

**A GENERIC CONSPECTUS OF THE TRIBE PROCLATICINI
PENNINGTON (HETEROPTERA, PENTATOMIDAE), WITH
THE DESCRIPTION OF *PARODMALEA RUBELLA*,
NEW GENUS AND SPECIES**

D. A. RIDER

Department of Entomology, Hultz Hall, Box 5346, University Station,
North Dakota State University, Fargo, North Dakota 58105

Abstract.—The definition of Proclaticini is broadened to include a total of eleven genera: *Aleixus* McDonald, *Brepholoxa* Van Duzee, *Dendrocoris* Bergroth, *Lobepomis* Berg, *Neoderoploa* Pennington, *Odmalea* Bergroth, *Parodmalea*, new genus, *Proclaticus* Berg, *Terania* Pirán, *Thoreyella* Spinola, and *Zorcadium* Bergroth. Characters which unite these genera into a homogeneous group are those involving both the male and female genitalia. *Parodmalea rubella*, new genus, new species is described from Brazil (Mato Grosso). *Neoderoploa willineri* Kormilev, 1955 is placed as a junior synonym of *N. bruchii* Pennington, 1922. Diagnoses are given for the tribe Proclaticini and for all previously described proclaticine genera. Redescriptions are provided for several relatively rare species: *Lobepomis peltifera* Berg, *Proclaticus corniger* Berg, *Terania guachipasi* Pirán, and *Neoderoploa bruchii* Pennington. A key to aid in the identification of the included genera is provided.

Pennington (1920) established the tribe Proclaticini to hold two monotypic genera, *Proclaticus* Berg and *Lobepomis* Berg. He characterized the tribe as having spined or lobed humeral angles, the scutellum large and nearly reaching the apex of the abdomen, the abdomen very convex below, and the rostrum not surpassing the hind coxae. In 1922, Pennington described *Neoderoploa bruchii* and stated that it was related to *Lobepomis* without mentioning the tribe Proclaticini. Kormilev (1955) described a second species of *Neoderoploa* and formally placed the genus in the Proclaticini. There has been no further mention of the tribe Proclaticini since Pirán (1963) added his new genus, *Terania*, to the tribe.

I believe that the Proclaticini are a valid tribe, but its definition should be broadened to include six more genera previously placed in the Pentatomini and one new genus: *Aleixus* McDonald, *Brepholoxa* Van Duzee, *Dendrocoris* Bergroth, *Odmalea* Bergroth, *Parodmalea*, new genus, *Thoreyella* Spinola, and *Zorcadium* Bergroth. Of Pennington's original defining characters only the convexity of the abdomen and the length of the rostrum hold true for all eleven genera. There are, however, other characters, mainly those concerning the male and female genitalia, which bring these genera together as a homogeneous group. The Proclaticini are restricted to the New World with most species neotropical in distribution.

Because most of the genera and species in this tribe have a small, anteriorly-directed, spine or tubercle at the base of the abdomen, they will key to section 2 of the Pentatomini in Rolston and McDonald's (1979) conspectus of higher taxa of Pentatomoidea. *Parodmalea* and males of several species of *Dendrocoris* lack the basal abdominal spine and will key to section 1 of the Pentatomini. These genera can be separated from Pentatomini by their characteristically shaped male and female

genitalia. The pygophoral inferior ridge of males is deeply incised medially and produced dorsad and/or cephalad laterally. The genital plates of females are small, subtriangular, and somewhat recessed into the last abdominal segment; the basal plates are usually very small and are often obscured under the caudal margin of the seventh abdominal sternite.

Procleticini Pennington

Procleticini Pennington, 1920:7

Proclétini [sic]: Kormilev, 1955:10; Pirán, 1963:338.

Diagnosis. Juga longer than tylus (except in some *Odmalea concolor*) and often contiguous in front of tylus. First antennal segment not reaching apex of head. Bucculae lobed posteriorly, each with anterior tooth; first rostral segment not surpassing posterior terminations of bucculae; rostrum usually not reaching beyond metacoxae. Each ostiolar ruga usually reaching middle of metapleuron, usually acuminate apically (except *Brepholoxa*). Thoracic sterna flat to sulcate. Third (second visible) abdominal sternite usually armed with anteriorly-directed spine (very small in *Lobepomis* and *Procleticus*, and lacking in *Parodmalea* and males of some *Dendrocoris*). Anterolateral pronotal margins straight to concave; humeral angles rounded to spinose, usually prominent, anterior pronotal angles dentate. Tarsi 3-segmented.

Genital plates small and as group appearing recessed into venter; basal plates small and often partially or completely obscured by last abdominal sternite; second gonocoxae often emarginate distally; ninth paratergites subtriangular; sternite ten relatively large, quadrangular. Eighth paratergites lacking spiracles. Pygophore somewhat produced posteriorly with distinct medial emargination which may be either narrow and parallel sided or often becoming circular ventrally; usually with small emargination between lateral margins and superior ridge.

Comments. The included genera can be separated into two groups based primarily on the shape and length of the scutellum. In *Lobepomis*, *Neoderoploa*, *Procleticus*, and *Terania*, the scutellum is spatulate and nearly reaches the apex of the abdomen, completely obscuring the hemelytral membranes. In *Aleixus*, *Brepholoxa*, *Dendrocoris*, *Odmalea*, *Parodmalea* and *Zorcadium* the scutellum is subtriangular and does not reach beyond the apices of the coria. *Thoreyella* is intermediate in that the scutellum is not as triangular as in the latter group of genera, and although the scutellum does not approach the apex of the abdomen it is subequal to or slightly longer than the coria.

Other than the male and female genitalia, none of the above characters will define this tribe by themselves. Most genera, however, can be placed in this tribe by a combination of the above characters. The male and female genitalia seem to follow the same general shape within all genera studied and appear to be unique within the Pentatomidae.

KEY TO THE GENERA OF THE TRIBE PROCLLETICINI

- | | | |
|---|---|---|
| 1 | Scutellum enlarged, extending distinctly beyond apices of coria to near apex of abdomen (Fig. 1) | 2 |
| - | Scutellum not enlarged, usually not extending beyond apices of coria, not approaching apex of abdomen (Fig. 59) | 5 |

- 2(1) Superior surface of each tibia flattened, with distinct coarse punctures 3
 - Superior surface of each tibia rounded, flattened, or sulcate, but lacking punctures 4
- 3(2) Scutellum with distinct black fovea in each basal angle; humeral angles broad, flattened, flaring dorsad, each bearing one sharp spine and three or more blunt teeth (Fig. 1) *Lobepomis* Berg
 - Scutellum lacking black fovea; humeral angles large, robust, horn-like, each with single anterolaterally-directed, sharp spine (Fig. 17) *Procleticus* Berg
- 4(2) Pronotal disc lacking transverse, pale carinae (Fig. 31) *Terania* Pirán
 - Pronotal disc with two transverse, pale carinae, one between humeral angles and one just posterior to pronotal cicatrices (Fig. 45) *Neoderoploa* Pennington
- 5(1) Distal end of each ostiolar ruga rounded, unattached to metapleural plate, ruga short, reaching less than half the distance from mesial margin of ostiole to lateral metapleural margin (Fig. 61) *Brepholoxa* Van Duzee
 - Distal end of each ostiolar ruga acuminate, attached to metapleural plate, ruga long, reaching more than half the distance from mesial margin ostiole to lateral metapleural margin (Fig. 80) 6
- 6(5) Superior surface of each femur prolonged distally as small spine (Fig. 111) 7
 - Femora not so armed (Fig. 93) *Dendrocoris* Bergroth
- 7(6) Third (second visible) abdominal sternite bearing anteriorly directed spine or tubercle 8
 - Abdomen unarmed ventrally *Parodmalea*, new genus
- 8(7) Juga contiguous before tylus (Fig. 137) 10
 - Juga usually separated apically (Fig. 117), if contiguous then coria decidedly bicolored, stramineous and castaneous 9
- 9(8) Humeri bearing large dorsal tubercle (Fig. 116); second antennal segment longer than each succeeding segment *Aleixus* McDonald
 - Humeri not tuberculate (Fig. 121); second antennal segment shorter than each succeeding segment *Odmalea* Bergroth
- 10(8) Humeri cornute; costal angle of coria extending caudad well beyond apex of scutellum (Fig. 136) *Zorcadium* Bergroth
 - Humeri angulate or spinose; costal angle of coria extending caudad little if any farther than apex of scutellum (Fig. 149) *Thoreyella* Spinola

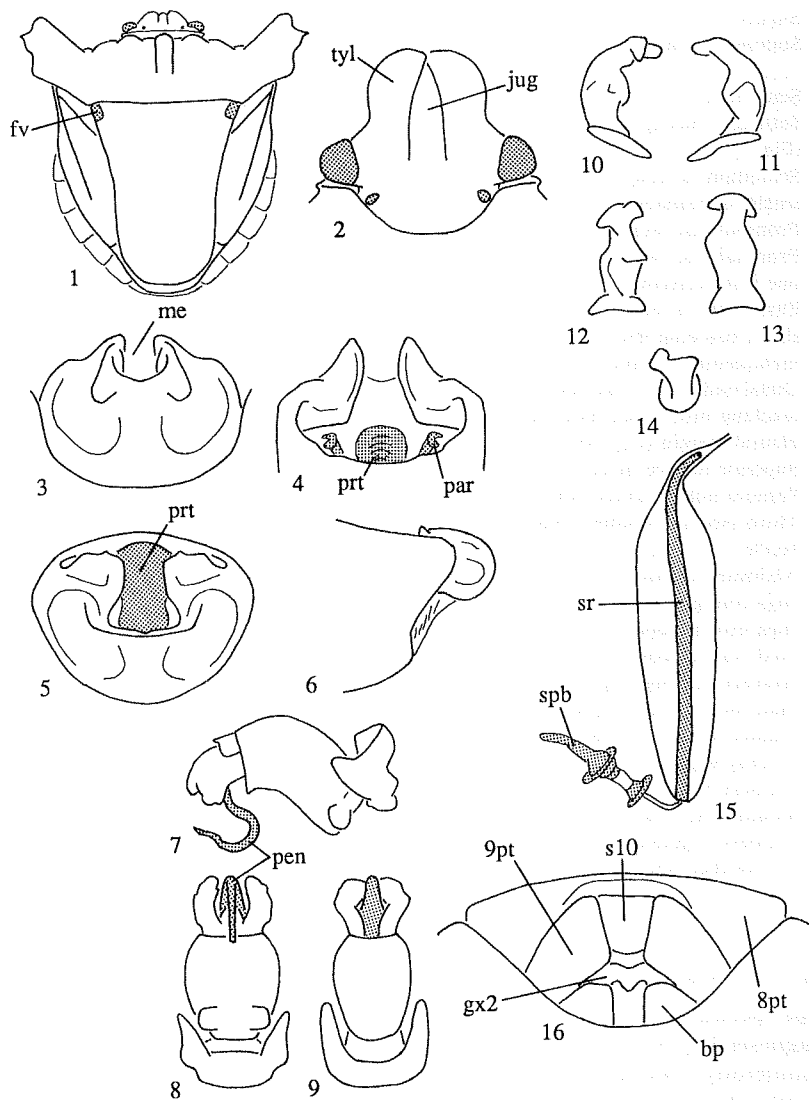
***Lobepomis* Berg**

Lobepomis Berg, 1891:236-237; Pennington, 1920:7.

Type species. *Lobepomis peltifera* Berg, 1891, by monotypy.

Diagnosis. Juga contiguous anteriorly; lateral margins sinuous (Fig. 2), not reflexed. Antenniferous tubercles visible in dorsal view. Antennal segments II and III subequal in length. Humeral angles broad, flattened, flaring dorsad, each bearing one sharp spine and three to five blunt teeth (Fig. 1). Scutellum broadly spatulate; apex broadly rounded, nearly reaching posterior margin of abdomen; distinct black fovea in each basal angle (Fig. 1). Anterior tooth of each buccula small, acute. Rostrum reaching between metacoxae. Each ostiolar ruga reaching middle of metapleuron. Thoracic sterna flat to broadly and weakly sulcate. Superior surface of each femur armed distally with small obtuse tooth; superior surface of each tibia flattened with distinct, coarse, darkened punctures. Basal abdominal spine very weak, sometimes obsolete.

