



## One new genus and six new species of Coraebini Bedel, 1921 (Coleoptera: Buprestidae) from the Philippines<sup>1</sup>

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### Abstract

New Philippine Coraebini (Coleoptera: Buprestidae) are described: one new genus, *Visayasella*, gen. nov., is erected for two new species: the type species *Visayasella superba* sp. nov. from Leyte and *V. gracilis* sp. nov. from Negros. The new genus is contrasted to the genera *Obenbergerula* Strand 1932 (= *Böttcheria* Hoscheck 1931) and *Sibuyanella* Obenberger 1942 in a table of character states. Four new species of *Toxoscelus* Deyrolle 1864 are described from Leyte: *Toxoscelus actenodes* sp. nov., *T. bichromoplagiatus* sp. nov., *T. circumscriptus*, sp. nov. and *T. griseovariegatus* sp. nov. and contrasted with the two previously described *Toxoscelus* species from Luzon: *T. acutipennis* Fisher 1922 and *T. rugicollis* Saunders 1874 in a key. The six new species and several putatively related genera and species are illustrated in two color plates.

**Key words:** Coleoptera, Buprestidae, Coraebini, Toxoscelina, *Toxoscelus*, new genus, new species, Philippines, Leyte, Luzon, Negros

### Introduction

This paper, our second recent collaborative work (see Bellamy & Ohmomo 2009) on the Philippine Coraebini Bedel 1921, represents the ninth contribution to the modern understanding of that regional fauna. Citations for the previous contributions are given in Bellamy & Ohmomo (2009).

### Methods and materials

The full synonymy for the genus-group name *Toxoscelus* Deyrolle 1864 as well as the list of previous citations for the two earlier-described species discussed below are shortened herein and can be found in full in Bellamy (2008). Descriptive terms for integument surface sculpturing are those defined and illustrated by Harris (1979).

The data that accompanied the specimens are presented exactly as received; a geographic coordinate was located using the GEOnet Names Server (GNS), U.S. National Imagery and Mapping Agency (<http://earth-info.nga.mil/gns/html/index.html>, accessed 23 May 2011). Specimens from the respective type series are deposited in the following collections: BMNH—The Natural History Museum, London; CSCA—California State Collection of Arthropods, Plant Pest Diagnostics Center, California Department of Food & Agriculture, Sacramento; COTJ—S. Ohmomo collection, Tsukuba, Japan; USNM—United States National Museum of Natural History, Smithsonian Institution, Washington, D.C.; and CLBC—C. L. Bellamy research collection, Sacramento, California.

Specimens were photographed using a Nikon SMZ 1500 stereo dissecting scope with a Spot Insight video camera and Spot software version 4.5. Adobe Photoshop 5 was used to adjust the captured images. In addition, the lighting for image capture was from a small portable dome with a bank of LED lights and a small round aperture on

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top. With the lights in three rings around the base reflecting up and off a white hemisphere cover, the aperture just below the objective lens creates a dark spot or stripe on the specimen images, particularly noticeable in Figs. 11–16.

## Subfamily Agrilinae Laporte 1835

### Tribe Coraebini Bedel 1921

#### Subtribe Toxoscelina Majer *in* Kubáň, *et al.*, 2001

Type genus: *Toxoscelus* Deyrolle 1864

#### Genus *Toxoscelus* Deyrolle 1864

*Toxoscelus* Deyrolle 1864:114, 127; Bellamy 2008: 1737.

Type species: *Toxoscelus undatus* Deyrolle 1864 (fixed by subsequent designation: Descarpentries & Villiers 1967: 490).

**Remarks.** In terms of generic placement, there remains uncertainty due to the very incomplete understanding of coraebine systematics in the Indo-Oriental fauna. The three keys to the genera of that region, including the Philippine, are by Kerremans (1893), Fisher (1921) and Bellamy (1990) and these species would key to *Toxoscelus* in each. However, several of the older coraebine genera from this biogeographical region, including *Toxoscelus* and others described by Deyrolle (1864), perhaps have served too long as a catch-all awaiting further refinement such as that began with the work on the Indochinese fauna by Descarpentries & Villiers (1967). As with the genus *Neotoxoscelus* Fisher 1921, related in name only, further study may require the movement of some of the species currently placed in *Toxoscelus* as the Philippine fauna does have significant differences to that of Indonesia and southeast Asia and there is no telling where further discovery and study may lead. Only two species of *Toxoscelus* are recorded from the Philippines: *T. acutipennis* Fisher 1922 and *T. rugicollis* Saunders 1874, both from localities on Luzon. An additional four new species of *Toxoscelus* from Leyte are described below and we suspect that other new species will be found from other areas of the Philippine archipelago.

#### Key to the species of *Toxoscelus* from the Philippines

1. Elytral apices approximate, strongly acuminate (Fig. 3) (Luzon). . . . . *T. acutipennis* Fisher
- Elytral apices together rounded or, at most, slightly obliquely produced (Figs. 1, 4, 6) . . . . . 2
2. Dorsal surface mostly grey interrupted by narrow black elytra markings (Fig. 8) (Leyte) . . . . . *T. griseovariiegatus*, **sp. nov.**
- Dorsal coloration different, bronze or black with various tints and elytra markings . . . . . 3
3. Posterior half of elytra with large nearly impunctate dark spot (Fig. 6) (Leyte) . . . . . *T. circumscriptus*, **sp. nov.**
- Elytra without such a single spot, colors and pattern otherwise . . . . . 4
4. Integument color shining, purplish, elytra with distinct pattern of white setae (Fig. 10) (Luzon) . . . . . *T. rugicollis* Saunders
- Integument color dull, bronze or shining bicolored pattern; elytra without pattern of setae . . . . . 5
5. Integument color dull brown or bronzy with purplish tint and zigzag elytral pattern (Fig. 1) (Leyte) . . . . . *T. actenodes*, **sp. nov.**
- Integument color shining, bicolored of alternating longitudinal vittae or single transverse fascia either golden or maroon (Fig. 4) (Leyte). . . . . *T. bichromoplagiatus*, **sp. nov.**

#### *Toxoscelus actenodes*, **sp. nov.**

(Figs. 1, 2)

