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Review of the *Eurychlopterella* Complex of Genera, Including the Description of a New Genus from Mexico (Heteroptera: Miridae: Deraeocorinae)

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ABSTRACT

The taxonomy and biology of six little-known genera of North American/Mexican Miridae are reviewed: *Aterpocoris* Carvalho and Becker (2 species), *Conocephalocoris* Knight (1 species), *Eurychlopterella* Reuter (9 species), *Eurychlopteroides* n. gen. (1 species), *Hesperophylum* Reuter and Poppius (2 species), and *Lestoniella* Carvalho and Becker (2 species). The placement of these genera in the Deraeocorini is discussed and a key is provided to distinguish them from other North American and Mexican genera of the tribe. A diagnosis and a description are provided for

each species, as well as information on host plant associations and distribution. Habitus illustrations are provided for *C. nasicus* Knight, *Eurychlopterella pacifica* n. sp., *E. luridula* Reuter, *Eurychlopteroides mexicanus* n. sp., *H. arizonae* Knight, and *L. compacta* Carvalho and Becker. Scanning electron micrographs are given for the head, dorsal vestiture, metathoracic scent efferent system, and pretarsus of representative species. Illustrations of the male genitalia are presented for all species represented by male specimens. Eight new species are described: *Aterpocoris teopisca*

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n. sp., *Eurychlopterella chiapas* n. sp., *E. jalisco* n. sp., *E. keltoni* n. sp., *E. pacifica* n. sp., *E. polhemusi* n. sp., *E. tlaxacala* n. sp., *Eurychlopteroides mexicanus* n. sp., and *Lestoniella nuevoleon* n. sp. The Chilean species, *Eurychlopterella acutifrons* Carvalho, is removed from the genus and assigned the status of incerta sedis.

A key is provided to distinguish the nine known species of *Eurychlopterella*. Available evidence suggests that members of the *Eurychlopterella* complex of genera are bark-inhabiting predators. *Strobilocapsus annulatus* Bliven is proposed as a new junior synonym of *Deraeocapsus fraternus* (Van Duzee).

INTRODUCTION

Our initial interest in this group came about through the discovery of a new species of *Eurychlopterella* (*E. pacifica*) in the Cascade and Sierra Nevada mountains of Oregon and California. In our attempts to distinguish this bug from other described species of the genus, a second new species was discovered from Colorado (*E. polhemusi*), as well as additional taxa from Mexico, some of which were clearly not congeneric with *Eurychlopterella*. In order to place these taxa, it was necessary to consider all genera of Deraeocorini described from North America and Mexico: *Aterpocoris* Carvalho and Becker, *Carvalhoana* Schaffner, *Conocephalocoris* Knight, *Deraeocoris* Kirschbaum, *Deraeocapsus* Knight, *Diplozona* Van Duzee, *Eurychlopterella* Reuter, *Hesperophylum* Reuter and Poppius, *Klopocoris* Van Duzee, *Lestoniella* Carvalho and Becker, *Lundiella* Carvalho, and *Strobilocapsus* Bliven. Our study of this group revealed that five of the described genera (*Aterpocoris*, *Conocephalocoris*, *Eurychlopterella*, *Hesperophylum*, *Lestoniella*) and the new genus *Eurychlopteroides* form a distinct group within the Deraeocorini based on characters of the external morphology (see discussion below).

Aterpocoris, *Eurychlopterella*, and *Lestoniella* have always been recognized as members of the tribe Deraeocorini, but *Conocephalocoris* and *Hesperophylum* were, until recently, considered to belong to the Termatophylini, primarily on the basis of the elongate, pointed head (Carvalho, 1955). In a review of the Termatophylini, Cassis (1995) established that *Conocephalocoris* and *Hesperophylum* lacked the major defining characters of the tribe (i.e., short first labial segment, opening of metathoracic spiracle exposed and bounded by evaporative bodies), and transferred these genera to the Deraeocorini. Most recent authors agree that Deraeocorini is a paraphyletic group, containing a mixture of genera that cannot be

placed in one of the other better-defined (monophyletic) tribes of the Deraeocorinae (see discussions in Stonedahl and Cassis, 1991, and Cassis, 1995). We agree with Cassis (1995) that given the current knowledge of deraeocorine tribal classification, the best placement for the six genera treated here is within the Deraeocorini. Further, we believe that within the tribe these six genera form a distinct group based on the elongate, porrect head with broadly concave, striated gular region, the elongate labium, and the pattern of punctuation on the hemelytra.

The Australian species *Teratomiris proboscidocoris* (Ghauri), also transferred from the Termatophylini to the Deraeocorini by Cassis (1995), has a head structure similar to species of *Eurychlopterella*, but other external features (e.g., short labium, dorsal surface uniformly punctate) and the male genitalia do not support a close relationship with the New World genera treated here.

Little is known of the biologies of these rarely encountered plant bugs. Available host records indicate that species of *Eurychlopterella*, *Eurychlopteroides*, *Hesperophylum*, and *Lestoniella* prefer woody plants and are most likely inhabitants of bark. Since bark is a particularly difficult substrate to collect using conventional techniques, a bark-dwelling habitat is consistent with the sparse occurrence of these insects. *Conocephalocoris nasicus* is known from light trap samples only. However, collection records from other groups of Miridae (e.g., *Phytocoris*—Stonedahl, 1988) indicate that bark-inhabiting species are often nocturnal and frequently turn up at light sources at night. No host plant records are available for *Aterpocoris*.

Although previous authors have suggested that *E. luridula* is at least partly predaceous (Heidemann, 1910; Knight, 1923, 1941; Blatchley, 1926) only two observations have

been made of this bug feeding on other insects (Froeschner, 1949; T. J. Henry, personal commun.). Predation by *E. luridula* on the waxy nymphs of scale insects and other Sternorrhyncha may offer an explanation for the powdery white substance believed to be wax that covers the body surfaces of the nymphs of this bug (see discussion under *E. luridula*).

In the following taxonomic descriptions, the terminology for the thoracic pleural region and the metathoracic scent efferent system follows that of Cassis (1984, 1995). Terms for the male genitalia follow Kelton (1959) as modified by Stonedahl and Cassis (1991). The terminology of the forewing venation is taken from Betts (1986), Wootton and Betts (1986), and Cassis (1995). All measurements are given in millimeters. Head length is measured from the apex of the tylus to the posterodorsal angle (carina), with both points of reference in the same field of focus. Body length is measured from the apex of the tylus to the apex of the hemelytral membrane.

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SYSTEMATICS

Key to the Deraeocorini genera of North America and Mexico

- 1. Head strongly produced anterior to eyes (figs. 2, 8, 11); antennal segment I not or only just reaching to apex of tylus; gular region of head elongate, broadly concave, transversely striate, bordered laterally by distinct carina originating near posterior margin of buccula and reaching to beneath eye, sometimes to near posteroventral margin on of head 2
- Head weakly to moderately produced anterior to eyes; antennal segment I usually reaching beyond apex of tylus, rarely only reaching to apex of tylus; gular region of head short, not noticeably concave or transversely striate, without carinae laterally 7
- 2. Antennal segment II greatly enlarged and flattened, approximately three times thickness of segment I (fig. 36); ventral margin of propleuron and anterior margin of prosternal xyphus broadly pale *Hesperophylum* Reuter and Poppius
- Antennal segments I and II similar in thickness (figs. 1, 14, 15); propleuron and prosternal xyphus uniformly colored, without strongly contrasting pale margins 3
- 3. Scutellum punctate (fig. 48); dorsal and lateral surfaces of body with moderate covering of flattened, woolly setae (fig. 45) ..
..... *Lestoniella* Carvalho and Becker
- Scutellum smooth or finely roughened; dorsal and lateral surfaces of body with simple setae only 4
- 4. Peritreme of metathoracic scent efferent system smooth, shiny, strongly elevated (figs. 9, 12) 5
- Peritreme of metathoracic scent efferent system textured, dull, less strongly elevated (figs. 41, 46) 6
- 5. Length of antennal segment II greater than posterior width of pronotum; surface of calli finely granulate; hemelytra with sparsely

- distributed, bristlelike setae (fig. 1); pretarsal claws weakly cleft basally (fig. 4); vesica of male genitalia without sclerotized processes (fig. 5) *Conocephalocoris* Knight
- Length of antennal segment II less than posterior width of pronotum; surface of calli smooth, shiny; hemelytra with finer, more densely distributed setae (figs. 14, 15); pretarsal claws moderately to strongly cleft basally (figs. 10, 13); vesica of male genitalia with a single, well-developed sclerotized process (figs. 16, 19, 22, 25) *Eurychilopterella* Reuter
6. Scutellum strongly elevated, rising nearly to level of posterior lobe of pronotum; posterodorsal margin of head swollen, ecarinate . . . *Aterpocoris* Carvalho and Becker
- Scutellum weakly elevated, well below level of posterior lobe of pronotum; posterodorsal margin of head flattened, strongly carinate *Eurychilopteroides*, new genus
7. Head dorsal to antennal fossae rugulose; antennal segments III and IV fusiform, as thick as or thicker than segment I *Diplozonia* Van Duzee
- Head dorsal to antennal fossae mostly polished; antennal segments III and IV linear, thinner than segment I 8
8. Dorsal surface of body densely setose; lateral margins of pronotum, especially anteriorly, broadly explanate; metathoracic scent efferent system with weakly developed evaporative area (apparently lacking evaporative bodies) and obsolete peritreme *Carvalhoana* Schaffner
- Dorsal surface of body sparsely setose; lateral margins of pronotum rounded or carinate, but never broadly explanate; metathoracic scent efferent system with well-developed evaporative area and peritreme, the former with distinct evaporative bodies 9
9. Hemelytra coarsely and uniformly punctate, but without rows of deep punctures along outer margin of clavus and on R + M vein; cuneus slightly to moderately deflexed; species mostly greater than 3.5 mm in length 10
- Hemelytra smooth or very faintly punctate, except for single row of deep punctures along outer margin of clavus and on anterior third to half of R + M vein; cuneus strongly deflexed; species 3.0–3.5 mm in length 11
10. Antennal segment II not or only slightly enlarged distally; body length 3.6–7.2 mm *Deraeocoris* Kirschbaum
- Antennal segment II distinctly clavate; body length 6.8–8.0 mm *Deraeocapsus* Knight (= *Strobilocapsus* Bliven, n. syn.) [Our examination of the holotype of *Strobilocapsus annulatus* Bliven, deposited in the collection of the California Academy of Sciences, San Francisco, revealed that this species is conspecific with *Deraeocapsus fraternus* (Van Duzee). The characters provided by Bliven (1956) to distinguish the two genera are mostly species-specific differences between *S. annulatus* and *D. ingens* (Van Duzee). Bliven stated that *S. annulatus* agreed with *D. fraternus* in all characters except size (*fraternus* being slightly larger), but we have found that the size variation in *D. fraternus* exceeds the range of measurements given by Bliven for both of these nominal genera.]
11. Pronotum and hemelytra with very short, pale setae, appearing essentially glabrous; scutellum strongly convex; basal segment of protarsi thickened, broadly overlapping segment II, with dense brush of stout setae on ventral surface *Kloplicoris* Van Duzee
- Pronotum and hemelytra with long, fine, erect setae; scutellum weakly to moderately convex; basal segment of protarsi not noticeably thickened or broadly overlapping segment II *Lundiella* Carvalho

Conocephalocoris Knight

Figures 1–7

Conocephalocoris Knight, 1927: 141 (n. gen.). – Carvalho, 1952: 53 (cat.), 1955: 22 (key), 1957: 35 (cat.). – Henry and Wheeler, 1988: 290 (cat.). – Cassis, 1995: 317, 318 (tribal placement). – Schuh, 1995: 657 (cat.).

TYPE SPECIES: *Conocephalocoris nasicus* Knight, 1927, by original designation.

DIAGNOSIS: Distinguished from other genera of the *Eurychilopterella* complex by the dorsal surfaces of head, pronotal collar, and calli finely granulate; hemelytra with sparsely distributed, stout, bristlelike setae (fig. 1); metathoracic scent efferent system with small, strongly elevated peritreme (fig. 3); pretarsal claws weakly cleft basally (fig. 4) and vesica of male genitalia without sclerotized appendages (fig. 5).

DISCUSSION: The head structure and smooth, shiny peritreme of *Conocephalocoris* suggest a relationship with *Eurychilopterella*. The features given by Knight (1927)

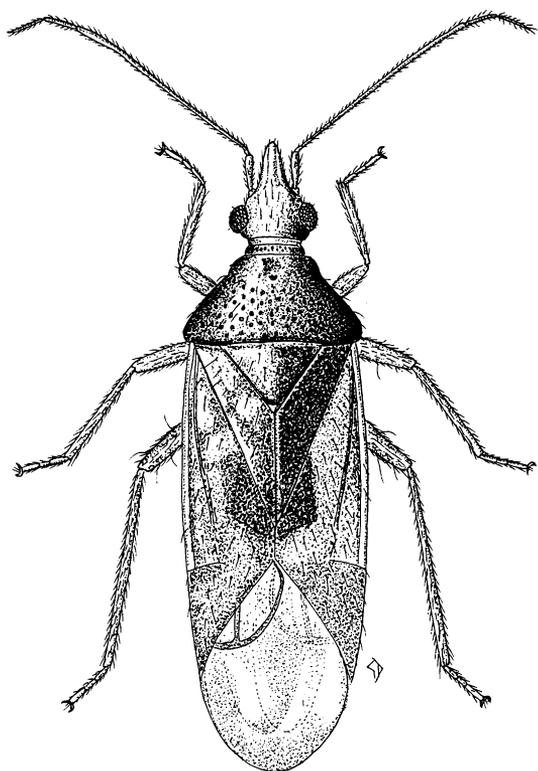


Fig. 1. *Conocephalocoris nasicus*, dorsal habitus of male.

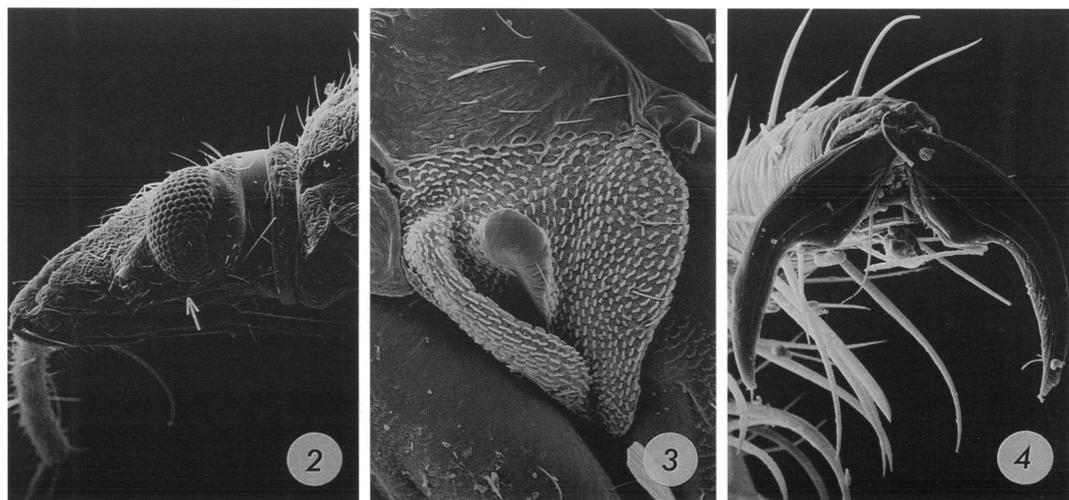
will adequately distinguish the two genera, with the exception of his character detailing the relative lengths of antennal segments III and IV, which does not remain valid when all species of *Eurychiloptera* are taken into consideration. Knight also stated that the lateral margins of the pronotal disk of *Conocephalocoris* are ecarinate, when in fact the anterior third of the disk has weakly developed lateral carinae. Characters we found most useful in distinguishing *Conocephalocoris* from other North American Deraeocorini are given in the preceding diagnosis and key to genera.

Knight (1927) placed *Conocephalocoris* in the subfamily Deraeocorinae. Carvalho (1952) included this genus in the tribe Deraeocorini, but later transferred it to the Teratophylini, apparently on the basis of the elongate head (see Carvalho, 1955). Cassis (1995) showed that *Conocephalocoris* does not possess the major defining characters of the Teratophylini and reassigned the genus to the Deraeocorini (see Introduction).

Conocephalocoris nasicus Knight

Figures 1–7

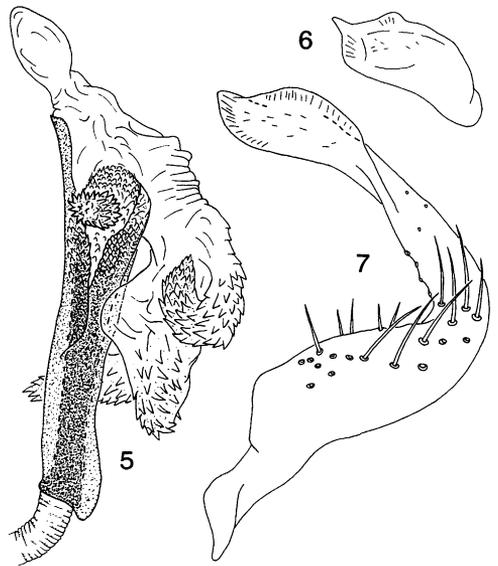
Conocephalocoris nasicus Knight, 1927: 142, 143 (n. sp.). – Carvalho, 1957: 35 (cat.). – Henry and Wheeler, 1988: 290 (cat.). – Schuh, 1995: 657 (cat.).