Comments. *Lobepomis* is monotypic, containing only *Lobepomis peltifera*. This genus is probably most closely related to *Procleticus*, as both genera share the relatively



Figs. 1-16. *Lobepomis peltifera*. 1. Habitus. 2. Head, dorsal view. 3-6. Pygophore. 3. Ventral view. 4. Dorsal view. 5. Caudal view. 6. Lateral view. 7-9. Theca. 7. Lateral view. 8. Ventral view. 9. Dorsal view. 10-14. Right paramere. 10. Caudal view. 11. Anterior view. 12. Lateral view. 13. Medial view. 14. Ectal view. 15. Spermatheca. 16. Genital plates, caudoventral view. Symbols: bp, basal plate; fv, fovea; gx2, second gonocoxa; jug, jugum; me, medial emargination in pygophore; par, paramere; pen, penisfilum; prt, proctiger; spb, spermathecal bulb; sr, sclerotized rod; s10, sternite 10; tyl, tylus; 8pt, eighth paratergite; 9pt, ninth paratergite.

unique character of having the superior surfaces of the tibiae distinctly punctate. This species is redescribed to augment the original description.

Lobepomis peltifera Berg

Figs. 1-16

Lobepomis peltifera Berg, 1891:237-238.

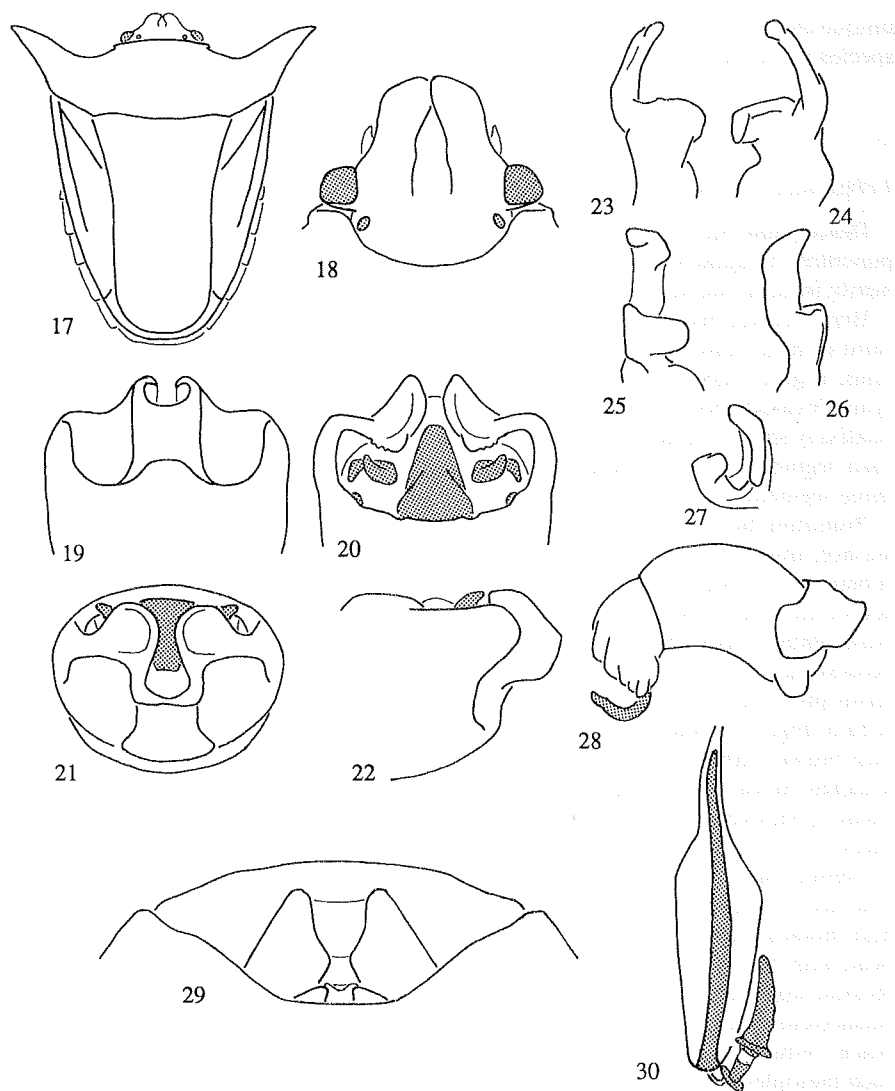
Description. Small, ovate, brown to dark brown with fuscous to black punctures; punctures irregularly arranged leaving densely punctate areas intermixed with small, nearly impunctate areas.

Head brown, broadly rounded apically, with numerous fuscous punctures, distal third of head somewhat declivent when viewed laterally. Lateral jugal margins sinuous, slightly reflexed apically; juga usually contiguous anteriorly (Fig. 2); base of tylus elevated above juga. Vertex tumid with medial sulcus. Antennae dark brown, relatively short, segments II and III subequal in length and each only slightly shorter than segments IV or V, segments IV and V slightly thicker in diameter than first three segments.

Pronotum brown with fuscous punctures; anterior margin concave, elevated above surface; anterior disc with medial keel, becoming obsolete on posterior disc; cicatrices tuberculate, often with slightly angled carina between tubercle and median keel; sometimes second low tumescence located laterad of each cicatrical tubercle (Fig. 1). Anterolateral pronotal margins concave; humeral angles robust, flared dorsad, each possessing one dorsally-directed spine and 3-5 bluntly rounded to acute teeth. Posterior pronotal margin convex medially, angled posteriorly near basal angles of scutellum (Fig. 1). Distal width of scutellum slightly less than basal width (Fig. 1). Coria pale brown with fuscous punctures; each claval suture short, ending slightly beyond scutellar fovea; costal angle nearly reaching anterior margin of last connexival segment. Connexiva yellow-brown, densely black punctate except near transverse sutures.

Ventral surface yellow-brown, abdomen sometimes yellow-orange; punctures coarse, fuscous to black, rather sparsely and irregularly arranged. Ventral surface of head and thoracic pleura irregular with depressed and elevated areas. Ventral surface of head with black vitta on each side between antenna and anterior margin of buccula. Rostral segment II slightly longer than segment III or IV; rostrum reaching between metacoxae. Each ostiolar ruga reaching middle of metapleuron; evaporative areas black, reduced, just surrounding ostiolar rugae and one, angled, narrow streak on each mesopleuron. Legs yellow-brown, with dark brown punctures; tarsi dark brown. Spiracles pale, each on small, elevated callus. Ventral surface of abdomen impunctate medially, sparsely punctate laterally except dense ring of punctures around each spiracular callus and area of dense punctures near middle of each abdominal segment near lateral margins.

Basal plates relatively large, mesial margins nearly straight, posterior margins convex (Fig. 16). Ninth paratergites elongate, mesial margins angled, nearly straight; tenth sternite trapezoidal (Fig. 16). Spermatheca with sclerotized rod uniform in diameter throughout except narrowed and curved apically; spermathecal bulb digitiform, slightly bulbous basally (Fig. 15). Pygophore narrowed posteriorly with distinct depressed areas laterally and ventrally making caudal area appear produced



Figs. 17-30. *Procliticus corniger*. 17. Habitus. 18. Head, dorsal view. 19-22. Pygophore. 19. Ventral view. 20. Dorsal view. 21. Caudal view. 22. Lateral view. 23-27. Left paramere. 23. Caudal view. 24. Anterior view. 25. Lateral view. 26. Medial view. 27. Ectal view. 28. Theca, lateral view. 29. Genital plates, caudoventral view. 30. Spermatheca.

posteriorly (Fig. 6); with distinct medial emargination easily visible in both caudal and ventral views (Figs. 3, 5); margins of emargination somewhat carinate dorsally, roundly obtuse and appearing to flare laterad ventrally. Proctiger relatively small, lateral and posterior margins not reflexed. Parameres relatively small, head of each

with two small lobes; shaft thickened in middle (Figs. 10–14). Aedeagus with penisfilum relatively large, robust, S-shaped (Fig. 7).

Types. Berg (1891) described this species from two specimens, one from Mendoza, Argentina, and the other from Uruguay. The types of this very distinctive species were not examined.

Specimens examined. 11♀, 5♂, 2 nymphs, collected from 16 November to March; deposited in AMNH, LILL, MLPA, USNM. **ARGENTINA: Catamarca:** Andalgalá; 6 km N Belén; El Rodeo; Pta. Balasto. **Cordoba:** Quilino; Rio Nono. **Formosa:** Formosa; Gran Guardia. **Mendoza:** Capitan Moyano; Mendoza to Cachueta. **Salta:** Salta. **San Luis:** Rt. 7, 23 mi SE San Luis City. **Santiago del Estero:** Jeaño.

Comments. This is the only species within the Proclaticini with black foveae in the basal angles of the scutellum. It is one of two species having the superior surfaces of the tibiae distinctly punctate, the other being *Procleticus corniger*. These two species are easily separated by the lack of black foveae on the scutellum in *P. corniger* and by the differences in the shape of the humeral angles. The humeral angles of *L. peltifera* are broad, flattened, flaring dorsad with one sharp tooth and 3–5 blunt teeth; the humeral angles of *P. corniger* are horn-like, directed more anterolaterad, and lack blunt teeth.

The nymphs are of interest in that they have three thorn-like spines on the dorsal surface: one medially near the posterior margin of the pronotum and two on the scutellum, one in each basal angle. This may afford the individuals some protection from predation.

Procleticus Berg

Procleticus Berg, 1891:234–235; Pennington, 1920:7.

Type species. *Procleticus corniger* Berg, 1891, by monotypy.

Diagnosis. Jugal usually contiguous anteriorly; lateral margins sinuous (Fig. 18), not reflexed. Antenniferous tubercles visible from dorsal view. Antennal segments II and III subequal in length. Humeral angles spinose; anterolateral pronotal margins concave; disc of pronotum lacking transverse, pale carinae (Fig. 17). Scutellum spatulate, apex broadly rounded, nearly reaching apex of abdomen; basal angles lacking foveae; disc lacking pale, Y-shaped carina (Fig. 17). Anterior tooth of bucculae small, acute. Rostrum reaching between mesocoxae. Each ostiolar ruga reaching middle of metapleuron. Thoracic sterna sulcate. Superior surface of each femora armed distally with small acute tooth; superior surface of each tibia flattened, with distinct, coarse punctures. Basal abdominal spine very weak, sometimes obsolete.

Comments. *Procleticus* is monotypic containing only *P. corniger*. The species is redescribed to expand the original description.

Procleticus corniger Berg

Figs. 17–30

Procleticus corniger Berg, 1891:235–236.

Description. Elongate oval, yellowish-brown with dark brown to fuscous punctures; punctures relatively sparsely but uniformly dispersed, becoming very dense near humeral angles.

Head light brown with fuscous punctures, base of tylus sometimes impunctate; apex broadly rounded; lateral jugal margins sinuous, not reflexed (Fig. 18). Dorsal surface of head flat apically, somewhat convex between eyes, becoming tumid on vertex; ocelli relatively widely spaced, lateral margin of each ocellus nearly even with mesial margin of adjacent compound eye. Antennae brown, segments II and III subequal in length, each only slightly shorter than either segment IV or V.

Pronotum light brown with dark brown punctures becoming denser and black near humeral angles; punctures arranged in indistinct lines consisting of 3-5 punctures at different angles; slightly elevated spaces between lines of punctures giving pronotum obscure, rugulose appearance. Anterior pronotal margin concave; anterolateral margins ecarinate, concave; humeral angles large, robust, each produced into anterolaterally-directed horn-like, black spine (Fig. 17); posterior pronotal margin only weakly convex anterior to scutellum, slightly angled near basal angles of scutellum (Fig. 17). Distal width of scutellum slightly less than basal width (Fig. 17); punctures rather uniformly dispersed. Coria light brown with uniformly dispersed brown punctures; costal angle reaching to anterior margin of last connexival segment. Connexiva yellow-brown with pale punctures becoming black along lateral margins of all segments and along posterior margin of last connexival segment.

Ventral surface yellow-brown, sometimes abdomen orange-brown, punctures pale brown to fuscous. Punctures on head black becoming more dense just anterior to antenniferous tubercles. Anterior tooth of each buccula small, acute, sometimes obscured by apically inflated juga. Rostral segments II, III, and IV subequal in length, each very short; rostrum reaching between mesocoxae. Thoracic pleura with relatively pale punctures becoming denser and darker laterally and around coxae. Each ostiolar ruga reaching middle of metapleuron, curving slightly cephalad apically; evaporative areas pale, reduced, just surrounding ostiolar rugae. Legs yellow-brown with numerous, small, dark brown punctures on superior surfaces of both femora and tibiae. Ventral surface of abdomen impunctate medially, rather densely punctate laterally, but punctures pale, concolorous with surface except for several fuscous punctures near posterolateral angle of last abdominal segment. Spiracles pale, only slightly elevated above abdominal surface, not on impunctate calli.