**Description of male holotype.** Elongate, transversely flattened dorsally and ventromedially, subconvex laterally; length: 5.5 mm, width 1.9 mm, widest in two places on elytra; integument dark cupreous on head, pronotum and dorsolaterally on abdominal ventrites; elytra mostly dark dull maroon with one black spot enclosed dull golden border in anterior 1/3, then two transverse, sharp dull golden zigzag fasciae anterior and posterior to black fascia

which is narrowest laterally and widest at suture; ventral integument shining black with faint aeneous reflection medially; dorsal surface strongly punctate, head and pronotum with portions strigulate; ventral surface more finely punctate, abdominal ventrites with faint oblique strigae; dorsal surface without visible vestiture, ventral surface with very short suberect setae on prosternal disc, hypomeron, thoracic and abdominal ventrites and femora. **Head:** frontovertex moderately projecting between large eyes, moderately longitudinally depressed medially, with two small separate elevations on vertex; eyes slightly diverging dorsally, eyes slightly oblique, oval, circumocular groove not entire, extending around both dorsal and ventral margins before terminating; supra-antennal groove entire, nearly transverse, confluent with very narrow longitudinal, laterally carinate, median clypeal strip terminating with narrow convex clypeal apex; antennal cavities large; gena obliquely transversely depressed for proximal antennomeres in repose; genal margin with very small, very obtuse tooth; antennae serrate from antennomere 5; 1 oblong, somewhat angled; 2 shorter, more globose; 3 subequal in length to 2, much narrower; 4 shorter, subequal to 3; 5-10 each triangular, width progressively greater than length; 11 oblong, shorter than 10. **Pronotum:** 1.77 times wide as long, widest at or just anterior to midpoint; anterior margin broadly convex medially, feebly concave laterally to subacute anterolateral angle; posterior margin bisinuate on either side of transverse median section; posterolateral angles rounded, obtuse; lateral margin widely arcuate to beyond midpoint then narrowing; disc with median longitudinal flattened region with two wider areas anterior and posterior to narrow middle; large subround depressions laterally and tapering to explanata margin at lateral 1/3; small oblique, bisinuate, feebly-elevated costa on either side. **Scutellum:** nearly equilateral triangle, anterior margin straight, lateral margins broadly, shallowly concave; surface with slight, transverse, narrow elevation. **Elytra:** slightly wider than maximum pronotal width, widest posterior to humeri and slightly anterior to apical 2/3; moderate-sized depression between humerus and suture near anterior margin; anterior margin more strongly, narrowly bisinuate; lateral margin straight from anterolateral angle to just posterior humerus, then narrowing in very gradual arcuation to narrowest place about opposite midpoint of length, then widening to near posterior 2/3 in broad convex arc before narrowing and then tapering gradually to separately rounded, serrulate apices; disc flattened medially, with lateral slope slightly steeper between humerus and midpoint; epipleuron broad from anterior margin, extending to just opposite posterior margin of metacoxa; extreme lateral portion of abdominal pleurites 1 and 2 slightly visible from above lateral elytral margin. **Prosternum:** both longitudinally and transversely feebly convex; anterior margin with short, narrow, feebly bilobed projection medially; process narrowly attenuate. **Abdominal ventrites:** 1 longer than 2, suture only superficially indicated; 3, 4 subequal in length; 5 subequal in length to 3 + 4, broadly arcuate apically. **Legs:** femora subparallel, narrowly fusiform; pro-, mesotibiae moderately arcuate, in repose only contiguous to femora at either end; metatibiae straight, external margin with slight small convexity near midlength, comb of stout setae nearly entire although not reaching either proximal or distal apices; tarsi with tarsomeres 1-4 each slightly shorter than preceding but with progressively wider ventral pulvillus on distal half; 5 subequal in length to 2+3+4, with narrow, wider separated, subappendiculate claws. **Genitalia:** aedeagus as in Fig. 2.

**Variation.** Of the 30 paratypes, there are 19 ♂♂, 10 ♀♀ and 1 unsexed which vary in size as follows: ♂♂ length: 5.1–6.5 mm; width: 1.8–2.2 mm; ♀♀ length: 5.2–6.5 mm; width: 2.0–2.2 mm; beyond size there is scant variation in integument color, elytral pattern, punctuation or vestiture, as may be expected from an apparently localized population.

**Specimens examined.** Holotype ♂ (CSCA): **PHILIPPINES**, Leyte Is(land), Mt. Balocawe (Balocawe), Mahaplag, 15-27.iv.2009, local collector; 30 paratypes: 1 ♂, 1 ♀, same data as holotype; 1 ♂, same data except 10-16.v.2010; 1 ♂, 1 ♀, same data except Mt. Balocawe, vi.2009; 4 ♂♂, same data except vii.2009; 8 ♂♂, 1 ♀, same data except 2006. 4.; 2 ♂♂, 5 ♀♀, same data except June-Aug. 2006; 2 ♂♂, 2 ♀♀, same data except 2006. 08; 1 unsexed, same data, except 21.vii.2011. Paratypes deposited in CLBC and COTJ.

**Etymology.** The specific epithet is chosen to emphasize the colorful transverse elytral pattern, reminiscent of some species of the Neotropical genus *Actenodes* Dejean 1833 (Buprestinae: Actenodini).

**Remarks.** *Toxoscelus actenodes* resembles *T. acutipennis* Fisher 1922, but differs in details of the elytral markings and lacks the sharply projecting elytral apices of that previously described species.



**FIGURES 1–10.** *Toxoscelus* spp. 1, 3, 4, 6, 8, 10, dorsal habitus; 2, 4, 7, 9, aedeagus, dorsal aspect. 1, 2, *T. actenodes*, **sp. nov.**; 3, *T. acutipennis* Fisher 1922; 4, 5, *T. bichromoplagiatus*, **sp. nov.**; 6, 7, *T. circumscriptus*, **sp. nov.**; 8, 9, *T. griseovariegatus*, **sp. nov.**; 10, *T. rugicollis* Saunders 1874. Each scale bar = 1.0 mm except for Fig. 10 which has no scale.

