

Review of the genus *Dendrocoris* Bergroth with descriptions of new species (Pentatomidae: Heteroptera)

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Abstract: The proclleticine genus *Dendrocoris* Bergroth is revised with the descriptions of three new species from the United States, *D. nelsoni*, Mexico, *D. inermis*, and Guatemala, *D. guatemalensis*. A diagnosis is provided for each species with notes on distribution and host plants. A key is provided for determination of all fourteen species.

Key Words: Pentatomidae, Proclleticini, stink bug, taxonomy.

Introduction

The genus *Dendrocoris* Bergroth is a member of the tribe Proclleticini of the nominate subfamily of the Pentatomidae. These are small, cryptically colored stink bugs which are most commonly encountered by beating the foliage of pine or oak. The form of the body is generally depressed and rounded to oval in outline. Its salient characteristics include the presence of a tubercle at the base of the abdomen (absent in some males), scent gland ostioles with elongate rugae, bucculae truncate posteriorly, meso- and metasternum concave, unarmed, juga contiguous before the tylus, and the female gonocoxites reduced in size. The genus can be definitively determined by using the key to the Proclleticini by Rider (1994).

The type species of *Dendrocoris* is *Liotropis humeralis* Uhler 1877, by monotypy. Bergroth (1891) proposed *Dendrocoris* as a replacement name because *Liotropis* was preoccupied. Barber (1911) and Torre-Bueno (1939) provided keys to the known species. The genus was revised by Nelson (1955) who provided detailed descriptions for each species and illustrations of the genitalia. In subsequent articles Nelson (1957) and Thomas (1984) each added new species. In recent years the entomological collections of the Universidad Nacional Autónoma de México has grown to include an extensive amount of heteropteran material, mainly from the Republic of México. Among this material we have discovered three additional

undescribed species of *Dendrocoris* and many specimens of described species which were not previously recorded from México. In the present work we review the species of *Dendrocoris* including new information on distributions and host plants and have modified Nelson's key to include the new species and those described since his revision.

Materials and Methods

All drawings, except for the habitus drawing of *D. inermis* (Fig. 1), were tracings using a Wild M-5 microscope with camera lucida at 25x or 50x. Measurements were made with a graduated ocular at 10x magnification using a Zeiss SV8 dissecting microscope. All measurements are from the holotype unless otherwise indicated. Anatomical nomenclature follows Torre-Bueno (1989). Type specimens are deposited at the collections of the Universidad Nacional Autónoma de México (UNAM), Texas A&M University (TAMU) or the personal collections of Donald B. Thomas (DBT), Joseph E. Eger (EGER) and David A. Rider (DAR). The acronyms are used to designate depositions in the text. Label data is reported with label (a) on the pin nearest the specimen.

Key to the species of *Dendrocoris* Bergroth

- | | | |
|----|----------------------------|---|
| 1. | Vertex of head tumid | 2 |
| 1' | Vertex of head flat | 7 |