Basal plates small, subtriangular, only apices visible beyond margin of last abdominal segment (Fig. 29). Ninth paratergites subtriangular, posterior angles narrowly rounded; mesial margins slightly concave along 10th sternite, convex between 10th sternite and basal plates (Fig. 29). Spermatheca with sclerotized rod not curved but somewhat narrowed apically; spermathecal bulb robustly digitiform (Fig. 30). Pygophore in ventral view with medial emargination nearly circular, posteroventral surface concave laterally on each side, becoming obtusely prominent medially from medial emargination to small, obtuse, chin-like protuberance on posteroventral margin (Fig. 19); in caudal view, medial emargination relatively narrow, pygophoral rim just laterad of medial emargination broadly rounded, flaring upward and inward with smaller rounded emargination between it and posterolateral angles (Fig. 21); in dorsal view, inferior ridge black and roughened laterally with second ridge located just below inferior ridge laterally, large darkened tubercle on each anterolateral wall of genital cup which continues ventrally as slender sclerotized plate (Fig. 20). Paramere broad, thin basally, curving distinctly cephalad laterally; dorsomesial angle prolonged into long digitiform process directed dorsad and slightly laterad, apex curved slightly

caudad (Figs. 23–27). Aedeagus with penisfilum relatively large, robust, S-shaped (Fig. 28).

Types. Berg (1891) described this species from 1♂ and 1♀ specimen, both from Cordoba, Argentina. The types of this distinctive species were not examined.

Specimens examined. 10♀♀, 3♂♂, collected from 6 December to 17 June; deposited in AMNH, LILL, MLPA, USNM. **ARGENTINA: Catamarca:** Belén. **Cordoba:** Cordoba. **Misiones:** San Ignacio; Santo Pipo. **Santiago del Estero:** Lago Huyo; Rio Salado.

Comments. This species may be easily recognized by a combination of the following characters: broadly spatulate scutellum nearly reaching apex of abdomen, superior surfaces of tibiae distinctly punctate, scutellum lacking basal fovea, and humeral angles robust, horn-like.

Terania Pirán

Terania Pirán, 1963:338.

Type species. *Terania guachipasi* Pirán, 1963, by original designation.

Diagnosis. Juga contiguous anteriorly; lateral margins not reflexed, weakly concave in middle; antenniferous tubercles slightly visible from dorsal view (Fig. 32). Antennal segment II shorter than segment III. Humeral angles flaring dorsad and laterad, ending in single darkened spine (Fig. 31). Anterolateral pronotal margins concave, with minute, vertical ridges; anterior and posterior pronotal margins obtusely carinate; pronotal disc lacking transverse carinae. Scutellum narrowly spatulate, apex broadly rounded, reaching to or slightly beyond apex of abdomen; basal angles lacking foveae; disc lacking pale Y-shaped carina. Anterior tooth of each buccula small, obtuse. Rostrum reaching onto base of abdomen. Each ostiolar ruga reaching slightly beyond middle of metapleuron, curving cephalad apically. Thoracic sterna broadly and shallowly concave. Superior surface of each femora armed distally with small acute tooth; superior surfaces of tibiae asulcate, flattened, impunctate. Basal abdominal spine small.

Comments. *Terania* is monotypic containing only *T. guachipasi*. This species is rare in collections and has not been mentioned since its original description in 1963. A redescription follows.

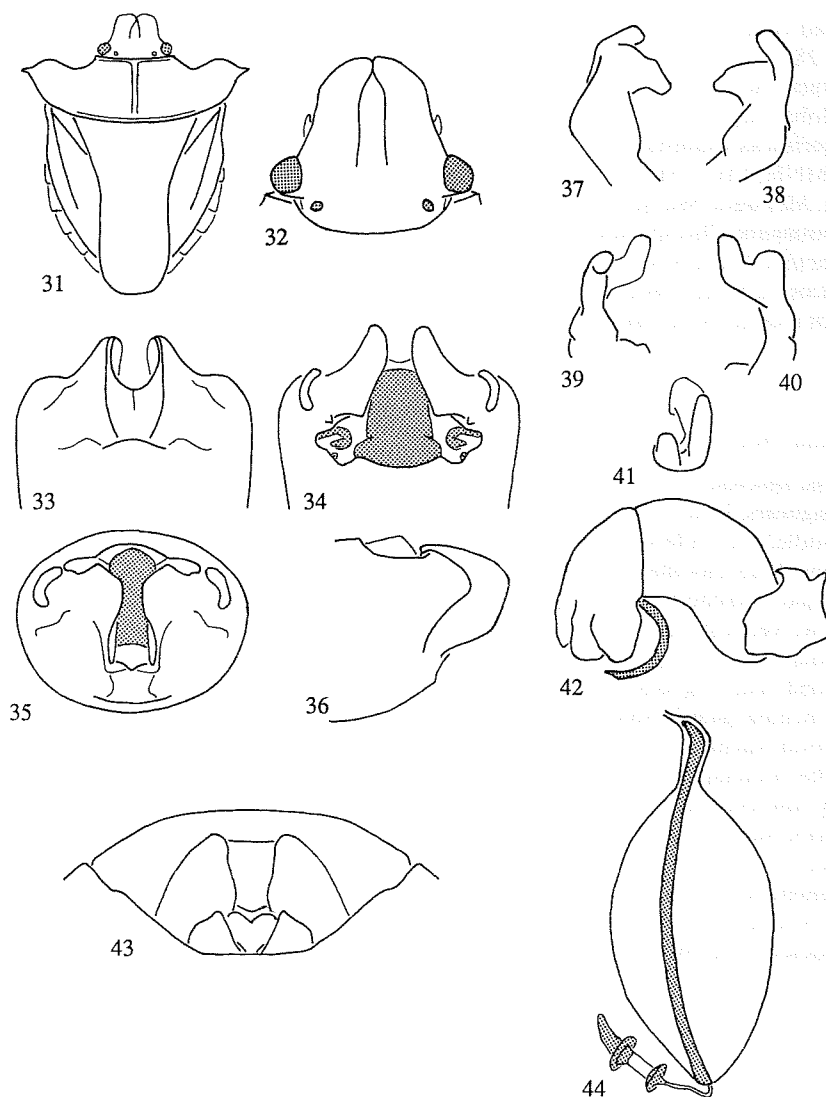
Terania guachipasi Pirán

Figs. 31–44

Terania guachipasi Pirán, 1963:338–340, figs. 1, 2.

Description. Ovate, yellowish-brown with dark brown to fuscous punctures on pronotum, scutellum and hemelytra. Punctures small, relatively sparse, uniformly dispersed.

Head with punctures relatively dense, concolorous with surface; vertex distinctly convex, becoming slightly concave near apex of tylus; apex broadly rounded. Lateral jugal margins slightly concave in middle, not reflexed (Fig. 32). Antennal segment II about two-thirds length of segment III; segments IV and V slightly inflated and darker than first three segments. Pronotum with punctures dark brown to fuscous except pale anteriorly and laterally, those on posterior disc forming vague, rugulose



Figs. 31-44. *Terania guachipasi*. 31. Habitus. 32. Head, dorsal view. 33-36. Pygophore. 33. Ventral view. 34. Dorsal view. 35. Caudal view. 36. Lateral view. 37-41. Left paramere. 37. Caudal view. 38. Anterior view. 39. Lateral view. 40. Medial view. 41. Ectal view. 42. Theca, lateral view. 43. Genital plates, caudoventral view. 44. Spermatheca.

lines. Anterior pronotal margin strongly concave, obtusely carinate; anterolateral pronotal margins concave, obtusely carinate, minutely, vertically ridged; humeral angles flaring dorsad and laterad, each ending in small, darkened spine (Fig. 31); fuscous streak on posterolateral pronotal margin extending for short distance along

anterolateral margin near each humeral angle. Posterior pronotal margin uniformly convex throughout, obtusely carinate anterior to scutellum (Fig. 31); pronotal disc with pale, longitudinal, impunctate line medially. Scutellar punctures small, fairly uniformly dispersed, dark brown to fuscous, becoming pale near posterior margin; distal width of scutellum only slightly more than half basal width; lateral scutellar margins nearly parallel for posterior half, infuscated near inner basal angles of coria; scutellar disc with medial, longitudinal, pale, impunctate line becoming obscure anteriorly. Coria with punctures small, uniformly dispersed, dark brown; posterior margins slightly convex, matching contour of scutellum; costal angle rounded, reaching onto last connexival segment; hemelytral membranes translucent, veins only vaguely apparent. Connexiva uniform in color, punctures concolorous.

Punctures on ventral surface of head, thorax, and abdomen pale, shallow. Ventral surface of head with small fuscous vitta on each side between eye and antenniferous tubercle. Antenniferous tubercles obtusely rounded apically. Ventral surfaces of juga roundly lobed apically, covering apices of bucculae. Rostral segments II and III subequal in length, segment IV slightly shorter, reaching onto base of abdomen. Each ostiolar ruga distinctly curved cephalad apically, reaching slightly beyond middle of metapleuron. Legs pale, tarsi somewhat darker brown. Punctures on abdomen somewhat smaller and denser, especially laterally; spiracles pale, slightly raised above surface of abdomen.

Basal plates, subtriangular, posteromesial angles nearly acute; ninth paratergites broad, slightly concave along 10th sternite (Fig. 43). Sclerotized rod of spermatheca curved apically; spermathecal bulb robustly digitiform (Fig. 44). Pygophore with deep medial slit, easily visible in both ventral and caudal views (Figs. 33, 35), sides of emargination nearly parallel; posterolateral margins of genital cup produced entad over opening. Ventral surface of pygophore anterior to emargination narrowly flattened for short distance, ending near small, arcuate, posteriorly-directed carina; surface of pygophore on each side of emargination deeply concave. Parameres as in Figures 37–41. Penisfilum relative robust (Fig. 42).

Type. Pirán (1963) described this species from a single ♀ from Guachipas Department of the Province of Salta in Argentina on 7 November 1959. The holotype, which was examined, is conserved in the Universidad Nacional de La Plata, Argentina.

Specimens examined. 1♀, 2♂♂, collected on 7 November and 16 January; deposited in LHR, MLPA. **ARGENTINA: Corrientes. Salta:** Guachipas.

Comments. This species has the same general appearance as species of *Neoderoploa*. It can be easily separated from species of that genus by the lack of pale carinae on the dorsal surfaces of the pronotum and scutellum and by each humeral angle terminating in a single spine. Species of *Neoderoploa* have several pale carinae on the dorsal surface of the pronotum, a Y-shaped carina on the scutellum, and each humeral angle terminates in two or more spines.

***Neoderoploa* Pennington**

Neoderoploa Pennington, 1922:317–318; Kormilev, 1955:10.

Type species. *Neoderoploa bruchii* Pennington, 1922, by monotypy.

Diagnosis. Juga nearly contiguous anteriorly; lateral margins sinuous (Fig. 46), not

reflexed. Antenniferous tubercles visible from dorsal view. Antennal segment II shorter than segment III. Humeral angles bispinose, each produced beyond base of adjacent corium; anterolateral pronotal margins angulate near middle; pronotal disc with three transverse, pale carinae (Fig. 45). Scutellum narrowly spatulate, apex broadly rounded, nearly reaching apex of abdomen; basal angles lacking foveae; disc with Y-shaped, pale carina (Fig. 45). Rostrum reaching to anterior margins of metacoxae. Each ostiolar ruga acuminate apically, reaching beyond middle of metapleuron. Thoracic sterna flat to broadly and weakly sulcate. Femora each armed with small obtuse tooth distally; superior surfaces of tibiae asulcate, flattened, impunctate. Basal abdominal spine small.

Comments. At present *Neoderoploa* contains only *N. bruchii* Pennington, 1922; *N. willineri* Kormilev, 1955 is a junior synonym.

