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THREE NEW SPECIES OF *ACROSTERNUM* FIEBER, SUBGENUS *CHINAVIA* ORIAN, FROM MEXICO (HEMIPTERA: PENTATOMIDAE)

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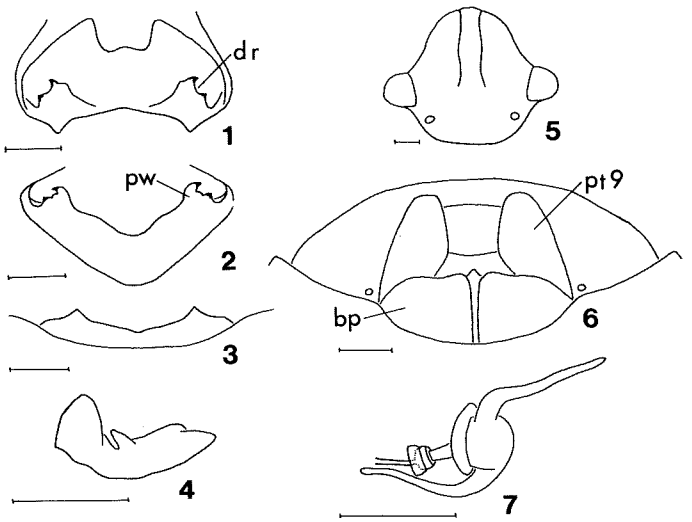
Abstract.—Descriptions are provided for *Acrosternum* (*Chinavia*) *dubium,* new species; *A.* (*C.*) *solitum,* new species; and *A.* (*C.*) *triangulum,* new species, all occurring in Mexico. A key to all eight species of *Acrosternum* known to occur in Mexico is given.

Rolston (1983) recently revised the New World species of the genus *Acrosternum* Fieber, 1860, subgenus *Chinavia* Orian, 1965. Since this revision, three undescribed species from Mexico have been discovered. These are herein described, and a key is provided for the identification of the Mexican species of *Acrosternum.* Much of the following key was extracted from the key in the revision by Rolston (1983).

KEY TO MEXICAN SPECIES OF *Acrosternum*

1. Abdominal spine projecting past anterior limit of metacoxae 2
– Abdominal spine or tubercle not surpassing metacoxae 3
2(1). No more than posterolateral angles of connexival segments black; abdominal spine conical, rounded in cross-section ..... *froeschneri* Rolston
– Connexival spots large, each divided by transverse suture; abdominal spine compressed ..... *scutellatum* (Distant)
3(1). Tibiae crimson proximally ..... *montivagum* (Distant)
– Tibiae green or yellow proximally 4
4(3). Ventral surface of rostral segments 2–4 with mesial, black, longitudinal line broadly bordered on both sides with bright crimson ..... *triangulum,* new species
– Ventral surface of rostral segments 2–4 with mesial, black, longitudinal line, but lacking crimson 5
5(4). Each spiracle surrounded by a distinct yellow spot; apex of scutellum usually pale yellow; distal one-fourth of antennal segment 3 usually green or fuscous, sometimes extreme distal end black ..... *dubium,* new species
– Each spiracle at most surrounded by an obscure pale yellow spot; apex of scutellum green; distal one-fourth of antennal segment 3 usually black 6
6(5). Females 7
– Males 9
7(6). Posterior margin of basal plates evenly convex (Fig. 28) ..... *hilare* (Say)
Each basal plate with posterolateral projection at base of 9th paratergite (Figs. 23, 32) 8
8(7). Projection of basal plate over paratergite clearly visible from ventral view (Fig. 22); from caudal view mesial margins of projection nearly parallel (Fig. 24) ..... *solitum,* new species
– Projection of basal plate over paratergite only slightly visible from ventral view



Figs. 1–7. *A. triangulum.* 1. Genital cup, dorsal view; dorsal rim of posterior wall (dr). 2. Pygophore, caudal view; posterior wall (pw). 3. Pygophore, ventral view. 4. Paramere. 5. Head. 6. Genital plates, ventral view; basal plate (bp), 9th paratergite (pt 9). 7. Spermathecal bulb and pump. Dimensional lines equal 0.5 mm.