- 2(1). Cicatrices contrastingly darkened 3
 2'. Cicatrices concolorous with dorsum 4
- 3(2). Connexival segments unicolorous (southwestern U.S. and northern Mexico)
 *contaminatus* (Uhler)
 3'. Connexival segments with contrasting dark margins (New Mexico to Utah)
 *neomexicanus* Nelson
- 4(2'). Anterolateral pronotal margin thick; head elongate (fig. 2) (southwestern U.S.)
 *parapini* Nelson
 4'. Anterolateral margins of pronotum thin, compressed; head length about equal to width (fig. 3) 5
- 5(4). Head, pronotum, and pleura devoid of dark punctations (western Canada to Baja California)
 *pini* Montandon
 5'. Head, pronotum, and pleura with numerous dark punctations 6
- 6(5'). Lateral flange of pygophoral margin acuminate and notched (southern Mexico, Guatemala)
 *guatemalensis* n. sp.
 6'. Lateral flange of pygophoral margin obtuse, lacking notch (northern Mexico, southwestern U.S.) *nelsoni* n. sp.
- 7(1'). Venation of hemelytral membrane reticulate (southwestern U.S. and northwestern Mexico) *reticulatus* Barber
 7'. Venation of hemelytral membrane simple 8
- 8(7'). Legs with conspicuous black spots (southwestern Mexico) *maculosus* Thomas
 8'. Legs immaculate 9
- 9(8'). Spiracles surrounded by a broad dark spot (southeastern U.S.) *fruticicola* (Bergroth)
 9'. Spiracles concolorous with venter or narrowly margined in black 10
- 10(9'). Base of abdomen without tubercle (a weak prominence in some females) 11
 10'. Base of abdomen with distinct, forwardly directed tubercle 13
- 11(10). Margins of juga denticulate (southern Mexico)
 *variegatus* Nelson (pars)
 Margins of juga without teeth 12
- 12(11). Pygophore with pair of small, black, teeth at base of medial emargination (Fig. 5) (southern Mexico) *inermis* n. sp.
 12'. Pygophore without black teeth on posterior surface (United States, northern Mexico)
 *humeralis* (Uhler)
- 13(10'). Head distinctly wider than long (Fig. 3)(southern Mexico) *variegatus* Nelson (pars)
 13'. Head longer than wide or about equal to length 14
- 14(13). Anterolateral pronotal margin distinctly paler than pronotal disc (most of United States and northern Mexico) *humeralis* (Uhler)
 14'. Anterolateral pronotal margin darkened or concolorous with disc 15
- 15(14'). Anterolateral pronotal margin nearly straight; spiracles usually pale; (southwestern U.S. and northern Mexico) *arizonensis* Barber
 15'. Anterolateral pronotal margin distinctly concave; spiracles usually black (central Mexico)
 *suffultus* (Distant)

Account of Species

Dendrocoris contaminatus (Uhler 1897)

Diagnosis. Vertex of head tumid. Color yellow tan to brick red with cicatrices contrastingly dark brown, the dark color often spreading to the anterolateral pronotal margin. Laterotergites of connexivum unicolorous. Apices of juga contiguous or nearly so. Anterolateral pronotal margins in dorsal view slightly sinuate. Humeri not produced. Legs immaculate. Abdominal tubercle prominent, present in both sexes. Venation of hemelytral membrane simple or furcate, not reticulate. Male pygophore lacks teeth on posterior aspect near medial emargination.

Distribution. USA: Arizona, California, Nevada, New Mexico, Texas, Utah. MEXICO: Baja California, Baja California Sur, Coahuila, Durango, Nuevo Leon, San Luis Potosi, Sonora.

Remarks. This species is restricted to creosote bush, *Larrea tridentata* Sessé & Mociño. The darkened cicatrices are characteristic, though it can be confused with *D. neomexicanus* Nelson.

Dendrocoris neomexicanus Nelson 1955

Diagnosis. Vertex of head tumid. Dorsal color tan to pale yellow with numerous dark punctations on the base of the head around the ocelli. The pronotal cicatrices are contrastingly dark brown or black. The connexival laterotergites are pale with black margins. Juga contiguous before tylus or nearly so. Anterolateral pronotal margins arcuately concave in dorsal view. Humeri not promi-

nent. Legs immaculate. Venation of hemelytral membrane simple or furcate, not reticulate. Abdominal tubercle present in both sexes. Male pygophore without black teeth on posterior aspect.

Distribution. USA: New Mexico, Utah.

Remarks. Our colleague David Rider examined Nelson's type specimen and provided us with a homotype specimen for study. The type series was taken on juniper. However, a report by Ruckes (1938) of *D. contaminatus* being abundant on gambel's oak in New Mexico may refer to *D. neomexicanus* inasmuch as the two species are easily confused and *D. contaminatus* is restricted to creosote bush.

Dendrocoris pini Montandon 1893

Diagnosis. Vertex of head tumid. Dorsal color yellow, essentially devoid of dark punctations. Cicatrices concolorous with pronotal disk. Juga contiguous before tylus. Anterolateral pronotal margins subrectilinear in dorsal view, margin thin, compressed. Humeri not produced. Legs immaculate. Venation of hemelytral membrane simple or furcate, not reticulate. Abdominal tubercle small, present in both sexes. Male pygophore without teeth on posterior aspect attending medial emargination.