Neoderoploa bruchii Pennington

Figs. 45-58

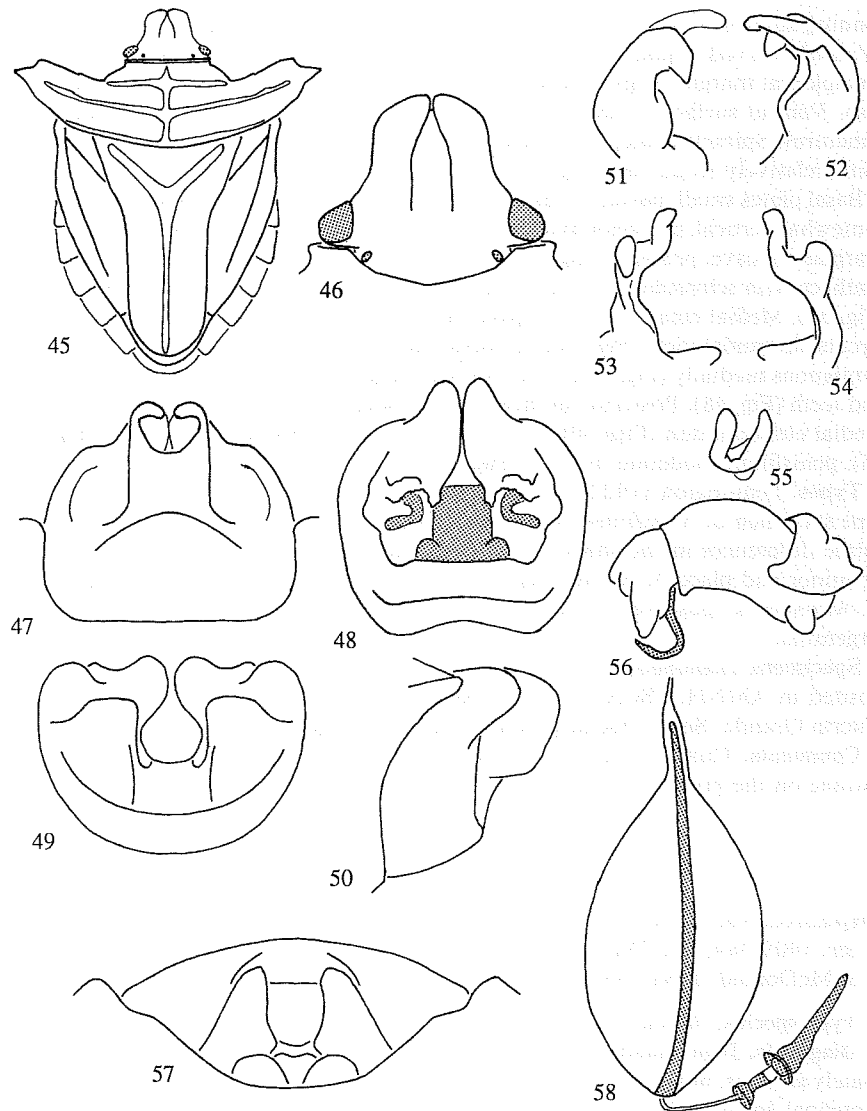
Neoderoploa bruchii Pennington, 1922:318, fig. 2; Kormilev, 1955:11.

Neoderoploa willineri Kormilev, 1955:10-12, figs. 3, 4. **NEW SYNONYMY.**

Description. Ovate, yellow to yellow brown with green tinting (probably mostly green when alive); punctures pale brown to brown.

Head yellow; punctures concolorous; vertex and base of tylus tumid; base of juga flatly angled toward eyes; distal one-third of head concave. Lateral margins of juga sinuous, not reflexed; apex of head rounded (Fig. 46). Antennae yellow to yellow-green; segment II shorter than segment III; segments IV and V slightly inflated. Pronotum yellow with concolorous or pale brown punctures becoming darker near humeral angles; punctation dense, coarse, somewhat reticulate between pronotal carinae. Anterior pronotal margin broadly and shallowly V-shaped, obtusely carinate, pale, extended over base of head nearly to posterior margins of ocelli (Fig. 46). Pronotum with transverse, pale, roughened callus or carina just posterior to pronotal cicatrices; another transverse, pale, well-defined carina between humeral angles; with medial, longitudinal, pale line or carina (Fig. 45); surface between pronotal calli slightly inflated. Anterolateral pronotal margins angulately concave, somewhat obtusely carinate, slightly roughened; humeral angles broadly flaring laterad and dorsad, each with single very strong spine and single obtuse tooth anterior to spine (Fig. 45); humeral spine red. Posterolateral pronotal margins roughened, with thin, slightly curved, black line from humeral angle to base of each corium; posterior pronotal margin broadly convex, obtusely carinate, not angulate near basal angles of scutellum (Fig. 45). Distal width of scutellum slightly more than half basal width; with pale, longitudinal carina running from apex to level of frena, then bifurcating to near basal angles (Fig. 45); lateral scutellar margins carinate along frena; apex of scutellum rounded with small medial indentation; scutellar punctation dense and strong near Y-shaped carina, becoming sparse and weak laterally and apically. Coria somewhat weakly punctate; R + M vein somewhat elevated, inner margin impunctate; costal angle nearly reaching anterior margin of last connexival segment. Connexiva yellow, immaculate.

Ventral surface of head yellow; punctures concolorous except sometimes with several reddish punctures near base; with black vitta between eyes and antenniferous



Figs. 45–58. *Neoderoploa bruchii*. 45. Habitus. 46. Head, dorsal view. 47–50. Pygophore. 47. Ventral view. 48. Dorsal view. 49. Caudal view. 50. Lateral view. 51–55. Right paramere. 51. Lateral view. 52. Medial view. 53. Anterior view. 54. Caudal view. 55. Ectal view. 56. Theca, lateral view. 57. Genital plates, caudoventral view. 58. Spermatheca.

tubercles; eyes and antenniferous tubercles not contiguous. Rostral segment II longer than either III or IV, segment IV reaching between mesocoxae. Each thoracic pleura with diagonal, pale, impunctate area on each side, those on propleura and mesopleura originating near coxal clefts and running anterolaterad, those on metapleura also

running anterolaterad just posterior to evaporative areas. Each ostiolar ruga strongly elevated, curved cephalad apically, reaching about two-thirds distance to lateral metapleural margin. Legs yellow to pale brown, sometimes tibiofemoral joints reddish. Ventral surface of abdomen pale yellow, with numerous, small, concolorous punctures. Spiracles pale, each located on elevated, yellow callus. Basal abdominal spine relatively stout, reaching to anterior margins of metacoxae.

Basal plates small, partially obscured by ventral margin of last abdominal segment, somewhat vertical, posterior margin rounded; ninth paratergites subtriangular, mesial margins concave, posterior angles rounded; tenth sternite trapezoidal (Fig. 57). Spermatheca with sclerotized rod nearly uniform in width; spermathecal bulb digitiform (Fig. 58). Medial emargination of pygophore visible in ventral view (Fig. 47), nearly circular in caudal view (Fig. 49), in dorsal view sides of emargination convex, nearly contiguous medially (Fig. 48), posterior wall of genital cup with irregular black ridges and teeth (Fig. 48). Posterior surface of pygophore strongly produced caudad around medial emargination (Figs. 49, 50), concave laterally. Parameres bilobed (Figs. 51-55); penisfilum moderate in form (Fig. 56).

Types. Pennington (1922) described this species from Cordoba, Argentina. The type specimen of *N. willineri* Kormilev was examined, and although there are some subtle differences in the shape of the humeral angles, I believe these differences to be minor and place *N. willineri* as a junior synonym of *N. bruchii*. The holotype of *N. willineri* is conserved in the Instituto de Investigaciones Entomologicas Salta, Argentina.

Specimens examined. 5♀♀, 1♂ collected from 15 November to 16 February; deposited in AMNH, FSCA, MLPA. **ARGENTINA: Cordoba:** 5 mi N Dean Funes; Huerta Grande. **Salta:** Pocitos. **BOLIVIA: Cochabamba:** Cochabamba.

Comments. This is a very striking species and is easily identified by the transverse carinae on the pronotum and the strong Y-shaped carina on the scutellum.

Brepholoxa Van Duzee

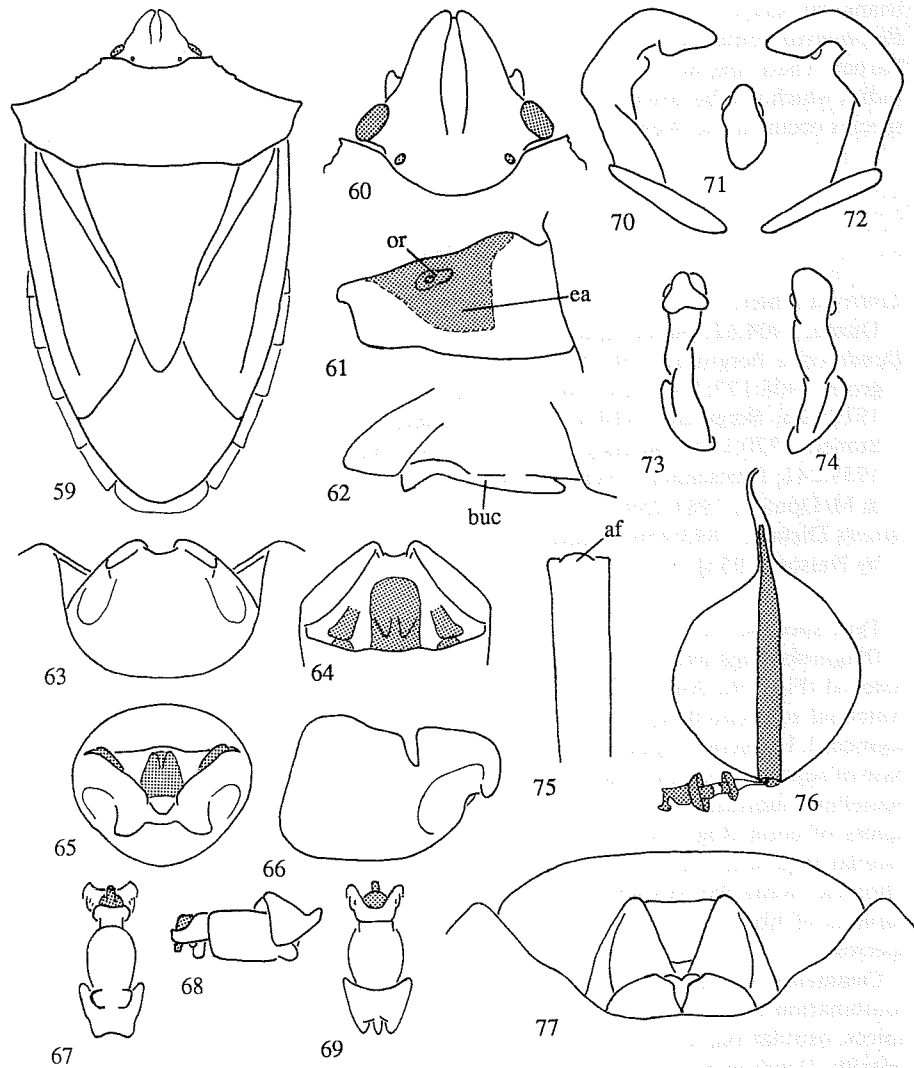
Figs. 59-77

Brepholoxa Van Duzee, 1904:78; Bergroth, 1908:178; Kirkaldy, 1909:150; Van Duzee, 1909:384; Van Duzee, 1917:65; Barber, 1939:286; Rolston, 1978:20; Rolston & McDonald, 1981:259; Froeschner, 1988:567.

Type species. *Brepholoxa heidemanni* Van Duzee, 1904, by monotypy.

Diagnosis. Juga usually contiguous before tylus; lateral margins slightly to moderately sinuous, not reflexed (Fig. 60). Antenniferous tubercles visible in dorsal view. Antennal segment II longer than each remaining segment. Anterolateral pronotal margins straight to concave, armed with several small teeth anteriorly; humeral angles narrowly rounded to acute, often prominent (Fig. 59). Scutellum triangular, apex narrowly rounded, nearly acute; coria distinctly longer than scutellum (Fig. 59). Rostrum reaching hind coxae. Thoracic sterna distinctly sulcate. Each ostiolar ruga auriculate, apex narrowly rounded, not attached to metapleuron, not reaching middle of metapleuron (Fig. 61). Femora unarmed distally (Fig. 75); superior surfaces of tibiae asulcate, rounded, impunctate. Spiracles not located on calli. Basal abdominal spine reaching between metacoxae.