***Toxoscelus acutipennis* Fisher 1922**

(Fig. 3)

*Toxoscelus acutipennis* Fisher 1922: 17; Obenberger 1934: 805; Bellamy 2008: 1737.

**Original description.** “Large, rather robust and moderately convex, head and pronotum dull bronzy, with a slight purple tinge, elytra bronzy with irregular black and purple markings; beneath of a brighter bronze color than above. Head convex, feebly gibbose on each side of occiput, with a deep longitudinal groove extending from the occiput into a rather deep, round impression on the vertex, the groove becoming obsolete on the front; surface strongly rugose, the rugae becoming somewhat concentric on the gibbosities, intervals finely granulated; antennae short, reaching a little beyond the apical angles of the pronotum, serrate from the fifth joint; epistoma narrow between the antennae, a narrow, deep groove behind the antennae, extending longitudinally down the epistoma to near the anterior margin, which is narrow and arcuately rounded; cheeks unarmed; antennal cavities large and situated a certain

distance from the inner margin of the eyes; eyes rather large, oval, and feebly oblique. Pronotum two times as wide as long, wider in front than behind, widest at the apical third; sides broadly rounded in front to apical third, then converging rapidly in nearly a straight line to the posterior angles, which are broadly rounded; anterior margin arcuately emarginate with a large, broadly rounded median lobe; base strongly bisinuate with a large median lobe feebly concave in front of scutellum; lateral carina short, parallel to sides, and reaching from apical fourth to just behind the middle; surface concentrically rugose, the intervals finely granulated, with a narrow depression between the lateral carina and lateral margin, two round depressions on each side at about the middle, the outer one near the anterior part of the lateral carina, and the inner and deeper one slightly behind the outer one and near the median part, there is also a large, shallow depression in front of the scutellum. Scutellum large, triangular, and acute at apex; surface finely granulated. Elytra much wider than pronotum at base; rather flat, with a shallow depression on each side at base; sides sinuate, nearly parallel anteriorly, feebly expanded behind the middle to partially cover the widely expanded abdomen, then rapidly converging to the tips, which are acuminate and finely dentate at sides; surface strongly rugose anteriorly, becoming finely granulated with a few short rugae intermixed toward the apex, marked with irregular bronze, black, and purplish designs, and with a large, conspicuous, irregular black area along the suture at apical third, this area is smooth, sparsely and finely punctate, and surrounded by a bronze zigzag band. Abdomen densely marked with finely crenulate lines and sparsely clothed with short white hairs; last abdominal segment with three short knifelike projections at the apex; prosternum broadly, arcuately emarginate in front. Length: 7.5 mm; width, 2.6 mm.”

**Specimen examined.** Holotype (USNM ): [Philippines, Luzon] Baguio, Berruet (?), Baker(p)/18523 (h)/Type No. (p), 24662 (h), U.S.N.M. (p)/*Toxoscelus acutipennis* Fisher (h).

**Remarks.** The acuminate elytral apices, by themselves, are not enough to disqualify this species for membership in *Toxoscelus*, and in other character states, at least as far as we can observe from the single dorsal image (Fig. 3), *T. acutipennis* would appear to be properly placed.

### ***Toxoscelus bichromoplagiatus*, sp. nov.**

(Figs. 4, 5)

**Description of male holotype.** Elongate, transversely flattened dorsally and ventromedially, subconvex laterally; length: 5.4 mm, width 1.8 mm, widest in two places on elytra; integument dark cupreous on head, pronotum and dorsolaterally on abdominal ventrites; elytra mostly golden-green with pattern of iridescent maroon-colored single humeral spot, two longitudinal vittae, with the innermost connecting to broad transverse fascia in the apical 1/2; maroon-colored areas each bordered with very fine iridescent cupreous border; dorsal surface strongly punctate, head and pronotum with portions strigulate, elytra variously obscurely variolate; ventral surface more finely punctate, abdominal ventrites with faint oblique strigae; dorsal surface without visible vestiture, ventral surface with very short suberect setae on prosternal disc, hypomeron, thoracic and abdominal ventrites and femora. **Head:** frontovertex moderately projecting between large eyes, moderately longitudinally depressed medially, with two small separate elevations on vertex; eyes slightly diverging dorsally, eyes slightly oblique, oval, circumocular groove not entire, extending around both dorsal and ventral margins before terminating; supra-antennal groove entire, nearly transverse, confluent with very narrow longitudinal, laterally carinate, median clypeal strip terminating with narrow convex clypeal apex; antennal cavities large; gena obliquely transversely depressed for proximal antennomeres in repose; genal margin with very small, very obtuse tooth; antennae serrate from antennomere 5; 1 oblong, somewhat angled; 2 shorter, more globose; 3 subequal in length to 2, much narrower; 4 shorter, subequal to 3; 5-10 each triangular, width progressively greater than length; 11 oblong, shorter than 10. **Pronotum:** 1.8 times wide as long, widest at or just anterior to midpoint; anterior margin broadly convex medially, feebly concave laterally to subacute anterolateral angle; posterior margin bisinuate on either side of transverse median section; posterolateral angles rounded, obtuse; lateral margin widely arcuate to beyond midpoint then narrowing; disc with median longitudinal flattened region with two wider areas anterior and posterior to narrow middle; large subarcuate depressions laterally, then tapering to explanata margin at lateral 1/3; small oblique, bisinuate, feebly-elevated costa on either side. **Scutellum:** nearly equilateral triangle, anterior margin feebly convex, lateral margins broadly, shallowly concave; surface feebly convex, finely punctate. **Elytra:** slightly wider than maximum pronotal width, widest posterior to opposite humeri and slightly anterior to elytral 2/3; moderate-sized depression between humerus and suture near anterior margin; anterior margin more strongly, narrowly bisinuate; lateral margin straight from anterolateral angle

to just posterior opposite humerus, then narrowing in very gradual arcuation to narrowest place about opposite midpoint of length, then widening to near posterior 2/3 in broad convex arc before narrowing and then tapering gradually to separately rounded, serrulate apices; disc flattened medially, with lateral slope slightly steeper between humerus and midpoint; epipleuron broad from anterior margin, extending to just opposite posterior margin of metacoxa; extreme lateral portion of abdominal pleurites 1 and 2 slightly visible from above lateral elytral margin. **Prosternum:** both longitudinally and transversely feebly convex; anterior margin with short, narrow, feebly bilobed projection medially; process narrowly attenuate. **Abdominal ventrites:** 1 longer than 2, suture only superficially indicated; 3, 4 subequal in length; 5 subequal in length to 3 + 4, broadly arcuate apically. **Legs:** femora subparallel, narrowly fusiform; pro-, mesotibiae moderately arcuate, in repose only contiguous to femora at either end; metatibiae straight, external margin with slight small convexity near midlength, comb of stout setae nearly entire although not reaching either proximal or distal apices; tarsi with tarsomeres 1–4 each slightly shorter than preceding but with progressively wider ventral pulvillus on distal half; 5 subequal in length to 2+3+4, with narrow, wider separated, subappendiculate claws. **Genitalia:** aedeagus as in Fig. 5.