Distribution. CANADA: British Columbia. USA: California, Oregon, Nevada. MEXICO: Baja California.

Remarks. The lack of dark punctations on the dorsum and pleura are diagnostic. As indicated by the name, the host plant is pine. Records of this insect from further east than the states mentioned probably refer to related species.

Dendrocoris parapini Nelson 1957 (Fig. 2)

Diagnosis. Vertex of head tumid. Dorsal color tan to reddish brown with dark punctations near margins of head and pronotum. Cicatrices concolorous with disk of pronotum. Head elongated (Fig. 2); juga contiguous before tylus or nearly so. Anterolateral pronotal margins weakly concave in dorsal view, margin thick. Humeri not produced. Legs immaculate. Venation of hemelytra simple or furcate, not reticulate. Abdominal tubercle small; present in both sexes. Male pygophore without teeth on posterior aspect attending medial emargination.

Distribution. USA: Texas, New Mexico.

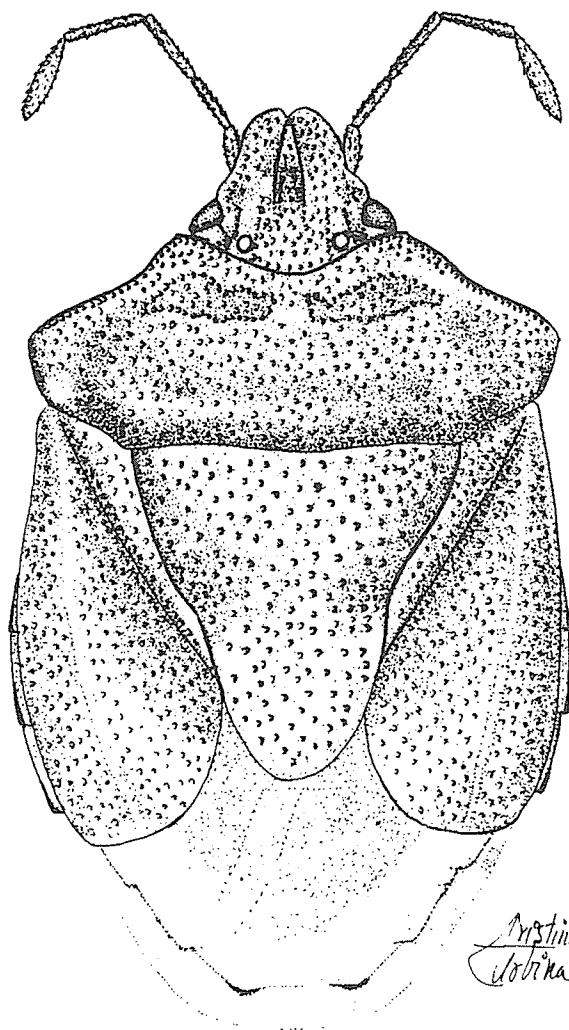


Figure 1. *Dendrocoris inermis*, new species, dorsal view.

Remarks. The elongate head with dark punctations along the margin is diagnostic. The senior author has collected this species in Texas on pinyon pine, *Pinus cembroides* Zuccarini.

Dendrocoris nelsoni, new species (Figs. 6, 7, 14)

Description. Body compressed, oval. Dorsal color brick orange fading to yellow with dark punctations on margins of juga and anterior pronotum. Cicatrices concolorous with pronotal disk. Venter yellow mesially darkening to orange laterally. Length of body (from tip of juga to abdominal terminus) 5.5 mm; width (across humeri) 3.3 mm.

Head. Vertex tumid, densely punctate. Juga contiguous before tylus; lateral margins of tylus sinuate in dorsal view, lacking teeth. Antennal segment I shortest, slightly shorter than II; III longest, V longer than IV. Rostrum attaining metacoxae in repose. Head length (from jugal apices to imaginary line connecting ocelli) 1.1 mm; head width (across anteocular apices) 1.1 mm.

Thorax. Anterolateral pronotal margins compressed, thin; feebly sinuate in dorsal view. Humeri obtusely angular, weakly produced. Pronotal length at midline, 1.3 mm. Hemelytral membrane transparent, vaguely infuscated at base. Length of scutellum 2.2 mm. Propleura and mesopleura with dark punctations on disk. Legs immaculate.

