

**REVISION OF THE ORTHOTYLINE PLANT BUG GENUS
HYALOCHLORIA, WITH A KEY AND DESCRIPTIONS OF FOUR
NEW SPECIES (HEMIPTERA: HETEROPTERA: MIRIDAE)**

THOMAS J. HENRY

Systematic Entomology Laboratory, Plant Sciences Institute, Agricultural Research,
Service United States Department of Agriculture, % National Museum of Natural
History, Washington, D.C. 20560-0168
(Email: thenry@sel.barc.usda.gov)

Abstract.—The four new species *Hyalochloria apicata*, *H. bispina*, and *H. marginatus* from Brazil, and *H. baranowskii* from Panama and Trinidad, are described; *H. rondoniensis* Carvalho is synonymized under *H. scutellata* Henry; males of *H. antilleana* Carvalho and *H. araripensis* Carvalho are described for the first time; confusion pertaining to the identity of *H. caviceps* and *H. unicolor* is clarified; a lectotype for *H. caviceps* Reuter is redesignated; and numerous new distribution records are given. Photographs of adults, illustrations of male antennae, and a revised identification key to the 20 known species are provided to facilitate recognition.

Key words: Miridae, Orthotylinae, *Hyalochloria*, new species, new combination, male descriptions, distribution, identification key.

The genus *Hyalochloria* was established by Reuter (1907) to accommodate the two new Jamaican species, *H. caviceps* Reuter and *H. unicolor* Reuter, both described from only females. Males and their characteristically modified antennae remained unknown until Hsiao (1945) discovered the new species *H. denticornis* from Peru. Based on these newfound dimorphic structures, Hsiao (1945) transferred *H. bella* Van Duzee (1916) from *Hyalochloria* to his new genus *Saileria*. Carvalho (1953), likewise, recognized that male antennae characterized the genus and transferred *H. almeida* Carvalho (1946) to *Saileria*. Henry (1978) reviewed the genus, described 10 new species, redescribed *H. caviceps* and *H. unicolor*, and provided a key to the 13 known species. Carvalho (1985) described four new species from Brazil and one from the Leeward Islands (Saba and St. Eustatius), Carvalho and Ferreira (1986) transferred *Hyalochloria itatiaiensis* Carvalho and *H. inermis* (Carvalho 1985) to their new genus *Adhyalochloria*, and Carvalho (1990) redescribed and selected a lectotype for *H. caviceps* and redescribed *H. unicolor* based on the holotype female.

Scattered evidence suggests that members of this genus are in large part predatory. Beingolea (1959, 1960) reported *H. denticornis* preying on the cotton leaf worm (*Anomis texana* Riley) and the cotton aphid (*Aphis gossypii* Glover) and observed that it was often found on beans, corn, and potatoes. More recent collections of *H. caviceps* in Florida from a wide range of plant genera (e.g., *Bauhinia*, *Batis*, *Cordia*, *Lantana*, and *Solanum*) offer additional evidence that members of this genus are

opportunistic predators tracking prey across multiple and often unrelated host plants, like a number of other predatory orthotyline mirids, such as *Blepharidopterus angulatus* (Fallén) and *Heterotoma planicornis* (Pallas) (Wheeler and Henry 1992).

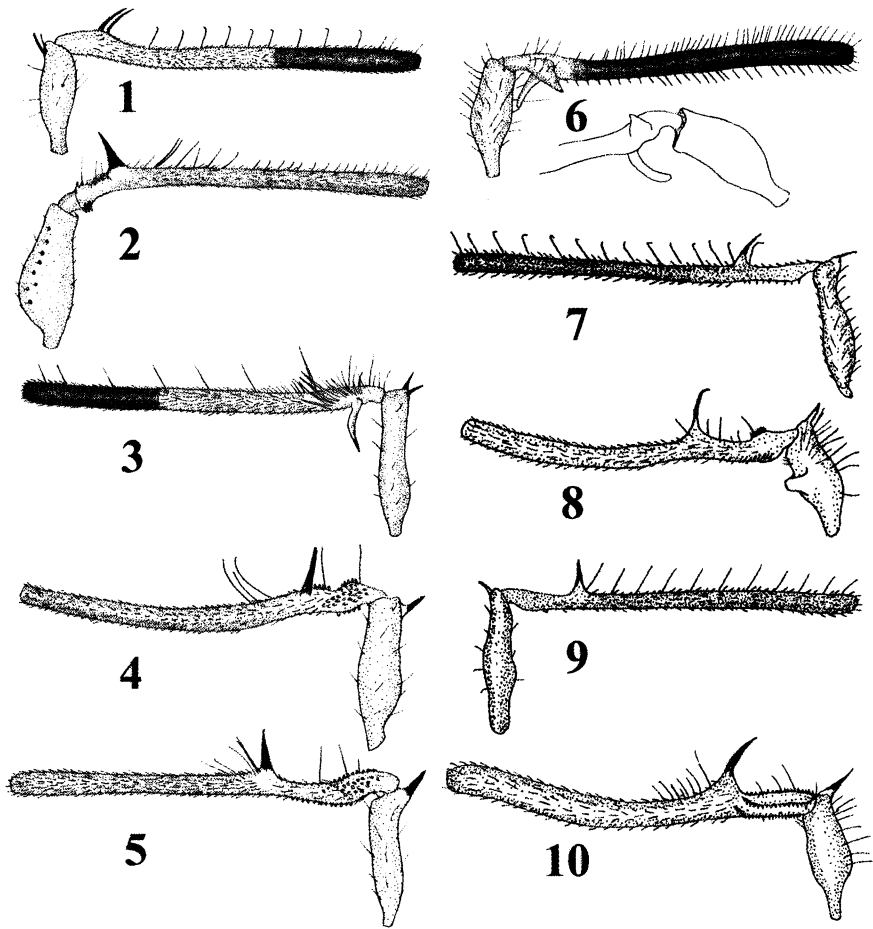
In this paper, I describe the four new species *H. apicata*, *H. baranowskii*, *H. bispina*, and *H. marginatus*; synonymize *H. rondoniensis* Carvalho under *H. scutellata* Henry; describe for the first time males of *H. antilleana* Carvalho and *H. araripensis* Carvalho; redescribe and clarify confusion pertaining to *H. caviceps* and *H. unicolor* as interpreted by Carvalho (1990); redesignate a lectotype for *H. caviceps* Reuter; and give new distribution records for several species. Photographs of the adults, illustrations of male antennae, and a revised identification key to the 20 known species are provided to assist in identification.

The following acronyms are for institutions cited in this paper: AMNH (American Museum of Natural History, New York); BMNH (The Natural History Museum, London; formerly the British Museum [Natural History]); CAS (California Academy of Sciences, Golden Gate Park, San Francisco); MNHN (Museu Nacional de Historia Natural, Quinta Boa Vista, Rio de Janeiro); PNUQ (Politecnica Nacional University, Quito, Ecuador); TAMU (Texas A & M University, College Station); USNM ([United States] National Museum of Natural History, Washington, DC); and ZMUH (Zoological Museum of the University, Helsinki).

Genus *Hyalochloria* Reuter

Hyalochloria Reuter 1907: 18 (n. gen.); Blatchley 1926: 848 (descrip.); Hsiao 1945: 24 (diag.); Carvalho 1952: 77 (list, type), 1953: 573 (note), 1955: 72 (key), 1958: 75 (cat.); Henry 1978: 70 (revision, key); Henry and Wheeler 1988: 412 (cat.); Schuh 1995: 121 (cat.). Type species: *Hyalochloria caviceps* Reuter; designated by Van Duzee 1917: 390; Van Duzee (1916: 218) credited in error by previous authors.