Figs. 2–4. Scanning electron micrographs of *Conocephalocoris nasicus*. 2. Lateral view of head (arrow indicates position of gular carina). 3. Metathoracic scent efferent system. 4. Pretarsus.

DIAGNOSIS: Recognized by the characters given in the generic diagnosis.

DESCRIPTION: *Male* ($n = 4$). Length 4.33–4.64; greatest width across hemelytra 1.35–1.51; yellowish brown to brown general coloration; calli usually darker brown; dorsal vestiture with sparsely distributed, golden simple setae, those on hemelytra somewhat heavier and more erect than on head and pronotum. **Head:** Length 0.73–0.77; width across eyes 0.60–0.65; width of vertex 0.31–0.33; elongate, strongly conical, with broad weakly concave gular region; dorsal surface finely granulate; vertex bordering inner margin of eye broadly depressed; posterodorsal margin weakly carinate; eyes relatively small, slightly removed from posterior margin of head; antennal fossae at level of ventral margin of eye, removed from anterior margin of eye by distance equal to diameter of antennal segment I. **Antennae:** Yellowish brown, segments III and IV sometimes darker brown; uniformly covered with golden simple setae; segment I reaching nearly to apex of tylus, length 0.24–0.28; II, length 1.29–1.42, weakly curved, similar in thickness to segment I; III and IV, each slightly longer than segment I, noticeably thinner than preceding segments. **Labium:** Length 2.63–2.67; reaching to middle of genital capsule; segment I not reaching to posterior margin of head. **Thorax:** Posterior width of pronotum 1.27–1.31; dorsal surface of pronotum slightly shiny, finely granulate especially on collar and calli; collar weakly rounded, about as broad as diameter of antennal segment I; calli well-developed, confluent anteromedially; anterior third of pronotum weakly carinate laterally; posterior lobe of disk with sparsely distributed, coarse punctures; scutellum moderately convex, impunctate; metathoracic scent efferent system with small, shiny, strongly elevated peritreme and well-developed evaporative area (fig. 3). **Hemelytra:** Parallel-sided, shiny, with single rows of punctures along anterior half of anal vein, outer margin of clavus, and much of R + M vein; membrane tinged with brown distally and along veins. **Legs:** Uniformly yellowish brown; tarsi with segment I slightly shorter than segment III, segment II scarcely more than half as long as segment I; pretarsal claws weakly cleft at base (fig. 4). **Genitalia:**



Figs. 5–7. Male genitalia of *Conocephalocoris nasicus*. 5. Anterior view of vesica. 6. Right paramere. 7. Left paramere.

Shaft of left paramere broadly produced (fig. 7); vesica without sclerotized appendages (fig. 5).

Female ($n = 3$): Similar to male in general appearance; length 4.22–4.35; greatest width across hemelytra 1.35–1.44. **Head:** Length 0.79–0.80; width across eyes 0.62–0.65; width of vertex 0.35–0.36. **Antennae:** I, length 0.25–0.26; II, length 1.31–1.37. **Labium:** Length 2.70–2.75, reaching to base of 9th abdominal segment. **Thorax:** Posterior width of pronotum 1.16–1.28.

DISTRIBUTION: Mountainous regions of Arizona and southern Utah.

DISCUSSION: The host plant association of this species is not known. The majority of examined specimens were collected at light.

SPECIMENS EXAMINED: USA. **Arizona:** Cochise Co.: 1 male, 1 mi S Portal, 13.VI.1965, 4800 ft, at light, J. H. and J. M. Davidson and M. A. Cazier (USNM); 1 male, 1 female, 4 mi W Portal, 1700 m, 10.VI.1980, at UV light, R. T. Schuh, K. and R. Schmidt, and B. Massie (AMNH). Coconino Co.: 1 male, Mormon Lake, 8000 ft, 8–15.VII.1956, at light, F. Werner (UAZ); 1 female (holotype), Williams, 7000 ft, 24.VI.1925, A. A. Nichol (USNM, Knight Collection). Gila Co.: 1 male, Workman Crk., Sierra Ancha Mts.,

5000 ft, 9.VII.1964, at UV light, J. Burger (UAZ). Graham Co.: 1 male, 1 female, Pinaleno Mts., Stockton Pass, 5200–5500 ft, 1–2.VI.1983, at MV light, R. T. Schuh and G. M. Stonedahl (AMNH). Maricopa Co.: 1 male, Sunflower, CL1633, 2.VI.1981, at UV light, J. T. Polhemus (JTP). Utah: Washington Co.: 1 male, Leeds Canyon, 28.VII.1965, W. J. Hanson (USU).

Eurychiloptera Reuter

Figures 8–27

Eurychiloptera Reuter, 1909: 12 (key), 59, 60 (n. gen.), 1910: 158 (cat.). – Van Duzee, 1916: 41 (list), 1917: 353 (cat.). – Knight, 1923: 481 (key). – Blatchley, 1926: 887 (descr.). – Knight, 1941: 65 (key), 73 (key to species). – Carvalho, 1948: 3, 4 (descr.). – Froeschner, 1949: 129 (key), 138 (key to species). – Carvalho, 1952: 53 (cat.), 1955: 27 (key), 1957: 84 (cat.). – Knight, 1968: 79 (key). – Henry and Wheeler, 1988: 286 (cat.). – Schuh, 1995: 625 (cat.).

TYPE SPECIES: *Eurychiloptera luridula* Reuter, 1909, by monotypy.

DIAGNOSIS: Similar to *Conocephalocoris* but distinguished by the shorter second antennal segment (see couplet 5 in key to genera); smooth, shiny pronotal calli; finer, more densely distributed setae on hemelytra (figs. 14, 15); broader peritreme of metathoracic scent efferent system (figs. 9, 12); moderately to strongly cleft base of pretarsal claws (figs. 10, 13); and male vesica with well-developed sclerotized process (figs. 16, 19, 22, 25).

DISCUSSION: The genus *Eurychiloptera* comprises nine species distributed in North America and Mexico: *E. barberi*, *E. keltoni*, *E. pacifica*, and *E. polhemusi* from areas west of the Rock Mountains; *E. brunneata* and *E. luridula* from the eastern and mid-western United States; and *E. chiapas*, *E. jalisco*, and *E. tlaxacala* from central and southern Mexico. One additional male specimen, representing what appears to be a distinct species, but too damaged for description, was examined from Chiapas, Canyon below Ixhuatán, 548 m, 11.IX.1981 (CAS). The nominal species *E. acutifrons*, described by Carvalho (1948) from Valparaiso, Chile, is here removed from *Eurychiloptera* (see following treatment).

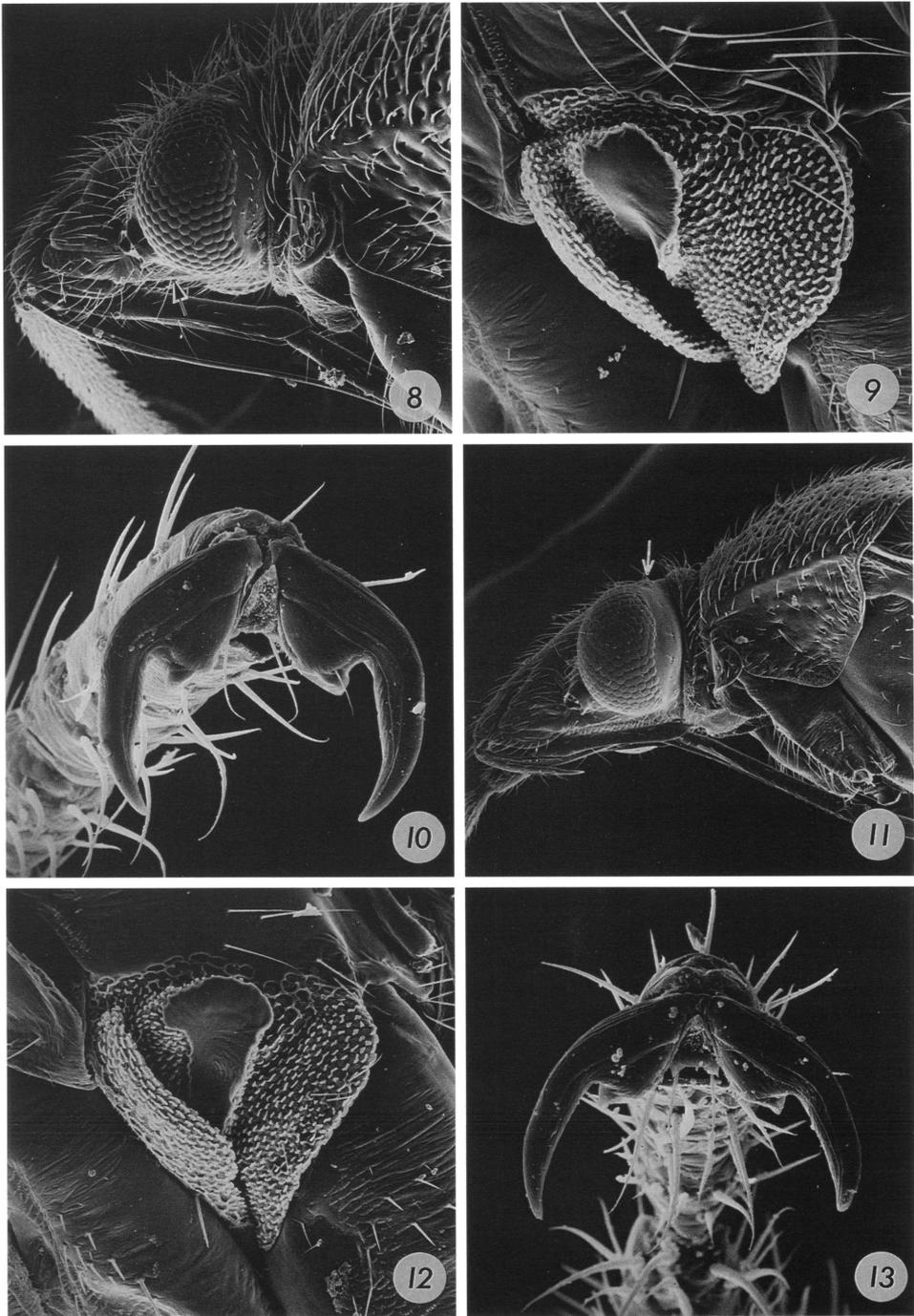
Little is known of the biologies of *Eurychiloptera* species. Collection records indicate that members of this genus prefer woody host plants, where they probably feed on aphids, scale insects, and other small, soft-bodied arthropods associated with bark. *Eurychiloptera luridula* has been collected from a number of host plants in the eastern United States (see species treatment) and is reported to be predaceous in several earlier accounts (Heidemann, 1910; Knight, 1923, 1941; Blatchley, 1926; Froeschner, 1949). The western species *E. pacifica* has been collected on seven different plant species, but like *E. luridula* does not appear to have a preferred host.

Heidemann (1910) noted that the nymphs of *E. luridula* have the surfaces of the body covered with a white, powdery substance. Similar powdery coatings have been noted on other deraeocorine nymphs, particularly those belonging to the tribe Clivinemini. One possible explanation is that the coating is a waxy compound secreted by the mirid nymph as a waste product from feeding on waxy prey items, such as some Sternorrhyncha.

Eurychiloptera was placed in the Deraeocoraria (= Deraeocorinae) by Van Duzee (1916, 1917). This placement was further refined by Carvalho (1952, 1955, 1957), who recognized the genus as belonging to a more restricted Deraeocorini.

Key to *Eurychiloptera* species

1. Clavus uniformly brown or dark brown . . . 2
- Clavus, at least on basal fourth, grayish white or pale yellowish brown, often more broadly pale, sometimes to near apex 7
2. Dorsal surface of head rugulose; ratio of length of antennal segment II to width of head across eyes 1.25:1 to 1.28:1 for males and 1.05:1 to 1.20:1 for females *polhemusi*, new species
- Dorsal surface of head smooth or finely granulate; ratio of length of antennal segment II to width of head across eyes 1.48:1 to 1.66:1 for males and 1.22:1 to 1.63:1 for females 3
3. Pronotum uniformly dark brown to nearly black; calli sometimes slightly darker than pronotal disk; antennal segment II uniformly yellowish brown to dark brown 4
- Pronotum yellowish brown laterally and along



Figs. 8–13. Scanning electron micrographs of *Eurychiloptera* species. 8–10. *E. luridula*. 8. Lateral view of head (arrow indicates position of gular carina). 9. Metathoracic scent efferent system. 10. Pretarsus. 11–13. *E. pacifica*. 11. Lateral view of head. 12. Metathoracic scent efferent system. 13. Pretarsus.

- posterior margin, dark brown medially; calli nearly black; antennal segment II yellowish brown basally, distal third dark brown *jalisco*, new species
4. Posterior margin of head weakly carinate; antennal segment II yellowish brown; length of labium 2.15–2.74 5
- Posterior margin of head not carinate; antennal segment II brown or dark brown; length of labium 3.10–3.87 6
5. Hemelytra in part noticeably paler than pronotal disk; labium reaching to 5th or 6th abdominal segment in males and to base of ovipositor in females; peritreme and evaporative area of metathoracic scent efferent system as in figs. 12 and 28 *pacifica*, new species
- Hemelytra and pronotal disk nearly uniform in coloration; labium reaching to 8th or 9th abdominal segment in males and to 7th or 8th abdominal segment in females; peritreme and evaporative area of metathoracic scent efferent system as in fig. 29 *keltoni*, new species
6. Length of setae on pronotal disk equal to or slightly greater than diameter of antennal segment I at apex; width of head across eyes about two times width of vertex (ratio 1.95:1, n = 1); male genitalia as in figs. 33–35 *tlaxacala*, new species
- Length of setae on pronotal disk much greater than diameter of antennal segment I at apex; width of head across eyes greater than two times width of vertex (ratio 2.26:1 to 2.33:1, n = 2); male genitalia as in figs. 16–18 *brunneata* Knight
7. Dorsal surface of head uniformly brown or yellowish brown; labial segment I not reaching to posteroventral margin of head; scutellum uniformly fuscous; body length 3.17–3.80 8
- Dorsal surface of head fuscous medially, narrowly to broadly pale bordering eyes; labial segment I reaching slightly beyond posteroventral margin of head; scutellum broadly pale apically (fig. 14); body length 3.85–4.86 *luridula* Reuter
8. Median width of pronotal collar slightly greater than diameter of metatibia, slightly narrowed laterally; lateral margins of pronotum weakly convex; clavus mostly pale yellowish brown, apex and inner margin bordering commissure infuscated; body length 3.42–3.80 *barberi* Knight
- Median width of pronotal collar nearly twice the diameter of metatibia, strongly narrowed laterally; lateral margins of pronotum very slightly concave medially; clavus pale yellowish brown on basal half, fuscous distally; body length 3.17 (holotype) *chiapas*, new species

Eurychilopterella barberi Knight

Eurychilopterella barberi Knight, 1927: 140, 141 (n. sp.). – Carvalho, 1957: 84 (cat.). – Knight, 1968: 82 (distr.). – Henry and Wheeler, 1988: 286 (cat.). – Schuh, 1995: 625 (cat.).

DIAGNOSIS: Recognized by the relatively small body size, short second antennal segment, uniformly pale head, and distinct pale markings on the pronotum and hemelytra (see description).

DESCRIPTION: *Female* (n = 4). Length 3.42–3.80; greatest width across hemelytra 1.31–1.60; dark brown general coloration; dorsum with short, suberect, pale, simple setae. **Head:** Length 0.65–0.68; width across eyes 0.63–0.65; width of vertex 0.29–0.32; uniformly yellowish brown; dorsal surface smooth, shiny; posterodorsal margin not noticeably carinate; eyes positioned on posterior margin of head, nearly contiguous with anterior margin of pronotum; ventral margin of antennal fossae level with ventral margin of eye, fossa removed from anterior margin of eye by distance slightly greater than diameter of antennal segment I. **Antennae:** I, length 0.18–0.20, reaching nearly to apex of tylus, yellowish brown; II, length 0.67–0.71, apical fifth slightly expanded, yellowish brown; III and IV, brown or dark brown. **Labium:** Length 2.13–2.20; reaching to base of ovipositor; segment I terminating well short of posterior margin of head. **Thorax:** Posterior width of pronotum 1.18–1.31; pronotal collar moderately rounded, weakly punctate, yellowish brown dorsally, fuscous laterally and ventrally; pronotal disk shiny fuscous, posterior margin brownish yellow; calli poorly differentiated; posterior lobe of pronotal disk evenly punctate; lateral margin of pronotum weakly carinate along entire length; propleuron and sternal regions uniformly fuscous; scutellum weakly elevated, shiny fuscous, finely transversely wrinkled, impunctate. **Hemelytra:** Relatively smooth; basal half of anal vein, outer margin of clavus, and much of R + M vein marked with a single row of deep punctures; clavus mostly pale yellowish brown, apex and inner margin

bordering commissure usually darker brown; corium mostly brown to dark brown, area lateral to median flexion line including embolium yellowish brown; cuneus broadly pale along outer margin, inner half to two-thirds dark brown; membrane evenly tinged with fuscous, veins usually slightly darker. **Legs:** Uniformly pale yellowish brown. **Genitalia:** Not examined.