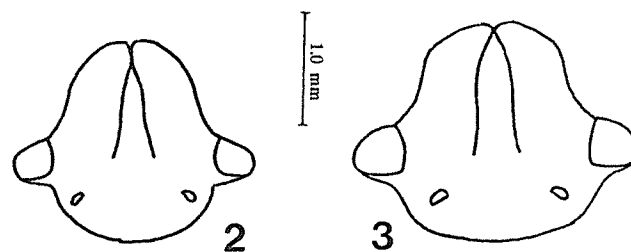
Abdomen. Both sexes with tubercle at base of abdomen though very weak in males. Laterotergites of connexivum concolorous with corium and scutellum. Each angle of abdominal sternites with narrow, dark spot. Spiracles concolorous with abdominal disk.

Genitalia. Male pygophore with mesial emargination on posterior face; a thin bidentate lamina seated in emargination. Posterior face devoid of teeth. Margins lateral to emargination on each side obtusely produced and bent into simple, rounded flange, which lacks a notch at its apex (Fig. 6). Paramere small, head acuminate with a modestly produced angulation at its base (Fig. 7). Female with very small basal plates (first gonocoxites). Ninth paratergites terminate far from margin of eighth paratergites, which lack spiracles (Fig. 14).

Types. Holotype: male, labeled: Mex., Chihuahua, 20 mi. E. Tonichi, IV-27-82. D.A. & W.T. Polhemus. Deposited UNAM. Allotype female, labeled same data as holotype. Deposited UNAM. Paratypes: female, labeled: 1 Mi. N. Creel, Chih., Mex., Aug. 30, 1950, Ray F. Smith (DAR). Male, labeled: Colo., Douglas Co., Perry Park, V-20-78, D.A. Polhemus (DAR). Male, labeled: Larimer Co., CO., 5 June 1995, D. Leatherman above Dixon Res. ex: Ponderosa Pine (DBT). Female, labeled: AZ, Yavapai Co., Antelope Hills, 35°25'N, 112°04'W, 4,000 ft., 7-vii-95 (DBT). Female, labeled: (a) Angus, N.M., V-18-85, 3 mi. N., (b) Pinus. (c) W.F. Chamberlain (DBT).

Etymology. The species is named for Gayle H. Nelson, a revisor of this genus.

Remarks. Two of the paratype specimens bear collection labels for pine. I have also collected a specimen on juniper. In addition to the types I have



Figures 2-3. Heads of *Dendrocoris* species, dorsal view. 2. *parapini*. 3. *variegatus*.

seen specimens from Nuevo Leon and Coahuila, Mexico.

Dendrocoris guatemalensis, new species

(Figures 4, 13, 15)

Description. Reddish-yellow with dense, dark punctation on dorsum, thoracic pleura and abdominal venter laterally. Cicatrices concolorous with pronotal disk. Antennae dull red; legs immaculate. Length of body from jugal apices to abdominal terminus, 6.3 mm; width across humeral angles, 3.7 mm.

