooth that is denticulate on outer margin; tibia slightly arcuate.

Allotype male: Length 9.00 mm long, 3.60 mm wide, also differing from holotype in the following sexual characters: front margin of clypeus distinctly green laterally; foretibia with indistinct, elongate-rounded dilation just before apex; mesotibia with a small blunt tooth just before apex; abdomen beneath vaguely depressed along middle, more notably on ventrites 1 and 2, last ventrite broadly, moderately deeply semicircularly emarginate, with a short strongly and irregularly serrate ridge on either side laterally behind apical spine. Genitalia as in Fig. 10.

Type specimens: Holotype (UNAM) labeled “MEXICO: Morelos, 2.5 km N, 4 km O Huautla, Estación CEAMISH, 11-VI-1996, Alt. 940 m, 18°27.671’N, 99°02.475’ O, Col. F.A. Noguera, s/troncos/HOLOTYPE *Chrysobothris tessellata* Westcott.” Allotype (RLWE) from MICHOACAN, km 167.5, hwy. 37, 32 km S Cuatro Caminos, 230 m, 18°47.643’, 102°04.782’, 24-VII-2003, R. L. Westcott. One male paratype from PUEBLA, 7 km SSE Acatlán, 1280 m, 15-VII-92, S. Bily, RLWE.

Variation: The male paratype is 9.13 mm long. The only variation of note is that front margin of clypeus in this specimen is entirely bright green.

Comparison: This species superficially resembles the unrelated species *C. exesa* LeConte, but the latter has the elytra much more coarsely sculptured and with clearly defined, depressed punctured areas, and in Mexico is known only from Baja California and Sonora. It appears that *C. tessellata* may be most closely related to *C. analis*; however, it bears little resemblance to that species, immediately differing by the patterned elytral sculpturing.

Etymology: The name is from the Latin *tessellatus*, referring to the vaguely mosaic pattern on the elytral surface.

Annotated checklist

There follows an updated and partially annotated checklist of the described species of Buprestidae known from Morelos. It includes species whose occurrence in Morelos has been verified from specimens identified by us (HAH or RLW), or records from the literature that we accept. The type localities for 15 species are in Morelos, and they are so indicated in the checklist. The first published record of a species for Morelos, if other than in the original description, has been cited in parentheses. Many records for Morelos and other states that were listed without additional data by Hespenheide (1990) and attributed to Westcott *et al.* (1990) were actually not included in the latter paper. They are from the former author’s identification database. Species we have listed in **boldface** represent a new state record and include those described in this paper. The 73 species

preceded by an asterisk (*) have been collected within RBSH, based on material seen by the aforementioned authors or reported to us by specialists on Buprestidae. Several other species have been collected just outside the limits of the reserve and surely occur therein. New adult host plant records also are provided in **boldface**. Following our checklist we mention several taxa recorded by Burgos-Solorio & Trejo-Loyo (2001), and the reasons we omitted them are provided. We expect that many more described and undescribed species of Buprestidae will be found to occur in Morelos, and we hope this checklist will serve as a catalyst to their discovery. Data presented are given largely verbatim from specimen labels.

**Acmaeodera aeneoflava* Westcott, 1998. The type locality is RBSH.

**Acmaeodera alacris* Horn, 1878. 2.5 km N, 4 km O Huautla, Estación CEAMISH, 940 m, 18°27.671'N, 99°02.475'O, 9-VII-96, EBCC; Huautla-Xochipala, vic. 18°25'N, 99°03'W, 8-VII-96 and vic. Huitchila, 1190 m, 18°37'N, 98°50'W, 11-VII-96, all swept from *Lysiloma divaricata*, CEAM, CLBC, RLWE, UAEM.

**Acmaeodera cactophila* Westcott and Noguera, 1995. Sa. Huautla Reserve, El Limón, 18°32'N, 97°57'W, 1250 m, 11-VII-96; 4.2 km S Quilamula, 18°27'52"N, 99°00'43"W, 915 m, 24-VI-2000, white and blue 'Solo' bowl traps, selva baja caducifolia, RLWE.

**Acmaeodera crossi* Barr, 1992. 2.5 km O Ajuchitlán, 18°28.065', 98°59.546', 950 m, 6-X-96; 2.5 km N, 4 km O Huautla, Estación CEAMISH, 940 m, 18°27.671'N, 99°02.475'O, 5-X-96, EBCC.