Male: Unknown.

DISTRIBUTION: Mountainous regions of southeastern Arizona.

DISCUSSION: This species has been collected on *Quercus oblongifolia*.

SPECIMENS EXAMINED: USA. **Arizona:** Cochise Co.: 1 female, Huachuca Mts., Ramsey Canyon, 10–19.VI.1966, F. Werner (UAZ); 1 female (paratype), Huachuca Mts., 3.VIII.1905, H. G. Barber (USNM, Knight Collection). Pima Co.: 1 female, Santa Catalina Mts., Bear Canyon Picnic Area, 5700 ft, 12.VI.1983, ex *Quercus oblongifolia*, R. T. Schuh, M. D. Schwartz, and G. M. Stonedahl (AMNH); 2 females, 7.5 mi S Coronado Nat. For. boundary on Mt. Lemmon Rd., 4700 ft, 11.VI.1983, ex *Quercus oblongifolia*, R. T. Schuh, M. D. Schwartz, and G. M. Stonedahl (AMNH). Santa Cruz Co.: 1 female, Santa Rita Mts., 22.VI.1930, E. D. Ball (USNM, Ball Collection).

Eurychilopterella brunneata Knight

Figures 16–18

Eurychilopterella brunneata Knight, 1927: 141 (n. sp.), 1941: 73 (key), 74 (descr.). – Froeschner, 1949: 138 (key), 166 (distr.). – Carvalho, 1957: 84 (cat.). – Henry and Wheeler, 1988: 286 (cat.). – Schuh, 1995: 625 (cat.).

DIAGNOSIS: Recognized by the large body size, uniformly brown to fuscous general coloration, posterodorsal margin of head not noticeably carinate, long labium, distinctly rugulose hemelytra, and structure of the male parameres (figs. 17, 18) and vesica (fig. 16).

DESCRIPTION: **Male** (n = 2). Length 5.09–5.16; greatest width across hemelytra 2.09–2.12; dark brown general coloration; dorsal surface shiny, with relatively long, suberect, golden, simple setae. **Head:** Length 0.85–0.88; width across eyes 0.84–0.86; width of vertex 0.36–0.38; uniformly yellowish brown; dorsal surface smooth, shiny; pos-

terodorsal margin not noticeably carinate; eyes narrowly removed from posterior margin of head; ventral margin of eye slightly below level of gula; ventral margin of antennal fossa slightly above ventral margin of eye, fossa removed from anterior margin of eye by distance equal to about half the diameter of antennal segment I. **Antennae:** I, length 0.29–0.31, brown or yellowish brown, paler basally; II, length 1.28, brown or dark brown; III and IV, dark brown. **Labium:** Length 3.10–3.28; reaching to base of genital capsule, segment I reaching to posterior margin of head or slightly beyond. **Thorax:** Posterior width of pronotum 1.75–1.91; pronotum dark brown to fuscous, except collar sometimes yellowish brown; calli poorly differentiated, confluent medially; pronotal disk coarsely and densely punctate, lateral margins weakly carinate; propleuron and sternal regions dark yellowish brown to fuscous; scutellum weakly elevated, shiny brown to fuscous, finely transversely wrinkled, impunctate. **Hemelytra:** Uniformly brown to fuscous; distinctly rugulose; rows of punctures on clavus and corium as described for *E. barberi*; membrane strongly suffused with fuscous, veins usually slightly darker. **Legs:** Uniformly yellowish brown. **Genitalia:** Figures 16–18.

Female (n = 3): Similar to male in general appearance; length 4.67–5.47; greatest width across hemelytra 1.90–2.50. **Head:** Length 0.84–0.96; width across eyes 0.74–0.93; width of vertex 0.36–0.46. **Antennae:** I, length 0.26–0.33; II, length 1.21–1.36. **Labium:** Length 3.32–3.87, reaching onto 9th abdominal segment. **Thorax:** Posterior width of pronotum 1.54–2.09.

DISTRIBUTION: Known from the states of Georgia, Illinois, and Virginia.

DISCUSSION: The large size and uniform dark coloration will easily distinguish *E. brunneata* from other species of the genus. Several examples of this species were collected on pecan (*Carya illinoensis*) in Sumter Co., Georgia.

SPECIMENS EXAMINED: USA. **Illinois:** Clay Co.: 1 male (holotype), Clay City, 17–VIII.1911, H. H. Knight (USNM, Knight Collection). **Georgia:** Sumter Co.: 1 male, 2 females, V–XI.1982, ex *Carya illinoensis*,

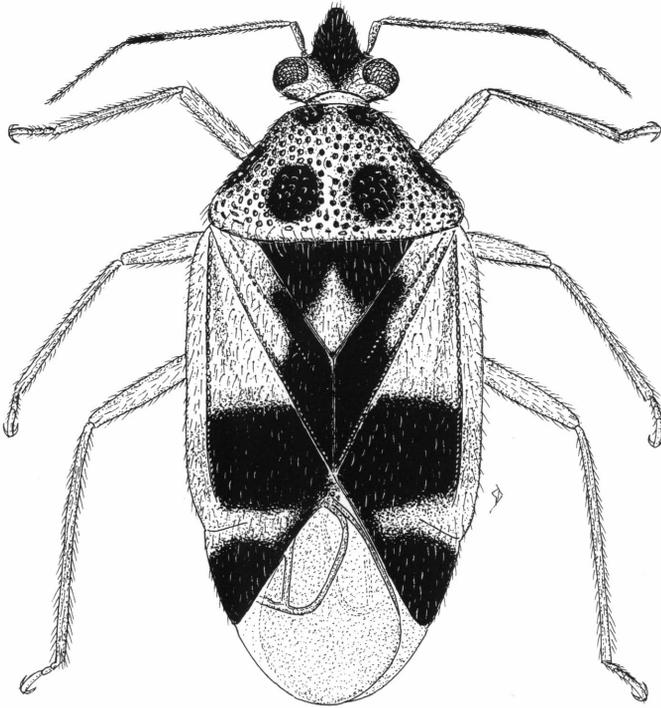


Fig. 14. *Eurychilopterella luridula*, dorsal habitus of male.

W. L. Tedders (USNM). **Virginia:** 1 female, Falls Church, 3.IX.1917 (USNM).

Eurychilopterella luridula Reuter

Figures 8–10, 14, 19–21

Eurychilopterella luridula Reuter, 1909: 60 (n. sp.). – Heidemann, 1910: 45, 46 (biol.). – Van Duzee, 1916: 41 (list), 1917: 353 (cat.). – Knight, 1923: 484 (diag., biol.). – Blatchley, 1926: 888 (descr., biol.). – Knight, 1941: 73, 74 (key, diag., biol., fig.). – Froeschner, 1949: 138 (key), 166 (biol.). – Carvalho, 1957: 84 (cat.). – Knight, 1968: 82 (fig.). – Henry and Wheeler, 1988: 286 (cat.). – Schuh, 1995: 626 (cat.).

DIAGNOSIS: Recognized by the extensive pale areas on the pronotum, scutellum and hemelytra (fig. 14); head slightly shorter than wide; bicolored second antennal segment; and structure of the male parameres (figs. 20, 21) and vesica (fig. 19).

DESCRIPTION: *Male* ($n = 4$). Length 3.87–4.86; greatest width across hemelytra 1.53–1.97; pale grayish white ground color with extensive brown to dark fuscous markings; dorsal surface shiny, with relatively long,

erect, light and dark, simple setae, length of dorsal setae 1.0–1.5 times diameter of antennal segment I. **Head:** Length 0.62–0.73; width across eyes 0.70–0.79; width of vertex 0.32–0.40; brown or yellowish brown; vertex medially and much of frons fuscous; vertex bordering eye narrowly to broadly pale yellow; dorsal surface relatively smooth, shiny; posterodorsal margin weakly carinate; eyes narrowly removed from posterior margin of head, ventral margin of eye slightly below level of gula; antennal fossa removed from anterior margin of eye by distance equal to about one-third the diameter of antennal segment I, ventral margin of fossa well above ventral margin of eye. **Antennae:** I, length 0.23–0.29, pale yellow or yellowish brown; II, length 0.98–1.35, yellowish brown basally, distal fourth to one-third dark brown; III and IV, brown or yellowish brown. **Labium:** Length 2.15–2.48; reaching to 6th, rarely onto 8th, abdominal segment; segment I reaching slightly beyond posterior margin of head. **Thorax:** Posterior width of pronotum 1.32–1.63; pronotal collar weakly convex, dorsal width about equal to diameter of an-

tennal segment I, uniformly pale yellow; calli moderately defined, confluent anteromedially, shiny fuscous except inner margins pale yellow; color of posterior lobe of pronotal disk variable—ranging from mostly fuscous with only posterior margin and sometimes median line pale, to extensively pale with large dark patch either side of pale median line and lateral margins except on posterior angle broadly darkened; pronotal disk coarsely punctate, lateral margins weakly carinate; propleuron mostly fuscous, usually narrowly pale bordering propleural suture; other pleural and sternal regions mostly dark brown to fuscous; peritreme and evaporative area of metathoracic scent efferent system white; scutellum dark brown to fuscous anteriorly, apex and sometimes median line broadly pale. **Hemelytra:** Surface finely roughened, shiny; punctation as described for *E. barberi*; clavus dark brown to fuscous distally, basal fourth to half grayish white or pale yellowish brown; corium dark brown to fuscous distally, except with distinct pale mark on posterior margin bordering costal fracture; most of embolium and anterior half or corium dirty white or pale brownish yellow; cuneus dark brown or fuscous, anterior margin narrowly pale; membrane lightly tinged with brown, veins darker brown. **Legs:** Pale yellow to yellowish brown; femora distally and tibiae sometimes marked or tinged with darker brown. **Genitalia:** Figures 19–21.

Female (n = 4): Similar to male in general appearance; length 3.85–4.64; greatest width across hemelytra 1.71–2.13. **Head:** Length 0.69–0.73; width across eyes 0.75–0.78; width of vertex 0.39–0.40. **Antennae:** I, length 0.22–0.26; II, length 1.06–1.20, distal fourth slightly thickened. **Labium:** Length 2.47–2.56, reaching to or slightly beyond base of ovipositor. **Thorax:** Posterior width of pronotum 1.44–1.70.

DISTRIBUTION: Widely distributed in the midwestern and eastern United States.

DISCUSSION: *Eurychiloptera luridula* is the mostly widely distributed and best collected species of the genus. Specimens have been taken on the following trees: apple, citrus, elm, pear, pecan, prune. Reuter (1909) and Heidemann (1910) reported this bug from yellow-wood (*Cladrastis tinctoria*), the

former author noting that it passed a lot of time concealed in the crevices of the bark. Further evidence of a bark-dwelling habitat was provided by Knight (1941), who recorded this species on tree trunks in Urbana, Illinois. The predatory nature of *E. luridula* has been referred to by Heidemann (1910), Knight (1923, 1941), and Blatchley (1926). Froeschner (1949) observed this bug feeding on the introduced scale insect, *Parlatoreopsis chinensis* (Marl.), on apple in St. Louis, Missouri.

SPECIMENS EXAMINED: USA. **Delaware:** 1 male, Magnolia, 24.V.1937, ex apple twigs, P. L. Rice (USNM). **District of Columbia:** Washington: 1 male (lectotype, here designated) and 3 females (paralectotypes), 12.VI.1905, O. Heidemann (CAS, Van Duzee Collection; NHML; USNM); 1 female, 12.VI.1911, O. Heidemann (AMNH); 1 male, 26.VI.1909, O. Heidemann (USNM, Knight Collection); 1 male, VII.1911 and 1 female, 2.VIII.1905, O. Heidemann (CAS, Van Duzee Collection). **Florida:** Hillsboro Co.: 1 female, 24.II–1.III, C. L. Rabb (USNM). **Georgia:** Sumter Co.: 3 males, 1 female, V–X.1982, ex *Carya illinoensis*, W. L. Tedders (USNM). **Indiana:** Greene Co.: 1 female, Linton, 27.VIII.1957, D. W. Hamilton (USNM). **Iowa:** Story Co.: 1 male, Ames, 29.VI.1924, H. Mills (UCB). **Kansas:** Shawnee Co.: 1 female, Topeka (USNM, Uhler Collection). **Maryland:** 1 female, Glen Echo, 2.VII.1922, J. R. Malloch (USNM, McAtee Collection). **Michigan:** Ottawa Co.: 1 male, 17.VIII.1945, R. R. Dreisbach (USNM). **New Jersey:** Somerset Co.: 1 female, Bound Brook, 5.VII.1923 (AMNH). **New York:** Erie Co.: 1 female (paralectotype), Buffalo, 23.VII.1906, E. P. Van Duzee (CAS, Van Duzee Collection). **Pennsylvania:** 1 male, Springbrook, 7.VIII.1945, R. I. Sailer (USNM). Bucks Co.: 1 male, NE Jamison, Horseshoe Bend, Neshaminy Creek, VIII.1957, W. Ivie (AMNH). **South Carolina:** Pickens Co.: 1 male, 1 female, Clemson, 11.VI.1941, W. M. Upholt (USNM); 2 females, Clemson, lot 41-1428, 19.VIII.1941, W. M. Upholt (USNM); 1 male, Clemson College, 27.VIII.1935, J. H. Cochran (USNM). **Texas:** Hidalgo Co.: 1 male, Edinburg, 22.I.1951, ex citrus tree, A. A. Dean (USNM). **Virginia:** 1 male, Batesville,

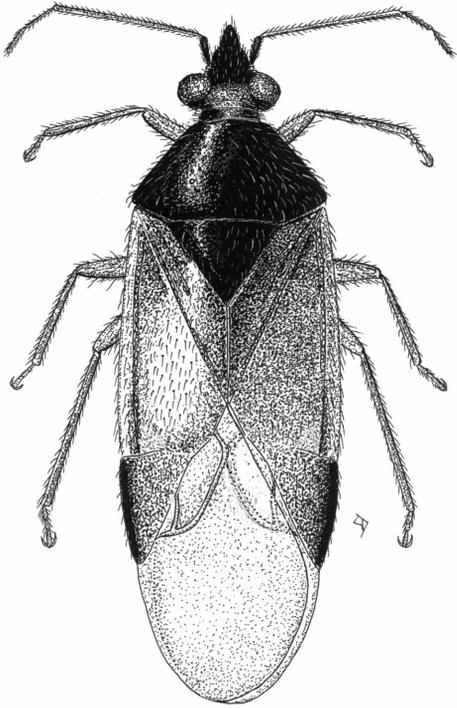


Fig. 15. *Eurychilopteryella pacifica*, dorsal habitus of male.

8.VIII.1940, ex apple tree, A. M. Woodside (USNM); 1 male, female, Falls Church, 20 June (AMNH, Banks Collection). **West Virginia:** Jefferson Co.: 1 female, Ranson, 23.VI.1942 (USNM).

Eurychilopteryella pacifica Stonedahl,
new species

Figures 11–13, 15, 22–24, 28

DIAGNOSIS: Brown to dark brown general coloration, with head, pronotum, and scutellum usually slightly darker than hemelytra (fig. 15); head with weakly carinate postero-dorsal margin (fig. 11); antennal segment II uniformly yellowish brown; labium of male reaching to 5th or 6th abdominal segment.

DESCRIPTION: *Male* (n = 5). Length 4.18–5.24; greatest width across hemelytra 1.52–1.82; brown to dark brown general coloration with head, pronotum, and scutellum usually slightly darker than hemelytra; dorsal surface shiny, with moderately long, suberect, golden, simple setae. **Head:** Length 0.66–0.76; width across eyes 0.67–0.83; width of vertex

0.30–0.35; shiny, smooth, dark fuscous to nearly black; apex of tylus and vertex bordering inner posterior angles of eyes sometimes paler brown; posterodorsal margin weakly but distinctly carinate; eyes slightly removed from posterior margin of head, ventral margin of eye slightly below level of gula; antennal fossa removed from anterior margin of eye by distance equal to about two-thirds the diameter of antennal segment I, ventral margin of fossa slightly above ventral margin of eye. **Antennae:** I, length 0.22–0.29, dark brown, sometimes slightly paler apically; II, length 1.04–1.28, linear, yellowish brown; III and IV, brown or dark brown, diameter about half that of segment II. **Labium:** Length 2.15–2.74; reaching to 5th or 6th abdominal segment; segment I reaching to near posterior margin of head. **Thorax:** Posterior width of pronotum 1.24–1.51; pronotal collar brown or dark brown, dorsomedial thickness slightly greater than diameter of antennal segment I, narrower laterally; calli smooth, weakly elevated, confluent anteromedially, shiny fuscous; pronotal disk coarsely punctate, dark brown, lateral margins weakly carinate; propleuron uniformly dark brown to fuscous; other pleural and sternal regions mostly fuscous, except peritreme and evaporative area of metathoracic scent efferent system sometimes slightly paler; peritreme broadened distally, broadly overlapped basally by anterior margin of evaporative area; scutellum moderately elevated, with fine transverse wrinkles especially anteriorly. **Hemelytra:** Brown to dark brown; cuneus and posterior third to half of corium usually darker than clavus and anterior half of corium; surface weakly rugulose, shiny; punctation as described for *E. barberi*; membrane lightly tinged with fuscous, more so distally, veins brown, darker apically. **Legs:** Yellowish brown; femora distally and basal half of tibiae sometimes darker brown. **Genitalia:** Figures 22–24.