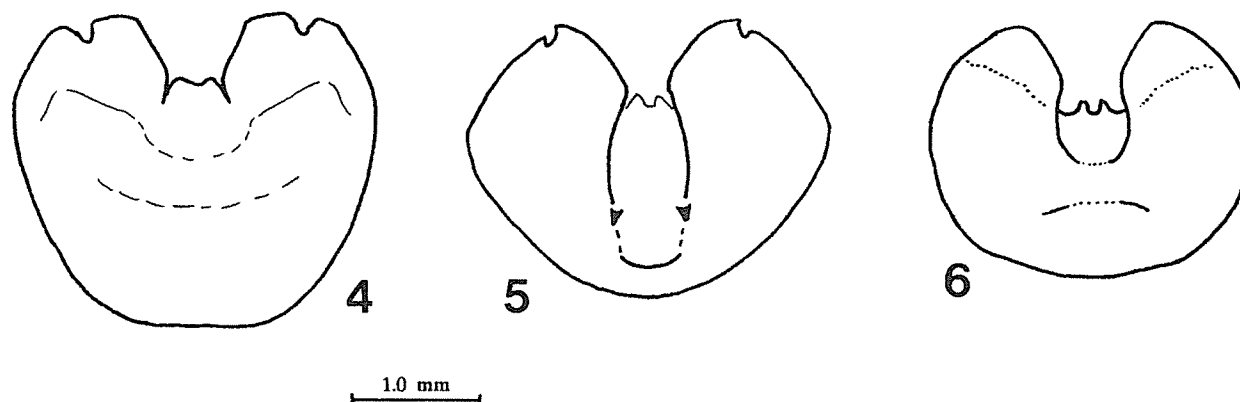
Head. Vertex convex, tumid. Juga contiguous before tylus or nearly so. Head length from imaginary line connecting ocelli to apex of tylus about equal to width of head across anteocular angles. Antennal segment V longest, III slightly longer than IV, I shortest. Rostrum in repose just reaches metacoxae. Length of head from jugal apices to imaginary line connecting ocelli, 1.2 mm; head width across anteocular apices, 1.2 mm.

Thorax. Anterolateral pronotal margins thin, dorso-ventrally compressed; weakly sinuate in dorsal view. Humeri not prominent. Pronotal length at midline, 1.4 mm. Length of scutellum, 2.5 mm.

Abdomen. Basal tubercle small in female, obsolescent in male. Connexiva with obscure darkening along margins at angles.

Genitalia. Male pygophore without teeth on posterior aspect attending medial emargination. Each lateral flange of dorso-posterior margin with a distinct notch (Fig. 4). Paramere simple, digitoid, bent (Fig. 13). Female with very small basal plates (first gonocoxites). Ninth paratergites terminate far from margin of eighth paratergites, which lack spiracles (Fig. 15).

Types. Holotype: male [UNAM]. Labeled: (a) GUATEMALA, 5 mi. SW. Huehuetenango. 7500'



Figures 4-6. Male pygophore of *Dendrocoris* species, caudal view. 4. *guatemalensis*, 5. *inermis*, 6. *nelsoni*.

VII-29-1974. O'Briens & Marshall. (b) *Dendrocoris* nr. *pini*, Det. L. H. Rolston. Allotype: female [UNAM], labeled: MEXICO: Chiapas, 1 km S. Ocosingo, 18 Oct 1988, R. Turnbow. Paratypes: one male [DBTC], with same label data as allotype. One male [DBT], labeled: MEXICO: Chiapas, Lagos de Montebello, 23 October 1990, Hovore & Reifschneider. One female [DAR], labeled: Guelato, Oax. Mex. 18.VIII.69 L.A. Kelton.

Etymology. the specific epithet reflects that the type locality is in the Republic of Guatemala.

Remarks. All of the collection localities cited are high elevation forests dominated by pine.

***Dendrocoris reticulatus* Barber 1911**

Diagnosis. Vertex of head flat. Hemelytral membrane reticulate. Dorsal color uniformly tan, cicatrices concolorous with pronotal disk. Juga contiguous before tylus. Anterolateral pronotal margins subrectilinear in dorsal view, humeral angles prominent. Legs immaculate. Abdominal tubercle present in both sexes but smaller in males. Male pygophore with a pair of tiny black teeth on posterior aspect attending the medial emargination.

Distribution. USA: Arizona, Utah. MEXICO: Chihuahua.

Remarks. The reticulate venation is unique in the genus. The senior author has collected the species in numbers on oak trees in both countries.

***Dendrocoris maculosus* Thomas 1984**

Diagnosis. Vertex of head flat. Legs densely spotted black. Dorsal color grayish brown. Cicatrices concolorous with disk. Juga contiguous before tylus. Anterolateral pronotal margins subrectilinear in dorsal view. Abdominal tubercle present in

female, absent in male. Abdominal spiracles ringed in black. Veins of hemelytral membrane not reticulate. Posterior aspect of male pygophore with a pair of tiny black teeth attending medial emargination.

Distribution. MEXICO: Jalisco, Nayarit, Guerrero.

Remarks. The darkly spotted legs are diagnostic.