(Fig. 31); from caudal view mesial margins of projection divergent (Fig. 33) .... *marginatum* (Palisot de Beauvois)

9(6). Posterior margin of pygophore from ventral view with broad shallow emargination (Fig. 27) ..... *hilare* (Say)

– Posterior margin of pygophore from ventral view with deep, broadly V-shaped emargination (Figs. 19, 30) 10

10(9). Posterior margin of pygophore with small but distinct notch mesially from ventral view (Fig. 19) ..... *solitum,* new species

– Posterior margin of pygophore without distinct small notch mesially from ventral view (Fig. 30) ..... *marginatum* (Palisot de Beauvois)

Acrosternum (Chinavia) triangulum, new species
Figs. 1–7

Description. Medium green above with liberal amount of yellow or pale green on interstices between punctures except on head, green below blending to yellow mesially at least on thorax. Lateral dorsal and ventral margins of juga, pronotum, connexiva, and base of coria narrowly bordered by yellow or orange. Dorsal punctation dark green, dense on head and pronotum, less so on scutellum and coria. Length 11.4–14.6 mm.

Head evenly rounded apically; lateral margins of juga weakly concave, nowhere parallel (Fig. 5). Length of head 1.8–2.5 mm, width across eyes 2.8–3.2 mm. Antennae green except distal one-fourth of segment 3 and distal two-thirds of segments 4 and

5 sometimes fuscous or black; length of segments 1–5 about 0.4–0.5, 1.1–1.4, 1.3–1.6, 1.7–2.0, 1.6–1.8 mm.

Pronotum 6.8–9.0 mm wide at humeri, mesial length 2.2–2.8 mm. Humeral angle rounded, slightly produced beyond base of coria. Anterolateral margin of pronotum straight. No black on cicatrices.

Scutellum 4.1–5.5 mm wide at base, 5.0–6.3 mm long, with five spots equally spaced along base and often a vague mesial longitudinal line, pale yellow. No black on basal corners of scutellum. Corium rounded apically, reaching beyond middle of sixth (fifth visible) abdominal segment. Narrow lateral border of connexiva yellow or orange, interrupted by small black spot in each posterior angle, black spilling onto laterotergite.

Rostral segments 2–4 about 1.5–1.8, 1.1–1.3, 0.9–1.1 mm long, ventral surface with median black line bordered on both sides by crimson, apex of segment 4 piceous, terminating between metacoxae. Abdominal tubercle compressed, reaching to middle of metacoxae. Each ostiolar ruga extending about 0.8 distance from mesial margin of ostiole to lateral thoracic margin. Posterolateral angles of sternites black. Each spiracle pale brown to rufous, not located on callus, but sometimes surrounded by obscure yellow spot. Legs green.

Posterior margin of pygophore, from ventral view, with broad, shallow, slightly sinuous emargination with triangular projection on each side just mesad of lateral angles (Fig. 3); emargination sinuously U-shaped from caudal view (Fig. 2). Dorsal rim of posterior wall of genital cup diagonal, with 2 black teeth, the largest located at mesial corner of rim (Fig. 1). Paramere as in Figure 4. Posterior margin of basal plate slightly prominent mesially, slightly concave for mesial half, arcuate laterally; mesial margin of basal plate nearly straight (Fig. 6). Spermathecal bulb as in Figure 7.

Distribution. Southern Mexico.

Holotype. ♂, labeled "MEX: Yucatan, 1 km S. Xcalacoop, VI-11-1983, Coll. E. G. Riley." Deposited in the National Museum of Natural History, Washington, D.C.