Female (n = 5): Similar to male in general appearance, except slightly shorter and more ovate, and head with slightly broader vertex and shorter second antennal segment. Length 4.02–4.56; greatest width across hemelytra 1.41–1.74. **Head:** Length 0.72–0.78; width across eyes 0.68–0.77; width of vertex 0.36–0.40. **Antennae:** I, length 0.22–0.27; II,

length 0.80–1.08, slightly thicker on apical fifth. **Labium:** Length 2.33–2.41, reaching to base of ovipositor. **Thorax:** Posterior width of pronotum 1.23–1.46.

ETYMOLOGY: Named for its occurrence in the Pacific Northwest.

DISTRIBUTION: Widely distributed in the Cascade and Sierra Nevada mountain ranges of Oregon and northern California. Not yet recorded from the state of Washington, but a single male has been collected in Kelowna, British Columbia, Canada.

DISCUSSION: Like *E. luridula*, this species seems to prefer woody host plants, and is very likely a bark-inhabiting predator of aphids, scale insects and other small, soft-bodied prey. The structure of the peritreme of the metathoracic scent efferent system is somewhat variable in this species, being more broadly expanded and rounded distally in some specimens than in others. However, the peritreme is never as narrow as it is in the closely related species *E. keltoni* and the anterior margin of the evaporative area overlaps the base of the peritreme more broadly in *E. pacifica* (compare figs. 28 and 29).

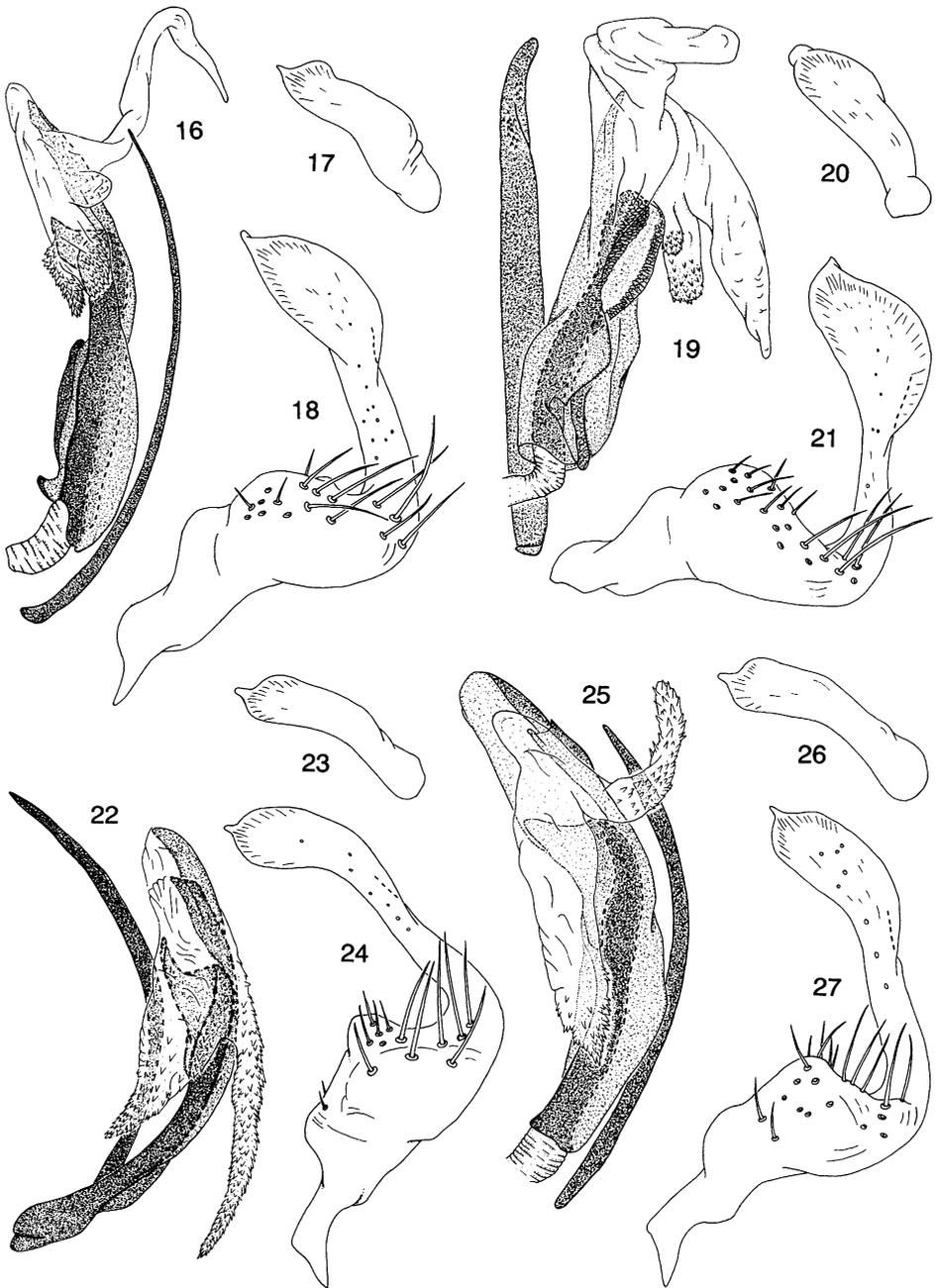
TYPES: Holotype male. USA, California, Shasta Co., 6.5 mi E jct. Rts. 89 and 299, 938 m, 9.VII.1980, ex *Quercus* sp., R. T. Schuh and G. M. Stonedahl (AMNH). Paratypes. CANADA. **British Columbia:** 1 male, Kelowna, 7.VII.1975, ex apple, L. A. Kelton (CNC). USA. **California:** Calaveras Co.: 1 male, 4.8 km S West Point, 21.VII.1980, Stanley and Williams (CAS). El Dorado Co.: 1 female, U. C. Blodgett Forest, 8 mi E Georgetown, 4.X.1966, C. O. Dudley (UCB). Plumas Co.: 1 male, Johnsville, 2.IX.1967, light trap, Helena Pini (OSU). Shasta Co.: 1 female, same data as holotype (AMNH); 1 male, 1 mi S jct. Hwys. 89 and 299, 3100 ft, 9.VII.1980, G. Stonedahl (AMNH); 1 female, 6.5 mi E jct. Hwys. 89 and 299, 3000 ft, 9.VII.1980, ex *Cercocarpus ledifolius*, G. Stonedahl (JTP). Siskiyou Co.: 1 male (CAS, Koebele Collection). **Oregon:** Deschutes Co.: 1 female, Three Creeks Meadow, 25.IX.1976, JoAnne Lattin (OSU). Jackson Co.: 1 male, Medford, 28.VIII.1969, black light trap, Gentner and Goeden (OSU); 1 male, Medford, Cherry Lane, 17.VII.1980, ex pear tree, L. Gut (OSU). Klamath Co.: 1 female, 4 mi W Keno, 4250 ft, 29.VII.1986,

ex *Abies concolor*, R. T. Schuh (AMNH). Lane Co.: 1 female, Blue River, H. J. Andrews Exp. Forest, 27.VII.1972, ex *Pseudotsuga menziesii*, W. Nagel (OSU); 1 male, 3 females, H. J. Andrews Exp. Forest, T15S R5E Sec. 28 and 31, 1976–1978, ex canopy of mature *Pseudotsuga menziesii* stand, D. J. Voegtlin (OSU). Union Co.: 1 female, Wallowa-Whitman Nat. For., T6S R34E Sec. 29, 25.VII.1981, ex *Ceanothus velutinus*, G. Stonedahl (OSU). Wallowa Co.: 1 female, Wallowa-Whitman Nat. For., Hurricane Crk. Rd., T23N R44E Sec. 3, 20.VIII.1979, ex *Abies grandis*, M. D. Schwartz (OSU).

Eurychlopterella polhemusi Stonedahl,
new species
Figures 25–27

DIAGNOSIS: Distinguished from other members of the genus by the uniform dark brown general coloration, rugulose dorsal surface of the head, short second antennal segment, long labium, and structure of the male genitalia (figs. 25–27).

DESCRIPTION: *Male* (n = 2). Length 4.40–4.56; greatest width across hemelytra 1.67–1.71; dark brown general coloration; dorsum with moderately long, suberect, pale, simple setae. **Head:** Length 0.65–0.68; width across eyes 0.70–0.71; width of vertex 0.33–0.34; medium brown, frons slightly darker; dorsal surface rugulose; posterodorsal margin weakly carinate; eyes slightly removed from posterior margin of head, ventral margin of eye slightly below level of gula; antennal fossa removed from anterior margin of eye by distance slightly less than diameter of antennal segment I, ventral margin of fossa only marginally above ventral margin of eye. **Antennae:** I, length 0.22, brown or dark yellowish brown; II, length 0.88–0.91, linear, similar in thickness to segment I, brown or dark brown; III and IV, brown or dark brown. **Labium:** Length 2.77–2.84; reaching onto genital capsule, segment I reaching to posterior margin of head. **Thorax:** Posterior width of pronotum 1.42–1.50; pronotal collar yellowish brown to dark brown, dorsal thickness about equal to diameter of antennal segment I; calli weakly elevated, confluent anteromedially, shiny fuscous to nearly black; pronotal disk yellowish brown to dark



Figs. 16–27. Male genitalia of *Eurychilopterella* species. 16–18. *E. brunneata*. 16. Lateral view of vesica. 17. Right paramere. 18. Left paramere. 19–21. *E. luridula*. 19. Anterior view of vesica. 20. Right paramere. 21. Left paramere. 22–24. *E. pacifica*. 22. Lateral view of vesica. 23. Right paramere. 24. Left paramere. 25–27. *E. polhemusi*. 25. Lateral view of vesica. 26. Right paramere. 27. Left paramere.

brown, coarsely punctate, lateral margins weakly carinate; propleuron yellowish brown to dark brown; other pleural and sternal regions mostly brown or dark brown, except peritreme and evaporative area of metathoracic scent efferent system dirty white or pale yellow in paler specimens; scutellum weakly elevated, with fine transverse wrinkles, uniformly fuscous or sometimes with apex narrowly yellowish brown. **Hemelytra:** Dark brown; surface moderately rugulose, shiny; punctation as described for *E. barberi*; membrane tinged with brown, veins darker brown. **Legs:** Yellowish brown. **Genitalia:** Figures 25–27.

Female (n = 4): Similar to male in general appearance, except head noticeably longer with slightly broader vertex, and second antennal segment shorter and slightly thicker distally. Length 4.26–4.48; greatest width across hemelytra 1.68–1.79. **Head:** Length 0.73–0.80; width across eyes 0.69–0.73; width of vertex 0.37–0.40. **Antennae:** I, length 0.22–0.23; II, length 0.77–0.83, distal fourth slightly thicker than remainder of segment. **Labium:** Length 3.17–3.24, reaching well onto 9th abdominal sternite, sometimes nearly to apex of abdomen. **Thorax:** Posterior width of pronotum 1.40–1.44.

ETYMOLOGY: Named for John T. Polhemus, a friend and colleague, and the collector of this and many other new species of Miridae in the western United States.

DISTRIBUTION: Known only from the type series collected in Montrose Co., Colorado.

TYPES: Holotype male. USA, Colorado, Montrose Co., 13 mi SW Montrose, 7700 ft, 3.IX.1987, ex pinion pine, J. T. Polhemus (USNM). Paratypes. 1 male, 6 females, same data as holotype (AMNH, JTP).

***Eurychiloptera keltoni* Stonedahl,**

new species

Figures 29–32

DIAGNOSIS: Similar to *E. pacifica*, but distinguished by the more uniform dorsal coloration, longer labium, narrower peritreme of metathoracic scent efferent system with anterior margin of evaporative area only narrowly overlapping base of peritreme (fig. 29), and structure of the male genitalia (figs. 30–32).

DESCRIPTION: *Male* (n = 2). Length 3.68–3.90; greatest width across hemelytra 1.35–1.38; dark brown general coloration; dorsal surface shiny, with moderately long, suberect, golden to brown, simple setae. **Head:** Length 0.65–0.66; width across eyes 0.64–0.66; width of vertex 0.31–0.32; shiny, dark brown, frons darker fuscous; posterodorsal margin weakly but distinctly carinate; eyes and antennal fossae as described for *E. pacifica*. **Antennae:** Color and structure as described for *E. pacifica*; length of segment I, 0.22–0.23, II, 0.95–1.02. **Labium:** Length 2.34–2.48; reaching to 8th or 9th abdominal segment; segment I reaching to anterior margin of prosternal xyphus. **Thorax:** As described for *E. pacifica* except peritreme of metathoracic scent efferent system narrower and less broadly overlapped basally; posterior width of pronotum 1.17–1.22. **Hemelytra:** Uniformly dark brown; surface weakly rugulose, shiny; punctation as described for *E. barberi*; membrane lightly suffused with fuscous, veins brown. **Legs:** Yellowish brown, femora sometimes slightly darker distally. **Genitalia:** Figures 30–32.

Female (n = 5): Similar to male, except slightly larger and more ovate, and head slightly longer and with broader vertex. Length 4.05–4.38; greatest width across hemelytra 1.50–1.71. **Head:** Length 0.74–0.79; width across eyes 0.69–0.71; width of vertex 0.35–0.36. **Antennae:** I, length 0.20–0.25; II, length 0.84–1.06, slightly thicker apically. **Labium:** Length 2.55–2.70, reaching to 7th or 8th abdominal segment. **Thorax:** Posterior width of pronotum 1.26–1.39.

ETYMOLOGY: Named for Leonard A. Kelton, author of numerous research publications on North American Heteroptera, included many fine treatments of the Canadian fauna.

DISTRIBUTION: Intermountain Region from south Idaho to southeastern Arizona and western New Mexico.

DISCUSSION: A single specimen of this species has been collected on *Juniperus monosperma*.

TYPES: Holotype male. USA, New Mexico, Socorro Co., Cibola Nat. For., Magdalena, 21.VIII.1972, L. A. Kelton (CNC). Paratypes. USA. **Arizona:** Cochise Co.: 1 female, 5 mi W Portal, 5400 ft, 28.VI.1955,

M. Statham (AMNH). **Colorado:** 2 females, Roosevelt Nat. For., Mt. Park, 6600 ft, 6.VIII.1968, L. A. Kelton (CNC). **Idaho:** Power Co.: 1 female, American Falls, 5.VIII.1972, L. A. Kelton (CNC). **New Mexico:** Sandoval Co.: 1 female, Tunnel Springs, 19.IX.1983, ex *Juniperus monosperma*, N. Cobb (OSU). Sorocco Co.: 1 male, same data as for holotype (CNC).

Eurychilopteryella chiapas Stonedahl,
new species

DIAGNOSIS: Similar to *E. barberi* in general appearance, but distinguished by the smaller overall size, flattened frons, broader pronotal collar, weakly concave lateral margins of the pronotum, and uniformly fuscous distal half of clavus.

DESCRIPTION: *Holotype female.* Length 3.17; greatest width across hemelytra 1.24; dark brown and creamy white general coloration; dorsum with pale, suberect, simple setae of length equal to or slightly greater than diameter of hind tibiae. **Head:** Length 0.62; width across eyes 0.59; width of vertex 0.31; dark brown, slightly paler dorsally; dorsal surface smooth, shiny; posterodorsal margin not noticeably carinate; eyes weakly removed from posterior margin of head in dorsal view; frons and vertex nearly flat in lateral view; antennal fossae removed from anterior margin of eye by distance equal to diameter of hind tibiae, ventral margin of fossa slightly above ventral margin of eye in lateral view. **Antennae:** Missing. **Labium:** Length 2.19, reaching to 7th abdominal segment; segment I reaching to near middle of eye; yellowish brown, segment I dark brown. **Thorax:** Posterior width of pronotum 1.00; pronotal collar creamy white, weakly punctate, median width nearly twice diameter of metatibia, strongly narrowed laterally; calli weakly defined, narrow, shiny fuscous; pronotal disk coarsely punctate, shiny fuscous, posterior angles broadly pale, posterior margin narrowly pale; lateral margins of disk weakly carinate along entire length, very slightly concave medially; propleuron punctate, dark fuscous, slightly paler distally; remaining pleural and sternal regions including metathoracic scent efferent system dark brown to fuscous; scutellum weakly elevat-

ed, shiny fuscous, finely transversely wrinkled. **Hemelytra:** Clavus and corium weakly rugulose; rows of punctures as described for *E. barberi*; clavus creamy white basally, distal half dark brown; most of corium and outer half of cuneus grayish white, some areas tinged with yellowish brown; inner distal third of corium and most of area between median flexion line and R + M vein strongly suffused with fuscous; inner half of cuneus dark brown; membrane with faint brown tinge, veins brown. **Legs:** Pale yellowish brown.