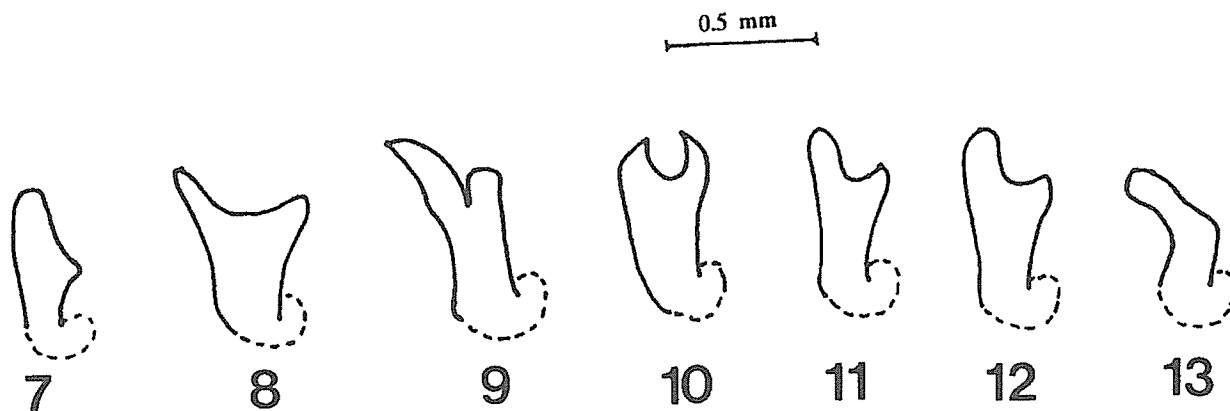
***Dendrocoris variegatus* Nelson 1955**

(Figure 3)

Diagnosis. Vertex of head flat. Apices of juga contiguous before tylus; in males, anterior margin of juga is denticulate. In females head across anteocular angles wider than length from tip of juga to an imaginary line connecting the ocelli (Fig. 3). Dorsal color typically mottled in appearance with many dark punctations in irregular clusters. Cicatrices concolorous with pronotal disk. Anterolateral pronotal margins concave in dorsal view; humeral angles prominent. Legs immaculate. Veins of hemelytral membrane not reticulate. Abdominal tubercle present in female, absent in male. Posterior aspect of male pygophore with a pair of tiny black teeth attending medial emargination.

Distribution. MEXICO: Oaxaca, Guerrero, Chiapas, Michoacan, San Luis Potosi, Colima, Morelos, Puebla, Mexico D.F.

Remarks. The presence of denticles on the margins of the juga in males is a neotenic character. It is a feature of the nymphal stage in other species. Nelson (1955) reports this species intercepted on orchids.



Figures 7-13. Right parameres of *Dendrocoris* species, ental view. 7. *nelsoni*, 8. *humeralis*, 9. *fruticicola*, 10. *suffultus*, 11. *arizonensis*, 12. *inermis*, 13. *guatemalensis*.

Dendrocoris arizonensis Barber 1911

(Figure 11)

Diagnosis. Vertex of head flat. Juga contiguous before tylus. Cicatrices concolorous with pronotal disk. Anterolateral pronotal margins straight to nearly straight in dorsal view. Humeral angles prominent. Abdominal tubercle present in both sexes but very small in males. Legs immaculate. Abdominal spiracles variable, concolorous with venter or darkened. Veins of hemelytral membrane simple or furcate, not reticulate. Posterior aspect of male pygophore without teeth attending medial emargination. Paramere terminating in long ental and short ectal digit (Fig. 11).

Distribution. USA: Arizona, California, New Mexico, Texas. MEXICO: Nuevo Leon, San Luis Potosi, Durango.

Remarks. Nelson (1955) cites several records for oak. Mexican specimens are likely to be confused with *D. suffultus*. The primary separation is the form of the male paramere. The species is widespread but limited to mountain habitats surrounded by desert. Because of this disjunct distribution it is not surprising that considerable morphological variation exists. Typical specimens have straight anterolateral pronotal margins and the spiracles concolorous with the venter.