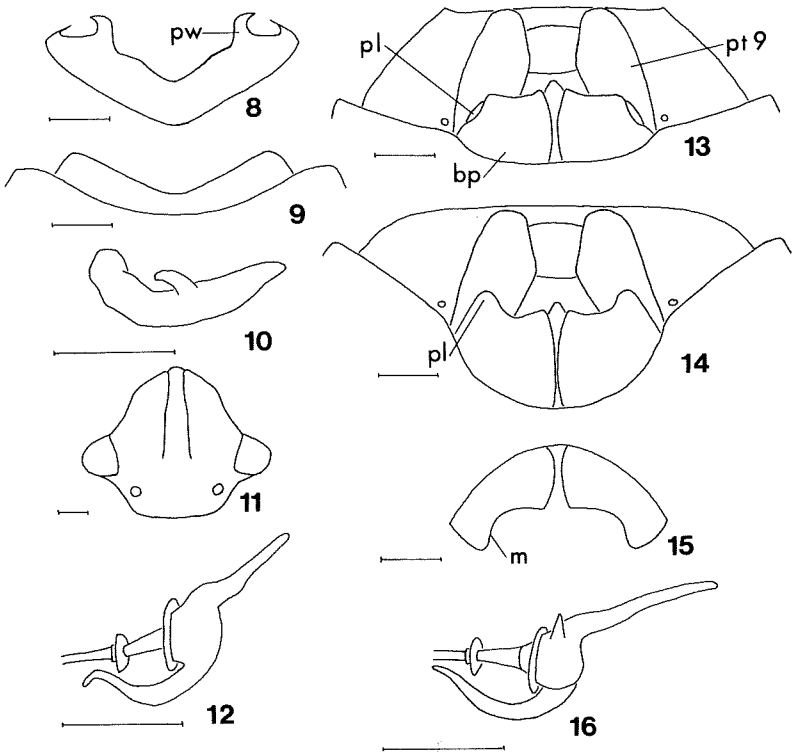
Paratypes. 5♀♀, 7♂♂, labeled as holotype; 3♀♀, 3♂♂, labeled "MEX: Quintana Roo, 20 km N. Felipe Carrillo Puerto: VI-12-14-83: Coll. E. Riley"; 2♀♀, 1♂, labeled "MEX: Yucatan, Chichen Itza, VI-10-11-83, E. Riley"; 1♂, labeled "MEXICO: Oaxaca, 2.7 mi nw. El Cameron, July 24, 1973, Taken at light, Mastro & Schaffner."

Comments. In the revision by Rolston (1983), this species keys to *A. hilare* (Say) from which it can be distinguished by the bright crimson on the ventral surface of the rostrum as well as by the genitalia. This species is named for the distinctive triangular projections on the posterior margin of the pygophore.

Acrosternum (Chinavia) dubium, new species
Figs. 8–16

Description. Medium green above, some yellow on interstices between punctures of scutellum, pale green below blending to pale yellow mesially. Lateral dorsal and ventral margins of juga, pronotum, connexiva, and bases of coria orange to orange-red. Dorsal punctation dark green. Length 12.0–15.0 mm.

Head evenly rounded apically, jugal margins concave, nowhere parallel (Fig. 11). Length of head 2.3–2.5 mm, width across eyes 2.9–3.3 mm. Each antenna green



Figs. 8–16. *A. dubium.* 8. Pygophore, caudal view; posterior wall (pw). 9. Pygophore, ventral view. 10. Paramere. 11. Head. 12. Spermathecal bulb and pump. 13. Genital plates, ventral view; basal plate (bp), posterolateral projection of basal plate (pl), 9th paratergite (pt 9). 14. Genital plates, caudoventral view; posterolateral projection of basal plate (pl). 15. Basal plates, caudal view; mesial margin of posterolateral projection (m). 16. Abnormal spermathecal bulb. Dimensional lines equal 0.5 mm.

except distal end of segments 3 and 4 and distal half of segment 5 sometimes fuscous; length of segments 1–5 about 0.5–0.6, 1.0–1.2, 1.2–1.5, 1.7–1.9, 1.7–1.8 mm.

Pronotum 6.9–8.6 mm wide across humeri, mesial length 2.4–2.9 mm. Humeral angle broadly rounded, not or scarcely produced beyond base of corium; anterolateral margin of pronotum straight. No black on cicatrices.