**Variation.** The female of this new species is unknown from the small type series and the 10 paratypes vary in size as follows: length: 4.9–5.9 mm; width: 1.6–1.9 mm; beyond size there is scant variation in integument color, elytral pattern, punctuation or vestiture, as may be expected from an apparently localized population.

**Specimens examined.** Holotype ♂ (CSCA): **PHILIPPINES**, Leyte Is(land), Mt. Balocawe (Balocawe), vii.2009, local collector; 10 paratypes: 1 ♂, same data as holotype, except vi.2010; 1 ♂, same data except Mt. Balocawe, Mahaplagn, 10-16.v.2010; 4 ♂♂, Mt. Bal[o]cawe, 2006.4, D. Mohagan, leg.; 2 ♂♂, same except 2006.08; 3 ♂♂, same except June-Aug. 2006; 1 unsexed, same data, except 28.vii.2011. Paratypes deposited in CLBC and COTJ.

**Etymology.** The specific epithet is chosen for the two-colored dorsal surface pattern of longitudinal markings on the elytra.

**Remarks.** This new species does not closely resemble any of its congeners from the Philippines, differing as indicated in the species key above.

### ***Toxoscelus circumscriptus*, sp. nov.**

(Figs. 6, 7)

**Description of male holotype.** Elongate, transversely flattened dorsally and ventromedially, subconvex laterally; length: 6.2 mm, width 2.2 mm, widest in two places on elytra; integument black with dark purpureocupreous reflection on head, pronotum, anterior 4/5 of elytral disc and dorsolaterally on abdominal ventrites; elytral disc also with faint blue-grey reflections around black spots; apical 1/5 of elytra brighter red-cupreous; ventral integument shining black with faint aeneous reflection medially; dorsal surface strongly punctate, head and pronotum with portions strigulate; most of elytral disc asperate, except for a pair of short, small oblique feebly punctate black vittae one on each elytron near midpoint of disc at about anterior 1/4 and the large nearly impunctate medial portion which appears shining black except for narrow purpureocupreous strip along each suture, subtriangular in shape with sides straight and posterior margin strongly convex; ventral surface more finely punctate, abdominal ventrites with faint oblique strigae; dorsal surface without visible vestiture except for very small, adpressed setae in elytral spot, ventral surface with very short suberect setae on prosternal disc, hypomeron, thoracic and abdominal ventrites and femora. **Head:** frontovertex moderately projecting between large eyes, moderately longitudinally depressed medially, with two small separate elevations on vertex; eyes slightly diverging dorsally, eyes slightly oblique, oval, circumocular groove not entire, extending around both dorsal and ventral margins before terminating; supra-antennal groove entire, nearly transverse, confluent with very narrow longitudinal, laterally carinate, median clypeal strip terminating with broad convex clypeal apex; antennal cavities large; gena obliquely, transversely depressed for proximal antennomeres in repose; genal margin with very small, very obtuse tooth; antennae serrate from antennomere 5; 1 oblong, somewhat angled; 2 shorter, more globose; 3 subequal in length to 2, much narrower; 4 shorter, subequal to 3; 5-10 each triangular, width progressively greater than length; 11 oblong, shorter than 10. **Pronotum:** 1.76 times wide as long, widest at or just anterior to midpoint; anterior margin broadly convex medially, feebly concave laterally to subacute anterolateral angle; posterior margin bisinuate on either side of transverse median section; posterolateral angles rounded, obtuse; lateral margin widely arcuate to beyond midpoint then nar-

rowing; margin denticulate; disc generally transversely subconvex, surface with small depressions on either side of middle; one small oblique, feebly-elevated costa on either side. **Scutellum**: nearly equilateral triangle, anterior margin convex, lateral margins broadly, shallowly concave; disc even. **Elytra**: slightly wider than maximum pronotal width, widest posterior to opposite humeri and slightly anterior to elytral 2/3; moderate-sized depression between humerus and suture near anterior margin; anterior margin more strongly, narrowly bisinuate; lateral margin straight from anterolateral angle to just posterior opposite humerus, then narrowing in very gradual arcuation to narrowest place about opposite midpoint of length, then widening to near posterior 2/3 in broad convex arc before narrowing and then tapering gradually to separately rounded attenuate, serrulate apices; disc flattened medially, with lateral slope slightly steeper between humerus and midpoint; epipleuron broad from anterior margin, extending to just opposite posterior margin of metacoxa; extreme dorsolateral portion of abdominal pleurites 1 and 2 slightly visible from above lateral elytral margin. **Prosternum**: both longitudinally and transversely feebly convex, but with slight transverse depression before midpoint; anterior margin with short, narrow, feebly bilobed projection medially; process narrowly attenuate. **Abdominal ventrites**: 1 longer than 2, suture only superficially indicated; 3, 4 subequal in length; 5 subequal in length to 3 + 4, broadly arcuate apically. **Legs**: femora subparallel, narrowly fusiform; pro-, mesotibiae moderately arcuate, in repose only contiguous to femora at either end; metatibiae straight, external margin nearly straight, sparse comb of stout setae nearly entire although not reaching either proximal or distal apices; tarsi with tarsomeres 1-4 each slightly shorter than preceding but with progressively wider ventral pulvillus on distal half; 5 subequal in length to 2+3+4, with narrow, wider separated, subappendiculate claws. **Genitalia**: aedeagus as in Fig. 7.