Male: Unknown.

ETYMOLOGY: Named for its occurrence in the state of Chiapas.

DISTRIBUTION: Chiapas, Mexico.

DISCUSSION: Like *E. barberi* this species is known only from the female. The two species are readily distinguished by characters provided in the preceding key and diagnoses.

TYPE: Holotype female. MEXICO, Chiapas, Jct. Hwys. 190/195, 6.VI.1969, H. F. Howden (CNC).

Eurychilopteryella jalisco Stonedahl,
new species

DIAGNOSIS: Distinguished from other species of the genus by the following combination of characters: dorsal surface of head smooth, shiny; antennal segment II yellowish brown basally, distal third dark brown; pronotal disk yellowish brown laterally and along posterior margin; calli and middle of pronotal disk dark brown to fuscous; scutellum and clavus uniformly dark brown.

DESCRIPTION: *Holotype female.* Length 4.78; greatest width across hemelytra 2.19; medium brown general coloration; dorsal surface shiny, with dense covering of semi-erect, golden, simple setae of length 1.5–2.0 times the diameter of antennal segment I. **Head:** Length 0.88; width across eyes 0.79; width of vertex 0.47; pale yellowish brown, dorsal surface smooth, shiny; posterodorsal margin not noticeably carinate; eyes narrowly removed from posterior margin; antennal fossa narrowly removed from anterior margin of eye, ventral margin of fossa slightly above ventral margin of eye in lateral view. **Antennae:** I, length 0.29, yellowish brown; II, length 1.21, yellowish brown basally, dis-

tal third dark brown; III and IV, brown, each slightly longer than segment I. **Labium:** Length 3.28, yellowish brown, reaching to 9th abdominal segment, segment I reaching to posteroventral margin of head. **Thorax:** Posterior width of pronotum 1.93; pronotal collar pale yellowish brown, broadest medially where it is about 1.5 times the diameter of antennal segment I, strongly narrowed laterally; calli smooth, shiny, fuscous, weakly elevated, confluent medially, not reaching lateral margins of disk; pronotal disk coarsely punctate, broadly yellowish brown laterally and more narrowly along posterior margin, dark brown medially behind calli; lateral margins of disk weakly convex, carinate; propleuron punctate, yellowish brown; other pleural and sternal regions yellowish brown to dark brown; scutellum weakly elevated, with fine transverse wrinkles, fuscous, apex narrowly yellow. **Hemelytra:** Clavus and corium dark brown, rugulose, rows of punctures as described for *E. barberi*, except most of anal vein punctate; apex of clavus narrowly pale; embolium yellowish brown; cuneus slightly longer than broad, dark yellowish brown; membrane moderately suffused with fuscous, veins brown. **Legs:** Pale yellowish brown.

Male: Unknown.

ETYMOLOGY: Named for its occurrence in the state of Jalisco.

DISTRIBUTION: Jalisco, Mexico.

DISCUSSION: *E. jalisco* is readily distinguished from other species of the genus by the coloration of the antennae, scutellum, pronotum, and hemelytra. The host plant association is not known.

TYPE: Holotype female. MEXICO, Jalisco, 12 mi S Mazamitla, 5.XII.1948, H. B. Leech (USNM, Carvalho Collection).

Eurychilopterylla tlaxacala Stonedahl,

new species

Figures 33–35

DIAGNOSIS: Similar to *E. brunneata* in color and external morphology, but distinguished by the narrower head, with less prominent eyes that are slightly further removed from the anterior margin of the pronotum; shorter, less erect setae on the pro-

notal disk; and structure of the male genitalia (figs. 33–35).

DESCRIPTION: *Holotype male.* Length 4.71; greatest width across hemelytra 1.89; dark fuscous general coloration; dorsum with dark simple setae of length equal to or slightly greater than diameter of antennal segment I. **Head:** Length 0.78; width across eyes 0.74; width of vertex 0.38; yellowish brown, vertex dark brown, becoming fuscous apically; dorsal surface finely granulate; posterodorsal margin not noticeably carinate; eyes removed from posterior margin by distance about equal to diameter of antennal segment I; antennal fossa removed from anterior margin of eye by distance equal to half diameter of antennal segment I, ventral margin of fossa slightly above ventral margin of eye in lateral view. **Antennae:** I, yellowish brown, darker apically, length 0.29; II, weakly bowed, dark brown, length 1.15; III and IV missing. **Labium:** Length 3.32, reaching nearly to apex of abdomen, brown; distal part of segment III and segment IV subsequently lost. **Thorax:** Posterior width of pronotum 1.70; pronotal collar yellowish brown, median width about 1.5 times diameter of antennal segment I; calli and pronotal disk dark fuscous to nearly black; calli poorly defined, finely granulate; pronotal disk coarsely punctate, lateral margins weakly convex, posterior margin nearly straight; propleuron fuscous, punctate; remaining pleural and sternal regions fuscous; scutellum weakly elevated, nearly black, weakly transversely wrinkled. **Hemelytra:** Uniformly dark brown, shiny, rugulose; rows of punctures as described for *E. barberi*; membrane strongly infuscated, veins darkened. **Legs:** Femora yellowish brown, darker brown apically; tibiae and tarsi medium to dark brown. **Genitalia:** Figures 33–35.

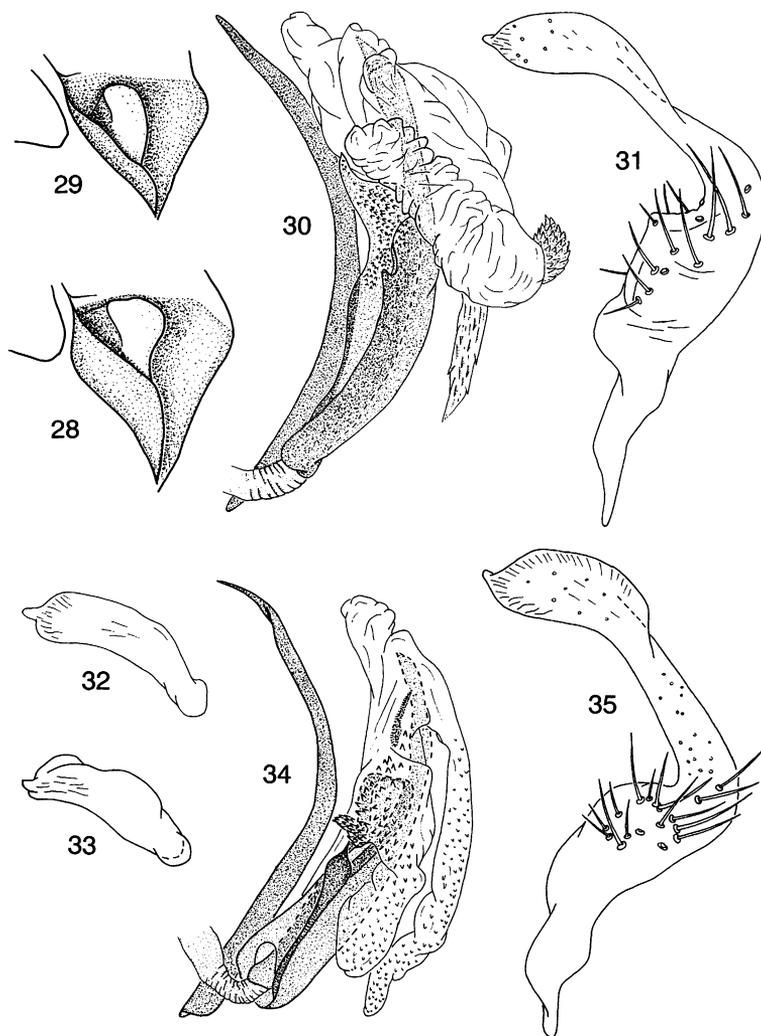
Female: Unknown.

ETYMOLOGY: Named for its occurrence in the state of Tlaxacala.

DISTRIBUTION: Tlaxacala, Mexico.

DISCUSSION: The only known specimen of *E. tlaxacala* was collected in a pine forest near the village of Apizaco, suggesting *Pinus* as a likely host plant of this insect.

TYPE: Holotype male. MEXICO, Tlaxacala, Pine forest, 2 mi SE Apizaco,



Figs. 28–35. *Eurychlopterella* species. 28. Metathoracic scent efferent system of *E. pacifica*. 29–32. *E. keltoni*. 29. Metathoracic scent efferent system. 30. Lateral view of vesica. 31. Left paramere. 32. Right paramere. 33–35. *E. tlaxacala*. 33. Right paramere. 34. Lateral view of vesica. 35. Left paramere.

22.VI.1982, R. S. Miller (TA&M, donated to AMNH).

Species removed from
the genus *Eurychlopterella*

Eurychlopterella acutifrons Carvalho (1948) was described from two male specimens collected at Valparaiso, Chile. We have examined the holotype and numerous other specimens from Chile and found that this species is not congeneric with the type of the

genus, *E. luridula*. Externally, *E. acutifrons* bears a strong superficial resemblance to other species of *Eurychlopterella*, particularly with regard to the elongate, pointed head. However, this species lacks all of the major defining characters of the genus, including the broadly concave gular region with transverse striations and prominent lateral carinae, the rows of punctures along the hemelytral veins, and the strongly elevated, smooth peritreme of the metathoracic scent efferent system (the peritreme of *E. acutifrons* is tex-

tured). The male genital structures of *E. acutifrons* also support the removal of this species from the genus: apex of left paramere not noticeably expanded or dorsoventrally flattened; distal half of right paramere strongly narrowed; vesica lacking well-developed membranous lobes apically.

We are not familiar enough with South American Deraeocorinae to be certain of the correct placement of *E. acutifrons* and therefore are here assigning this species the status of incertae sedis pending a more detailed review of Central and South American taxa (Stonedahl and Hernández, in prep.).

Hesperophylum Reuter and Poppius

Figure 36

Hesperophylum Reuter and Poppius, 1912: 3 (key), 16, 17 (n. gen.). – Van Duzee, 1916: 35 (list), 1917: 297 (cat.). – Parshley, 1923: 665 (diag.). – Blatchley, 1926: 659 (descr.). – Knight, 1941: 64 (key). – Froeschner, 1949: 128 (key). – Carvalho, 1952: 50 (cat.), 1955: 22 (key), 1957: 35 (cat.). – Knight, 1968: 79 (key). – Henry and Wheeler, 1988: 290 (cat.). – Cassis, 1995: 318 (tribal placement). – Schuh, 1995: 657 (cat.).

TYPE SPECIES: *Hesperophylum heidemanni* Reuter and Poppius, 1912, by monotypy.

DIAGNOSIS: Recognized by small body size; greatly enlarged second antennal segment; lateral margin of corium weakly concave medially; ventral margin of propleuron and anterior margin of the prosternal xyphus shiny ivory; flat or weakly rounded pronotal collar; stout, bristlelike setae on hind legs; and hemelytra strongly deflexed at cuneal fracture.

DISCUSSION: This genus comprises two little-known species, *H. heidemanni* from the eastern United States and *H. arizonae* from Arizona and northern Mexico. Both species have been collected on oak but little else is known of their habits. Wheeler (1991) reported *H. heidemanni* from branches of post oak, *Quercus stellata*, and suggested a bark-dwelling, predaceous habit for this species. He also suggested that parthenogenetic reproduction may be the reason for the apparent absence of males, the sparse populations, and the lack of diversification of the genus.

Hesperophylum was described by Reuter and Poppius (1912) and placed in the Teratophylidae. The genus was transferred to

the mirid subfamily Deraeocorinae by Knight (1941) and later placed in the deraeocorine tribe Teratophylini by Carvalho (1952). In a detailed review of the Teratophylini, Cassis (1995) transferred *Hesperophylum* to the tribe Deraeocorini, a placement with which we are in agreement (see Introduction).

Hesperophylum arizonae Knight

Figure 36

Hesperophylum arizonae Knight, 1968: 80 (n. sp.). – Henry and Wheeler, 1988: 290 (cat.). – Wheeler, 1991: 636–640 (note, dist.). – Schuh, 1995: 657 (cat.).

DIAGNOSIS: Recognized by its relatively small size, weakly rounded pronotal collar with distinct posterior stricture, finely punctate pronotal disc, and ivory white scutellum (fig. 36).

DESCRIPTION: *Female* (n = 3). Length 2.81–3.14; greatest width across hemelytra 1.07–1.15; dark brown to fuscous general coloration with strongly contrasting ivory white scutellum; dorsum with moderately dense covering of long, suberect, pale setae; setae on scutellum and hemelytra mostly longer than those on head and pronotum, length of setae up to 1.5 times the diameter of antennal segment I. **Head:** Length 0.58–0.62; width across eyes 0.52–0.56; width of vertex 0.26–0.27; brown to dark fuscous; elongate, conical, strongly produced anterior to antennal fossae; frons and tylus nearly linear; gular region broadly concave, transversely striate, bordered by prominent carina laterally which reaches nearly to posterior margin of head; dorsal surface finely granulate; vertex and frons sloping strongly downward laterally; posterodorsal margin not noticeably carinate; eyes in lateral view set below level of vertex, removed from anterior margin of pronotum by distance about equal to diameter of antennal segment I; ventral margin of eye level with gular carina; head posterior to eyes weakly inflated; antennal fossae removed from anterior margin of eye by distance equal to about half the diameter of antennal segment I, ventral margin of fossa level with ventral margin of eye. **Antennae:** I, length 0.15–0.16, cylindrical, tapered basally, brown to dark brown; II, length 0.94–1.05, greatly enlarged, strongly flat-

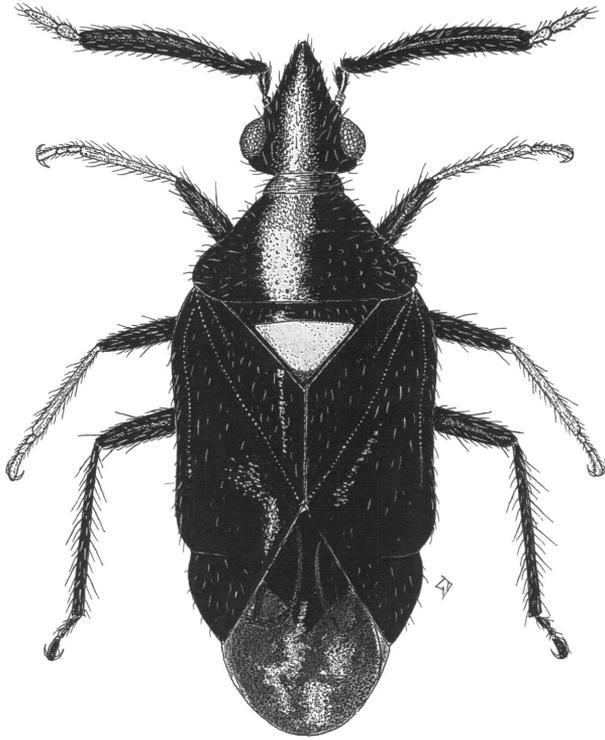


Fig. 36. *Hesperophylum arizonae*, dorsal habitus of female.

tened laterally, dark fuscous; III and IV, narrowly fusiform, about half as thick as segment I, pale yellow. **Labium:** Length 1.68–1.80, reaching to base of ovipositor, segment I reaching to middle of eye or slightly beyond. **Thorax:** Posterior width of pronotum 0.98–1.07; pronotum including collar dark brown or fuscous; collar weakly rounded dorsally, rugulose, about as thick as diameter of antennal segment I, with shallow posterior stricture; calli weakly developed, not noticeably elevated, poorly demarcated medially and posteriorly, surface finely granulate; posterior lobe of pronotal disk shallowly punctate, rising gradually from and weakly elevated above level of calli; lateral margins of pronotum weakly rounded; proepimeron dark brownish yellow basally, sometimes lightly tinged with red; apical third of proepimeron, broad ventral margin of proepisternum, and anterior margin of prosternal xyphus shiny ivory white; other pleural and sternal regions brown to dark brown; scutellum weakly elevated, smooth, ivory white, apex narrowly fuscous; metathoracic scent efferent system

with textured, strongly protruding peritreme. **Hemelytra:** Smooth, shiny, dark brown to fuscous, strongly deflexed at cuneal fracture, with single row of punctures along anterior fourth of anal vein, outer margin of clavus, and anterior two-thirds of R + M vein; embolium about as thick as diameter of antennal segment I, outer margin weakly concave medially; embolium and corium very weakly elevated posteriorly; cuneal incisure deep; cuneus slightly longer than broad, with strongly rounded outer margin; membrane suffused with fuscous, veins somewhat obscure. **Legs:** Femora dark brown to fuscous; front and middle tibiae yellowish brown, narrowly darkened basally; hind tibiae dark brown to fuscous; tarsi brown or dark brown, segment I slightly longer than segment II, segment III about twice as long as segment II; pretarsal claws enlarged basally but not noticeably cleft; all legs with long, pale, suberect, bristlelike setae, especially on hind tibiae and distal half of hind femora.