Scutellum 4.4–5.4 mm wide at base, 5.0–6.5 mm long, with five white spots equally spaced along base; apex usually pale yellow. No black on basal corners of scutellum. Coria rounded apically, reaching to or nearly to posterior edge of sixth (fifth visible) abdominal segment. Connexiva narrowly exposed, posterior angles black, spilling slightly onto laterotergites.

Rostral segments 2–4 about 1.5–1.8, 1.2–1.4, 1.1–1.2 mm long, pale brown, apex of segment 4 piceous, terminating between metacoxae. Abdominal spine compressed,

reaching nearly to middle of metacoxae. Each ostiolar ruga reaching about 0.7 distance from mesial margin of ostiole to lateral thoracic margin. Posterolateral angles of sternites black. Each spiracle pale, not located on callus, but usually distinctly surrounded by yellow spot. Legs green, except proximal ends of tibiae usually yellow.

Posterior margin of pygophore, from ventral view, with V-shaped emargination, sides straight, not sinuous (Fig. 9); from caudal view, emargination sinuously U-shaped, with mesial margin of posterior wall nearly vertical (Fig. 8). Dorsal rim of posterior wall diagonal with tubercle in mesial corner of rim. Paramere as in Figure 10. Each basal plate with posterolateral projection over 9th paratergite (Fig. 14); this projection only slightly visible from ventral view (Fig. 13); mesial margin of posterolateral projection from caudal view broadly concave (Fig. 15); posteromesial corner of each basal plate slightly prominent (Fig. 14). Spermathecal bulb as in Figure 12.

Distribution. Revillagigedo Islands, Mexico.

Holotype. ♂, labeled (a) "Socorro Id., 2,000 ft, May 9, 1925" and (b) "H. H. Keifer Collector." Deposited in the California Academy of Sciences.

Paratypes. 3♀♀, labeled as holotype, except 1♀, "May 8 1925."

Comments. This species is closely allied to *A.* (*C.*) *marginatum* (Palisot de Beauvois), to which it keys in the revision by Rolston (1983). It can usually be distinguished from *A. marginatum* by the distinct yellow spot surrounding each spiracle, the pale yellow on the apex of the scutellum, and the decreased amount of black on antennal segment 3. The genitalia of both sexes also separate these species. In *A. dubium* the posterior margin of the pygophore from ventral view is V-shaped, with sides not at all sinuous. In *A. marginatum,* from ventral view, the posterior margin of the pygophore is usually sinuously V-shaped; however, in some specimens it is only slightly sinuate and appears very similar to *A. dubium.* The differences in the female genitalia are subtle but distinct. One female had an anomalous condition consisting of a triverticulate spermathecal bulb, the third projection being quite short (Fig. 16).

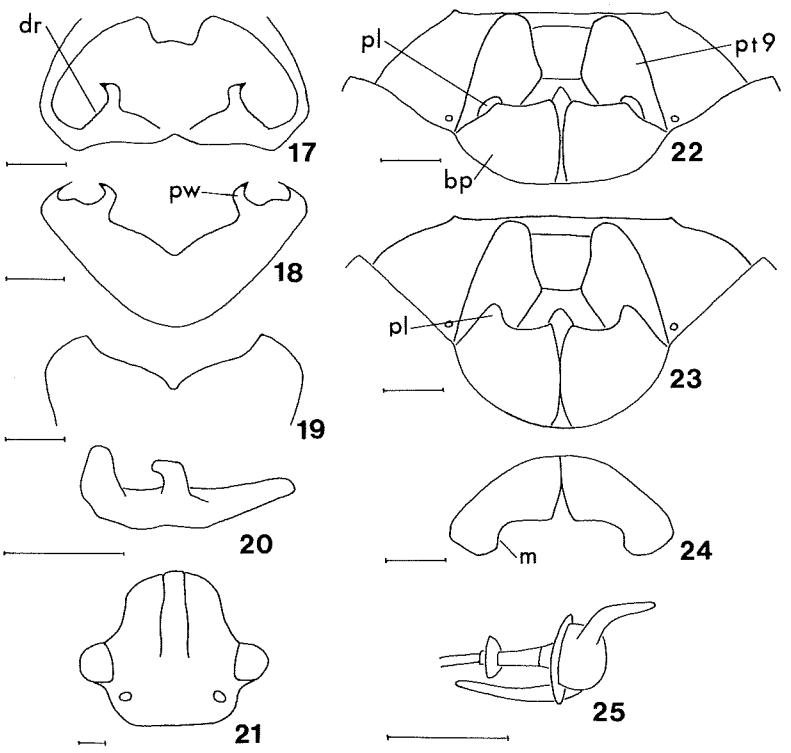
Acrosternum (Chinavia) solitum, new species
Figs. 17–25