Acmaeodera cuprina Spinola, 1838 (Westcott *et al.*, 1990).

**Acmaeodera digna* Barr, 1992. 2.5 km N, 4 km W Huautla, Estación CEAMISH, 18°28'N, 98°02'W, 940 m, 7-VII-96; Huautla-Xochipala, vic. 18°25'N, 99°03'W, 8-VII-96, RLWE.

Acmaeodera discolor Barr, 1992. El Vergel, 18.34.56, 99.02.14, 990 m, 11-VII-96, RLWE.

Acmaeodera flavomarginata (Gray), 1832 (Westcott *et al.*, 1990).

Acmaeodera flavosparsa Waterhouse, 1882 (Westcott *et al.*, 1990).

**Acmaeodera haemorrhoea* LeConte, 1858 (Waterhouse, 1882).

Acmaeodera lateralis Chevrolat, 1833 (Westcott *et al.*, 1990).

**Acmaeodera lauta* Barr, 1972 (Westcott *et al.*, 1979).

**Acmaeodera noguerai*, Westcott, new species (described above). This species is known only from Morelos.

**Acmaeodera philippinensis* Obenberger, 1924. 2.5 km N, 4 km W Huautla, Estación CEAMISH, 18°28'N, 98°02'W, 940 m, 7-VII-96; Huautla-Xochipala, vic. 18°25'N, 99°03'W, 8-VII-96, RLWE. In spite of a petition (Bellamy & Westcott, 2003) to conserve the logical and almost exclusively used name, *A. oaxacae* Fisher, for this common and widespread Mexican species, the ICZN (2005) ruled to maintain strict priority.

**Acmaeodera rubroguttula* Nelson, 1994. 2.5 km N, 4 km W Huautla, Est. CEAMISH, 18°28'N, 99°02'W, 940 m, 10-VII-96, RLWE.

**Acmaeodera rubrovittata* Nelson, 1994. El Vergel, 18°34'56"N, 99°02'14"W, 990 m, 19-VI-97, flowers of *Kallistroemia* prob. *grandiflora* and a purple-flowered *Ruellia* sp., CEAM, RLWE; Res. Biósfera Sierra de Huautla, est. CEAMISH, 18°27'40"N, 99°02'28"W, 940 m, 24-VI-2000, blue 'Solo' bowl trap, selva baja caducifolia; 4.2 km S Quilamula, 18°27'52"N, 99°00'43"W, 915 m, 24-VI-2000, white and blue 'Solo' bowl traps, selva baja caducifolia, RLWE.

**Acmaeodera rustica* Fisher, 1949. The type locality is Puente de Ixtla.

**Acmaeodera scalaris* Mannerheim, 1837 (Waterhouse, 1882).

Acmaeodera superba Waterhouse, 1882 (Westcott *et al.*, 1990).

Acmaeodera tenuivittata Westcott, new species (described above).

**Actenodes biarti* Bleuzen, 1989. 2.5 km N, 4 km O Huautla, Estación CEAMISH, 940 m, 18°27.671'N, 99°02.475'O, 11-VI-96, EBCC.

Actenodes calcaratus (Chevrolat), 1835 (Waterhouse, 1889).

**Actenodes chalybeitarsis* (Chevrolat) 1833. Suchil, 25-VIII-46, UNAM; Cañon de Lobos, near Cuernavaca, 17-18-X-84, RLWE.

**Agaeocera gigas* (Gory & Laporte), 1839 (Nelson and Westcott, 1976).

**Agrilus admirabilis* Hespeneheide, 1990. Cañon de Lobos, Km19 E Cuernavaca, 1200-1375 m, 3&5-VII-92, RLWE, UAEM.

Agrilus affinis Waterhouse, 1889. 3 km S Felipe Neri, 19°02'N, 98°57'W, 2300 m, 13-VII-96, on small hardwood shrub, pine-oak forest, CHAH, CLBC, RLWE.

**Agrilus albofasciatus* Waterhouse, 1889. Res. Biosf. Sierra de Huautla, 1645m, 1.5 km N Est. Microondas, El Salto, [Mpo.] P. de Ixtla, 18°27'54" N, 99°16'30" W, 3-VIII-2000, RLWE.

**Agrilus alborubronigrus* Hespeneheide, 1990. The type locality is Yautepec.

Agrilus arizonicus Obenberger, 1936. 6 mi N Cuernavaca, 7500', 15.VIII.1954, CNCI.