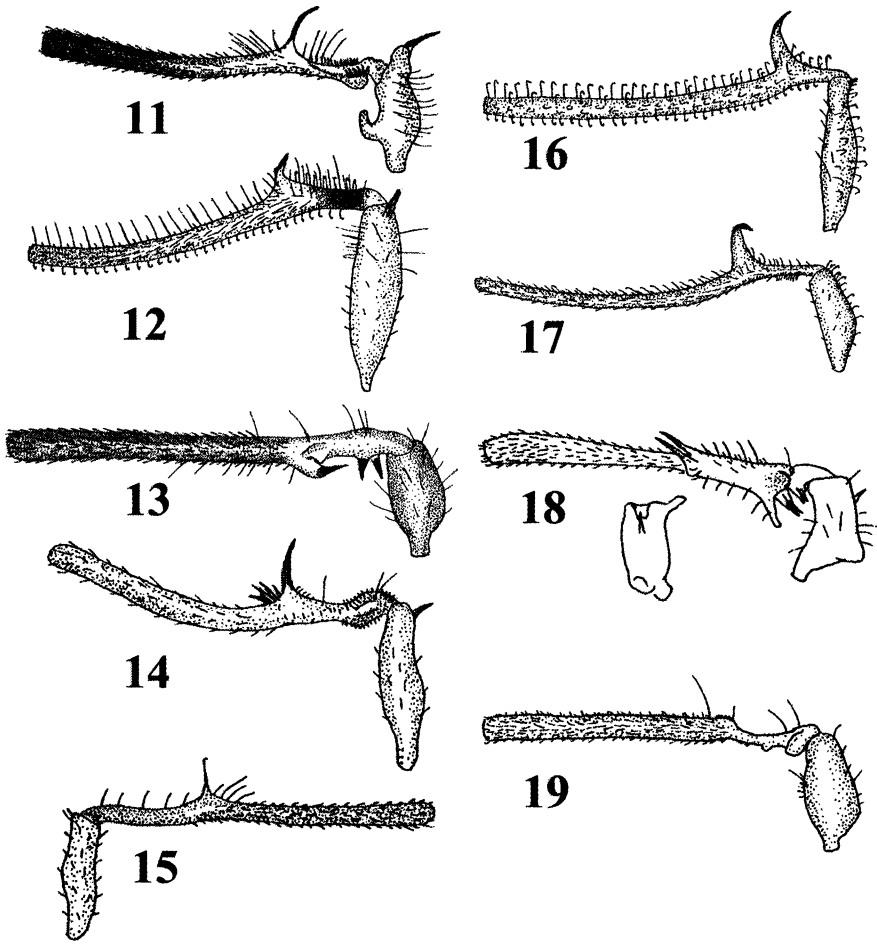
Diagnosis. Small, delicate, hyaline orthotyline, lengths 2.30–2.68 mm. Head broad, wider than anterior margin of pronotum, truncate in front, not protruding beyond eyes; vertex broadly and deeply concave, sometimes with a pubescent tubercle on each side in males, posterior margin narrowly carinate; eyes prominent, usually with short, scattered setae between facets, dorso-posterior margins in males often with long, pilose setae. Antenna slender; segment I globose to elongate, often with a slender apical spine, sometimes with a stout lateral tubercle; segment II longest, slender and simple in females, in males always armed with one or two dorsal or ventral basal or subbasal spines, basal area often flattened or compressed with a small field of microsetae, pubescence usually short, simple, sometimes intermixed with longer (equal to or greater than diameter of segment), erect, often apically recurved, setae. Rostrum slender, extending to bases of metacoxae or slightly beyond. Pronotum trapeziform, width of anterior margin half or less width of posterior margin, basal margin weakly to deeply emarginate; calli prominent, often separated from disc by a deeply impressed transverse line; mesoscutum broadly exposed; scutellum equilateral, ranging from weakly swollen to bulbous. Hemelytron hyaline or translucent, weakly to broadly rounded or arcuate, with short, erect, sometimes dense, simple pubescence; membrane with two closed cells, large areole punctate or weakly



Figs. 1–10. Male antennal segments I and II of *Hyalochloria* spp. 1, *H. aliformis*. 2, *H. antilleana*. 3, *H. apicata*. 4, *H. araripensis*. 5, *H. baranowskii*. 6, *H. bispina*. 7, *H. brasiliensis*. 8, *H. caviceps*. 9, *H. colombiana*. 10, *H. denticornis*.

coriaceous, small areole reduced or absent. Legs slender; tibial spines short, slender, difficult to distinguish from simple setae. Male genitalia simple; vesica simple with typical horseshoe-shaped secondary gonopore, with or without a slender spiculum; parameres simple, unbranched, left paramere slightly longer and more curved than right paramere.

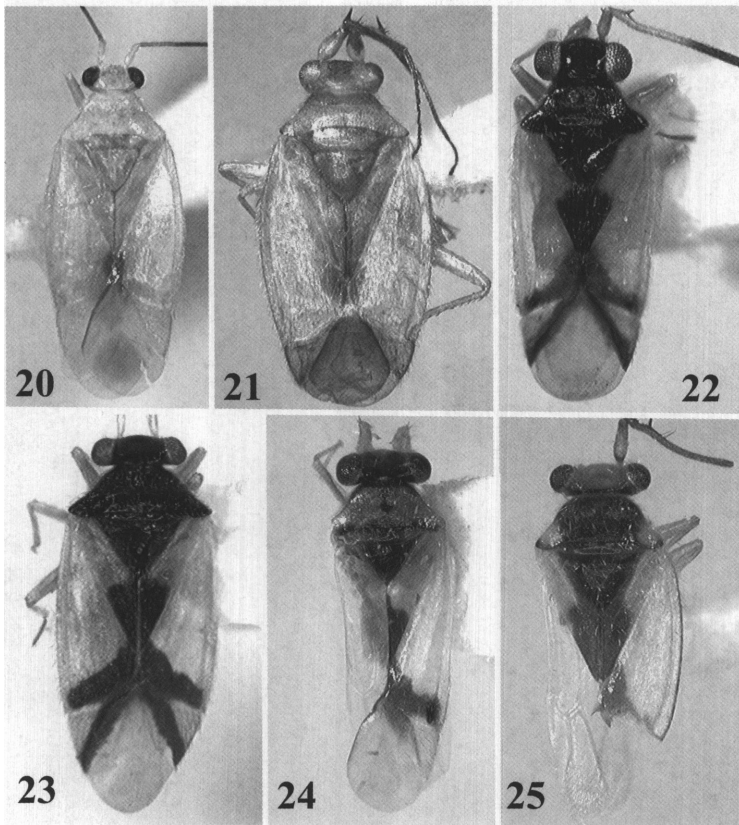
Discussion. Unlike other orthotyline genera, including the similar appearing genus *Adhyalochloria* (Fig. 20), the male antennae of species in *Hyalochloria* are strongly modified. The antennae of females are slender and unmodified, whereas males always possess spines or tubercles on antennal segment II (Figs. 1–19), and almost



Figs. 11–19. Male antennal segments I and II of *Hyalochloria* spp. 11, *H. fuscicornis*. 12, *H. longicornis*. 13, *H. marginata*. 14, *H. mexicana*. 15, *H. schaffneri*. 16, *H. schuhi*. 17, *H. scutellata*. 18, *H. tuberculata*. 19, *H. unicolor*.

always on segment I. The male genitalia in *Hyalochloria*, however, are simple and offer minimal diagnostic value for separating species, making the male antenna the only certain way to distinguish species at this time. Henry (1978) illustrated the parameres of seven species; Carvalho (1985), the parameres and vesica of *H. caviceps*; and Carvalho (1990), the parameres and spiculum of *H. scutellata* Henry (as jr. syn. *H. rondoniensis*).