Comments. Within the Procliticini the genus *Brepholoxa* can be recognized by the



Figs. 59–77. *Brapholoxa heidemanni*. 59. Habitus. 60. Head, dorsal view. 61. Metapleuron. 62. Head, lateral view. 63–66. Pygophore. 63. Ventral view. 64. Dorsal view. 65. Caudal view. 66. Lateral view. 67–69. Theca. 67. Ventral view. 68. Lateral view. 69. Dorsal view. 70–74. Right paramere. 70. Lateral view. 71. Ectal view. 72. Medial view. 73. Anterior view. 74. Caudal view. 75. Femur. 76. Spermatheca. 77. Genital plates, caudoventral view. Symbols: af, apex of femur; buc, buccula; ca, evaporative area; or, ostiolar ruga.

triangular shaped scutellum and the short, auriculate ostiolar rugae. At present, *Brepholoxa* contains only two named species, *B. heidemanni* and *B. rotundifrons* Barber. There are, however, several undescribed species from Mexico and the West Indies which will be described in revision of the genus already in progress. All known species occur in the West Indies or bordering areas (Florida, Yucatan Peninsula).

Dendrocoris Bergroth

Figs. 78-95

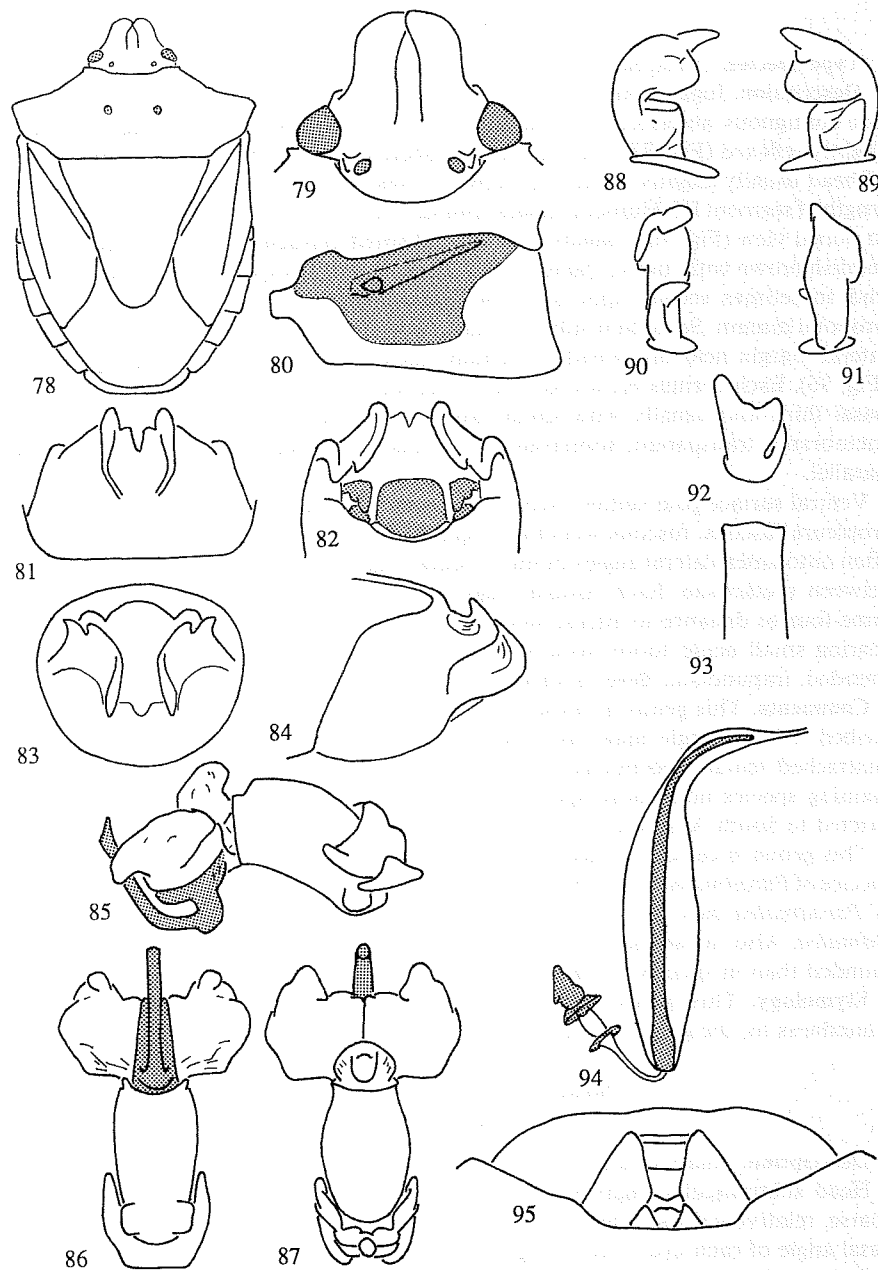
Liotropis Uhler, 1877:399-400; Uhler, 1886:5; Lethierry & Severin, 1893:186; Van Duzee, 1904:62. [preoccupied]
Dendrocoris Bergroth, 1891:228; Summers, 1898:41; Barber, 1906:262-263; Bergroth, 1908:177; Kirkaldy, 1909:151; Banks, 1910:84; Barber, 1911:268; Kirkaldy, 1912:126; Bergroth, 1914:438, 439; Parshley, 1915:173; Van Duzee, 1917:64; Stoner, 1920:113; Parshley, 1923:759, 769; Blatchley, 1926:173; Torre-Bueno, 1939:241; Froeschner, 1941:128; Nelson, 1955:49-53; Rolston, 1978:21; Rolston & McDonald, 1981:259; Froeschner, 1988:575. [new name]
Atizies Distant, 1893:456; Lethierry & Severin, 1893:267; Kirkaldy, 1909:67. [syn. by Nelson, 1955]

Type species. *Liotropis humeralis* Uhler, 1877, by monotypy.

Diagnosis. Juga usually contiguous anteriorly; lateral margins usually sinuous, not reflexed (Fig. 79). Antenniferous tubercles slightly visible in dorsal view (Fig. 79). Antennal segment II equal to or shorter than segment III, sometimes shorter than segment I. Humeral angles rounded to spinose, each usually produced slightly beyond base of adjacent corium; anterolateral pronotal margins straight to concave (Fig. 78). Scutellum subtriangular; apex rounded to broadly rounded, not reaching beyond apices of coria (Fig. 78). Rostrum reaching anterior margins of metacoxae. Each ostiolar ruga acuminate apically, reaching beyond middle of metapleuron (Fig. 80). Thoracic sterna flat to slightly sulcate. Femora unarmed distally (Fig. 93); superior surfaces of tibiae sulcate. Basal abdominal spine small, lacking in males of some species.

Comments. Within the Procliticini, *Dendrocoris* can be recognized by the following combination of characters: subtriangular scutellum which does not reach the corial apices, ostiolar rugae elongate and acuminate apically, and the femora are unarmed distally. *Dendrocoris* appears to be most closely related to *Odmalea* and *Thoreyella* but can be separated from both of those genera by the unarmed femora.

Nelson (1955) revised *Dendrocoris* providing descriptions of and a key to all known species. He later added another species to the genus (Nelson 1957). Thomas (1984) added a species from Mexico and provided a key to those species of *Dendrocoris* known to occur in Mexico. At present, *Dendrocoris* contains eleven species: *D. arizonensis* Barber, 1911, *D. contaminatus* Uhler, 1897, *D. fruticicola* Bergroth, 1891, *D. humeralis* (Uhler, 1877), *D. maculosus* Thomas, 1984, *D. neomexicanus* Nelson, 1955, *D. parapini* Nelson, 1957, *D. pini* Montandon, 1893, *D. reticulatus* Barber, 1911, *D. suffultus* (Distant, 1893), and *D. variegatus* Nelson, 1955. I have examined specimens of all species except *D. maculosus*. Many species of *Dendrocoris* occur in North America with several reaching southward into Mexico and Central America.



Figs. 78-95. *Dendrocoris humeralis*. 78. Habitus. 79. Head, dorsal view. 80. Metapleuron. 81-84. Pygophore. 81. Ventral view. 82. Dorsal view. 83. Caudal view. 84. Lateral view. 85-87. Theca. 85. Lateral view. 86. Ventral view. 87. Dorsal view. 88-92. Right paramere. 88. Caudal view. 89. Anterior view. 90. Lateral view. 91. Medial view. 92. Ectal view. 93. Femur. 94. Spermatheca. 95. Genital plates, caudoventral view.

Parodmalea, new genus

Type species. *Parodmalea rubella*, new species.

Description. Jugs usually narrowly rounded apically, slightly longer than tylus but not contiguous anteriorly; lateral margins sinuous, often slanted slightly dorsad, slightly reflexed (Fig. 97). Antenniferous tubercles visible from dorsal view. Surface of head usually slightly depressed between eyes. Antennal segment II less than half length of segment III. Humeral angles spinose; anterolateral pronotal margins concave in dorsal view (Fig. 96), usually with several small denticles. Pronotal disc brown to reddish brown with fuscous punctures, with small fuscous spot on each side of midline and sometimes second spot on each side equidistant from first spot and lateral pronotal margin. Scutellum subtriangular, brown with small, fuscous spot along each lateral margin near distal end of frenum; apex rounded, not reaching corial apices (Fig. 96). Each corium brown to reddish brown with large, pale, impunctate spot on basal third and usually with small, pale, impunctate area near apex. Hemelytral membranes transparent, sometimes infuscated near mesial basal angle; veins subparallel.

Ventral surface pale yellow except punctures on head and broad lateral margin of propleura fuscous, fuscous sometimes spilling onto surfaces between punctures and often onto anterolateral angles of mesopleura. Thoracic sterna flat. Rostrum reaching between metacoxae. Each ostiolar ruga curving slightly cephalad, reaching about three-fourths distance to lateral metapleural margin. Superior surface of each femur bearing small acute tooth distally (Fig. 111); superior surfaces of tibiae asulcate, rounded, impunctate. Base of abdomen unarmed.

Comments. This genus at present contains a single species, *P. rubella*, herein described. I have single male specimens of four more undescribed species and two unattached female specimens. I have decided to refrain from describing these remaining species until more specimens are available. This genus appears to be restricted to South America.

This genus is closely related to the genus *Odmalea*. The typical color pattern in species of *Parodmalea* is nearly identical to that of several species of *Odmalea*. Species of *Parodmalea* lack the basal abdominal spine that is characteristic of species of *Odmalea*. Also, most species of *Odmalea* have the apices of the juga more broadly rounded than in species of *Parodmalea*.

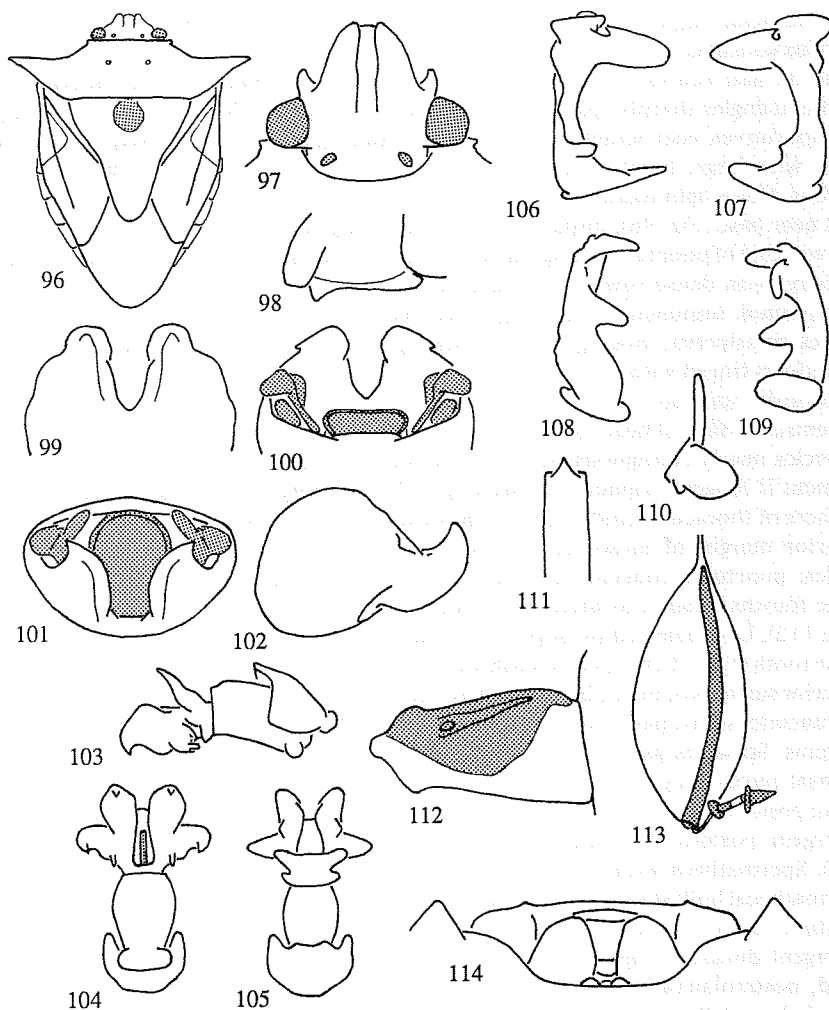
Etymology. This genus is named for its resemblance to, and apparently close relatedness to, the genus *Odmalea*.