Description. Medium to dark green above, green below becoming paler mesially. Lateral dorsal and ventral margins of juga, pronotum, connexiva, and bases of coria bordered with orange. Dorsal punctation dark green, dense on head, nearly rugose on pronotum, not so dense on scutellum and coria. Length 12.5–15.5 mm.

Head evenly rounded apically, jugal margins slightly concave before eyes, nowhere parallel (Fig. 21). Length of head 2.4–2.8 mm, width across eyes 3.0–3.5 mm. Each antenna green, rarely brown, except distal one-fourth of segment 3 black, distal one-third of segment 4 and distal half of segment 5 sometimes fuscous; length of segments 1–5 about 0.5–0.6, 1.1–1.4, 1.6–1.8, 1.9–2.3, 1.8–2.1 mm.

Pronotum 7.6–9.0 mm wide at humeri, mesial length 2.3–2.9 mm. Humeral angles rounded, slightly produced beyond base of coria. Anterolateral margin of pronotum straight or slightly convex. No black on cicatrices.

Scutellum 4.8–5.8 mm wide at base, 5.1–6.7 mm long, often with five pale yellow spots equally spaced along base of scutellum; some yellow on interstices between punctures of scutellum. No black on anterolateral corners of scutellum. Coria rounded

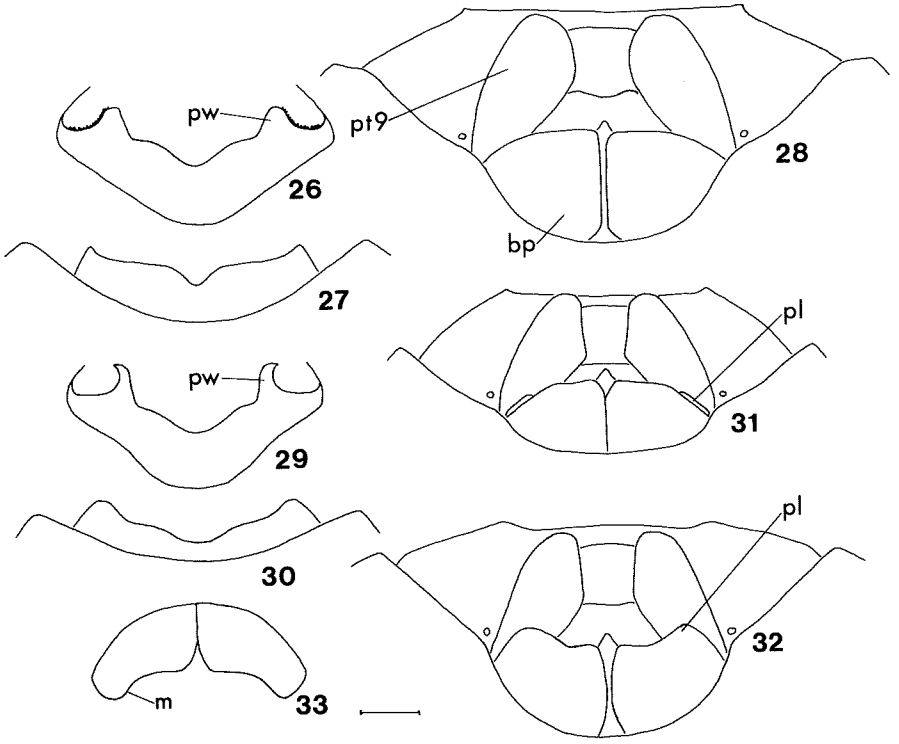


Figs. 17–25. *A. solitum.* 17. Genital cup, dorsal view; dorsal rim of posterior wall (dr). 18. Pygophore, caudal view; posterior wall (pw). 19. Pygophore, ventral view. 20. Paramere. 21. Head. 22. Genital plates, ventral view; basal plate (bp), posterolateral projection of basal plate (pl), 9th paratergite (pt 9). 23. Genital plates, caudoventral view; posterolateral projection of basal plate (pl). 24. Basal plates, caudal view; mesial margin of posterolateral projection (m). 25. Spermathecal bulb and pump. Dimensional lines equal 0.5 mm.

apically, reaching beyond middle of sixth (fifth visible) abdominal segment. Connexiva with posterolateral angles black, spilling onto laterotergites.

Rostral segments 2–4 about 1.6–1.9, 1.3–1.5, 1.1–1.3 mm long, pale green to brown, apex of segment 4 piceous, terminating between metacoxae. Each ostiolar ruga about three-fourths distance from mesial margin of ostiole to lateral thoracic margin. Abdominal spine compressed, reaching to middle of metacoxae. Posterolateral angles of sternites black. Each spiracle pale fuscous, not on callus, rarely surrounded by pale green spot. Legs green or brown.