Male (n = 1): Similar to female in color and structure, except head slightly longer and

anterior margin of pronotal collar upturned and ridgelike. This specimen is badly damaged having the hemelytra, abdomen, most of the legs, and all but the first antennal segments missing. However, the intact head and thorax provide for positive identification of the species and allow for comparison with female structures. Available measurements are as follows—**Head:** Length 0.73; width across eyes 0.53; width of vertex 0.29. **Antennae:** I, length 0.18; II–IV, missing. **Labium:** Length 1.86, reaching slightly beyond apices of metacoxae. **Thorax:** Posterior width of pronotum 0.99.

DISTRIBUTION: Arizona and Mexico.

DISCUSSION: This species was described from a single female collected in the Atasco Mts., Arizona, 18.VIII.1937, H. M. Harris (holotype, USNM). Four additional specimens are known (see data below). The specimen collected in the Huachuca Mts., Arizona was overlooked by Knight (1968) in his description of the species, even though he mentioned it in his 1941 treatment of *H. heidemanni*. The specimen collected in Durango, Mexico, was taken on *Quercus* sp. (Wheeler, 1991). The specimen collected in Oaxaca, Mexico, is the only known male of the genus.

SPECIMENS EXAMINED: USA. **Arizona:** Cochise Co.: 1 female, Huachuca Mts. (USNM). **MEXICO. Chihuahua:** 1 female, Majalca Rd., 35 mi NW Chihuahua, 6000 ft, 14–17.IV.1961, Howden and Martin (CNC). **Durango:** 1 female, 12.5 km N Michilia Fld. Stn., 42 km S Suchil, 2265 m, 15.IV.1985, R. T. Schuh and B. M. Massie (AMNH). **Oaxaca:** 1 male, Llano Verde, 24.VIII.1969, L. A. Kelton (CNC).

Hesperophylum heidemanni
Reuter and Poppius

Hesperophylum heidemanni Reuter and Poppius, 1912: 17 (n. sp.). – Van Duzee, 1916: 35 (list), 1917: 297 (cat.). – Parshley, 1923: 665 (descr.). – Blatchley, 1926: 659, 660 (descr.). – Knight, 1941: 19 (fig.), 74 (note). – Froeschner, 1949: 166 (note). – Carvalho, 1957: 35 (cat.). – Knight, 1968: 80 (note). – Henry and Wheeler, 1988: 290 (cat., note). – Wheeler, 1991: 636–640 (dist., biol.). – Schuh, 1995: 657 (cat.).

DIAGNOSIS: Similar to *H. arizonae* in color and general structure, but distinguished by

the larger size, flattened pronotal collar with weak posterior stricture, coarser punctures on the posterior lobe of the pronotal disk, and uniformly dark reddish brown to fuscous scutellum.

DESCRIPTION: *Female* (n = 5). Length 3.46–3.72; greatest width across hemelytra 1.31–1.36; general coloration and dorsal vestiture as described for *H. arizonae*, except scutellum uniformly dark brown to fuscous. **Head:** Structure and color as described for *H. arizonae*, except slightly longer and broader, with antennal fossa removed from anterior margin of eye by distance nearly equal to diameter of antennal segment I; length 0.70–0.71; width across eyes 0.59–0.62; width of vertex 0.30–0.31. **Antennae:** Color and structure as described for *H. arizonae*; I, length 0.17–0.18; II, length 1.02–1.04. **Labium:** Length 1.93–2.08, reaching to apices of metacoxae or slightly beyond, segment I reaching to middle of eye. **Thorax:** Posterior width of pronotum 1.12–1.13; color and structure as described for *H. arizonae*, except pronotal collar flattened and with weaker posterior stricture, posterior lobe of pronotal disk more coarsely punctate, lateral margins of pronotal disk weakly angulate anteriorly, and scutellum uniformly dark brown to fuscous. **Hemelytra:** As described for *H. arizonae*. **Legs:** As described for *H. arizonae*.

Male: Unknown.

DISTRIBUTION: Alabama, Iowa, Maryland, North Carolina and the District of Columbia.

DISCUSSION: This species was described from a single female collection on Mt. Washington in New Hampshire. Reuter and Poppius (1912) indicated that the type was to be deposited in “Mus. Wash.” (= USNM), but Blatchley (1926) stated that it was deposited in the Heidemann Collection at Cornell University. As discovered by Wheeler (1991), the type was not deposited at either of these institutions, or at other likely depositories of Heidemann and Reuter types, such as the Zoological Museum, University of Helsinki.

Hesperophylum heidemanni has been collected on *Quercus stellata* at several locations in the eastern United States and is suspected by Wheeler (1991) to be a bark-inhabiting predator. The distribution and habits

of *H. heidemanni* have been discussed in some detail by Wheeler (1991), who suggested obligate parthenogenesis as one possible explanation for the relative rarity of this bug and the absence of males in all known collections. However, our documentation of a male of *H. arizonae* makes it much more plausible that males of *H. heidemanni* exist but have simply not yet been collected.

SPECIMENS EXAMINED: USA. **District of Columbia:** Washington: 1 female, 18.VII, Collection O. Heidemann (USNM, Knight Collection); 1 female, 10.VI, (USNM, P. R. Uhler Collection); 1 female, National Arboretum, 7.VI.1982, ex *Quercus stellata*, T. J. Henry and A. G. Wheeler, Jr. (USNM). **Iowa:** Story Co.: 1 female, Ames, 26.VI.1931, H. H. Knight (USNM, Knight Collection). **Maryland:** Calvert Co.: 1 female, Battle Creek Cypress Swamp, 3.VIII.1987, A. and B. Norden and D. Williams (USNM).

Aterpocoris Carvalho and Becker

Figures 49–51

Aterpocoris Carvalho and Becker, 1957: 285–286 (n. gen.). – Schuh, 1995: 597 (cat.).

TYPE SPECIES: *Aterpocoris usingeri* Carvalho and Becker, 1957, by original designation.

DIAGNOSIS: Recognized by the weakly inflated posterodorsal margin of the head; strongly elevated, smooth scutellum; and small, rounded peritreme and well-developed evaporative area of metathoracic scent efferent system.

DESCRIPTION: *Male.* Macropterous; brown to dark brown general coloration; dorsal vestiture with erect, pale, simple setae; hemelytra also with recumbent, narrow, flattened, silvery setae mostly restricted to clavus and inner half of corium. **Head:** Horizontal, subconical, about as broad as long; dorsal surface finely roughened, slightly shiny, with broad depression bordering inner margin of eye; posterodorsal margin swollen, ecarinate; eyes narrowly removed from posterior margin of head in dorsal view; ventral margin of eye about level with gular surface in lateral view; antennal fossa nearly contiguous with anteroventral margin of eye, ventral margin of fossa level with ventral margin of eye;

bucculae narrow; buccal cavity ovate; gular ridge reaching to posteroventral margin of head. **Antennae:** Linear; I, compact, narrowed basally; II, about as thick as segment I; III and IV, about half again as long as segment I but noticeably thinner; all segments with pale, suberect, simple setae of length not exceeding diameter of segment; segments III and IV also with several longer, erect setae. **Labium:** Reaching well beyond apices of metacoxae; segment I reaching to posteroventral margin of head. **Thorax:** Pronotum trapeziform, about half again as broad as long, moderately convex, shiny, coarsely punctate posterior to calli; pronotal collar 1.5 times the diameter of antennal segment I, narrowed laterally; calli smooth, weakly defined, not reaching lateral margins of disk, separated posteromedially by pair of deep punctures; lateral margins of pronotum weakly carinate; propleuron coarsely punctate; mesoscutum narrowly exposed; scutellum smooth, strongly elevated, abruptly deflexed distally; metathoracic scent efferent system with small rounded peritreme and posterior half of evaporative area strongly produced dorsally. **Hemelytra:** Weakly sinuate laterally; surface shiny, very finely roughened; clavus with row of punctures along outer margin only; corium with row of deep punctures along basal two-thirds of R + M vein; embolium strongly flattened, about as thick as diameter of antennal segment II, obsolete distally where it rises to meet curvature of corium; cuneal incisure and fracture distinct; cuneus only slightly longer than broad, moderately deflexed; membrane with elongate primary cell and smaller, triangular secondary cell. **Legs:** Relatively short; femora weakly flattened, narrowed slightly to apex, with suberect pale setae, some nearly as long as width of femur; tibiae cylindrical, with suberect, long, pale setae and several rows of minute, dark spinules; tarsi with segment I slightly longer than segment II, and segment III about twice as long as segment II. **Genitalia:** *Left paramere.* Sensory lobe moderately produced; angle broadly curved; shaft much longer than arm, slightly expanded distally, strongly flattened dorsoventrally (fig. 49). *Right paramere.* Elongate with acute apex (fig. 50—after Carvalho and Becker, 1957). *Vesica.* Duc-

tus seminis heavily sclerotized, relatively short; secondary gonopore elongo-ovate with unmodified lip; basal process originating lateral to ductus seminis and running posterior to ductus to beyond level of secondary gonopore; membranous sac distad of gonopore well-developed, with weakly sclerotized ribbon forming its left margin (fig. 51).

Female: Macropterous; similar to male in structure and vestiture, except second antennal segment narrower and weakly swollen distally.

DISCUSSION: The genus *Aterpocoris* comprises two little known species from southern Mexico. Carvalho and Becker (1957) recognized the genus as belonging to the Deracorini and discussed its relationship to *Eurychilopterella*. *Aterpocoris* is easily distinguished from other genera of the *Eurychilopterella* complex by the inflated posterodorsal margin of the head, the strongly elevated, smooth scutellum, and the impunctate anal vein of the clavus. The flattened silvery setae on the hemelytra suggest a relationship with *Lestoniella*, but the elongate body form, very long labium, and small, strongly elevated peritreme of the metathoracic scent efferent system are more similar to those of *Conocephalocoris*. The peritreme of *Aterpocoris* is sculptured as in *Eurychilopteroides*, *Lestoniella*, and *Hesperophylum*, not smooth as in *Conocephalocoris* and *Eurychilopterella*.

Aterpocoris usingeri
Carvalho and Becker

Figures 49–51

Aterpocoris usingeri Carvalho and Becker, 1957: 286–288 (n. sp.). – Schuh, 1995: 597 (cat.).

DIAGNOSIS: Recognized by the dark fuscous head and pronotum; relatively short, simple setae on dorsal surface of body; and by the structure of the male vesica (fig. 51).

DESCRIPTION: *Male holotype*. Length 3.95; greatest width across hemelytra 1.22; dark brown general coloration; surface texture and vestiture as in generic description, with length of simple setae on dorsal surface of body not exceeding diameter of antennal segment I. **Head**: Length 0.62; width across eyes 0.70; width of vertex 0.35; Dark fuscous with yellowish brown spot medially on pos-

terodorsal margin; base of tylus paler brown. **Antennae**: I, brown, slightly paler ventrally, length 0.20; II, dark brown, length 1.00; III and IV, fuscous. **Labium**: Length 2.37; yellowish brown, segment I brown. **Thorax**: Posterior width of pronotum 1.14; pronotum and propleuron dark fuscous, collar slightly paler medially; scutellum dark fuscous with broad, creamy white stripe medially; remaining pleural and sternal regions fuscous, except posterior half of evaporative area of metathoracic scent efferent system dirty white. **Hemelytra**: Fuscous, with inner posterior region of corium and base of cuneus paler brown; membrane strongly suffused with fuscous, veins brown; abdomen dark fuscous. **Legs**: Yellowish brown; metatibiae and distal third of metafemora slightly darker. **Genitalia**: Figures 49–51.

Female: Allotype. Coloration as described for male; length 3.68; greatest width across hemelytra 1.32. **Head**: Length 0.69; width across eyes 0.66; width of vertex 0.36. **Antennae**: I, length 0.22; II, length 0.82, slightly swollen apically. **Labium**: Length 2.26, reaching to 7th abdominal segment. **Thorax**: Posterior width of pronotum 1.18.

DISTRIBUTION: Southern Mexico.

DISCUSSION: This species is known only from the type locality in Mexico. The host plant association is not known.

SPECIMENS EXAMINED: MEXICO. 1 male (holotype) and 1 female (allotype), Real de Arriba, Temescaltepec, 12.VII.1933, H. E. Hinton and R. L. Usinger (CAS).

Aterpocoris teopisca Stonedahl,
new species

DIAGNOSIS: Distinguished from *A. usingeri* by the larger body size; pale brown general coloration; and long, erect, simple setae on dorsum and legs, with those on head and pronotum much longer than diameter of antennal segment I.

DESCRIPTION: *Female holotype*. Length 4.48; greatest width across hemelytra 1.46; pale brown general coloration; surface texture and dorsal vestiture as in generic description, with simple setae on head and pronotum at least twice as long as diameter of antennal segment I. **Head**: Length 0.77; width across eyes 0.75; width of vertex 0.44;

brown, lightly tinged with red; slightly paler dorsally, especially along posterior margin. **Antennae:** I, brown, ventral surface yellowish brown, length 0.22; II, yellowish brown, apex dark brown, length 1.00; III and IV, dark brown. **Labium:** Length 2.79; yellowish brown, segment I brown. **Thorax:** Posterior width of pronotum 1.35; pronotal collar and calli brown, very lightly tinged with red; propleuron and pronotal disk uniformly pale brown; scutellum dark brown, with broad creamy white stripe medially; remaining pleural and sternal regions brown, except posterior half of evaporative area of metathoracic scent efferent system dirty white. **Hemelytra:** Pale brown; embolium and cuneus paler yellowish brown; membrane strongly suffused with fuscous basally, less so distally, veins darkened; abdomen yellowish brown, distal segments darker brown. **Legs:** Uniformly yellowish brown, hind pair very slightly darker than front and middle pairs.

Male: Unknown.

ETYMOLOGY: Named for the type locality, a noun in apposition.

DISTRIBUTION: Known only from the type locality in Chiapas, Mexico.

DISCUSSION: The unique female of this species is easily distinguished from the *A. usingeri* female by the characters given in the preceding diagnosis. The host plant association is not known.

TYPE: Holotype female. MEXICO, Chiapas, 16 mi E Teopisca, 14.V.1969, J. M. Campbell (CNC).

Eurychlopteroides Stonedahl, new genus

Figures 37–42, 52–54

TYPE SPECIES: *Eurychlopteroides mexicanus* Stonedahl, new species, here designated.

DIAGNOSIS: Similar to *Eurychlopterella* in general appearance but distinguished by the more flattened dorsal surface of the head with broad transverse depression bordering eyes (fig. 37); narrow, textured peritreme of metathoracic scent efferent system (fig. 41); and vesica of male genitalia extensively membranous and lacking a sclerotized process arising posterior to the ductus seminis (fig. 54).

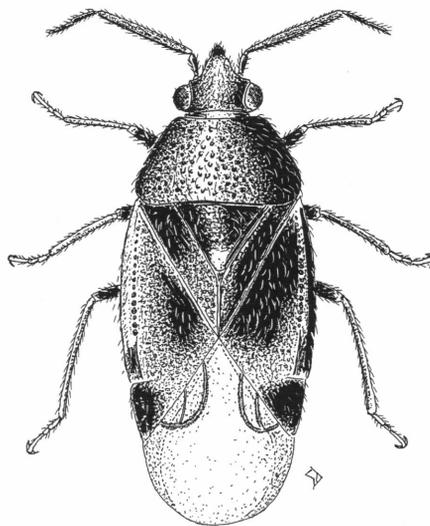


Fig. 37. *Eurychlopteroides mexicanus*, dorsal habitus of male.