Agrilus atkinsoni Hespeneheide, 1990. Cañon de Lobos, 15 km E Cuernavaca, 1220-1375 m, 3-VII-96, CLBC.

**Agrilus atripennis* Chevrolat, 1835 (Westcott *et al.*, 1990).

**Agrilus aurantioguttatus* Hespeneheide, 1990.

**Agrilus aurulentus* Hespeneide, 1990. Cañon de Lobos, Km.19 E Cuernavaca, 1220 m, 17-X-89; 2.5 km N, 4 km W Huautla, Estación CEAMISH, 18°28'N, 98°02'W, 940 m, 10-VII-96, RLWE; Est. S. de Huautla [=CEAMISH], 7-VII-96, CLBC.

**Agrilus balaenoides* Waterhouse, 1889.

**Agrilus biformis* Hespeneide, 1990. 2.5 km N, 4 km W Huautla, Estación CEAMISH, 18°28'N, 98°02'W, 940 m, 7-VII-96 & 18/19-VI-97, RLWE.

Agrilus catherinae (Chevrolat), 1835 (Westcott *et al.*, 1990).

Agrilus cavatus Chevrolat, 1835 (Hespeneide, 1990).

Agrilus cavifrons Waterhouse, 1889 (Hespeneide, 1990).

**Agrilus cercidii* Knull, 1937. Los Cerritos, 2 km S Jonacatepec, 9-VI-79, RLWE; 4 km NW Tepexco, 18°39'N, 98°42'W, 1250 m, 10-VII-99, CEAM, RLWE.

Agrilus chevreuli Obenberger, 1933. Apparently this species is known only by the type from Cuernavaca (E. Jendek, pers. com.).

**Agrilus civacoatlae* Fisher, 1938. Reserva de la Biósfera Sierra de Huautla, 18°28'87"N, 99°02'88"W, 1090 m, 27-V-2000, CEAM.

Agrilus clytrinooides Bellamy & Hespeneide, 2002.

Agrilus collaris (Waterhouse), 1889. Cuautla, "7-8-03", AMNH.

Agrilus correctus Thomson, 1878. Km 65, Hwy. 95D, Cuernavaca-Cd. México, Derrame del Chichinautzin (lava flow), 2260 m, 15-VII-99, RLWE.

**Agrilus cyphothoracoides* Hespeneide, new species (described above).

**Agrilus delicatulus* Waterhouse, 1889 (Hespeneide, 1990).

**Agrilus detractus* Waterhouse, 1889. 2.5 km N, 4 km W Huautla, Estación CEAMISH, 18°28'N, 98°02'W, 940 m, 13-II-96, EBCC & 7-10-VII-96, RLWE.

**Agrilus divaricatus* Waterhouse, 1889 (Hespeneide, 1990).

**Agrilus emarginatus* (Waterhouse), 1889 (Westcott *et al.*, 1990).

**Agrilus femoralis* Waterhouse, 1889. 2.5 km N, 4 km W Huautla, Estación CEAMISH, 18°28'N, 98°02'W, 940 m, 7-10-VII-96, on *Celtis* sp., CLBC, RLWE.

Agrilus fosseicollis Thomson, 1879. 4 mi E Cuernavaca, 6000', 16-VI-59, CUIC.

Agrilus furcillatus Chevrolat, 1835 (Waterhouse, 1889).

**Agrilus fuscus* Hespeneide, 1990. 2.5 km N, 4 km W Huautla, Estación CEAMISH, 18°28'N, 98°02'W, 940 m, 8-13-VI-96, malaise trap, EBCC & 18-VI-97, RLWE.

**Agrilus ignotus* Waterhouse, 1889. Sa. de Huautla, 3 km below El Zapote on road SW of Tilzapotla, 1580 m, 18°28'N, 99°20'W, 17-VII-99, beating *Celtis* sp. in mixed trop. decid. forest, CEAM, CLBC, RLWE, UAEM.

Agrilus impressicollis Gory, 1841 (Hespeneide, 1990).

Agrilus ixcuinae Fisher, 1938 (Westcott, *et al.*, 1990).

**Agrilus latifrons* Waterhouse, 1889 (Nelson *et al.*, 1981).

**Agrilus lucanus* Fall, 1906. 2.5 km N, 4 km O Huautla, Estación CEAMISH, 940 m, 18°27.671'N, 99°02.475'O, 7-12-VII-96, trampa malaise, EBCC.