Maldonado (1969) reported this genus from Puerto Rico based on a poorly preserved male in his collection that was missing the hemelytra. Unfortunately, I was



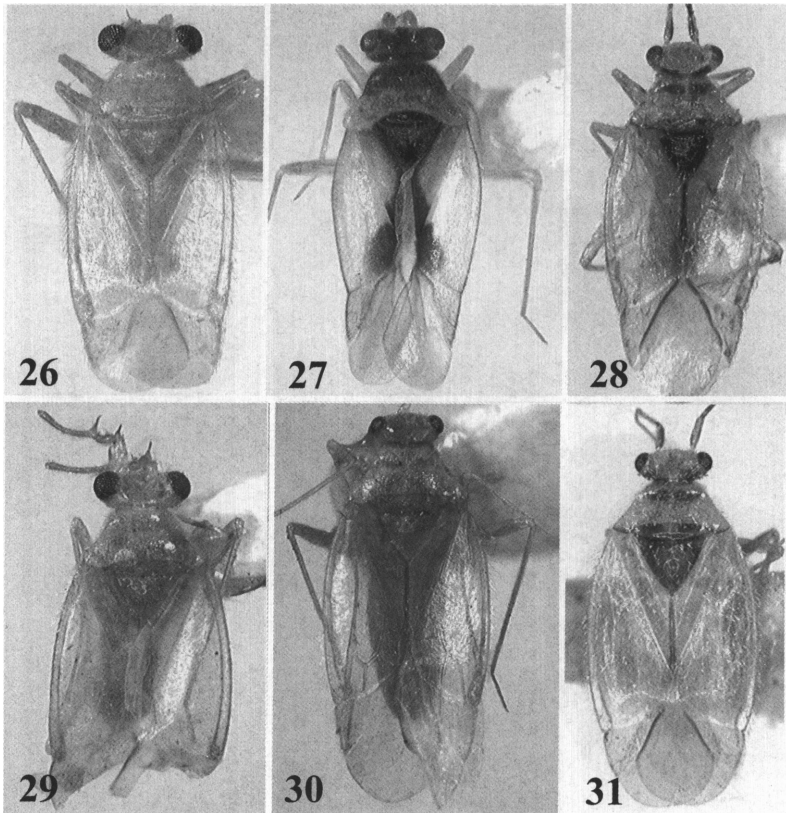
Figs. 20–25. Adult *Adhyalochloria* and *Hyalochloria* spp. 20, *A. itataiensis*, ♀. 21, *H. aliformis*, ♂. 22, *H. aliformis*, ♀. 23, *H. antilleana*, ♂. 24, *H. apicata*, ♂. 25, *H. araripensis*, ♂.

unable to find this specimen and the figure he provided of the peculiarly short second antennal segment does not allow me to confirm his report.

The following key is based on males, except for *H. arcuata*, known only from the holotype female.

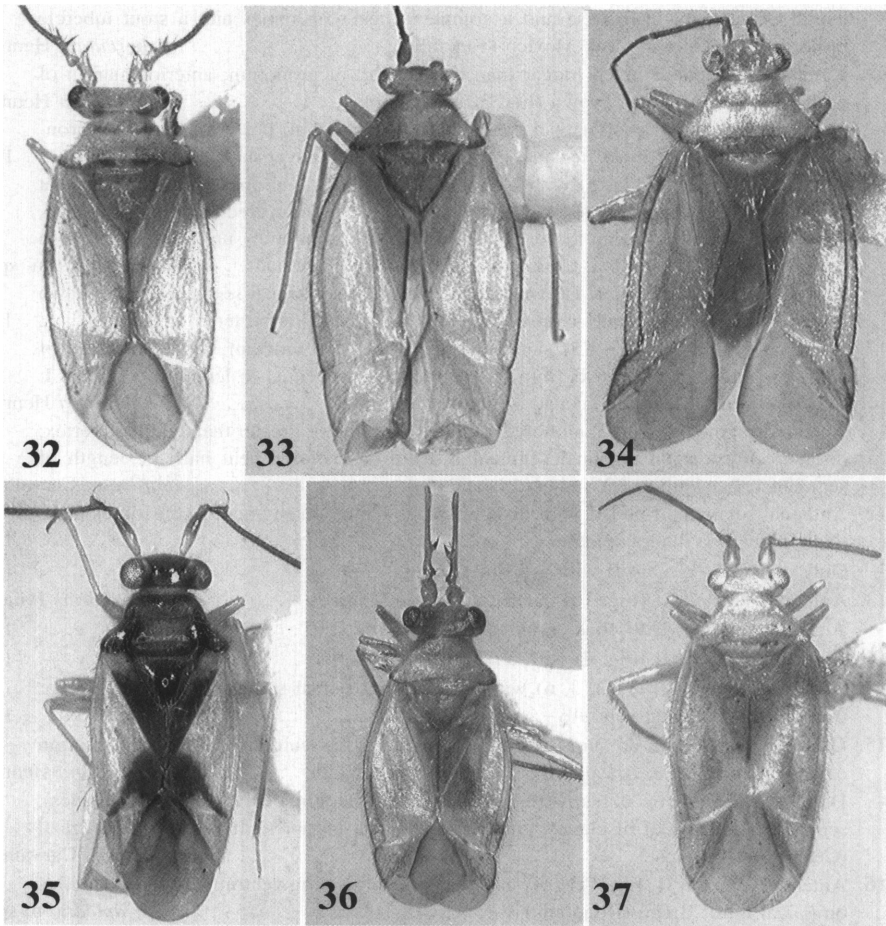
KEY TO THE SPECIES OF *HYALOCHLORIA*

- 1. Dorsum uniformly pale yellow to green, without distinct fuscous markings on dorsum, at most narrowly accented with fuscous on calli and narrowly along pronotal or hemelytral margins 2
- Dorsum not uniformly pale, always extensively marked with fuscous on head, pronotum, scutellum, and/or hemelytra 12
- 2. Body form broadly rounded, width across hemelytra greater than length of antennal segments 2–4 combined and equal to or greater than half the length of the dorsum 3



Figs. 26–31. Adult *Hyalochloria* spp. 26, *H. baranowskii*, ♂. 27, *H. bispina*, ♂. 28, *H. brasiliana*, ♂. 29, *H. caviceps*, ♂. 30, *H. colombiana*, ♀. 31, *H. denticornis*, ♀.

- Body form not as broad, width across hemelytra much less than length of antennal segments 2–4 combined and less than half the length of the dorsum 4
- 3. Body uniformly green, pronotum and hemelytra without fuscous margins; male antenna unknown; Brazil *arcuata* Henry
- Body yellowish brown to testaceous; pronotum and hemelytra narrowly margined with fuscous (Fig. 33); underside of antennal segment II (Fig. 13) with two short, stout, spines at base and a longer curved spine just beyond; Panama *marginata*, n. sp.
- 4. Antennal segment II (Fig. 8) lacking a distinct dorsal spine; overall coloration green (Fig. 29); Cuba, Dominican Republic, Jamaica, United States (Florida) *unicolor* Reuter
- Antennal segment II with a distinct spine; overall coloration pale yellow to yellowish brown 5
- 5. Antennal segment I armed with a distinct lateral tubercle (Figs. 11, 19) 6
- Antennal segment I without a lateral tubercle 7
- 6. Lateral tubercle on antennal segment I curved upward (Fig. 11); area beyond dorsal spine of antennal segment II fuscous; length of setae arising from eyes equal to or



Figs. 32–37. Adult *Hyalochloria* spp. 32, *H. fuscicornis*, ♂. 33, *H. marginata*, ♂. 34, *H. schaffneri*, ♀. 35, *H. scutellata*, ♂. 36, *H. tuberculata*, ♂. 37, *H. unicolor*, ♂.