Parodmalea rubella, new species

Figs. 96-114

Description. Small, ovate, reddish-brown with dark brown to fuscous punctures.

Head subtriangular; light brown basally becoming red apically; punctures deep, coarse, relatively dense, dark brown; small impunctate area on each side near inner basal angle of each eye. Lateral jugal margins sinuous near eyes, but nearly straight apically; apices of juga narrowly rounded, nearly acute (Fig. 97). Antenniferous tubercles clearly visible in dorsal view (Fig. 97). Surface of head slightly tumid between ocelli, relatively flat between eyes, lateral jugal margins elevated above surfaces of juga; apical half of juga declivent in lateral view. Antennae pale yellowish-brown,



Figs. 96–114. *Parodmarea rubella*. 96. Habitus. 97, 98. Head. 97. Dorsal view. 98. Lateral view. 99–102. Pygophore. 99. Ventral view. 100. Dorsal view. 101. Caudal view. 102. Lateral view. 103–105. Theca. 103. Lateral view. 104. Ventral view. 105. Dorsal view. 106–110. Right paramere. 106. Lateral view. 107. Medial view. 108. Caudal view. 109. Anterior view. 110. Ectal view. 111. Femur. 112. Metapleuron. 113. Spermatheca. 114. Genital plates, caudoventral view.

segments I–II sometimes reddish, segments IV–V slightly thickened and sometimes darker brown; segment II less than half the length of segment III.

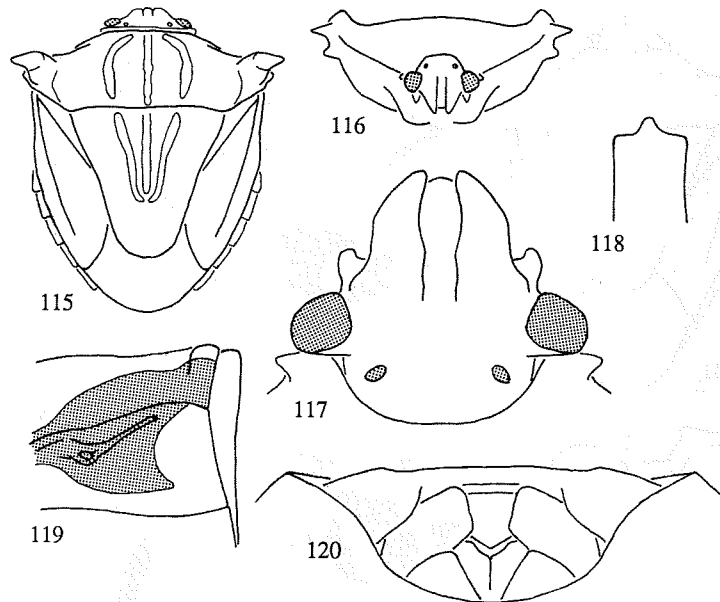
Pronotum dark brown around calli, becoming light brown posteriorly and along anterior margin, with thin, longitudinal, pale, impunctate line medially; humeral angles reddish; punctures coarse, dense, dark brown to fuscous, becoming reddish

near humeral angles. Anterior margin of pronotum deeply concave; anterolateral margins concave, not carinate, provided with series of small, widely spaced denticles, those on half nearest humeral angles distinctly larger than those on anterior half. Humeral angles sharply spinose, directed laterad (Fig. 96). Posterior pronotal margin slightly convex near scutellar margin. Scutellum light brown becoming reddish apically, with large, basal, fuscous spot medially (Fig. 96); punctures dark brown to fuscous. Coria light reddish brown, each with large, pale, reddish-yellow, impunctate spot near base (Fig. 96); impunctate spot including basal third of endocorium except for two rows of punctures along claval suture; punctures dark brown becoming reddish apically, with dense row of punctures along outer margin of R + M vein; narrow, longitudinal, impunctate area long outer margin of R + M vein. Hemelytral membranes translucent, lacking brown markings. Connexiva immaculate, pale yellow, sometimes tinged with red; posterolateral angle of last connexival segment produced posteriorly, spinose.

Ventral surface of head dark reddish-brown; punctures dark brown. Antenniferous tubercles nearly contiguous with eyes. Rostral segment IV slightly shorter than III, segment II longest, segment IV black apically, reaching between metacoxae. Ventral surfaces of thoracic segments pale yellow except lateral three-fourth of propleura and anterior margin of mesopleura dark reddish-brown, becoming red near humeral angles; punctures concolorous. Each ostiolar ruga nearly straight, reaching about three-fourths distance to lateral metapleural margin; evaporative areas relatively large (Fig. 112). Legs pale yellow; superior surface of each femur armed distally with small acute tooth (Fig. 111); superior surfaces of protibiae and mesotibiae asulcate, rounded; superior surfaces of metatibiae flattened, each sometimes with vague sulcation. Venter impunctate, shiny, pale yellowish-brown, becoming reddish near lateral and posterior margins. Spiracles pale.

Basal plates very small, obscured under posterior margin of last abdominal segment; posterior angles rounded. Ninth paratergites large, mesial margins nearly straight, divergent, posterior and lateral margins roundly convex; sternite 10 trapezoidal (Fig. 114). Spermatheca with sclerotized rod uniform in width except narrowed apically; spermathecal bulb short, cone-shaped (Fig. 113). Pygophore with broad medial emargination easily visible in both caudal and ventral views; margins of emargination divergent dorsally (Figs. 99, 101). Dorsolateral pygophoral margin moderately incised, posterolateral angles in lateral view lunate (Fig. 102), in caudal view apex rounded mesially, angulate laterally, not bilobate (Fig. 101). Proctiger not occupying most of genital capsule; its lateral and posterior margins distinctly reflexed (Fig. 101). Superior ridge not noticeably produced medially (Fig. 100). Parameres relatively large, each with relatively narrow shaft; head of each paramere bilobed, one horizontal, one vertical; vertical lobe narrowly rounded apically with small spinose tooth at anterodorsal angle; horizontal lobe broadly rounded apically (Figs. 106-110).

Measurements (mm). Total length 5.89-6.76 (6.28); total width 5.64-6.24 (5.67); medial length of pronotum 1.32-1.49 (1.47). Medial length of scutellum 2.72-3.16 (2.87); basal width 2.81-3.24 (2.87); width at distal end of frena 1.25-1.44 (1.33). Length of head 1.28-1.40 (1.29); width across eyes 1.81-2.08 (1.94); interocellar distance 0.55-0.64 (0.57); interocular distance 1.00-1.12 (1.05); ocellar diameter 0.12-0.15 (0.12); distance from ocellus to adjacent eye 0.18-0.19 (0.18). Length of segments I-V of antennae 0.33-0.37 (0.33), 0.24-0.48 (0.24), 1.07-1.14 (1.14), 0.94



Figs. 115–120. *Aleixus virgatus*. 115. Habitus. 116. Head and pronotum, anterior view. 117. Head, dorsal view. 118. Femur. 119. Metapleuron. 120. Genital plates, caudoventral view.

(0.94), and 0.96 (0.96), respectively. Length of segments II–IV of rostrum 0.75–0.88 (0.88), 0.61–0.77 (0.68), and 0.55–0.61 (0.61), respectively.

Holotype. ♂, labeled “BRAZIL, Mato Grosso: 12°31’N: 55°37’W Sinop, Oct. 1975 M. Alvarenga.” Deposited in American Museum of Natural History, New York.

Paratypes. 4♀♀ 1♂. 3♀♀ 1♂ labeled “BRAZIL, Mato Grosso: Sinop, October 1976 M. Alvarenga” (2♀♀ AMNH, 1♀ 1♂ DAR); and 1♀ labeled “BRAZIL, Mato Grosso: Vila Vera, 55°30’ long., 12°46’ lat., Oct. 1973 M. Alvarenga” (AMNH).

Distribution. Brazil (Espiritu Santo and Mato Grosso).

Comments. This is a very distinctive species, and can be recognized by a combination of the following characters: the large fuscous spot on the scutellar base, the reddish cast of the dorsum, the completely transparent hemelytral membranes, the denticulate anterolateral pronotal margins, and antennal segment II less than one-half the length of segment III.

Etymology. This species is named *rubella* in reference to the distinct reddish cast of the dorsum.

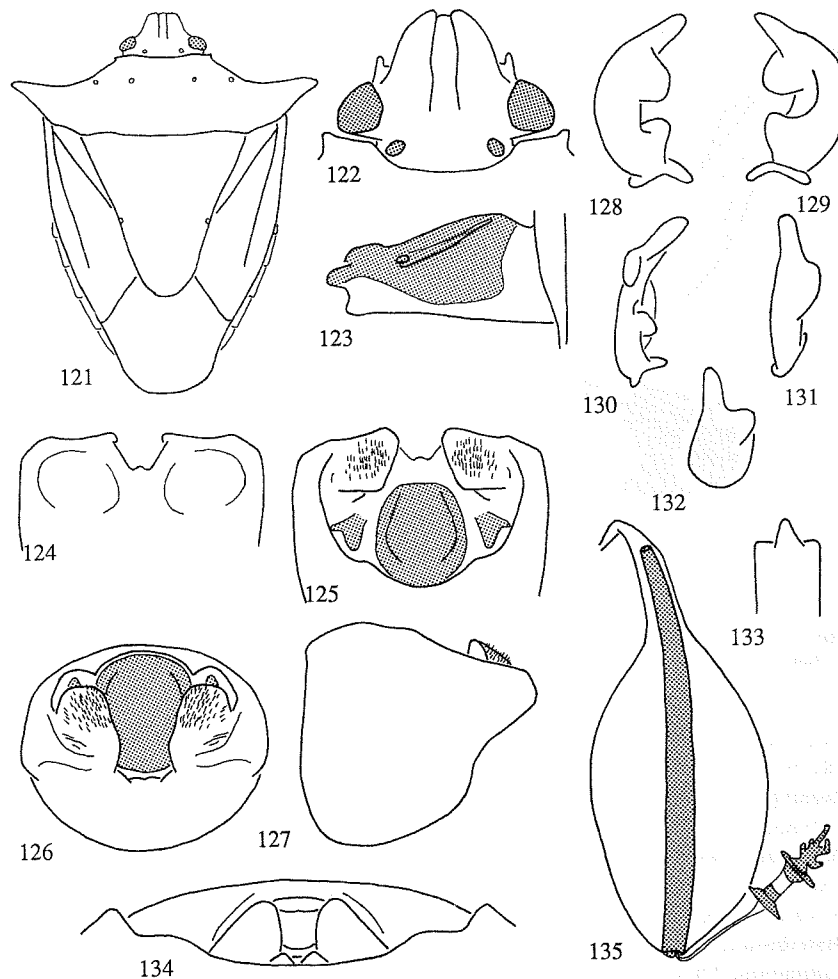
Aleixus McDonald

Figs. 115–120

Aleixus McDonald, in Rolston & McDonald, 1981:259, 260.