**Agrilus luctator* Kerremans, 1903 (Westcott *et al.*, 1990).

Agrilus major Waterhouse, 1889 (Westcott *et al.*, 1990).

Agrilus marginatus Waterhouse, 1889. Cañon de Lobos, Km 19 E Cuernavaca, 1220-1375 m, 3-VII-92, RLWE.

**Agrilus mecoatli* Fisher, 1938 (Westcott *et al.*, 1990).

Agrilus mutabilis Waterhouse, 1889. Tlayacapan, vic. Los Laureles, 18°59'01", 99°00'26", ±1830 m, 12-VII-2001, beating *Acacia pennatula*, CEAM, RLWE, UAEM. See Westcott & Hespeneide (2006) for comments on this species.

Agrilus napatecutli Fisher, 1938 (Hespeneide, 1990).

Agrilus neoprosopidus Knull, 1938. Cuernavaca, V-45, USNM.

**Agrilus nigroauratus* Hespeneide, 1990. 2.5 km N, 4 km W Huautla, Estación CEAMISH, 18°28'N, 98°02'W, 940 m, 10-VII-96 & 18-VI-97, CEAM, RLWE, UAEM; 8-13-VI-96, malaise trap, EBCC.

Agrilus nodifrons Waterhouse, 1889 (Hespeneide, 1990).

**Agrilus oculatus* Waterhouse, 1889. This species was described from Cuernavaca.

Agrilus olivaceoaeus Hespeneide, 1990.

**Agrilus opacipennis* Waterhouse, 1889. Sa. de Huautla, 3 km below El Zapote, on road SW of Tilzapotla, 1580 m, 18°28'N, 99°20'W, 17-VII-99, beating *Celtis* sp. in mixed tropical deciduous forest, RLWE.

**Agrilus paraimpexus* Hespenseide, 2007 (Westcott *et al.*, 1990, as *A. impexus*). All Morelos records of *Agrilus impexus* Horn, which does not occur in the state, refer to *A. paraimpexus*.

Agrilus perlucidus Gory, 1841 (Waterhouse, 1889).

Agrilus pilosus Waterhouse, 1889. 7.3 mi SSW Yautepec, 3500', 2-VII-61, SEMC.

Agrilus proximulus Fisher, 1935. Cañon de Lobos, 15 km E Cuernavaca [km 19, Carr. Cuernavaca-Yautepec], 1220-1375 m, 3-VII-92, CLBC, RLWE; 8 km SE Tepoztlán, 18°56'34", 99°03'23", 1435 m, 12-VII-2001, RLWE.

**Agrilus pseudosallei* Hespenseide, new species (described above). The type locality is in RBSH.

Agrilus quadrinotatus Gory, 1841 (Waterhouse, 1889). Taken by beating *Acacia pennatula* 8 km SE Tepoztlán, 18°56'34", 99°03'23", 1435 m, 12-VII-2001, RLWE.

**Agrilus rubrovittatus* (Waterhouse), 1889 (Hespenseide, 1990; first detailed records in Nelson & Westcott, 1991).

**Agrilus sallei* Dugès, 1878. [Reserva de la Biósfera Sierra de Huautla], El Limón, 1240 m, 17-VII-92, UAEM.

Agrilus scabrosus Waterhouse, 1889. The type locality is Cuernavaca.

Agrilus sexmaculatus Waterhouse, 1889. Hespenseide (1974) designated as lectotype a specimen from Cuernavaca.

Agrilus sparsus Waterhouse, 1889. Tepoztlán, 11-VIII-38, SEMC.

Agrilus subguttatus Waterhouse, 1889. Cuernavaca, 1800 m, on *Acacia*, 5-VII-88, UAEM, UNAM; 4.4 mi E Cuernavaca, 6-8-VII-74, TAMU.

**Agrilus sulcatulus* Chevrolat, 1835 (Westcott *et al.*, 1990).

Agrilus telpuchtli Fisher, 1938. Cuernavaca, 12-19-VII-61, MSUC.

**Agrilus tinctipennis* Fisher, 1933. El Limón, 1240 m, 17-VII-92, AB 730, UAEM.

Agrilus tlaculteutli Fisher, 1938. 10 mi E Cuernavaca, 8-VII-74, TAMU.