- greater than length of antennal segment I; calli brown, not concolorous with dorsum; Argentina *fuscicornis* Henry
- Lateral tubercle on antennal segment I straight (Fig.19); area beyond dorsal spine on antennal segment II pale; length of setae arising from eyes less than length of antennal segment I; calli pale green, concolorous with dorsum; Jamaica, Trinidad *caviceps* Reuter
- 7. Vertex with a short pubescent tubercle on either side 8
- Vertex without a short pubescent tubercle on either side 9
- 8. Antennal segment II (Fig. 16) with one stout, apically curved, dorsal spine, arising near base of segment by a distance much less than length of spine; Peru *schuhi* Henry
- Antennal segment II (Fig. 18) with two relatively slender dorsal spines about 1/3

- length of segment from base and a complex cluster of spines and a stout tubercle projecting ventrally at base; Mexico (Tamaulipas) *tuberculata* Henry
9. Antennal segment II much longer than basal width of pronotum; anterior margin of pronotum narrowly dark brown (Fig. 30); Colombia *colombiana* Henry
- Antennal segment II shorter than basal width of pronotum; posterior angles of pronotum sometimes narrowly fuscous, but anterior margin never dark brown 10
10. Antennal segment I (Fig. 5) with a distinct fuscous spine at apex; antennal segment II yellowish brown, spine stout, fuscous, with 5 or 6 stout erect setae just beyond, sometimes fused to form loose spinelike clusters; pronotum uniformly yellowish brown (Fig. 26); Colombia, Costa Rica, Panama, and Trinidad *baranowskii*, n. sp.
- Antennal segment I (Figs. 1, 15) without an apical spine; antennal segment II dark brown to fuscous; pronotum usually narrowly marked with fuscous at posterior angles 11
11. Antennal segment I (Fig. 15) slender, length less than width of vertex; distance of spine on antennal segment II from base of segment subequal to length of segment I; Costa Rica and Mexico (Oaxaca) *schaffneri* Henry
- Antennal segment I (Fig. 2) globose, length subequal to or greater than width of vertex; distance of spine on antennal segment II from base of segment half the length of segment I; Leeward and Windward Islands *antilleana* Carvalho
12. Antennal segments I and II with distinct spines (spine on segment I sometimes more like a stout seta than a spine) 13
- Only antennal segment II with a distinct spine 17
13. Antennal segment II (Fig. 10) pale; Ecuador and Peru *denticornis* Hsiao
- Antennal segment II fuscous on apical half or more 14
14. Antennal segment II (Fig. 7) with a distinct dorsal spine 15
- Antennal segment II (Figs. 3, 6) without a distinct dorsal spine, instead with one or two spines projecting ventrally 16
15. Dark brown areas on dorsum (Fig. 28) limited to calli, scutellum, and narrow margin of claval commissure; Brasil (Minas Gerais) and Ecuador *brasiliiana* Henry
- Dark brown areas on dorsum (Fig. 25) include pronotum (except posterior angles), scutellum, apical half of clavus, and irregular patch on apical area of corium; Brazil (Ceará) and Panama *araripensis* Carvalho
16. Antennal segment II (Fig. 3) with one stout spine projecting ventrally, segment fuscous on apical third; Brazil (Rondônia) *apicata*, n. sp.
- Antennal segment II (Fig. 6) with two stout spines projecting ventrally, one short and stout, one longer and curving; segment fuscous, except for basal area around spines; Ecuador and Peru *bispina*, n. sp.
17. Head and pronotum mostly fuscous to black 18
- Head and pronotum mostly pale yellow to testaceous 19
18. Spine on antennal segment II (Fig. 17) stout at base and recurved apically; apical half of clavus fuscous (Fig. 35); cuneus uniformly pale; Peru *scutellata* Henry
- Spine on antennal segment II (Fig. 1) comprised of two slender, fused, setalike spines; only apical third of clavus fuscous (Fig. 21); inner margin of cuneus bordering membrane fuscous; Brazil (Rondônia) *aliformis* Carvalho
19. Antennal segment II (Fig. 14) uniformly testaceous, clothed with short, recumbent setae; dorsal spine slender and straight; El Salvador and Mexico (Chiapas and Mexico, DF) *mexicana* Henry
- Antennal segment II (Fig. 12) testaceous, narrowly fuscous at base before spine, clothed with long erect setae; dorsal spine stout at base and strongly recurved at apex; Peru *longicornis* Henry



Fig. 38. Distribution of *Hyalochloria* spp. Open circles: *H. aliformis*; closed circles: *H. antilleana*; open square: *H. apicata*; closed squares: *H. araripensis*.

Hyalochloria aliformis Carvalho

Figs. 1, 21, 22, 38

Hyalochloria aliformis Carvalho 1985: 263 (n. sp.), Schuh 1995: 121 (cat.).

Diagnosis. This species is distinguished by the apically fuscous antennal segment II

having a slender fuscous spine (Fig. 1) and the fuscous head, pronotum, scutellum, and markings on the clavus, corium, and hemelytral membrane (Figs. 21, 22).

Discussion. *Hyalochloria aliformis* was described from a male taken in Ouro Preto, Rondônia, Brazil, XI.1983, O. Roppa collection (MNHN). Carvalho (1985) illustrated the adult male. I have examined eight additional specimens from Fazenda Rancho Grande in Rondônia.

Material examined. BRAZIL, **Rondônia:** 5 ♂♂, 3 ♀♀, 62 km SW Ariquemes, nr F[a]z[en]da. Rancho Grande, 3-15-XII 1996, J. E. Eger, MV & black light (2 ♂♂, 2 ♀♀ TAMU; 3 ♂♂, 1 ♀ USNM).

Hyalochloria antilleana Carvalho

Figs. 2, 23, 38

Hyalochloria antilleana Carvalho 1985: 264 (n. sp.), Schuh 1985: 121 (cat.).

Diagnosis. This species is distinguished by the single spine on antennal segment II with 4 or 5 prominent setae just beyond (Fig. 2) and by the overall testaceous dorsum narrowly accented with brown along the of the claval commissure and inner margin of the hemelytral membrane (Fig. 23).

Description. *Male.* Length 2.45 mm, width 1.15 mm, overall coloration pale yellow or testaceous, tinged with brown on frontal area and narrowly along claval commissure and inner margin of hemelytral membrane. *Head.* Width 0.59 mm, vertex 0.31 mm, yellowish, tylus and frons between antennal bases largely brown, clothed with erect simple setae, basal margin adjacent to eyes much longer than diameter of antennal segment I. *Rostrum.* Length 0.91 mm, extending slightly beyond bases of metacoxae. *Antenna.* Segment I, length 0.33 mm, globose (0.13 mm at widest diameter), apex with a short, indistinct spine; II, 0.86 mm, brown, basal area before spine with small field of microspines, primary spine fuscous, stout, erect, base swollen, remainder of segment evenly slender, clothed with recumbent and erect setae, 4 or 5 setae just beyond spine longer and more prominent; III, 0.45 mm; IV, 0.37 mm. *Pronotum.* Length 0.36 mm, basal width 0.90 mm, uniformly yellow or testaceous. *Scutellum.* Concolorous, weakly swollen. *Hemelytron.* Uniformly yellowish to testaceous, margin of claval commissure and inner margin of membrane very narrowly infuscated, evenly clothed with erect, simple setae. *Ventral surface.* Pale yellow to testaceous, genital capsule weakly brown tinged. *Legs.* Uniformly yellowish to testaceous.