**Variation.** Of the 9 paratypes, there are 5 ♂♂ and 4 ♀♀ which vary in size as follows:

♂♂ length: 6.0–6.8 mm; width: 2.0–2.4 mm; ♀♀ length: 6.2–7.2 mm; width: 2.0–2.5 mm; there is some variation in the amount and strength of the blue-grey reflection on the elytral disc, the size of the large black spot that straddles the elytra and the extent of the elytral apices with the red-coppery coloration.

**Specimens examined.** Holotype ♂ (CSCA): **PHILIPPINES**, Leyte Is(land), Mt. Balocau, vii.2009, local collector; 9 paratypes: 2 ♂♂, same data as holotype except, vii.2009; 1 ♀, same data except vi.2009; 2 ♂♂, 1 ♀, June-Aug., 2006. Mt. Balcaue (Balocau), Leyte, Philippines, D. Mohagan leg.; 1 ♂, 2 ♀♀, same data as holotype except 2007. 8. Paratypes deposited in CLBC and COTJ.

**Etymology.** The specific epithet (*L., circum + scribo*), meaning limited or confined, refers to the dark smooth spot on the posterior half of the elytra, a feature not previously seen in this genus.

**Remarks.** This new species does not closely resemble any of its congeners from the Philippines, differing as indicated in the species key above.

### ***Toxoscelus griseovariegatus*, sp. nov.**

(Figs. 8, 9)

**Description of male holotype.** Elongate, transversely flattened dorsally and ventromedially, subconvex laterally; length: 6.1 mm, width 2.2 mm, widest in two places on elytra; integument generally black, feebly shining with faint greenish or bluish reflections on head and pronotum; ventrites also with faint greenish or bluish reflections laterally with faint aeneous reflections medially especially on abdominal ventrites 1 and 2; elytra mostly grey-green with irregular pattern of black fasciae and vittae as in Fig. 8; dorsal surface strongly punctate, head and pronotum with portions strigulate, elytra variously obscurely variolate; ventral surface more finely punctate, abdominal ventrites with faint oblique strigae; dorsal surface without visible vestiture, ventral surface with very short suberect setae on prosternal disc, hypomeron, thoracic and abdominal ventrites and femora. **Head**: frontovertex moderately projecting between large eyes, moderately longitudinally depressed medially, with two small separate elevations on vertex; eyes slightly diverging dorsally, eyes slightly oblique, oval, circumocular groove not entire, extending around both dorsal and ventral margins before terminating; supra-antennal groove entire, nearly transverse, confluent with very narrow longitudinal, laterally carinate, median clypeal strip terminating with narrow roundly attenuate apex, surface excavate behind; antennal cavities large; gena obliquely transversely depressed for proximal antennomeres in repose; genal margin with very small, very obtuse tooth; antennae serrate from antennomere 5; 1 oblong, somewhat angled; 2 shorter, more globose; 3 subequal in length to 2, much narrower; 4 shorter, subequal to 3; 5–10 each stoutly triangular, width progressively greater than length; 11 oblong, shorter than 10. **Pronotum**: 1.63 times wide

as long, widest at or just anterior to midpoint; anterior margin broadly convex medially, feebly concave laterally to subacute anterolateral angle; posterior margin bisinuate on either side of transverse median section; posterolateral angles rounded, obtuse; lateral margin widely arcuate to beyond midpoint then narrowing; disc with median longitudinal flattened region with two wider areas anterior and posterior to narrow middle; large subround depressions laterally and tapering to explanata margin at lateral 1/3; small oblique, bisinuate, feebly-elevated costa on either side. **Scutellum**: nearly equilateral triangle, anterior margin straight, lateral margins broadly, shallowly concave; surface with slight, transverse, narrow elevation. **Elytra**: slightly wider than maximum pronotal width, widest posterior to opposite humeri and slightly anterior to elytral 2/3; moderate-sized depression between humerus and suture near anterior margin; anterior margin more strongly, narrowly bisinuate; lateral margin straight from anterolateral angle to just posterior opposite humerus, then narrowing in very gradual arcuation to narrowest place about opposite midpoint of length, then widening to near posterior 2/3 in broad convex arc before narrowing and then tapering gradually to separately angulate, then attenuate serrulate apices; disc flattened medially, with lateral slope slightly steeper between humerus and midpoint; epipleuron broad from anterior margin, extending to just opposite posterior margin of metacoxa; extreme lateral portion of abdominal pleurites 1 and 2 slightly visible from above lateral elytral margin. **Prosternum**: both longitudinally and transversely feebly convex; anterior margin with short, narrow, feebly bilobed projection medially; process narrowly attenuate. **Abdominal ventrites**: 1 longer than 2, suture only superficially indicated; 3, 4 subequal in length; 5 subequal in length to 3 + 4, broadly arcuate apically. **Legs**: femora subparallel, yet narrowly fusiform; pro-, mesotibiae moderately arcuate, in repose only contiguous to femora at either end; metatibiae straight, external margin with two small rounded elevations near mid-length, comb of stout setae in three sections, on each rounded elevation and distally; tarsi with tarsomeres 1–4 each slightly shorter than preceding but with progressively wider ventral pulvillus on distal half; 5 subequal in length to 2+3+4, with narrow, wider separated, appendiculate claws. **Genitalia**: aedeagus as in Fig. 9.

**Specimens examined.** Holotype ♂ (CSCA): **PHILIPPINES**, Leyte Is(land), Mt. Balocawe (Balocawe), Mahaplag, 15–27.iv.2009, local collector.

**Etymology.** The specific epithet is chosen for the faint grey pattern on the dorsal surface.

**Remarks.** *Toxoscelus griseovariegatus* is the only one of the four new *Toxoscelus* species described from a single specimen. Nonetheless it differs convincingly from its Philippine congeners as indicated in the key, by virtue of the distinct and unique dorsal coloration and surface sculpture (Fig. 8). In a sense, the elytral color pattern of this species is similar to a negative image to that of *T. actenodes*, with the black fasciae and vittae approximately in the same orientation as the dull golden ones for the latter species.