**Agrilus toteci* Fisher, 1938. Cañon de Lobos, Km.19 E Cuernavaca, 1220-1375 m, 3-VII-92; Sa. de Huautla, Tilzapotla-El Zapote road, 960-1100 m, 18°29'N, 99°19'W, 17-VII-99; vic. Jonacatepec, 18°39'36", 98°49'22", 1295 m, on *Lantana camara*, 11-VII-2001; Tepoztlán, 21-VII-89, WFBM; 8 km SE Tepoztlán, 18°56'34", 99°03'23", 1435 m, 12-VII-2001, on *Lantana camara*, RLWE.

Agrilus trilineatus Hespenseide, 1990. The type locality is 7.3 mi SSW of Yautepec.

Agrilus vermiculatus (Waterhouse), 1889 (Westcott *et al.*, 1990).

**Agrilus xanthonotus* Waterhouse, 1889 (Hespenheide, 1990).

**Agrilus yiacatecutli* Fisher, 1938. Res. Biósfera Sierra de Huautla, Est. CEAMISH, 18°27'40"N 99°02'28"W, 940 m, 24-VI-2000, selva baja caducifolia, beating *Celtis* sp., RLWE; 2.5 km N, 4 km O Huautla, Estación CEAMISH, 940 m, 18°27.671' N, 99°02.475' O, 8-13-VI-96, trampa malaise, EBCC.

**Brachys exquisitus* Hespenheide, new species (described above). The type locality is in RBSH.

Brachys floccosus Mannerheim, 1837. Km.52 hwy. Oaxtepec-Xochimilco, ±12 km NE Tlalnepantla, 2320 m, 19°01.189', 98°56.244', 19-VIII-2002, RLWE.

Callimicra breviscula Waterhouse, 1889. Tepozteco, Tepoztlán, 1700 m, 13-VII-96, on leaves of herbaceous plants along trail in deep canyon; Tepoztlán, 1800 m, 12-VII-2001, RLWE.

**Chrysobothris acutipennis* Chevrolat, 1835. A specimen from Tlayacapan, Yautepec, was recorded by Westcott *et al.* (1990) as *C. merkelii* Horn; however, one of us (RLW) reexamined it and considered it to have been misidentified. Although slightly different in appearance from typical *C. acutipennis*, it and other specimens we have seen from southwestern inland Mexico seem best placed under that species.

**Chrysobothris adelpha* Harold, 1869. Mpio. Puente de Ixtla, 3 km antes del Zapote, 18°29.34', 99°20.62', 1480 m, *Lysiloma* sp. asoc. c/ *Xyleborus*, 13-IX-2001, UAEM. This is by far the southernmost known record for this species. The major part of its range is in the eastern U.S.

**Chrysobothris analis* LeConte, 1860. Camino a Juchitán, Res. de la Bios. Sierra de Huautla, 18°28'08"N, 98°59'04"W, 1120 m, 9-VII-2000, CEAM.

Chrysobothris basalis LeConte, 1858 (Domínguez-Rubio, 1969).

Chrysobothris costifrons rubiterga Westcott, 1983 (Westcott, *et al.*, 1990).

**Chrysobothris distincta* Gory, 1841 (Waterhouse, 1887).

**Chrysobothris modesta* Waterhouse, 1887 (Nelson, 1975).

**Chrysobothris multistigmata* (Mannerheim), 1837 (Westcott *et al.*, 1990).

**Chrysobothris nigropicta* Nelson 1988. Cañon de Lobos, near Cuernavaca, 6-XII-70; Sa. Huautla Reserve, El Limón, 1250 m, 18°32'N, 98°57'W, 11-VII-96, on *Randia echinocarpa*; 4 km NW Tepexco, 18°39'N, 98°42'W, 1250 m, 10-VII-99, on *Randia* sp., RLWE; Tepalcingo, El Limón, 1200 m, 8-XI-91; Tlaquiltenango, Cruz Pintada, 1100 m, 29-VIII-94, AB-874, CEAM.

Chrysobothris octocola LeConte, 1858 (Fisher, 1942).

**Chrysobothris paratabalipa* Nelson, 1975.

Chrysobothris polymetallichroma Westcott, 1998. The type locality is Cuernavaca.

**Chrysobothris tessellata* Westcott, new species (described above). The type locality is in RBSH.

Chrysobothris trisignata Waterhouse, 1887 (Westcott *et al.*, 1990).