Dendrocoris suffultus (Distant 1893)

(Figure 10)

Diagnosis. Vertex of head flat. Juga contiguous before tylus. Cicatrices concolorous with pronotal disk. Anterolateral pronotal margins weakly

concave in dorsal view. Tubercle present at base of abdomen in both sexes but weak in males. Legs immaculate. Abdominal spiracles ringed in black. Veins of hemelytral membrane simple or furcate, not reticulate. Male paramere symmetrically bicapitate (Fig. 10). Mesial emargination of pygophore not attended by small, black, teeth.

Distribution. MEXICO: Morelos, Aguascalientes, Guanajuato, Guerrero, Hidalgo, Jalisco, Queretaro, Oaxaca, Puebla, Zacatecas.

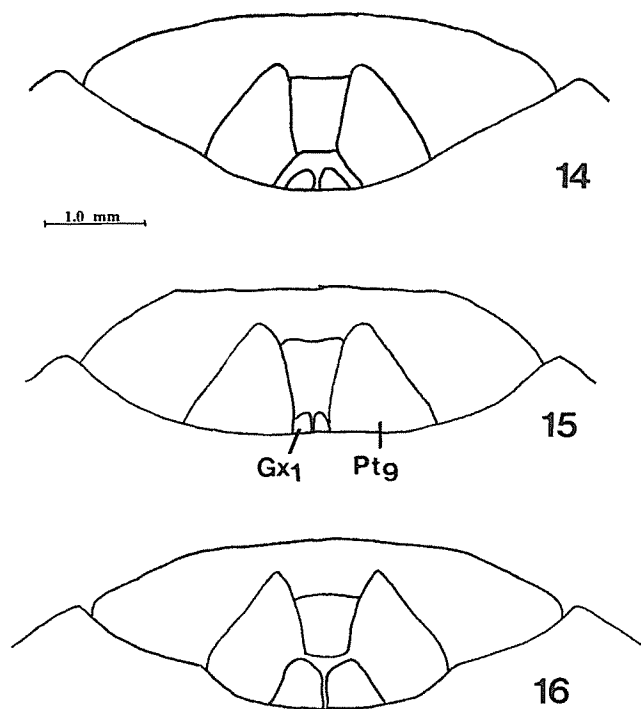
Remarks. The symmetrical form of the male paramere is the primary character which separates this species from *D. arizonensis*. As noted by Nelson (1955), some specimens have markedly produced humeri.

Dendrocoris fruticicola (Bergroth 1891)

(Figure 9)

Diagnosis. Vertex of head flat. Juga contiguous before tylus. Cicatrices concolorous with pronotal disk. Anterolateral pronotal margins weakly concave in dorsal view. Humeral angles prominent but not produced. Tubercle present at base of abdomen in both sexes. Abdominal spiracles ringed in black. Veins of hemelytral membrane not reticulate. Apex of male paramere with a long tapering digit and a shorter truncate digit (Fig. 9). Mesial emargination of pygophore not attended by small, black, teeth.

Distribution. USA: Alabama, Georgia, Florida, Mississippi, North Carolina, Virginia.



Figures 14-16. Female terminalia, ventral view. 14. *nelsoni*, 15. *guatemalensis*, 16. *inermis*. Gx₁ = first gonocoxite, Pt₉ = ninth paratergite.

Remarks. Within its range in the southeastern U.S. it is the only species with darkly ringed spiracles. Hoffman (1971) cites collection records on oak. Nelson (1955) reports it on pine.

***Dendrocoris humeralis* (Uhler 1877)**
(Figure 8)

Diagnosis. Vertex of head flat. Juga contiguous before tylus. Cicatrices concolorous with pronotal disk. Anterolateral pronotal margins strongly, angulately concave in dorsal view, calloused, with narrow, pale, impunctate, inframargin. Humeral angles prominent. Legs immaculate. Abdominal spiracles concolorous with venter or sometimes narrowly darkened. Tubercle present at base of abdomen in females, absent in males. Veins of hemelytral membrane simple or furcate, not reticulate. Mesial emargination of pygophore not attended by small, black, teeth. Paramere bidigitate (Fig. 8).