DESCRIPTION: *Male.* Length 3.57–4.03; brown to dark brown general coloration; dorsal vestiture with semireclining, narrow, flattened, pale setae (fig. 40), length of dorsal setae about equal to diameter of antennal segment I. **Head:** Horizontal, subconical, about a third again as broad as long; dorsal surface weakly roughened, granulate, gradually and evenly declivous from base to apex of tylus, with broad depression bordering inner margin of eye; posterodorsal margin carinate; eyes narrowly removed from posterior margin in dorsal view; ventral margin of eye level with gular surface in lateral view; antennal fossa nearly contiguous with anterior margin of eye, ventral margin of fossa level with ventral margin of eye; bucculae narrow; buccal cavity subovate; gular region broadly depressed and transversely striate; gular ridge reaching slightly posterior to anterior margin of eye. **Antennae:** I, compact, narrowed basally; II, linear, about as thick as segment I; III and IV, weakly fusiform, similar in length to segment I but much thinner; all segments with short, reclining, pale simple setae; segments III and IV also with several longer, erect setae. **Labium:** Reaching slightly beyond apices of metacoxae, sometimes to 5th or 6th abdominal segment; segment I reaching to posteroventral margin of head or slightly beyond. **Thorax:** Pronotum

trapeziform, much broader than long, moderately convex, coarsely punctate; pronotal collar about as broad as diameter of antennal segment I, narrowed laterally; calli smooth, weakly defined, not reaching lateral margins of disk, separated posteromedially by pair of deep punctures; lateral and posterior margins of disk nearly straight, lateral margins carinate, more strongly so along anterior angle; propleuron punctate; mesoscutum narrowly exposed; scutellum weakly elevated, shiny, with weak transverse wrinkles; metathoracic scent efferent system with weakly elevated, narrow, textured peritreme and well-developed evaporative area (fig. 41). **Hemelytra:** Weakly rounded laterally; surface moderately roughened, shiny; clavus with row of shallow punctures along outer margin, also with widely spaced, indistinct punctures along most of anal vein; corium with row of well-defined punctures along basal two-thirds of R + M vein; embolium flattened, slightly broader than diameter of antennal segment I; cuneal incisure and fracture distinct; cuneus about 1.5 times as long as wide, moderately deflexed; membrane with elongate primary cell and smaller, triangular secondary cell. **Legs:** Relatively short; femora weakly flattened, slightly narrowed basally and apically, with scattered, fine, pale, simple setae; tibiae cylindrical, with rows of pale, bristlelike setae and minute, dark spinules; tarsal segment I slightly longer than segment II, segment III about twice as long as segment I; pretarsus as in figure 42. **Genitalia:** *Left paramere.* Sensory lobe weakly produced; shaft dorsoventrally flattened, expanded distally (fig. 52). *Right paramere.* Three times longer than wide; apex with short process (fig. 53). *Vesica.* Ductus seminis very long, laterally flattened, broadened basally; secondary gonopore elongo-ovate; basal process long, ribbonlike, reaching to just beyond level of secondary gonopore; primary membranous sac broadly overlaying dorsal and right lateral surfaces of ductus seminis, highly folded, with numerous dark spinules; posterior margin of membranous sac broadly attached to basal process; distal portion of flattened sclerite encased in membrane (fig. 54).

Female: Macropterous; similar to male in structure and vestiture, except body slightly

more ovoid and second antennal segment thinner and weakly clavate.

DISCUSSION: See discussion under *E. mexicanus*.

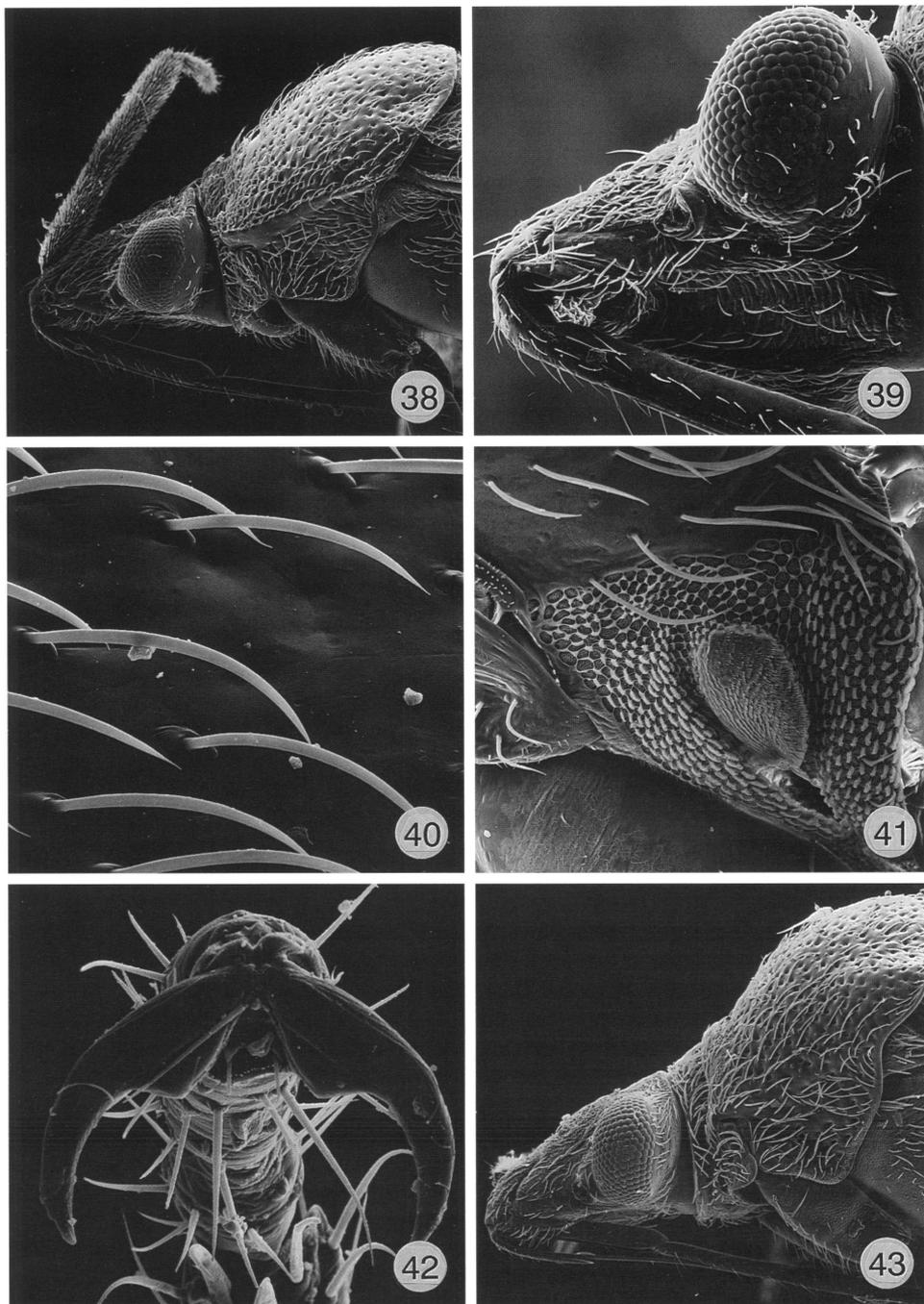
Eurychilopteroides mexicanus Stonedahl,
new species

Figures 37–42, 52–54

DIAGNOSIS: Recognized by the characters given in the generic diagnosis.

DESCRIPTION: *Male.* Length 3.57–4.03; greatest width across hemelytra 1.49–1.62; general coloration, surface texture, and dorsal vestiture as in generic description. **Head:** Length 0.55–0.58; width across eyes 0.73–0.74; width of vertex 0.40–0.43; dark yellowish brown dorsally, sometimes lightly tinged with red; posterodorsal margin and depressed region bordering eyes dark brown; apex of tylus, bucculae, and gula fuscous. **Antennae:** I, brown to fuscous, length 0.19–0.22; II, uniformly yellowish brown to dark brown, length 0.84–0.95; III and IV, dark brown to nearly black. **Labium:** Length 1.97–2.22; brown or yellowish brown, segment I and at least apex of segment IV fuscous. **Thorax:** Posterior width 1.36–1.46; pronotal collar yellowish brown, sometimes lightly tinged with red; pronotal disk brown or dark brown, sometimes lightly tinged with red, posterior margin sometimes slightly paler; calli sometimes slightly darker than remainder of disk; propleuron brown or dark brown; remaining pleural and sternal regions, including metathoracic scent efferent system, brown to fuscous; scutellum reddish brown to fuscous, apex pale. **Hemelytra:** Brown or dark brown, sometimes lightly tinged with red especially on cuneus and distal half of embolium; corium distomedially usually paler yellowish brown; membrane lightly suffused with fuscous, veins brown; abdomen dark reddish brown to nearly black. **Legs:** Femora shiny reddish brown to dark fuscous, apex narrowly pale; tibiae yellowish brown; tarsi brown or yellowish brown. **Genitalia:** Figures 52–54.

Female: Coloration as described for male. Length 3.34–3.72; greatest width across hemelytra 1.56–1.75. **Head:** Length 0.57–0.62; width across eyes 0.73–0.78; width of vertex 0.43–0.45. **Antennae:** I, length 0.18–0.21; II,



Figs. 38–43. Scanning electron micrographs. 38–42. *Eurychlopteroides mexicanus*. 38. Lateral view of head. 39. Underside of head showing elongate, striated gular region. 40. Setae on dorsal surface of body. 41. Metathoracic scent efferent system. 42. Pretarsus. 43. *Lestoniella compacta*, Lateral view of head.

length 0.77–0.86, slightly swollen apically. **Labium:** Length 2.08–2.55, reaching between 6th and 8th abdominal segments. **Thorax:** Posterior width of pronotum 1.36–1.52.

ETYMOLOGY: Named for its occurrence in Mexico.

DISTRIBUTION: Known from the states of Durango, Mexico, Michoacan, and Puebla.

DISCUSSION: While externally similar to *Eurychilopteryella* species, *E. mexicanus* appears to be more closely related to *Lestoniella*. Characters supporting a likely sister-group relationship for these two genera are the broad, weakly convex dorsal surface of the head, the narrow, flattened setae on the hemelytra, the narrow, textured peritreme of the metathoracic scent efferent system, and the relatively short labium, compared to other genera of the *Eurychilopteryella* complex.

TYPES: Holotype male. MEXICO, Puebla, San Martín Texmelucan, 27.VIII.1969, L. A. Kelton (CNC). Paratypes. MEXICO. **Durango:** 1 female, 3 mi E El Salto, 8400 ft, 2.VII.1964, L. A. Kelton (CNC); 1 male, 8 mi E El Salto, 8200 ft, 25.VI.1964, L. A. Kelton (CNC); 1 female, 10 mi W El Salto, 9000 ft, ex mistletoe, L. A. Kelton (CNC). **Mexico:** 1 female, La Marquesa, 30.VIII.1969, ex *Pinus*, L. A. Kelton (CNC). **Michoacan:** 1 male, 1 female, 6 mi N Cheran, 7–8.VII.1985, Jones and Schaffner (TA&M); 1 male, 6 mi N Cheran, 10.IV.1990, Ferreira and Schaffner (TA&M). **Puebla:** 3 males, 1 female, same data as holotype (AMNH, CNC—female collected on *Juniperus*); 1 female, Tlahuapan, 28.VIII.1969, L. A. Kelton (CNC); 2 males, 6 mi W Teziutlan, 4–6.VIII.1960, H. F. Howden (CNC).

Lestoniella Carvalho and Becker

Figures 43–48, 55–57

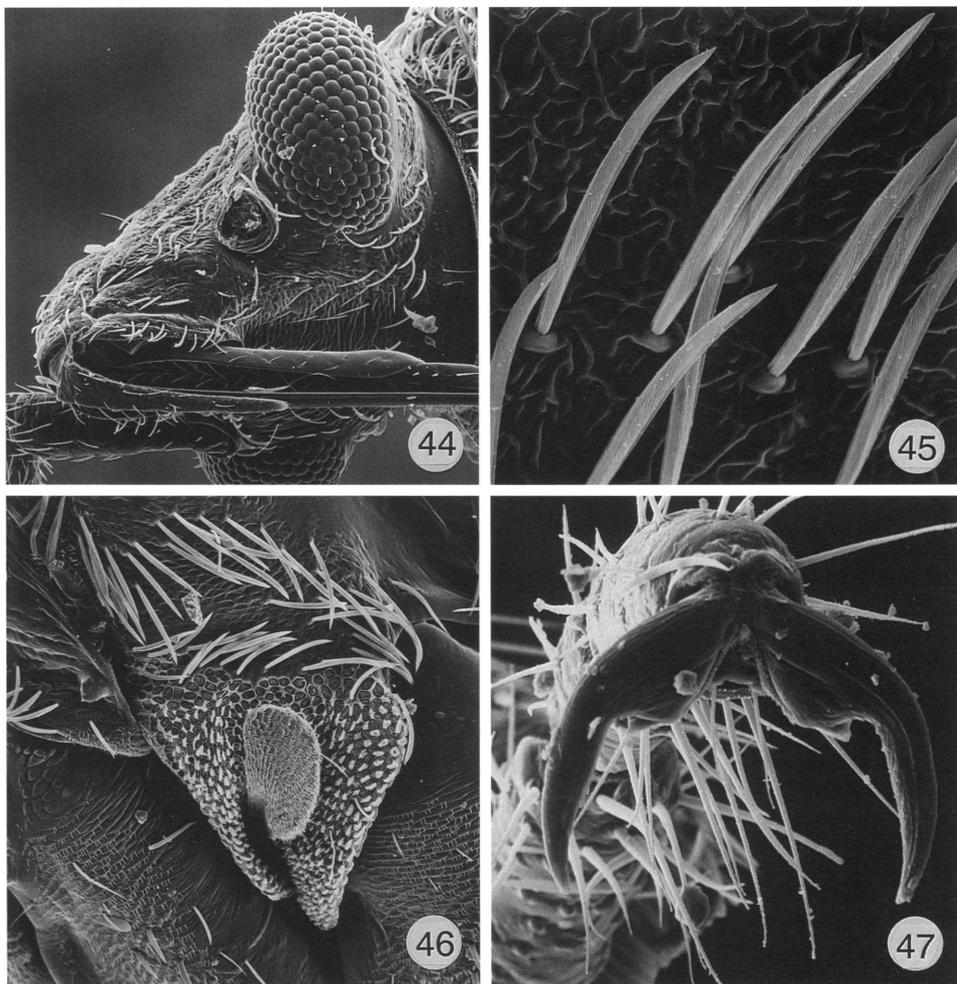
Lestoniella Carvalho and Becker, 1957: 288 (n. gen.). – Schuh, 1995: 628 (cat.).

TYPE SPECIES: *Lestoniella compacta* Carvalho and Becker, 1957, by original designation.

DIAGNOSIS: Distinguished from other genera of the *Eurychilopteryella* complex by the coarsely punctate scutellum; smooth, dull surface of the hemelytra; clavus with single row of punctures along entire length of anal vein, but lacking row of punctures along clau-

val suture; dorsal and lateral surfaces of body with dense covering of flattened, silvery setae; and structure of the male vesica (fig. 57).

DESCRIPTION: *Male.* Macropterous; brown to dark brown general coloration; dorsal vestiture with recumbent, narrow, flattened, silvery setae. **Head:** Slightly broader than long; conical with broad depression bordering eye dorsal to antennal fossa; dorsal surface finely granulate; posterodorsal margin carinate; vertex weakly depressed bordering inner posterior angle of eye; eyes narrowly removed from posterior margin of head, reaching slightly below level of gula in lateral view; ventral margin of antennal fossa slightly above ventral margin of eye, fossa removed from anterior margin of eye by distance less than half the diameter of antennal segment I. **Antennae:** I, compact, narrowed basally; II, about as thick as segment I, slightly thicker distally; III and IV, weakly fusiform, similar to segment I in length but much thinner; all segments with short, reclining setae; segments III and IV also with several longer, erect setae. **Labium:** Reaching to metacoxae or slightly beyond. **Thorax:** Pronotal collar weakly rounded, slightly narrower than diameter of antennal segment I; calli weakly elevated, surface finely granulate; posterior lobe of pronotal disk shiny, evenly punctate; lateral margins of disk nearly straight, weakly carinate anteriorly; posterior margin of disk weakly concave medially; propleuron punctate; scutellum moderately elevated, shiny, punctate; metathoracic scent efferent system with textured peritreme and well-developed evaporative area (fig. 46). **Hemelytra:** Weakly rounded laterally; strongly deflexed at cuneal fracture; with single rows of punctures along inner margin of clavus bordering commissure, entire length of anal vein, and most of R + M vein; embolium flattened, about as broad as diameter of antennal segment I; cuneus about 1.5 times longer than broad; cuneal incisure and fracture distinct. **Legs:** Femora very weakly flattened, narrowed slightly to apex; tibiae cylindrical, with several rows of stout black spinules; tarsi with segments I and II similar in length, III nearly twice as long as II; pretarsus as in figure 47. **Genitalia:** Vesica with a single, elongate, flattened sclerite originating posterolateral to secondary gonopore, and with



Figs. 44–47. Scanning electron micrographs of *Lestoniella compacta*. 44. Underside of head showing striated gular region. 45. Setae on dorsal surface of body. 46. Metathoracic scent efferent system. 47. Pretarsus.

limited development of membrane distally (fig. 57).

Female: Similar to male in structure and vestiture, except body slightly more ovoid, second antennal segment distinctly clavate, and anterolateral margin of pronotum more strongly carinate.

DISCUSSION: This genus is known from two species distributed in eastern areas of Mexico as far south as Puebla, and west to Durango. Carvalho and Becker (1957) placed the genus in the Deraeocorini and discussed its relationship to *Eurychlopterella* and *Aterporcoris*. Our review of the genus suggests a

possible sister-group relationship with the new genus *Eurychlopteroides* (see discussion under *E. mexicanus*). *Lestoniella* is easily distinguished from *Eurychlopteroides* and other genera of the *Eurychlopterella* complex by the characters given in the preceding diagnosis.