Chrysobothris viridilabrata Obenberger, 1928. The type locality is Cuernavaca, and it appears that the species is otherwise unknown.

Colobogaster aureoviridis Fisher, 1933 (Westcott *et al.*, 1990).

Dismorpha fossulata (Chevrolat), 1835. Ruinas de Xochicalco, 20-IX-80, on Rubiaceae, CEAM. According to Cobos (1990) this is the senior synonym of *D. costifer* (Waterhouse), under which name most Mexican specimens have been placed. Both descriptions were described in the genus *Stenogaster*, which proved to be a junior homonym. Chevrolat (1835) and Waterhouse (1889) treated that genus as masculine but it is feminine. However, Waterhouse's species epithet is a noun in apposition, thus Hespentheide (1979) and Westcott *et al.* (1990) erred by changing it (ICZN, 1999, Arts. 31.2.1, 34.2.1).

**Euchroma giganteum* (L.), 1758 (Westcott *et al.*, 1990).

**Hiperantha interrogationis interrogationis* (Klug), 1827 (Bellamy & Westcott, 2000). Collected by sweeping *Lysiloma divaricata*, CEAMISH-UAEM, 10-VII-96, CLBC; and on pink-flowers of *Mimosa* (?) sp., 1 km NE El Vergel, 18°35'49"N, 99°01'37"W, ±1000 m, 25-VI-2000, RLWE.

**Hippomelas brevipes* Casey, 1909 (Nelson & Bellamy, 1996)

Hippomelas mexicanus (Laporte & Gory), 1837 (Nelson & Bellamy, 1996). Specific records were provided by Nelson (2000).

**Hippomelas saginatus* (Mannerheim), 1837. This species was first recorded from Morelos by Waterhouse (1889); however, he listed *H. mexicanus* as a synonym, thus his reference could be based on the latter species. Although *H. saginatus* was listed from the state by Nelson & Bellamy (1996), no specific records were provided. Specimens from Cañon de Lobos, El Limón, near Quilamula, and Yautepec are in CEAM and UAEM.

Hylaeogena thoracica (Waterhouse), 1889. This species was recorded from Morelos based on a specimen from Cañon de Lobos, near Cuernavaca (Westcott *et al.*, 1990). Other than the type series from Guatemala, only a questionable specimen from Mexico had been recorded in the literature. This species belongs to a complex that requires revisionary work; therefore, the identity of the Morelos specimen remains questionable.

Lampetis chalconota (Waterhouse), 1882. The lectotype of this species is from Cuernavaca and it has been recorded from other localities in Morelos (Corona, 2005).

**Lampetis cyanitarsis* Corona, 2005. The type locality for this species is RBSH.

**Melanophila atra* Gory, 1841. Tepalcingo, CEAMISH-UAEM, Subestación El Limón, 18°31'57.8", 98°56'48.3", 1208 m, trampa de luz, 18-III-2004, ACLC

**Omochyseus terminalis* Waterhouse, 1887 (Westcott *et al.*, 1990).

**Pachyschelus collaris robustus* Waterhouse, 1889. 2.5 km N, 4 km O Huautla, Est. CEAMISH, 18°28' N, 98°02'W, 940 m, 2-VIII-97, RLWE.

**Pachyschelus purpureus albopictus* Kerremans, 1894 (New combination). 2.5 km N, 4 km O Huautla, Est. CEAMISH, 18°28' N, 98°02'W, 940 m, 14-III-96, EBCC & 2-VIII-97, UAEM. We consider *Pachyschelus albopictus* to be a distinctively marked subspecies of the widespread *P. purpureus* Say. Although the pattern of white setae on the elytra is characteristic of populations from western Mexico, the male genitalia and pattern of teeth on the 5th abdominal ventrite of females is identical to those of all other forms of the *purpureus* group. Hespeneide (1990) provided a brief description in his treatment under *P. albopictus* and alluded to the possibility of it being a "well-marked race" of *P. purpureus*. Earlier he (Hespeneide, 1974) treated three other taxa as subspecies of the latter, but made no mention of *P. albopictus*. Further discussion is found in Hespeneide (2003).

Pachyschelus secedens Waterhouse, 1889. Cuernavaca, 9-VII-61, MSUC; Tlayacapan, vic. Los Laureles, 18°59'01", 99°00'26", ±1830 m, 12-VII-2001, on *Desmodium* sp., RLWE, UAEM; Km. 52, Carr. Oaxtepec-Xochimilco, 12.5 km NNE Tlalnepantla, 2320 m, 19°01.189', 98°56.244', on *Desmodium* sp., 19-VIII-2002, RLWE.