### ***Toxoscelus rugicollis* Saunders 1874**

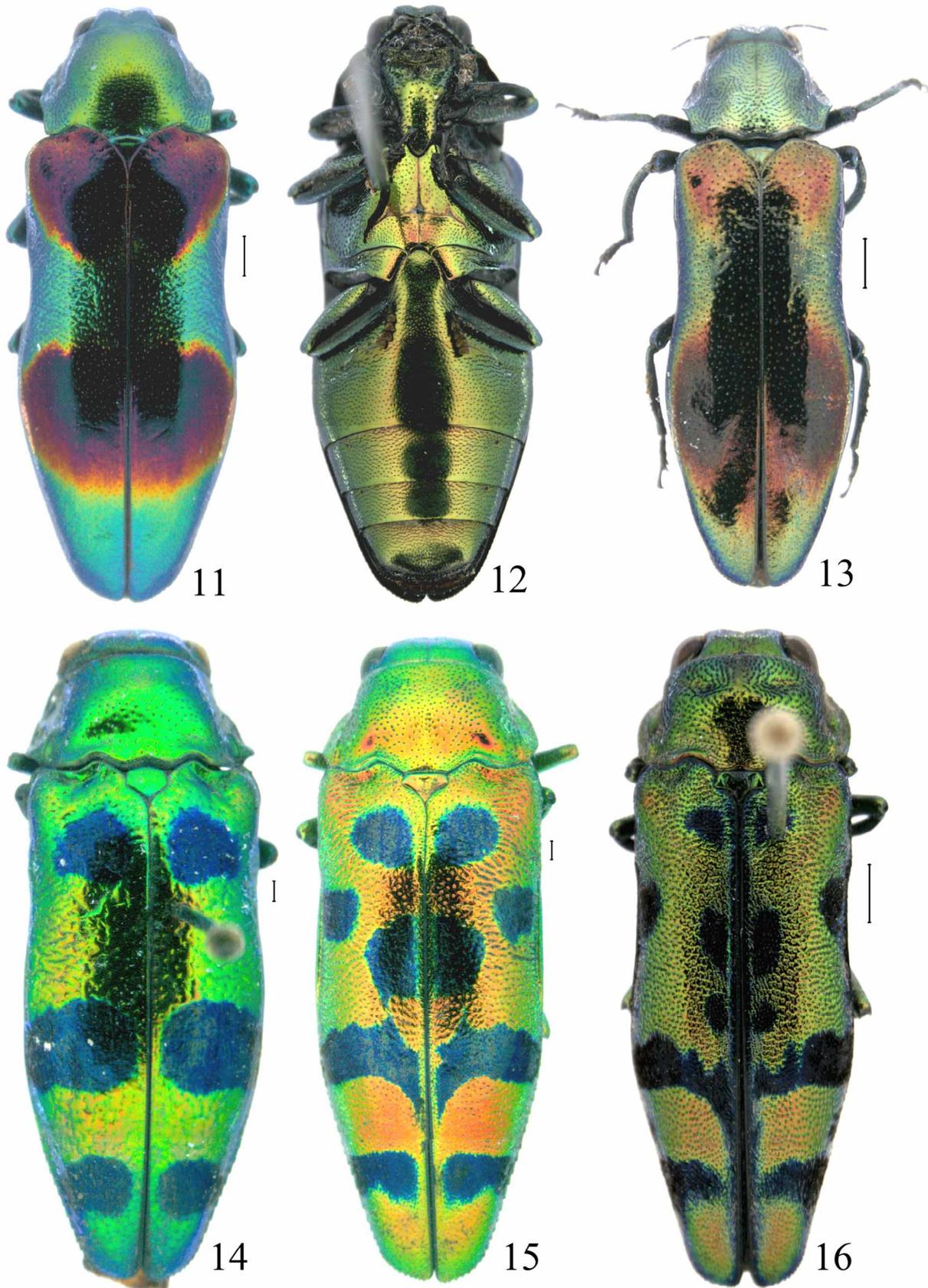
(Fig. 10)

*Toxoscelus rugicollis* Saunders 1874: 322; Obenberger 1934: 805; Bellamy 2008: 1739.

**Original description.** “*Purpureo-aeneus, thorace foveolato, lateribus rotundatis postice attenuato. Elytris maculis quibusdam supra medium, et postice fasciis duabus valde sinuatis, griseis ornatis. Subtus punctus.* Bronzy, with a purplish tint. Head concentrically rugose and punctured, with a small round impression near the vertex. Thorax with the sides much rounded in front, and then converging rapidly in nearly straight lines to the base, which is deeply bisinuate. Surface concentrically rugose and punctured, with an oval transverse depression on the disk below the anterior margin, and a rather large somewhat kidney-shaped impression, just above the base, near each posterior angle; there is also a very slight depression near the front angles. Elytra much wider than the base of the thorax, sides sinuate, apex rounded, each with a band near the base, a round spot near the suture and an oval one at its side, above the middle, and two strongly zigzag bands; one just below these, the other midway between it and the apex, grey pubescent. Beneath and legs punctured, posterior tibiae hairy along their outer margin. Length 2 1/4 lines; breadth 3/4 line.”

**Specimen examined.** Holotype (BMNH): [**Philippines**] Central Luzon.

**Remarks.** This species does not closely resemble any of its congeners from the Philippines, differing as indicated in the species key above. It has a more iridescent purplish integument color with a pattern of adpressed white setae on the elytra more reminiscent of species of *Neotoxoscelus* in the Philippines, but is kept in *Toxoscelus* by virtue of the character states of the legs which immediately separate these genera.



**FIGURES 11–16.** *Visayella* spp. 11–13. 11, *V. superba* **sp. nov.** holotype, dorsal habitus, 12, ventral habitus; 13, *V. gracilis* **sp. nov.** holotype, dorsal habitus; *Obenbergerula* spp. 14–16. 14, *O. horni* Hoscheck 1931, holotype, dorsal habitus; 15, *O. paradoxa* Hoscheck 1931, female, dorsal habitus; 16, *Sibuyanella bakeri* (Fisher 1924), dorsal habitus. Each scale bar = 1.0 mm, same scale for 11, 12.