Lestoniella compacta
Carvalho and Becker

Figures 43–48, 55–57

Lestoniella compacta Carvalho and Becker, 1957:
289, 290 (n. sp.). – Schuh, 1995: 629 (cat.).

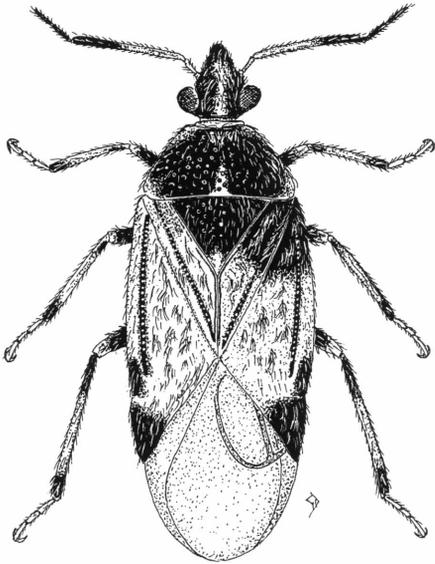


Fig. 48. *Lestoniella compacta*, dorsal habitus of male.

DIAGNOSIS: Recognized by the elongate head (length-to-width ratio 0.80:1 to 0.90:1 for males, 0.93:1 to 0.98:1 for females), with first labial segment not quite reaching posteroventral margin; length of antennal segment II much greater than width of head across eyes; scutellum mostly darkened; tibiae with broad, pale band beyond middle (fig. 48).

DESCRIPTION: *Male* (n = 6). Length 3.00–3.80; greatest width across hemelytra 1.40–1.77; brown general coloration. **Head:** Length 0.53–0.66; width across eyes 0.66–0.75; width of vertex 0.33–0.41; brown or dark brown, sometimes slightly paler ventral to antennal fossae; spot dorsal to antennal fossae, spot either side of tylus base, and posterodorsal margin of head at middle yellowish brown; gula dirty white basally. **Antennae:** I, brown or dark brown, pale ventrally, length 0.15–0.21; II, brown or yellowish brown basally, distal third to half dark brown to nearly black, length 0.88–1.13. **Labium:** Length 1.51–1.95, reaching slightly beyond apices of metacoxae, segment I reaching to posteroventral margin of eye; brown or yellowish brown, segment I usually darker brown. **Thorax:** Posterior width of pronotum 1.19–1.45; pronotal collar pale yellowish brown; calli dark brown to nearly

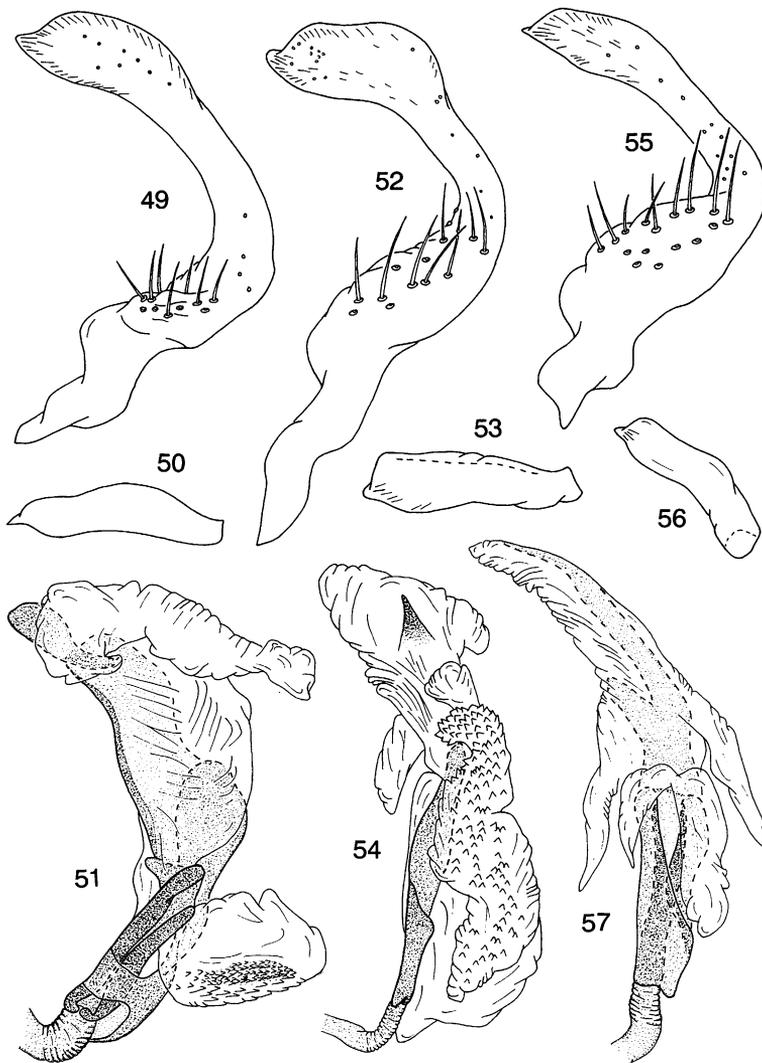
black; pronotal disk brown or dark brown, posterior angles and narrow posterior margin white; posterior submargin of disk with pale mark medially, sometimes also with pale spot halfway to lateral margin from middle; propleuron brown or dark brown, ventral margin narrowly pale; remaining pleural and sternal regions brown to fuscous, except metathoracic scent efferent system mostly white; scutellum dark brown, apex with pale mark, sometimes reaching to near middle of disk. **Hemelytra:** Dull grayish brown to dark brown; clavus usually slightly darker than corium; cuneus reddish brown to dark brown, apex narrowly pale; membrane strongly suffused with fuscous, veins mostly pale. **Legs:** Femora shiny fuscous, apex narrowly pale; basal half of metafemora pale with fuscous markings; tibiae fuscous with broad, dirty white or pale yellow band beyond middle; tarsi brown or yellowish brown. **Genitalia:** Figures 55–57.

Female (n = 5): Similar to male, except as noted in generic description. Length 2.66–3.80; greatest width across hemelytra 1.39–1.86. **Head:** Length 0.58–0.70; width across eyes 0.59–0.74; width of vertex 0.32–0.41. **Antennae:** I, length 0.15–0.22; II, length 0.71–1.02, clavate, yellowish brown, swollen distal third nearly black. **Labium:** Length 1.75–2.05, reaching to 5th or 6th abdominal segment. **Thorax:** Posterior width of pronotum 1.19–1.50.

DISTRIBUTION: Widely distributed in eastern Mexico, south to Puebla and west to Durango.

DISCUSSION: A single specimen each of this species has been collected on *Juniperus* sp. and *Quercus* sp.

SPECIMENS EXAMINED: MEXICO. Holotype female (12.VII.1933), allotype male (11.VI.1933), Real de Arriba, Temascaltepec, 8000 ft, H. E. Hinton and R. L. Usinger (CAS). **Coahuila:** 1 male, 20 mi SE Saltillo, 25.VII.1963, H. and A. Howden (CNC). **Durango:** 1 female (14.VII.1964, ex *Juniperus* sp.) and 1 male (15.VII.1964), 10 mi W El Salto, 9000 ft, L. A. Kelton (AMNH, CNC); 1 male, 11 mi E El Salto, 8000 ft, 13.VI.1964, L. A. Kelton (CNC); 1 male, 1 female (20.VI.1964) and 1 female (21.VI.1964), 24 mi W La Ciudad, 7000 ft, L. A. Kelton (CNC). **Puebla:** 1 male, San Martín



Figs. 49–57. Male genitalia. 49–51. *Aterpocoris usingeri*. 49. Left paramere. 50. Right paramere (redrawn in reverse orientation from Carvalho and Becker, 1957). 51. Anterior view of vesica. 52–54. *Eurychilopteroides mexicanus*. 52. Left paramere. 53. Right paramere. 54. Anterior view of vesica. 55–57. *Lestoniella compacta*. 55. Left paramere. 56. Right paramere. 57. Anterior view of vesica.

Texmelucan, 27.VIII.1969, L. A. Kelton (CNC). **Tlaxacala:** 1 female, 9 mi W Calpulalpan, 15.VIII.1958, ex *Quercus* sp., H. F. Howden (CNC).

Lestoniella nuevoleon Stonedahl,
new species

DIAGNOSIS: Distinguished from *L. compacta* by the shorter head (length-to-width ratio 0.83:1 to 0.86:1 for females), without pale

markings above antennal fossae, at base of tylus, and on posterodorsal margin; first labial segment reaching to posteroventral margin of head; length of antennal segment II only slightly greater than width of head across eyes; scutellum mostly pale; and tibiae without clearly defined pale band beyond middle.

DESCRIPTION: *Female* (n = 3). Length 3.19–3.42; greatest width across hemelytra

1.55–1.72; grayish brown general coloration. **Head:** Length 0.58–0.62; width across eyes 0.70–0.73; width of vertex 0.37–0.38; brown or dark brown, without pale marks dorsally on posterior margin, base of tylus, and above antennal fossae; gula white basally. **Antennae:** Color and structure as described for *L. compacta*; length of segment I 0.17–0.19, segment II 0.73–0.80. **Labium:** Length 1.53–1.62; reaching to between metacoxae; segment I reaching posteroventral margin of head; brown, segment I dark brown. **Thorax:** Posterior width of pronotum 1.32–1.45; pronotal collar brown or yellowish brown; calli dark fuscous; narrow triangular region anteromedial to calli yellowish brown; pronotal disk brown, paler brownish gray laterally behind calli, posterior margin and angles and large mark medially on posterior submargin dirty white or pale yellowish brown; propleuron brown or dark yellowish brown, ventral margin narrowly pale; remaining pleural and sternal regions mostly fuscous, except metathoracic scent efferent system dirty white or pale yellow; scutellum dirty white or pale brownish yellow, lightly suffused with fuscous laterally and anteriorly. **Hemelytra:** Dark gray-

ish brown, outer distal half of corium slightly paler; cuneus dark brown, sometimes lightly tinged with red; membrane strongly suffused with fuscous, veins pale distally. **Legs:** Femora mostly fuscous, apex narrowly pale; metafemora yellowish brown basally; tibiae fuscous basally, brown or yellowish brown distally, but without distinct pale band beyond middle; tarsi brown.

Male: Unknown.

ETYMOLOGY: Named for its occurrence in the state of Nuevo Leon, Mexico.

DISTRIBUTION: Nuevo Leon, Mexico.

DISCUSSION: Although this species is described on the basis of just three female specimens, the color and structural differences noted in the diagnosis easily distinguish it from the only other member of the genus, *L. compacta*. The host plant association is not known.

TYPES: Holotype female. MEXICO, Nuevo Leon, 2 mi N La Ascensión, 24.VII.1976, Peigler, Gruetzmacher, R. and M. Murray and Schaffner (TA&M, donated to AMNH). Paratypes. MEXICO. **Nuevo Leon:** 1 female, 5.3 mi N La Ascensión, 7.IV.1990, Ferreira and Schaffner (TA&M); 1 female, 18 mi N La Escondida, 4 July 1974, Clark, Murray, Ashe and Schaffner (TA&M).

REFERENCES

- Betts, C. R.
1986. The comparative morphology of the wings and axillae of selected Heteroptera. *J. Zool. Ser. B* 1: 255–282.
- Blatchley, W. S.
1926. Heteroptera or true bugs of eastern North America. Indianapolis: Nature Publishing Co.
- Bliven, B. P.
1956. New Hemiptera from the western states with illustrations of previously described species and new synonymy in the Psyllidae. Eureka, CA: Privately published.
- Carvalho, J. C. M.
1948. Mirídeos Neotropicais, XXX: Gêneros *Ellenia* Reuter, *Eurychilopterella* Reuter, e *Rhinacloa* Reuter, com descrições de espécies novas (Hemíptera). *Bol. Mus. Nac. Rio de Janeiro Zool.* 85: 1–12.
1952. On the major classification of the Miridae (Hemiptera). (With keys to subfamilies and tribes and a catalogue of the World genera). *An. Acad. Bras. Ciênc.* 24: 31–110.
1955. Keys to the genera of Miridae of the World. *Bol. Mus. Para. Emilio Goeldi* 11(2): 1–151.
1957. A catalogue of the Miridae of the world. Part I. Subfamilies Cylapinae, Deraeocorinae, Bryocorinae. *Arq. Mus. Nac., Rio de Janeiro* 44: 1–158.
- Carvalho, J. C. M., and J. Becker
1957. Neotropical Miridae LXXXI: Two new Deraeocorinae from Mexico (Hemiptera, Heteroptera). *An. Acad. Bras. Ciênc.* 29: 285–290.
- Cassis, G.
1984. A systematic study of the subfamily Dicyphinae (Heteroptera: Miridae). Ph.D. diss., Oregon State Univ., Corvallis.
1995. A reclassification and phylogeny of the

- Termatophylini (Heteroptera: Miridae: Deraeocorinae), with a taxonomic revision of the Australian species, and a review of the tribal classification of the Deraeocorinae. *Proc. Entomol. Soc. Washington* 97: 258–330.
- Froeschner, R. C.
 1949. Contributions to a synopsis of the Hemiptera of Missouri. Part IV. Hebridae, Mesoveliidae, Cimicidae, Anthocoridae, Cryptostemmatidae, Isometopidae, Miridae. *Am. Midl. Nat.* 42: 123–188.
- Heidemann, O.
 1910. Short notes and exhibition of specimens. Proceedings of the 235th regular meeting of the Entomological Society of Washington, Dec. 2, 1909. *Proc. Entomol. Soc. Washington* 12: 43–48.
- Henry, T. J., and A. G. Wheeler, Jr.
 1988. Family Miridae. In T. J. Henry and R. C. Froeschner (eds.), *Catalog of the Heteroptera, or true bugs of Canada and the continental United States*, pp. 251–507. Leiden and New York: E. J. Brill.
- Kelton, L. A.
 1959. Male genitalia as taxonomic characters in the Miridae (Hemiptera). *Can. Entomol., Suppl.* 11: 1–72.
- Knight, H. H.
 1923. Family Miridae (Capsidae). In W. L. Britton (ed.), *Guide to the insects of Connecticut. Part IV. The Hemiptera or sucking insects of Connecticut*, pp. 422–658. *Bull. Connecticut Geol. Nat. Hist. Surv.* 34: 1–807.
1927. New species and a new genus of Deraeocorinae from North America (Hemiptera: Miridae). *Bull. Brooklyn Entomol. Soc.* 22: 136–143.
1941. The plant bugs, or Miridae, of Illinois. *Bull. Illinois Nat. Hist. Surv.* 22: 1–234.
1968. Taxonomic review: Miridae of the Nevada Test Site and the western United States. *Brigham Young Univ. Sci. Bull. Biol. Ser.* 9(3): 1–282.
- Parshley, H. M.
 1923. Family Termatophylidae. In W. L. Britton (ed.), *Guide to the insects of Connecticut. Part IV. The Hemiptera or sucking insects of Connecticut*, p. 655. *Bull. Connecticut Geol. Nat. Hist. Surv.* 34: 1–807.
- Reuter, O. M.
 1909. Bemerkungen über nearktische Capsiden nebst Beschreibung neuer Arten. *Acta Soc. Sci. Fenn.* 36(2): 1–86.
1910. Neue Beiträge zur Phylogenie und Systematik der Miriden nebst einleitenden Bemerkungen über die Phylogenie der Heteropteren-Familien. *Acta Soc. Sci. Fenn.* 37(3): 1–167.
- Reuter, O. M., and B. Poppius
 1912. Zur kenntnis der Termatophyliden. *Öfv. Fin. Vet.-Soc. Förh.* 54A(1): 1–17.
- Schuh, R. T.
 1995. Plant bugs of the world (Insecta: Heteroptera: Miridae): systematic catalog, distributions, host list, and bibliography. New York: NY Entomol. Soc.
- Stonedahl, G. M.
 1988. Revision of the mirine genus *Phytocoris* Fallén (Heteroptera: Miridae) for western North America. *Bull. Am. Mus. Nat. Hist.* 188: 1–257.
- Stonedahl, G. M., and G. Cassis
 1991. Revision and cladistic analysis of the plant bug genus *Fingulus* Distant (Heteroptera: Miridae: Deraeocorinae). *Am. Mus. Novitates* 3028: 55 pp.
- Van Duzee, E. P.
 1916. Checklist of the Hemiptera (excepting the Aphididae, Aleurodidae and Coccidae) of America north of Mexico. New York: NY Entomol. Soc.
1917. Catalogue of the Hemiptera of America north of Mexico, excepting the Aphididae, Coccidae and Aleurodidae. *Univ. California Publ. Entomol.* 2: 1–902.
- Wheeler, A. G., Jr.
 1991. *Hesperophylum heidemanni*, a rare plant bug: notes and new records (Heteroptera: Miridae). *Proc. Entomol. Soc. Washington* 93: 636–640.
- Wootton, R. J., and C. R. Betts
 1986. Homology and function in wings of Heteroptera. *Syst. Entomol.* 11: 389–400.

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