Distribution. USA: Arkansas, California, Colorado, Connecticut, Florida, Georgia, Illinois, Indiana, Iowa, Kansas, Louisiana, Maryland, Massa-

chusettes, Michigan, Mississippi, Missouri, Nebraska, New Hampshire, New Jersey, New York, Ohio, Oklahoma, Pennsylvania, South Carolina, Texas, Utah, Vermont, Virginia, West Virginia. MEXICO: Coahuila, Nuevo Leon.

Remarks. Uhler (1877) reported this species on oaks and hickory. Van Duzee (1904), Froeschner (1941) and McPherson (1982) all cite oak as the host. Nelson (1955) collected it on black oak and cited records for oak and pine. Stoner (1920) cites oak, hickory and hazel.

***Dendrocoris inermis*, new species**
(Figures 1, 5, 12, 16)

Description. Dorsal color reddish-tan with anterolateral pronotal margin before humeri dark brown. Cicatrices concolorous with pronotal disk. Venter yellow with black spot at each angle of abdominal sternites. Length of body from jugal apices to abdominal terminus, 6.7 mm; width across humeral angles, 4.5 mm (Fig. 1).

Head. Vertex flat, densely dark punctate. Head length from ocelli to apex of juga longer than width across antecular angles. Juga contiguous before tylus. Lateral margins of juga sinuate in dorsal view, smooth, without teeth. Dark brown stripe present just above antennifer. Antennal segment I shortest, III, IV and V longest, subequal. Rostrum attaining middle of metacoxae in repose. Length of head from jugal apices to imaginary line connecting ocelli, 1.3 mm; head width across antecular angles, 1.3 mm.

Thorax. Anterolateral pronotal margins slightly but distinctly concave in dorsal view. Humeri angular and prominent but not produced. Pronotal length at midline, 1.6 mm. Venation of hemelytral membrane simple; infuscated basally. Scutellar length, 2.7 mm.

Abdomen. Females with a weak tubercle or prominence at base of venter; tubercle obsolescent in males. Laterotergites of connexivum pale or in some specimens a vague irregular pattern of dark punctations. Each angle of abdominal sternites with a large dark spot.

Genitalia. Male: lateral margins of medial emargination continued as low carinae on posterior face of pygophore. Base of each carina gives rise to a minute, black, tooth. Posterolateral margins of pygophoral rim bent entally as a rounded flange. Each flange with a small emargination near lateral angle (Fig. 5). Paramere bidigitate, asymmetrical

(Fig. 12). Female: Eighth paratergite simple in outline, spiracles absent. Ninth paratergites terminating far from margin of eighth paratergite. First gonocoxites small (Fig. 16).

Types. Holotype: Male [UNAM], verbatim, hand-written label: MEXICO, Puebla, La Libertad, El Ahuacate, 27-V-94. H. Brailovsky. Allotype: Female [UNAM], with same label data as holotype. Paratypes: Two females [TAMU]: MEXICO: Oaxaca, 16.1 mi. nw Totolapan. July 21, 1974. Clarke, Murray, Ashe, Schaffner. One female [DBT]: MEXICO: Oaxaca, 2.8 mi. E. Matatlan. July 24, 1974. Clarke, Murray, Ashe, Schaffner. One male, two females [EGER]: MEXICO: Oaxaca, 3 mi. SE. Matatlan (microondas road), elev. 6650 ft. July 17, 1987. Kovarik, Schaffner. Two females [EGER]: MEXICO: Oaxaca, 3.4 mi. SE. Matatlan, August 6-7, 1980. Schaffner, Weaver, Friedlander. One male [DBT]: MEXICO: Oaxaca, 3.4 mi. SE. Matatlan, August 6-7, 1980. Schaffner, Weaver, Friedlander. One female [EGER]: MEXICO: Oaxaca, 4.2 mi. north Tonaltepec. July 21, 1987. Kovarik, Schaffner. One female [DAR]: Sierra Mixteca, C.A. Purpus S.V.

Etymology. the specific epithet *inermis* means "unarmed"; in reference to the lack of a tubercle at the base of the abdomen.

Remarks. The Sierra Mixteca is in the state of Oaxaca, Mexico.

Acknowledgements

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