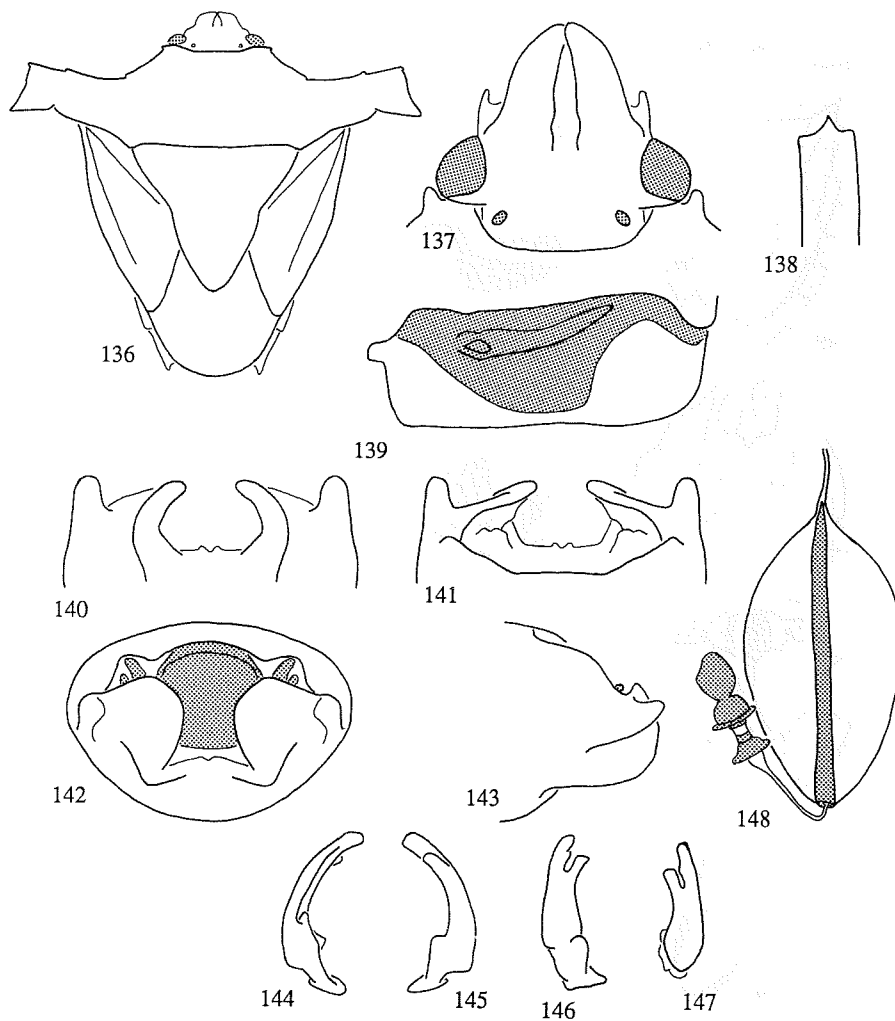
Types species. *Aleixus virgatus* McDonald, 1981, by original designation.

Diagnosis. Jugal surpassing tylus, but not contiguous anteriorly; lateral jugal margins distinctly sinuous, slightly reflexed (Fig. 117); apex of head distinctly declivent when



Figs. 121–135. *Odmalea concolor*. 121. Habitus. 122. Head, dorsal view. 123. Metapleuron. 124–127. Pygophore. 124. Ventral view. 125. Dorsal view. 126. Caudal view. 127. Lateral view. 128–132. Right paramere. 128. Caudal view. 129. Anterior view. 130. Lateral view. 131. Medial view. 132. Ectal view. 133. Femur. 134. Genital plates, caudoventral view. 135. Spermatheca.

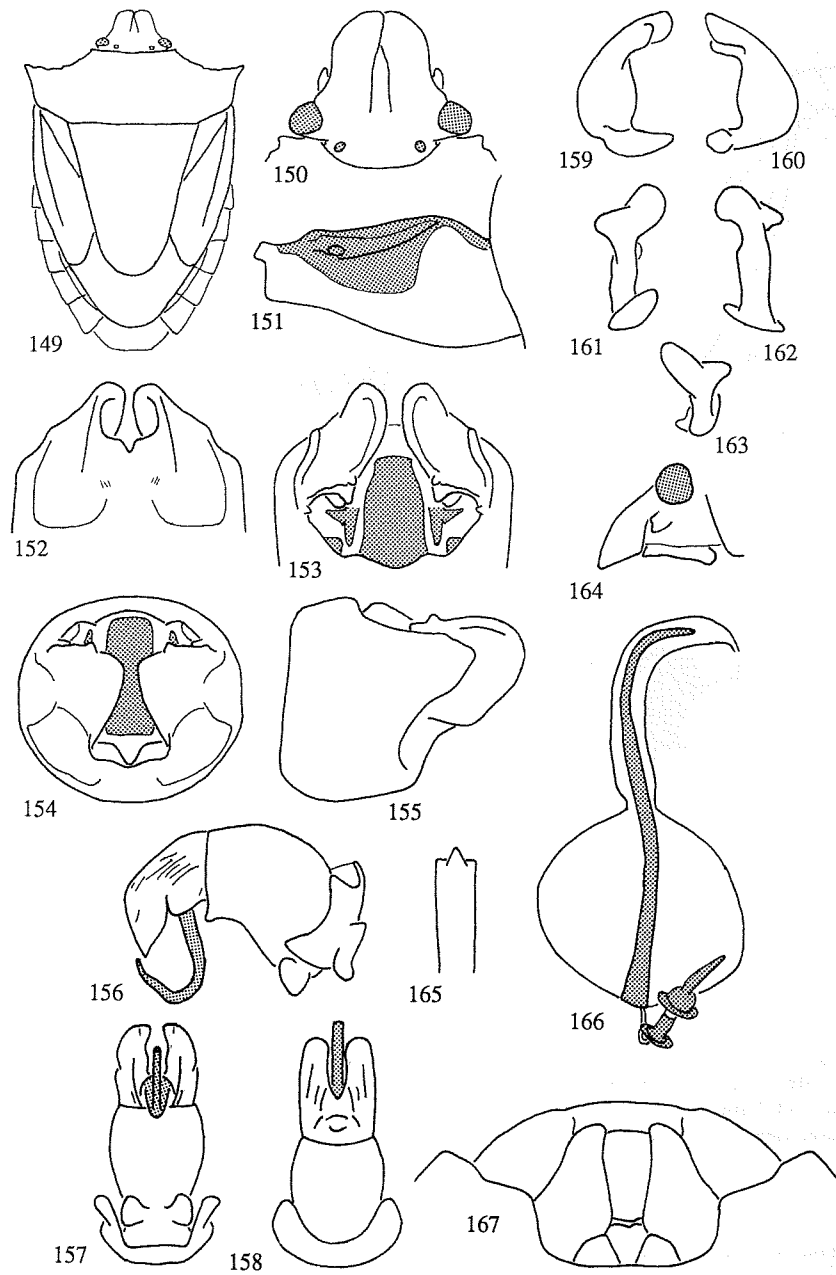
viewed laterally. Antenniferous tubercles clearly visible in dorsal view. Antennal segment II longer than each of remaining segments, segments II and III cylindrical, segments IV and V somewhat inflated. Humeral angles each bearing large tubercle, in anterior view obtusely rounded dorsally with two lateral projections, one obtuse and one nearly spinose (Fig. 116). Scutellum subtriangular, apex broadly rounded, not reaching apices of coria (Fig. 115). Rostrum reaching metacoxae. Each ostiolar ruga acuminate apically, reaching beyond middle of metapleuron (Fig. 119). Thoracic



Figs. 136–148. *Zorcadium truncatum*. 136. Habitus. 137. Head, dorsal view. 138. Femur. 139. Metapleuron. 140–143. Pygophore. 140. Ventral view. 141. Dorsal view. 142. Caudal view. 143. Lateral view. 144–147. Right paramere. 144. Caudal view. 145. Anterior view. 146. Lateral view. 147. Medial view. 148. Spermatheca.

sterna flat. Femora each armed with small tooth distally (Fig. 118); superior surfaces of posterior tibiae sulcate, that of anterior and middle tibiae asulcate, rounded, impunctate. Basal abdominal spine small.

Comments. *Aleixus* is monotypic, containing only *A. virgatus*, which can be recognized by the generic characters listed above. This species is apparently known only



Figs. 149-167. *Thoreyella brasiliensis*. 149. Habitus. 150. Head, dorsal view. 151. Metapleuron. 152-155. Pygophore. 152. Ventral view. 153. Dorsal view. 154. Caudal view. 155. Lateral view. 156-158. Theca. 156. Lateral view. 157. Ventral view. 158. Dorsal view. 159-

from the single female holotype from Manaus, Brazil. The holotype of *A. virgatus*, which is conserved in the U.S. National Museum of Natural History, was examined.

Odmalea Bergroth

Figs. 121–135

Odmalea Bergroth, 1914:436–437; Rolston, 1978:20–23; Rolston & McDonald, 1981:259; Froeschner, 1988:588.

Type species. *Odmalea quadripunctula* Bergroth, 1914 [= *Mormidea concolor* Walker, 1867], by original designation.

Diagnosis. Juga usually longer than tylus (juga and tylus subequal in length in *O. concolor*), but usually not contiguous anteriorly; lateral jugal margins sinuous (Fig. 122). Antennal segment II shorter than segment III. Humeral angles rounded to spinose; anterolateral pronotal margins concave (Fig. 121). Scutellum subtriangular, not reaching beyond apices of coria; apex rounded (Fig. 121). Rostrum reaching to at least anterior margins of metacoxae. Each ostiolar ruga acuminate apically, reaching beyond middle of metapleuron (Fig. 123). Thoracic sterna flat. Superior surface of each femur armed distally with small spine (Fig. 133); superior surfaces of tibiae flattened to sulcate, impunctate. Basal abdominal spine small.

Comments. *Odmalea* is most closely related to *Dendrocoris* and *Thoreyella*. *Odmalea* can be separated from *Dendrocoris* by the distal spine on the femora; they are unarmed in *Dendrocoris*. A couple of characters are useful in separating species of *Odmalea* and *Thoreyella*. In *Odmalea*, the juga are not contiguous anteriorly and the scutellum is subtriangular, not reaching the apices of the coria. In *Thoreyella*, the juga are usually contiguous anteriorly and the scutellum is somewhat intermediate in shape, but usually reaches to or slightly beyond the apices of the coria.

At present, *Odmalea* contains six species: *O. basalis* (Walker, 1867), *O. concolor* (Walker, 1867), *O. norda* Rolston, 1978, *O. pallida* (Jensen-Haarup, 1931), *O. schaefferi* (Barber, 1906), and *O. vega* Rolston, 1978. Rolston (1978) revised the genus, providing descriptions of and keys to all known species. I have examined specimens of all known species. All known species are restricted to Central or South America.

Zorcadium Bergroth

Figs. 136–148

Zorcadium Bergroth, 1918:307–308; Rolston & McDonald, 1981:259, 269.

Type species. *Euschistus truncatus* Fallou, 1888, by monotypy.

Diagnosis. Juga not contiguous anteriorly; lateral jugal margins sinuous (Fig. 137). Antennal segment II shorter than segment III. Humeral angles cornute; anterolateral pronotal margins concave (Fig. 136). Scutellum subtriangular, not reaching beyond

←
163. Right paramere. 159. Caudal view. 160. Anterior view. 161. Lateral view. 162. Medial view. 163. Ectal view. 164. Head, lateral view. 165. Femur. 166. Spermatheca. 167. Genital plates, caudoventral view.

apices of coria; apex narrowly rounded (Fig. 136). Rostrum reaching between mesocoxae. Each ostiolar ruga acuminate apically, reaching beyond middle of metapleuron (Fig. 139). Thoracic sterna flat to weakly sulcate. Superior surface of each femur armed distally with small tooth (Fig. 138); superior surfaces of tibiae weakly sulcate. Basal abdominal spine small.

Comments. *Zorcadium* is monotypic containing only *Z. truncatum* which is easily identified by its cornute humeral angles. Rolston and McDonald (1981) recently gave a detailed description of both *Zorcadium* and its only included species, *Z. truncatum*.

Specimens examined. 2♂♂, 1♀, collected 17–22 March and 10 August; deposited in ENGL, USNM, UZMH. **BRAZIL.** **PERU:** Satipo. **ARGENTINA:** Mato Grosso: 10°25'S, 59°28'W.

Thoreyella Spinola

Figs. 149–167

Thoreyella Spinola, 1850:79–80; Spinola, 1852:119–120; Stål, 1872:45; Lethierry & Severin, 1893:176; Kirkaldy, 1909:137; Jensen-Haarup, 1931:319–320; Pirán, 1957:67–68; Rolston, 1978:20, 21; Rolston & McDonald, 1981:259; Rolston, 1984:826–828.

Uditia Stål, 1860:23–24; Stål, 1867:531. [syn. by Stål, 1872]

Type species. *Thoreyella brasiliensis* Spinola, 1850, by monotypy.

Diagnosis. Juga usually contiguous anteriorly (often not contiguous in *T. trinotata*); lateral jugal margins sinuous (Fig. 150). Antennal segments II and III subequal in length. Humeral angles rounded to spinose; anterolateral pronotal margins concave (Fig. 149). Scutellum somewhat spatulate, reaching to or slightly beyond apices of coria, but not approaching apex of abdomen; apex broadly rounded; each basal angle lacking fovea (Fig. 149). Rostrum reaching between mesocoxae. Each ostiolar ruga acuminate apically, reaching beyond middle of metapleuron (Fig. 151). Thoracic sterna flat. Superior surface of each femur armed distally with small tooth (Fig. 165); superior surfaces of tibiae flattened to weakly sulcate. Basal abdominal spine small.