## Genus *Visayasella*, gen. nov.

Type species: *Visayasella superba*, sp. nov. (fixed by present designation).

**Description.** Body subcylindrical, flattened dorsoventrally; integument with simple punctures, slight transverse rugae; dorsal surface glabrous, ventral surface with sparse vestiture. **Head:** frons between eyes projecting beyond outline of eye margin, longitudinally sulcate; inner margins of eyes diverging dorsally; supra-ocular grooves not entire; antennal cavities large, separated by distance slightly less than width of cavity; supra-antennal groove entire; frontoclypeus narrowed between antennal cavities before diverging to emarginate distal margin; gena depressed for basal antennomeres in repose, genal tooth feeble, elongate; antennae with expanded triangular distal portion from antennomere 5. **Pronotum:** disc entire, strongly latitudinally convex in anterior half, flattened in posterior half; anterior margin strongly arcuate; posterior margin biarcuate; lateral margin with lateroposterior angles rectangular, then widening to before midpoint, subparallel before narrowing slightly and lateroanterior angles subacute. **Scutellum:** triangular. **Elytra:** noticeably wider opposite humeri than widest part of pronotum; lateral margins subparallel before middle, then widening to widest point near posterior 2/5 before narrowing to separately rounded serrulate margins; epipleuron relatively short, stout, not extending beyond point opposite mesepimeron; lateral aspect of proximal abdominal tergites visible from above; pygidium invisible; **Ventral side:** anterior margin of prosternum with wide bilobed median projection; prosternum with disc laterally convex, process quite broad, narrowing to broadly attenuate apex from opposite procoxae; abdominal ventrites subequal in length, sutures evenly transverse; anal ventrite broad, evenly transverse distally. **Legs:** femora fusiform; pro-, mesofemora strongly arcuate; metafemora nearly straight, with dense setal comb on external face; tarsi with tarsomeres 1–4 each with ventral pulvillus, claws appendiculate.

**Etymology.** With two new species included, this new feminine genus is named to reflect the regional geography of the central Philippine islands known collectively as the Visayas region.

**TABLE 1.** Character state differences between *Visayasella*, *Obenbergerula* and *Sibuyanella*.

Character	Character State		
	<i>Visayasella</i>	<i>Obenbergerula</i>	<i>Sibuyanella</i>
0. Facies <sup>1</sup>	Figs. 11–13	Figs. 14, 15	Fig. 16
1. Body, dorsoventral configuration	flattened	flattened	subcylindrical
2. Dorsal vestiture	glabrous	glabrous	glabrous or setose
3. Frons between eyes	projecting; longitudinally depressed	entire, even with outline of eyes	even with outline of eyes; longitudinally depressed
4. Genal tooth	absent	broad, acute	broad, acute
5. Pronotum	disc entire; narrower than elytra	disc entire; subequal to elytra	disc with elevated tubercles or gibbosities
6. Posterolateral angle of pronotum	rectangular	obtuse	obtuse
7. Scutellum	entire, elongate triangular	anteroposteriorly compressed, with central depression	anteroposteriorly compressed, with central depression
8. Elytra, lateral margins	strongly biarcuate	nearly straight	weakly biarcuate
9. Proximal abdominal pleurites	visible from above	hidden	hidden
10. Male genitalia	unknown	parameres widely arcuate	parameres biangulate

<sup>1</sup> Figure = 1000 words

**Remarks.** Superficially this new genus comes nearest to *Obenbergerula* Strand 1932 (a replacement name for the preoccupied *Böttcheria* Hoscheck 1931) and *Sibuyanella* Obenberger 1942, but with further elucidation of rela-

tionships in Coraebini (s. lat.), it may actually prove to be closer to *Philippscelus* Bellamy 1998 and *Lumawigia* Bellamy 2005. This new genus can be distinguished from *Obenbergerula* and *Sibuyanella* as outlined in Table 1 of character states. This will allow others to compare various taxa based on externally-visible perceived synapomorphies than to be constrained to the apparently fundamentally-significant internal differences used by Majer (in KubáÁ, *et al.* 2001) to differentiate the 10 coraebine subtribes proposed in that work. It would be interesting to speculate about what might be the model for this possibly mimetic species, but that will be left to others who might know other parts of the Philippine insect fauna and who might recognize the resemblance. Or it may be nothing more than a warning color advertising chemical unpalatability.

***Visayasella superba*, sp. nov.**

(Figs. 11, 12)

**Description of female holotype.** Body subcylindrical, flattened dorsoventrally; length 15.2 mm; width 5.5 mm, widest opposite basal abdominal pleurites visible beyond elytra just posterior to midpoint; integument with simple punctures, slight transverse rugae dorsally, finely imbricate ventrally especially laterally; dorsal surface glabrous, ventral surface with sparse vestiture of very short adpressed setae, one from each small imbrication; general body color bright iridescent green with golden reflections; elytra (see Fig. 11) with two large multicolored cross-sutural fasciae, both with very narrow golden perimeter, before orange, then red, then purple to deep violet disc of each fascia; epipleuron reflecting blue. **Head:** frons between eyes projecting beyond outline of eye margin, feebly sulcate longitudinally; inner margins of eyes diverging dorsally; supra-ocular grooves extending from before dorsal crest around inner margin and back up to opposite with ventral 1/3 of outer margin; antennal cavities moderate-sized, separated by distance slightly less than width of cavity; supra-antennal groove entire, angulate medially; frontoclypeus narrowed between antennal cavities before diverging to arcuately emarginate distal margin; gena depressed for basal antennomeres in repose, genal tooth feeble, elongate; antennae with antennomere 1 robust, slightly bent, wider than 2, 2 longer than wide, 3 and 4 subequal, each shorter than 2, 5–10 triangularly serrate, each successive antennomere with width to length ratio increasing, 11 oblong, slightly arcuate. **Pronotum:** 1.58 times wider than longer, maximum width in middle third; anterior margin strongly arcuate; posterior margin biarcuate; lateral margin with lateroposterior angles rectangular, then widening to before midpoint, subparallel before narrowing slightly and lateroanterior angles subacute; disc entire, strongly latitudinally convex in anterior half, flattened in posterior half. **Scutellum:** triangular, anterior margin convex, lateral margins feebly arcuately concave. **Elytra:** noticeably wider at humeri than widest part of pronotum; lateral margins subparallel in anterior third, then widening to widest point near posterior 2/5 before narrowing to separately rounded serrulate margins; epipleuron relatively short, stout, not extending beyond point opposite mesepimeron; lateral aspect of proximal abdominal pleurites visible beyond lateral margin, although not visible in Fig. 11; pygidium not visible beyond elytral apex. **Prosternum:** anterior margin of prosternum with wide bilobed median projection; prosternum with disc laterally convex, process quite broad, sides subparallel before narrowing to broadly attenuate apex from opposite procoxae. **Abdominal ventrites:** 1 longest, each successively shorter than preceding, except 5 longer than 4, sutures feebly arcuately transverse; ventrite 5 broad, evenly transverse distally. **Legs:** with femora fusiform; pro-, mesofemora strongly arcuate; metafemora nearly straight, with dense setal comb on external face extending along nearly all of distal 2/3 except just before distal apex; tarsi with tarsomeres 1–4 each with ventral pulvillus, claws appendiculate. **Ovipositor:** not dissected.