Discussion. *Hyalochloria antilleana* previously was known from only two females, the holotype (USNM) from Saba and a paratype (MNHN) from St. Eustatius (Leeward Islands). Carvalho (1985) illustrated the holotype but females, particularly those of this species, possess few easily identifiable characteristics or markings, making it difficult to associate them with males or distinguish from them other pale species. I have found, however, a male from Dominica that agrees well with the holotype female in having an overall pale testaceous coloration, with the inner margin of membrane and claval commissure very narrowly infuscated and the antennal segment II darker brown. This specimen is also from the approximate area of the two female types, making it probable that it is the male of *H. antilleana*. Until males and females from the type locality can be collected together to verify my assumption, the following male described above is considered to represent the species.

Material examined. LEEWARD ISLANDS: Holotype ♀, Saba, The Bottom, 10/12 1956, R. H. Cobben, "Lantana oranji" (USNM). WINDWARD ISLANDS: 1 ♂, Dominica, BWI, Antrim, 1,000', 12 III.1956, J. F. G. Clarke (USNM).

***Hyalochloria apicata*, new species**

Figs. 3, 24, 38

Diagnosis. *Hyalochloria apicata* can be recognized by the apically fuscous antennal segment II, having a long ventrally projecting spine at the base (Fig. 3) and the overall pale yellow coloration, with the head, mesoscutum, scutellum, apex of clavus, and apex of corium dark brown or fuscous (Fig. 24).

Description. *Male.* Length 2.48 mm, width 0.90 mm; overall coloration pale yellow with head, scutellum, and marks on pronotum and hemelytra dark brown or fuscous. *Head.* Width 0.62 mm, vertex 0.27 mm; fuscous, with a small pale spot on frons near base of tylus. *Rostrum.* Length 0.90 mm, extending beyond metacoxae to basal 1/3 of abdomen. *Antenna.* Segment I, length 0.38 mm, pale yellow, with two closely set, slender, apical spines; II, 0.84 mm, pale yellow, apical 1/3 fuscous, base with an elongate, stout, ventrally projecting spine; III, 0.44 mm, pale yellow; IV, missing. *Pronotum.* Length 0.32 mm, basal width ca 0.80 mm (left corner broken); yellowish brown, with anterior and posterior margins and median line fuscous; mesoscutum dark brown, pale on either side. *Scutellum.* Dark brown or fuscous. *Hemelytron.* Pale yellow, apical 1/3 of clavus, broad band across apex of corium bordering cuneus, and inside of large areole dark brown. *Ventral surface.* Propleura and thoracic segments tinged with brown; abdomen pale yellow. *Legs.* Uniformly pale yellow.

Female. Unknown.

Etymology. This species is named "apicata" to denote the fuscous apical 1/3 of antennal segment II.

Type. Holotype, ♂: BRAZIL, **Rondônia**: 62 km SW Ariquemes, nr. F[a]z[en]da. Rancho Grande, 28-X-1996, K. Vulinec, M.V. Light Trap (MNHN).

***Hyalochloria araripensis* Carvalho**

Figs. 4, 25, 38

Hyalochloria araripensis Carvalho 1985: 265 (n. sp.), Schuh 1995: 122 (cat.).

Diagnosis. This species is recognized by the basally compressed antennal segment I with a single stout dorsal spine and three long setae just beyond (Fig. 4) and by the fuscous pronotum (except posterior angles), scutellum, and markings on the clavus and corium (Fig. 25).

Description. *Male* (N = 3). Length 2.43–2.90 mm, width 1.15–1.18 mm. *Head.* Width 0.69–0.75 mm, vertex 0.34–0.38 mm; yellowish brown, basal carina narrowly fuscous. *Rostrum.* Length 0.72–0.77 mm, extending to bases of metacoxae. *Antenna.* Segment I, length 0.33–0.35 mm, elongate, brown, with a slender subapical spine; II, 0.82–0.91 mm, brown, base compressed, slightly curved with two fields of microspines, subapical dorsal spine stout, fuscous, curved posteriorly, with three long slender setae just beyond; III, 0.48–0.52 mm; IV, 0.40–0.46 mm. *Pronotum.* Length 0.39–0.44 mm, basal width 0.87–0.96 mm, dark brown with posterior angles, except narrow fuscous edge, pale yellow. *Scutellum.* Dark brown, moderately swollen, level

with mesoscutum and base of pronotum; mesoscutum dark brown. *Hemelytron*. Hyaline, clavus more opaque pale yellow; apical half of clavus, irregular cloud at inner apical angle of corium, narrow edge of embolium, and basal edge of membrane bordering cuneus dark brown. Ventral surface and legs uniformly pale yellowish brown.

Discussion. *Hyalochloria araripensis* previously was known only from the holotype female taken at Barbalha, Ceará, Brazil (MNHN). I now have studied three additional males and three females from Panama bearing the same color pattern as the female holotype, including the pale posterior angles of an otherwise dark pronotum, that I believe are conspecific with *H. araripensis*. The markings of this species (Fig. 25), also illustrated by Carvalho (1985), resemble those found on *H. aliformis* Carvalho (Figs. 21, 22) and *H. scutellata* Henry (Fig. 34). The pale posterior angles of the pronotum, the dark lines extending along the inner margin of the cuneus, and the presence of a subapical spine on antennal segment I, as well as the lack of a bulbous scutellum, will separate *H. araripensis* from both species.

Material examined. PANAMA, Canal Zone: 1 ♂, Mojinga Swamp, nr. Ft. Sherman, 23-VIII-1951, F. S. Blanton (USNM); Panamá Prov.: 1 ♂, 4 ♀♀, Malta Ahogado, 22-vii-1999, el. 2,000 ft, J. C. Schaffner (TAMU); Chiriqui Prov.: 1 ♂, Reserva La Fortuna, Lights at Fortuna dam, elev. 1,000 m, June 25–29, 1996, Gillogly & Schaffner (TAMU).

Hyalochloria arcuata Henry

Fig. 39

Hyalochloria arcuata Henry 1978: 71 (n. sp.), Schuh 1995: 122 (cat.).

Diagnosis. This species is easy to recognize by the extremely broad form and uniform green dorsal coloration. Despite the apparent distinctness of *H. arcuata*, experience shows that there is always the possibility of confusion if other similar species are discovered, making it very unwise to describe new species of this genus based only on females.

Discussion. *Hyalochloria arcuata* was described from a female taken at Pernambuco, Penedo, Brazil (MNHN). Henry (1978) illustrated the holotype. No additional specimens have been discovered, but males should be easy to associate when they are found.

***Hyalochloria baranowskii*, new species**

Figs. 5, 26, 39

Diagnosis. This species is distinguished by the combination of a slender apical spine on antennal segment I and a stout fuscous spine on antennal segment II, with 5–6, stout, erect setae just beyond (Fig. 5), and the uniformly pale yellow to greenish-yellow dorsal coloration (Fig. 26).