Comments. *Thoreyella* is closely related to *Dendrocoris* and *Odmalea*. *Thoreyella* has the superior surfaces of the femora armed distally; they are unarmed in *Dendrocoris*. In *Thoreyella*, the juga are usually contiguous anteriorly and the apex of the scutellum reaches to or beyond the corial apices. In *Odmalea*, the juga are usually not contiguous and the apex of the scutellum does not reach the apices of the coria.

Thoreyella contains 4 species: *T. brasiliensis* Spinola, 1850, *T. cornuta* Berg, 1883, *T. taurus* Jensen-Haarup, 1931, and *T. trinotata* Berg, 1878. Rolston (1984) revised *Thoreyella*, providing descriptions of and a key to all known species. I have examined specimens of all known species. All known species are distributed in South America.

ACKNOWLEDGMENTS

I would like to thank the following individuals for their help in lending specimens pertinent to this project (acronyms are those used in the text; DAR is author's collection):

AMNH—American Museum of Natural History, New York, R. T. Schuh.

EGER—J. E. Eger personal collection, Tampa, Florida.

FSCA—Florida State Collection of Arthropods, Gainesville, F. W. Mead.

LHR—L. H. Rolston personal collection, Louisiana State University, Baton Rouge.

LILL—Fundación e Instituto Miguel Lillo, Universidad Nacional de Tucumán, Argentina, M. V. A. Toledo.

MLPA—Facultad de Ciencias Naturales y Museo, La Plata, Argentina, R. A. Ronderos.

USNM—United States National Museum of Natural History, Washington, D.C., T. J. Henry.

UZMN—Zoological Museum, University of Helsinki, Finland, A. Jansson.

I would also like to thank the following individuals for the loan of pertinent type materials in their charge: M. A. Fritz, Instituto Nacional de Investigaciones Entomológicas Salta, Argentina (*N. willineri*); T. J. Henry, United States National Museum of Natural History, Washington, D.C. (*A. virgata*); and R. A. Ronderos, Facultad de Ciencias Naturales y Museo, La Plata, Argentina (*T. guachipasi*). Finally, I also appreciate the reviews of an early version of this manuscript provided by J. E. Eger, L. H. Rolston, D. B. Thomas (USDA-ARS, Weslaco, TX), and J. A. Moore (Fargo, ND).

LITERATURE CITED

- Banks, N. 1910. Catalogue of the Nearctic Hemiptera-Heteroptera. Am. Ent. Soc., Philadelphia, viii + 103 pp.
- Barber, H. G. 1906. Hemiptera from southwestern Texas. Mus. Brooklyn Inst. Arts & Sci., Sci. Bull. 1:255-289.
- Barber, H. G. 1911. Arrangement of the species of *Dendrocoris* Bergr., with the descriptions of two new species (Hemip.). Ent. News 22:268-271.
- Barber, H. G. 1939. Insects of Porto Rico and the Virgin Islands—Hemiptera-Heteroptera (excepting the Miridae and Corixidae). Scien. Surv. Porto Rico Virgin Isl. New York Acad. Sci. 14:263-441.
- Berg, C. 1878. Hemiptera Argentina: Ensayo de una monographia de los Hemipteros Heteropteros y Homopteros de la Republica Argentina. An. Soc. Cient. Argent. 6(1):23-26. [reprinted as Berg, C. 1879. Hemiptera Argentina enumeravit speciesque novas descripsit. Bonariae (and Hamburg), viii + 9-62 pp.].
- Berg, C. 1883. Addenda et emendanda ad Hemiptera Argentina. An. Soc. Cient. Arg. 15:193-217, 241-269. [reprinted as Berg, C. 1884. Addenda et emendanda ad Hemiptera Argentina. Bonariae (and Hamburg), 213 pp.].
- Berg, C. 1891. Nova Hemiptera faunaram Argentinae et Uruguayensis. An. Soc. Cient. Arg. 32:164-175, 231-243, 277-287.
- Bergroth, E. 1891. Contributions a l'etude des Pentatomides. Rev. Ent. 10:200-235.
- Bergroth, E. 1908. Enumeratio Pentatomidarum post catalogum bruxellensem descriptorum. Mém. Soc. Ent. Belg. 15:131-200.
- Bergroth, E. 1914. Pentatomides nouveaux de la Guyane Française (Hémipt. Pentatomidae). Ann. Soc. Ent. France 83:423-441, pl. 11.
- Bergroth, E. 1918. Hendecas generum hemipterorum novorum vel subnovorum. Ann. Mus. Natl. Hung. 16:298-314.
- Blatchley, W. S. 1926. Heteroptera or True Bugs of Eastern North America with Especial Reference to the Faunas of Indiana and Florida. Nature Publ. Co., Indianapolis, 1116 pp.
- Distant, W. L. 1893. Insecta. Rhynchota. Hemiptera-Heteroptera. Volume I. Pages i-xx, 329-462 in: F. D. Godman, and O. Salvin (eds.), Biologia Centrali-Americana. London, xx + 462 pp., 39 pls.
- Fallou, J. 1888. Hémiptères nouveaux recueillies a Minas Geraes. Le Naturaliste (2)1:36.
- Froeschner, R. C. 1941. Contributions to a synopsis of the Hemiptera of Missouri, pt. I. Scutelleridae, Podopidae, Pentatomidae, Cydnidae, Thyreocoridae. Am. Midl. Nat. 26:122-146.
- Froeschner, R. C. 1988. Family Pentatomidae Leach, 1815. The stink bugs. In: T. J. Henry and R. C. Froeschner (eds.), Catalog of the Heteroptera, or True Bugs, of Canada and the Continental United States. E. J. Brill, Leiden, New York, Kobenhavn, Köln, 958 pp.

- Jensen-Haarup, W. C. 1931. Hemipterological notes and descriptions VI. Entomol. Medd. Copenhagen 17:319-336.
- Kirkaldy, G. W. 1909. Catalogue of the Hemiptera (Heteroptera) with biological and anatomical references, lists of foodplants and parasites, etc. Felix L. Dames, Berlin. 1:I-XL, 1-392.
- Kirkaldy, G. W. 1912. A preliminary list of the Hemiptera of California, pt. 1. Proc. Ent. Soc. Hawaii 2:123-126.
- Kormilev, N. A. 1955. Notas sobre Pentatomoidea Neotropicales II (Hemiptera). Acta Scien. Inst. Inv. San Miguel, Buenos Aires 1:1-16, 5 figs.
- Lethierry, L. and G. Severin. 1893. Catalogue général des Hémiptères. R. Friedlander and Fils, Bruxelles and Berlin 1:i-x, 1-286.
- Montandon, A. L. 1893. Notes on American Hemiptera Heteroptera. Proc. U.S. Natl. Mus. 16(924):45-52.
- Nelson, G. H. 1955. A revision of the genus *Dendrocoris* and its generic relationships. Proc. Ent. Soc. Wash. 57(2):49-67.
- Nelson, G. H. 1957. A new species of *Dendrocoris* and a new combination of *Atizies* (Hemiptera, Pentatomidae). Proc. Ent. Soc. Wash. 59:197-199.
- Parshley, H. M. 1915. Systematic papers on New England Hemiptera. II. Synopsis of the Pentatomidae. Psyche 22:170-177.
- Parshley, H. M. 1923. Family Pentatomidae. Pages 753-776 in: W. E. Britton (ed.), Guide to the Insects of Connecticut. Part IV. The Hemiptera or Sucking Insects of Connecticut. Conn. Geol. Nat. Hist. Surv. Bull. 34:1-807, 20 pls.
- Pennington, M. S. 1920. Lista de los hemípteros heterópteros de la República Argentina. Pt. 1, 1-16.
- Pennington, M. S. 1922. Hemípteros nuevos para la República Argentina (primera parte). Physis 6:315-319.
- Pirán, A. A. 1957. *Thoreyella pentamaculata* especie nueva de la fauna de Bolivia (Hemiptera, Pentatomidae). Neotropica 2:65-68. (1956)
- Pirán, A. A. 1963. Hemiptera Neotropica. VII. Algunas especies nuevas o poco conocidas del Noroeste Argentina. I. Acta Zool. Lill. 19:335-341, 4 figs.
- Rolston, L. H. 1978. A revision of the genus *Odmalea* Bergroth (Hemiptera: Pentatomidae). J. New York Ent. Soc. 86(1):20-36.
- Rolston, L. H. 1984. A review of the genus *Thoreyella* Spinola (Hemiptera: Pentatomidae). Proc. Ent. Soc. Wash. 86(4):826-834.
- Rolston, L. H. and F. J. D. McDonald. 1979. Keys and diagnoses for the families of western hemisphere Pentatomoidea, subfamilies of Pentatomidae and tribes of Pentatominae (Hemiptera). J. New York Ent. Soc. 87(3):189-207.
- Rolston, L. H. and F. J. D. McDonald. 1981. Conspectus of Pentatomini genera of the western hemisphere—part 2 (Hemiptera: Pentatomidae). J. New York Ent. Soc. 88(4):257-272. (1980)
- Spinola, M. 1850. Di alcuni generi d'insetti arthroidignati novamenti propositi. Modena. Pages 61-138. (separate)
- Spinola, M. 1852. Di alcuni generi d'insetti arthroidignati novamenti propositi. Mem. Matem. Fis. Soc. Ital. Sci. Modena 25(1):101-178.
- Stål, C. 1860. Bidrag till Rio Janeiro-traktens Hemiptera-fauna. Kongl. Sv. Vet.-Ak. Handl. 2(7):1-84. (1858)
- Stål, C. 1867. Bidrag till hemipterernas systematik. Conspectus generum Pentatomidum Americae. Öfv. Kongl. Sv. Vet.-Ak. Förh. 24(7):522-534.
- Stål, C. 1872. Enumeratio Hemipterorum. Bidrag till en förteckning öfver alla hittills kända Hemiptera, jemte systematiska meddelanden. Enumeratio Cimicinarum Americae. Kongl. Sv. Vet.-Ak. Handl. 10(4):3-65.
- Stoner, D. 1920. The Scutellerioidea of Iowa. Iowa Univ. Studies Nat. Hist. 8(4):1-140.

- Summers, H. E. 1898. A general synopsis of the nearctic Pentatomidae. Iowa Acad. Sci. Proc. 6:40-46.
- Thomas, D. B., Jr. 1984. A new species of *Dendrocoris* Bergroth from Mexico (Hemiptera: Pentatomidae). Pan-Pac. Ent. 60:8-11.
- Torre-Bueno, J. R. de la. 1939. A synopsis of the Hemiptera-Heteroptera of America north of Mexico. Part I. Families Scutelleridae, Cydnidae, Pentatomidae, Aradidae, Dysodiidae and Termitaphididae. Ent. Am. (n.s.) 19:141-304.
- Uhler, P. R. 1877. Report on the insects collected by P. R. Uhler during the explorations of 1875, including monographs of the families Cydnidae and Saldae [sic], and the Hemiptera collected by A. S. Packard, Jr., M. D. Bull. U.S. Geol. Geog. Surv. Terr. 3:355-475, 765-801, pls. 27-28.
- Uhler, P. R. 1886. Check-list of the Hemiptera Heteroptera of North America. Brooklyn Ent. Soc., Brooklyn, New York, iv + 32 pp.
- Uhler, P. R. 1897. Contributions towards a knowledge of the Hemiptera-Heteroptera of N. America—No. 1. Trans. Md. Acad. Sci. 1897:383-394.
- Van Duzee, E. P. 1904. Annotated list of the Pentatomidae recorded from America north of Mexico, with descriptions of some new species. Trans. Am. Ent. Soc. 30:1-80.
- Van Duzee, E. P. 1909. Synonymical and descriptive notes on North American Heteroptera. Can. Ent. 41:369-375.
- Van Duzee, E. P. 1917. Catalogue of the Hemiptera of America north of Mexico excepting the Aphidae, Coccidae, and Aleurodidae. Univ. Calif. Publ., Techn. Bull. Ent. 2:i-xvi, 1-902.
- Walker, F. 1867. Catalogue of the Specimens of Heteropterous Hemiptera in the Collection of the British Museum. British Museum, London, Part 2:241-417.

Received 1 June 1993; accepted 10 November 1993.