**Variation.** The single female paratype differs from the holotype: length 16.2 mm, width 6.0 mm; the more posterior elytral colored fascia has both the anterior and posterior margins nearly evenly transverse as opposed to those margins being rounded in the holotype (Fig. 11) and the elytra are blue-green to blue apically. The ovipositor of the paratype is short with dense ventral setal brushes.

**Specimens examined.** Holotype, ♀ (CSCA): PHILIPPINES, Leyte Is(land), Mt. Balocawe (Balocawe), vi.2009, local collector; 1 ♀ paratype (COTJ): June–Aug. 2006, Mt. Balcaue, Leyte, Philippines, D. Mohagan leg.

**Etymology.** The superb coloration of the type species is the basis for the specific epithet.

**Remarks.** The two species of *Visayasella* will be contrasted under the second species' description below.

***Visayasella gracilis*, sp. nov.**

(Fig. 13)

**Description of female holotype.** Body subcylindrical, flattened dorsoventrally; length 11.5 mm; width 3.9 mm, widest opposite basal abdominal pleurites visible beyond elytra just posterior to midpoint; integument with simple punctures, slight transverse rugae dorsally, finely imbricate ventrally especially laterally; dorsal surface glabrous, ventral surface with sparse vestiture of very short adpressed setae, one from each small imbrication; general body color iridescent blue-green with aeneous reflections; elytra (see Fig. 13) with two purple-to-violet trans-sutural fasciae, both with golden-to-orange-to-red reflections, elytral apices and epipleuron reflecting blue. **Head:** with frons between eyes projecting beyond outline of eye margin, feebly sulcate longitudinally; inner margins of eyes diverging dorsally; supra-ocular grooves extend from before dorsal crest around inner margin and back up to opposite with ventral 1/3 of outer margin; antennal cavities moderate-sized, separated by distance slightly less than width of cavity; supra-antennal groove entire, angulate medially; frontoclypeus narrowed between antennal cavities before diverging to arcuately emarginate distal margin; gena depressed for basal antennomeres in repose, genal tooth feeble, elongate; antennae with antennomere 1 robust, slightly bent, wider than 2, 2 longer than wide, 3 and 4 subequal, each shorter than 2, 5–10 triangularly serrate, each successive antennomere with width to length ratio increasing, 11 oblong, slightly arcuate. **Pronotum:** 1.50 times wider than longer, maximum width in middle third; anterior margin strongly arcuate; posterior margin biarcuate; lateral margin with lateroposterior angles rectangular, then widening to before midpoint, subparallel before narrowing slightly and lateroanterior angles subacute; disc entire, strongly latitudinally convex in anterior half, flattened in posterior half. **Scutellum:** triangular, anterior margin convex, lateral margins feebly arcuately concave. **Elytra:** wider opposite humeri than widest part of pronotum; lateral margins subparallel in anterior third, then widening to widest point near posterior 2/5 before narrowing to separately rounded serrulate margins; epipleuron relatively short, stout, not extending beyond point opposite mesepimeron; lateral aspect of proximal abdominal pleurites visible beyond lateral margin, although not visible in Fig. 13; pygidium invisible. **Prosternum:** anterior margin of prosternum with wide bilobed median projection; prosternum with disc laterally convex, process quite broad, sides subparallel before narrowing to broadly attenuate apex from opposite procoxae. **Abdominal ventrites:** subequal in length, each successively shorter than preceding, except 5 longer than 4, sutures feebly arcuately transverse; ventrite 5 broad, evenly transverse distally. **Legs:** femora fusiform; pro-, mesofemora strongly arcuate; metafemora nearly straight, with dense setal comb on external face extending along middle 2/3; tarsi with tarsomeres 1–4 each with ventral pulvillus, claws appendiculate. **Ovipositor:** short with dense ventral setal brushes.

**Specimens examined.** Holotype, ♀ (CSCA): **PHILIPPINES**, 2006.8, Mt. Kanlaon (Canlaon), Negros, D. Mohagan leg.

**Etymology.** The more slender ('gracile') body of the second species of this new genus yields the specific epithet chosen.

**Remarks.** *Visayasella gracilis* differs from *V. superba* by being smaller, more slender, with differences in the coloration and especially the colored fasciae of the elytra, both in terms of color and relative length (Figs. 11, 13) and being from different islands. It will be interesting to see if specimens or congeneric species eventually are found on the intervening islands of Bohol and Cebu.

## Acknowledgments

We thank Danny and Sheralene Mohagan for supplying specimens from Leyte; Malcolm Kerley, The Natural History Museum, London and Steve Lingafelter, Systematic Entomology Laboratory, U.S. Dept. of Agriculture c/o U.S. National Museum of Natural History, Smithsonian Institution, Washington, D.C., for sending specimens and/or images of the types of *Toxoscelus acutipennis* and *T. rugicollis*. Eric Fisher, retired from PPDB-CDF, Sacramento, is thanked for providing the dome lighting system used to capture the images used herein; thanks are also due to Megan O'Donnell, of the same Sacramento address, for her many hints and suggestions with Photoshop!

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