Description. *Male* (N = 4). Overall coloration pale yellow, more pale hyaline yellowish green on hemelytra; uniformly clothed on dorsum with erect, pale yellow, simple setae, base of head on each side of vertex near eyes with 3 or 4 long, pilose setae. Length 2.48–2.60 mm, width 1.04–1.08 mm. *Head.* Width 0.61–0.65 mm, vertex 0.34–0.36 mm. *Rostrum.* Length 0.80–0.84 mm, extending to bases of me-



Fig. 39. Distribution of *Hyalochloria* spp. Closed square: *H. arcuata*; closed circles: *H. baranowskii*; open squares: *H. bispina*; open circles: *H. braziliana*.

tacoxae. *Antenna*. Segment I, length 0.29–0.30 mm, stout, more bulbous on basal half, apex with a sharp slender spine; II, 0.77–0.82 mm, base before spine compressed with a small field of dark microsetae, and single dorsal spine fuscous, with 5–6 long dark setae just beyond, sometimes fused to form spinelike clusters; III,

0.46–0.48 mm; IV, 0.35–0.45 mm. *Pronotum*. Length 0.36–0.37 mm, basal width 0.83–0.86 mm; uniformly pale yellow, calli distinct, separated from disc by as transverse, impressed line. *Scutellum*. Weakly swollen, raised only slightly above level of hemelytra. *Hemelytron*. Hyaline, pale yellowish, tinged with green. *Ventral surface*. Uniformly pale yellow. *Legs*. Uniformly pale yellow.

Female (N = 2). Length 2.40–2.56 mm, width ca.1.04–1.26 mm. *Head*. Width 0.59–0.61 mm, vertex 0.30–0.31 mm. *Rostrum*. Length 0.78 mm (for both specimens). *Antenna*. Segment I, length 0.21–0.23 mm; II, 0.61–0.65 mm; III, 0.29–0.35 mm; IV, 0.27–0.30 mm. *Pronotum*. Length 0.34–0.35 mm, basal width 0.80–0.82 mm. Similar to male in the overall pale yellow to pale greenish-yellow coloration, with only the base of antennal segment II infuscated.

Etymology. This species is named in honor of recently retired Dr. R. M. Baranowski (University of Florida, Homestead) for his numerous collections of Heteroptera from the Caribbean region and many published contributions, particularly those treating the pentatomomorphan superfamily Lygaeoidea.

Types. Holotype ♂: TRINIDAD, Pt of Spain, 9 VI 1953, F. S. Blanton collection (USNM). Paratypes: COLOMBIA, **Cundinamarca**: 1 ♂, Sasaima, Apr. 1965, J. A. Ramos (USNM [Drake Maldonado accession]). PANAMA: 2 ♂♂, Garachine, 22 II 1953, F. S. Blanton (USNM). TRINIDAD: 1 ♂, same data as for holotype (USNM).

Other material examined. COLOMBIA, **Cundinamarca**: 1 ♀, Rio Sumapaz Gorge, E. of Melgarm 1,000 m, 5-I-59, J. F. G. Clarke (USNM). COSTA RICA: 1 ♀, B.J.N.M. Ag 21 km S. Canas, Guanacaste, at light, VII-27-1990, M. F. Chamberlain (TAMU).

***Hyalochloria bispina*, new species**

Figs. 6, 27, 39

Diagnosis. This species is easily recognized by the two stout ventrally projecting spines on antennal segment II (Fig. 6) and the fuscous head, anterior lobe of the pronotum, scutellum, apical third of the clavus, apical spot on corium, and male genital capsule (Fig. 27).

Description. *Male* (N = 5). Length 2.37–2.69 mm, width 0.99–1.12 mm; overall coloration pale yellow to pale yellowish brown, with head, anterior lobe of pronotum, mesoscutum, scutellum, apical spot on corium, and most of antennal segment II dark brown or fuscous, thickly clothed with short erect setae, some longer on pronotum. *Head*. Width 0.57–0.61 mm, vertex 0.29–0.31 mm, uniformly fuscous, vertex deeply concave with a blunt pubescent tubercle on each side, basal edge of head near hind margin of eyes with several long, pilose setae. *Rostrum*. Length 0.90–0.94 mm, extending slightly beyond bases of metacoxae to base of abdomen. *Antenna*. Segment I, length 0.23–0.25 mm, mostly pale with apex dark brown, with a few scattered erect setae, apical spine absent; II, 0.74–0.83 mm, fuscous, except pale basal area having two stout ventrally projecting spines, inner spine short straight, outer spine longer, more recurving, clothed from basal spine to apex with long, apically recurved setae; III, 0.38–0.47 mm, pale; IV, 0.42–0.43 mm, pale. *Pronotum*. Length 0.40–0.43 mm, basal width 0.86–0.95 mm; pale yellow, with anterior lobe fuscous; calli swollen, separated from posterior lobe by a deeply impressed transverse line. *Scutellum*. Weakly swollen, raised only slightly above level of hemelytra. *Hemelytron*.

Pale yellow, with the apical third of the clavus, a large spot on the inner apical margin of the corium, and narrow margins of the embolium and claval commissure fuscous. *Ventral surface.* Propleura and thoracic segments tinged dark brown; abdomen pale yellow, with genital capsule dark brown. *Legs.* Uniformly pale yellow.

Female (N = 5). Length 2.50–2.68 mm, width 1.14–1.17 mm. *Head.* Width 0.59–0.60 mm, vertex 0.31 mm. *Rostrum.* 0.92–0.95 mm. *Antenna.* Segment I, length 0.22–0.23 mm; II, 0.62–0.65 mm; III, 0.39–0.47 mm; IV, 0.39–0.47 mm. *Pronotum.* Length 0.40–0.44 mm, basal width 0.87–0.90 mm. Similar to male in color, differing in the slightly broader and lack of pubescent tubercles on the frons.

Etymology. This species is named “bispina” for the two characteristic spines on antennal segment II.

Types. Holotype ♂: ECUADOR, **Napo:** Res. Ethinica Waorani, 1 km S Onkone Gare Camp, Tran. Ent. 19, Jan. 1994, 220 m, 00°38'S 076°36'W, T. L. Erwin, et. al., insecticidal fogging of mostly bare green leaves, some with covering of lichenous or bryophytic plants, Project Maxus, At x-trans 9, 40 m, lot 602 (held in trust at USNM for PNUQ). Paratypes: ECUADOR, **Napo:** ♂, same data as for holotype, except Trans Ent. 3, July 1994, 00°39'10"S 076°26'W, at 3x trans, 76 m mark, lot 766 (USNM); 17 ♂♂, 17 ♀♀, Tiputini Biodiversity Station, 00°37'55"S, 076°08'39"W, Oct. 1998, T. L. Erwin et al., insecticidal fogging of mostly bare green leaves, some with covering of lichenous or bryophytic plants (PNUQ, USNM); 1 ♀, Tiputini Biodiversity Station, 00°37'55"S, 076°08'39"W, Feb. 1999, T. L. Erwin et al., insecticidal fogging of mostly bare green leaves, some with covering of lichenous or bryophytic plants (USNM). PERU, **Madre de Dios:** 1 ♂, Rio Tambopata Res, 30 km (air) SW Pto. Maldonado, 290 m, 12°50'S, 69°17'W, Smithsonian Institution Canopy Fogging Project, T. L. Erwin et al., 4 May 1984, 01/02 (USNM).

Hyalochloria brasiliana Henry

Figs. 7, 28, 39

Hyalochloria brasiliana Henry 1978: 73 (n. sp.), Schuh 1995: 122 (cat.).

Diagnosis. This species can be distinguished by the fuscous second antennal segment bearing hooked setae (Fig. 7) and the fuscous mesoscutum and scutellum (Fig. 28).