Posterior margin of pygophore from ventral view broad, deep, slightly sinuate, V-shaped with small, distinct notch mesially (Fig. 19); emargination sinuously U-shaped from caudal view, with mesial margins of posterior wall convergent dorsally (Fig. 18). Dorsal rim of posterior wall diagonal with large black tooth at mesial corner



Figs. 26–33. 26–28. *A. hilare.* 26. Pygophore, caudal view; posterior wall (pw). 27. Pygophore, ventral view. 28. Genital plates, caudoventral view; basal plate (bp), 9th paratergite (pt 9). 29–33. *A. marginatum.* 29. Pygophore, caudal view; posterior wall (pw). 30. Pygophore, ventral view. 31. Genital plates, ventral view; posterolateral projection of basal plate (pl). 32. Genital plates, caudoventral view; posterolateral projection of basal plate (pl). 33. Basal plates, caudal view; mesial margin of posterolateral projection (m). Dimensional line equals 0.5 mm.

(Fig. 17). Paramere as in Figure 20. Each basal plate with posterolateral projection over 9th paratergite, clearly visible from ventral view (Fig. 22); mesial margins of posterolateral projection from caudal view nearly parallel (Fig. 24); posteromesial corners of basal plates prominent, often angulate (Fig. 23). Spermathecal bulb as in Figure 25.

Distribution. Central Mexico.

Holotype. ♂, labeled "MEXICO, Hgo., 3,400′, Minera Autlan (Otongo), 31 July 1982, C. W. & L. O'Brien & G. Wibmer." Deposited in the National Museum of Natural History, Washington, D.C.

Paratypes. 3♀♀, labeled as holotype; 1♀, labeled "MEX: Jal., 4 mi S. El Tuito, 1,200′, Hwy. 200, Aug. 10, 82: C. W. & L. O'Brien & G. W. Wibmer"; 1♀, labeled "MEXICO, SLP, Hwy. 85, 8 mi N. Tamazunchale, 700′, 24 July 1982, C. W. & L.

O'Brien & G. Wibmer"; 1♀, labeled "MEXICO: Tamaulipas, Bocatoma—6 mi S. of Gomez Farias, 19–23 May 1979, Marlin E. Rice coll."

Comments. This species also keys to *A.* (*C.*) *marginatum* (Palisot de Beauvois) in the revision by Rolston (1983), and is obviously closely related to that species. It can be distinguished from *A. marginatum* by the characters of the genitalia of both sexes. The small mesial notch in the posterior margin of the pygophore of *A. solitum* is not present in *A. marginatum.* Females of *A. solitum* have a proportionately longer posterolateral projection on each basal plate, which is clearly visible from ventral view. In *A. marginatum* this posterolateral projection is only slightly visible from ventral view.

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