Pachyschelus trapezoidalis Waterhouse, 1889. 8 mi N Cuernavaca, 8800', 23-V-59, FSCA.

Paragrillus aeraticollis Waterhouse, 1889. Cuautla, 28-VII-38, SEMC; 6.4 km S Huichila, 18°36'47", 98°53'15", 1215 m, 11-VII-2001, on *Bytneria aculeata*, RLWE.

**Paragrillus lesueuri* Waterhouse, 1889 (Hespeneide, 1990).

**Paragrillus rugatulus* Thomson, 1879 (Waterhouse, 1889).

Paragrillus transitorius Waterhouse, 1889. Cuautla, 28-VII-38, SEMC.

Paratyndaris lateralis (Barr), 1972 (Nelson & Bellamy, 2004).

Polycesta embriki Obenberger, 1936. The type locality is Cuernavaca. Very few specimens of this species are in collections. We have seen one from Morelos: Miacatlán [1004 m], El Terrero, 18°47'22", 99°22'59", 5-XI-80, RLWE.

**Spectralia uniformis* (Waterhouse), 1889 (Romero *et al.*, 1996).

Taphrocerus communis Waterhouse, 1889. 3-6 mi S Cuernavaca, 3500-4000', 17-IV-59, FSCA.

Taphrocerus kerremansi Dugès, 1891 (Westcott *et al.*, 1990).

Taphrocerus orizabae Obenberger, 1934 (Westcott *et al.*, 1990).

Taphrocerus psilopteroides Waterhouse, 1889.

**Taphrocerus sulcifrons* Fisher, 1922 (Hespeneide, 1990).

Trypantius infrequens Waterhouse, 1887. Alpyuca, 17-VI-61; Cuernavaca, 16-VII-62, EMEC.

Xenorhipis parallelus (Waterhouse), 1889. ±4.5 km SSE Quilamula, 18.28.14N, 99.00.27W, 1050 m, 19-VI-97; vic. Jonacatepec, 18°39'06", 98°49'22", 1295 m, 11-VII-2001, RLWE.

Additionally, it merits mention that we have seen specimens of two species in the genera *Leiopleura* and *Lius*, both of which were collected on *Ficus* sp. at RBSH. The few specimens collected, including only one of *Lius*, are female and without associated males their specific identity is likely to remain unknown. These bring to 26 the number of genera we know to occur in Morelos.

The following taxa were listed by Burgos-Solorio & Trejo-Loyo (2001):

Acmaeodera setosa Waterhouse, 1882. For now, the Morelos material—based on all specimens that one of us (RLW) has seen—should refer to *A. rustica*. This is a difficult group that needs detailed study.

Acmaeodera venusta Waterhouse, 1882. Inclusion of this species was based on Romero N. *et al.* (1996). Specimens from Morelos included therein, as well as others from that and surrounding states, have been seen by one of us (RLW) who has examined the types of *A. venusta*, and they are not that species. Rather, they belong to a related taxon of questionable identity in the difficult *A. rubronotata* Laport & Gory complex.

Agrilus impexus Horn, 1891. See *Agrilus paraimpexus* above.

Chrysobothris merkelii Horn, 1886. This species was recorded from Morelos based on a misidentification. See comments under *C. acutipennis*.

Knowltonia calida (Knull), 1958. This species was listed (as *Chrysobothris biramosa calida* Knull) based on a specimen labeled as having been collected in Cuernavaca (CEAM). It had been identified by one of us (RLW) and considered mislabeled. Species in this genus are known only from arid regions of the western U.S. and NW Mexico, *K. calida* being a true denizen of the Sonoran Desert (Westcott & Barr, 2007).

Lampetis monilis (Chevrolat), 1834. Based on a record (under *Psiloptera*) given by Westcott *et al.* (1990), this should instead be referred to *L. cyanitarsis* Corona. Older records in the literature are suspect and should be verified using Corona (2005). Probably most do not refer to *L. monilis*.

Poecilonota sp. The presence of this genus was attributed to Romero *et al.* (1996), but there is no such record therein. Also, one of us (RLW) recently checked the collection (CEAM) and the only specimens of this genus present were collected in the U.S.A.

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