Discussion. *Hyalochloria brasiliana* was described from a male taken at Bello Horizonte, Minas Gerais, Brazil (CU). Henry (1978) illustrated the male antenna and parameres. I have examined a female from Ecuador that appears conspecific and represents a new country record.

Material examined. BRAZIL, **Minas Gerais:** Holotype ♂, Belo Horizonte, 1–6 Nov' 19, Cornell University Exped. (CU). ECUADOR, **Pichincha:** 1 ♀, Santo Domingo (47 km S), Malaise, 22–28 July 1976, Jeffrey Cohen (Ecuador Peace Corps-Smithsonian Institution Aquatic Insect Survey) (USNM).

Hyalochloria caviceps Reuter

Figs. 8, 29, 40

Hyalochloria caviceps Reuter 1907: 20 (n. sp.); Van Duzee 1907: 29 (note, distr.); Van Duzee 1917: 390 (type desig.); Hsiao 1945: 24 (note); Carvalho 1952: 77 (as



Fig. 40. Distribution of *Hyalochloria* spp. Closed circles: *H. caviceps*; closed squares: *H. colombiana*; open circles: *H. denticornis*; open squares: *H. fuscicornis*.

type), 1958: 76 (in part; cat.), 1990: 199 (descrip., distr.); Henry and Wheeler 1988: 412 (in part; cat); Schuh 1995: 122 (in part; cat.).

Hyalochloria unicolor: Henry 1978: 86 (descrip., distr.), Schuh 1995: 122 (in part; cat.).

Diagnosis. *Hyalochloria caviceps* is recognized by the straight lateral tubercle on antennal segment I of the male and overall yellowish coloration (Fig. 29), sometimes with the posterior angles of the pronotum narrowly fuscous. It is most similar to *H. fuscicornis* Henry, the only other species with a lateral tubercle on antennal segment I, but can be distinguished by the shorter, straight lateral tubercle (Fig. 8), rather than a more elongate, dorsally curved tubercle (Fig. 11).

Description. *Male* (N = 3). Overall coloration pale yellow, more pale hyaline yellowish on hemelytra; uniformly clothed on dorsum with erect, pale yellow, simple setae. Length 2.50–2.69 mm, width 0.99–1.17 mm. *Head.* Width 0.60–0.62 mm, vertex 0.31–0.36 mm, front margin of eyes and adjacent edge of vertex with a few very long or pilose setae. *Rostrum.* Length 0.081–0.96 mm, extending to bases of metacoxae. *Antenna.* Segment I, length 0.25–0.29 mm, elongate, with a long, stout dorsal spine at apex and a short lateral tubercle middle; II, 0.76–0.87 mm, yellowish to brown, basal bulbous, area between dorsal spine and base compressed and bordered on each side with a row of dark peglike microsetae; III, 0.49 mm (missing on 2 specimens), brown; IV, missing. *Pronotum.* Length 0.036–0.39 mm, basal width 0.78–0.85 mm; uniformly pale yellow, calli distinct, separated from disc by a transverse, impressed line, posterior angles sometimes very narrowly fuscous. *Scutellum.* Weakly swollen, raised only slightly above level of hemelytra. *Hemelytron.* Hyaline, pale yellowish, sometimes weakly tinged with green along costal area. *Ventral surface.* Pale yellow. *Legs.* Uniformly pale yellow.

Female (N = 4; lectotype in parentheses). Length 2.65–2.95 mm (2.78 mm), width 1.07–1.24 mm (1.12 mm). *Head.* Width 0.55–0.62 mm, vertex 0.31–0.34 mm (0.31 mm). *Rostrum.* All missing or imbedded in glue. *Antenna.* Segment I, length 0.23–0.27 mm (0.23 mm); II, 0.68–0.77 mm (0.68 mm); III, 0.47–0.49 mm (0.48 mm); IV, 0.32–0.39 mm (0.39 mm). *Pronotum.* Length 0.33–0.38 mm (0.36 mm), length 0.83–0.91 mm (0.85 mm). Similar to male in overall pale yellowish coloration, but differing in the broader form and simple unarmed antenna, with segment segment II–IV more brown.

Hosts. Two specimens from Kingston, Jamaica, were taken on *Lantana camara* (L.). This record was previously reported for *H. caviceps* (of authors nec Reuter) by Henry (1978).

Discussion. *Hyalochloria caviceps* was described from an unspecified number of females taken by E. P. Van Duzee at Mandeville, Jamaica (Reuter 1907). Van Duzee (1907) stated that *H. caviceps* was "Not uncommon" and that he "... took it at Mandeville, Balaclava, Montego Bay and Richmond." He also noted that it resembled "*Diaphnidia parvula* Uhler [manuscript name] from Florida." and later gave the first report for Florida (Van Duzee 1916). These statements led subsequent authors, including Henry (1978), to reverse the identities of *H. caviceps* and *H. unicolor*, both of which were described from difficult-to-separate females.

Carvalho (1990) studied Van Duzee's material taken at Montego Bay, Pt. Antonio, and Mandeville, Jamaica, now deposited in the California Academy of Sciences, and

determined that Van Duzee (1907, 1916) and subsequent authors confused *H. caviceps* and *H. unicolor*, and thus indicated that all records of *H. caviceps* from Florida should be referred to *H. unicolor*. Despite Reuter's (1907) mention of only females of *H. caviceps* from Mandeville, Carvalho treated all of Van Duzee's associated Jamaican material from Mandeville as "syntypes," including a male which he designated as the lectotype. Based on this designation, he indicated that Henry (1978) had reversed the identities of *H. caviceps* and *H. unicolor*. It is clear, however, that Reuter (1907) had only a female when describing *H. caviceps*, making the male lectotype designated by Carvalho (1990) invalid, according to Article 74.2 of the International Code of Zoological Nomenclature (1999).

I have restudied four Van Duzee females from Mandeville, Jamaica, including one in CAS, one in USNM, and two in the ZMUH, and all are conspecific based on structural measurements and on the narrowly fuscous posterior angles of the pronotum. Also, one of the Helsinki specimens is mounted on the same pin with a separately pointed male (not mentioned by Reuter) that also possesses the distinct fuscous posterior pronotal angles found in Jamaican females, as well as distinctive sexually dimorphic spined antennae. This associated male confirms that everyone, including Van Duzee (1907, 1917) and Henry (1978), erred in their concepts of the species *H. caviceps* and *H. unicolor*. This material also agrees with Carvalho's (1990) lectotype male in CAS, noted above as invalid. Therefore for stability of this long confused species, I am selecting as the lectotype the following female that agrees with revised concept of *H. caviceps*: Label 1, "Mandev'le[,] Ja. [,] Apr. 06"; 2, "Van Duzee Collector"; 3 (here added), "Lectotype: ♀: *Hyalochloria caviceps* Reuter, desig. by TJ Henry." (CAS). The one ♀ in the USNM collection and two females in the ZMUH are labeled as paralectotypes. The invalid male lectotype designated by Carvalho (1990) in CAS and the male in ZMUH (mounted on the same pin as one female paralectotype) are also labeled as *H. caviceps*, but are not considered part of the original types series.

All records of *H. caviceps* subsequent to Reuter (1907) outside of Jamaica, except Carvalho (1990), are here referred to *H. unicolor*, including all reports from the United States. Trinidad listed below represents a new country records for *H. caviceps*.

Other material examined. JAMAICA: Lectotype ♀, Mandev'le, Ja., Apr. 06, Van Duzee (CAS); paralectotype ♀♀, same data as for lectotype (1 USNM, 2 ZMUH); 2 ♀♀, Montego Bay, Ja., Apr. 06, Van Duzee (CAS); 2 ♀♀, Pt. Antonio, Ja., Apr. 06, Van Duzee (CAS); 1 ♂, Mandev'le, Ja., Apr. 06 [invalid male lectotype of *H. caviceps* designated by Carvalho (1990)] (CAS); 2 ♂♂, Kingston, Sept. 9, 1917 (465,466), Harold Morrison (USNM); 2 ♀♀, Kingston, XII-1955, N. L. H. Krauss, on *Lantana camara* (USNM). TRINIDAD: 1 ♂, BWI NavBase, 17 vi 52, F. S. Blanton (USNM).

Hyalochloria colombiana Henry

Figs. 9, 30, 40

Hyalochloria colombiana Henry 1978:75 (n. sp.), Schuh: 122 (cat.).

Diagnosis. This species can be recognized by the fuscous antennal segment II with

a row of erect simple setae (Fig. 9) and the overall testaceous dorsum narrowly accented with brown across the anterior margin of the pronotum (Fig. 30).

Discussion. *Hyalochloria colombiana* is known only from the holotype male and allotype female taken at El Triunfo, Colombia. Henry (1978) illustrated the male antenna and parameres.

Material examined. COLOMBIA, Cundinamarca: Holotype ♂ (with Type No.73945), allotype ♀, El Triunfo, Dec. 11, 1965, J. A. Ramos (USNM [Drake-Maldonado accession]); 1 ♀, Guayabetal. 29 June 1965, J. A. Ramos (USNM [Drake-Maldonado accession]).

Hyalochloria denticornis Hsiao

Figs. 10, 31, 40

Hyalochloria denticornis Hsiao 1945: 24 (n. sp.); Carvalho 1958: 76 (cat.); Beingolea 1959: 51 (biol., hosts), 1960: 1 (biol., hosts); Henry 1978: 77 (descrip., distr., hosts); Schuh 1995: 122 (cat.).

Diagnosis. This species is distinguished by the stout fuscous spine and depressed base on antennal segment II (Fig. 10) and the testaceous dorsum tinged with brown on the calli, basal margin of the pronotum, and scutellum (Fig. 31).

Discussion. *Hyalochloria denticornis*, previously known only from Peru (Hsiao 1945), has been implicated as an important predator of the lesser cotton leaf worm, *Anomis texana* Riley (Lepidoptera: Noctuidae) and the cotton aphid, *Aphis gossypii* Glover (Sternorrhyncha: Aphididae) (Beingolea 1959, 1960). Most of the type series in the USNM collection is labeled as taken on cotton and beans infested with *Empoasca*. Hsiao (1945) figured the adult male, Beingolea (1959) studied the life history and illustrated the egg, five nymphal instars, and adult male and female, and Henry (1978) illustrated the adult male and parameres. The Ecuador specimen below represents a new country record.

Material examined. ECUADOR: 1 ♀, Guayas, Manglaralto, VIII-II-1981, Gary V. Manley (TAMU). PERU: 1 ♂, 14 ♀♀ paratypes, Cañete, Feb. 10, 1941, E. J. Hambleton, on cotton (USNM); 9 ♂♂, 5 ♀♀ paratypes (and holotype ♂), Lima, Wille-Bezerra, on "leaves of cotton-bean infest. *Empoasca*" (3 ♂♂♂ CAS, 6 ♂♂, 5 ♀♀ USNM).

Hyalochloria fuscicornis Henry

Figs. 11, 32, 40

Hyalochloria fuscicornis Henry 1978: 77 (n. sp.), Schuh 1995: 122 (cat.).

Diagnosis. This species is readily distinguished by the stout apically spined antennal segment I with a distinct dorsally curved lateral tubercle (Fig. 11), the basally bulbous and apically fuscous antennal segment II, and the overall testaceous dorsum tinged with brown on the calli, basal margin of the pronotum, and along the inner margins of the hemelytra (Fig. 32).

Discussion. *Hyalochloria fuscicornis* previously was known only from the holotype taken at Tucumán, Argentina. Henry (1978) illustrated the male antenna and head. The Brazilian specimens recorded below represent a new country record.

Material examined. ARGENTINA: Holotype ♂, Lules, Tucumán, 13-II-1953 (MNHN). BRAZIL: 1 ♂, 5 ♀♀, Rio de Janeiro, Dec. 1970, J. Maldonado C.

(USNM); 1 ♀, Rio de Janeiro, Horto Botanica, Quinta Boa Vista, 28–31 Oct. 1985, T. J. Henry (USNM).

Hyalochloria longicornis Henry

Fig. 12, 41

Hyalochloria longicornis Henry 1978: 79 (n. sp.), Schuh 1995: 122 (cat.).

Diagnosis. *Hyalochloria longicornis* is recognized by the weakly bulbous and infuscated scutellum, the elongate antennal segment I, and the basal band, elongate setae, and stout recurved spine on antennal segment II (Fig. 12).

Discussion. This species is known only from the male holotype (AMNH) and two male paratypes (AMNH) taken in Loreto Province, near Pucallpa, Peru. Henry (1978) illustrated the adult male and parameres. No additional specimens have been discovered.

***Hyalochloria marginata*, new species**

Figs. 13, 33, 41

Diagnosis. This species is distinguished by the three ventrally projecting spines on antennal segment II (Fig. 13), the broad body form, having the width greater than half the length, and the overall yellowish-brown dorsum, with the margins of the embolium, cuneus, scutellum, and claval commissure narrowly infuscated (Fig. 33).

Description. *Male.* Length 3.20 mm, width 1.55 mm, broadly oval; overall coloration testaceous to yellowish brown, pronotum and hemelytra narrowly margined in dark brown or fuscous; dorsum thickly clothed with short, erect, and semierect simple setae. *Head.* Width 0.66 mm, vertex 0.35 mm; yellowish brown, with tylus and spot on frons dark brown. *Rostrum.* Length 0.86 mm, extending to bases of metacoxae. *Antenna.* Segment I, length 0.23 mm; brown, barrel-shaped, apical spine absent, with a few long scattered setae; II, 0.75 mm; dark brown, with two short, ventrally projecting spines at base and a longer, stouter, ventrally curving spine on basal $\frac{1}{4}$ (about 0.18 mm from base); III, 0.54 mm, dark brown; IV, 0.40 mm, dark brown. *Pronotum.* Length 0.43 mm, basal width 0.35–0.45 mm; pale yellowish brown, posterior angles narrowly infuscated, anterior angle and outer half of each callus tinged with dark brown; mesoscutum yellowish brown. *Scutellum.* Yellowish brown, narrowly margined in fuscous. *Hemelytron.* Pale yellowish brown, narrowly dark brown or fuscous along emboliar and cuneal margins and claval commissure. *Ventral surface.* Uniformly pale yellow. *Legs.* Uniformly pale yellow.

Female. Unknown.

Etymology. This species is named “marginata” for the narrowly fuscous margins on the pronotum and hemelytra.

Type. Holotype ♂: PANAMA, Chiriqui Pr.: Reserva La Fortuna Estacion Biologica, el. 1,150 m, at light, July 11–13, 1996, A. R. Gillogly (TAM).

Hyalochloria mexicana Henry

Fig. 14, 41

Hyalochloria mexicana Henry 1978: 79 (n. sp.), Schuh 1995: 122 (cat.).

Diagnosis. This species is distinguished by the brown-tinged dorsum, relatively large



Fig. 41. Distribution of *Hyalochloria* spp. Open square: *H. longicornis*; closed circle: *H. marginata*; open circles: *H. mexicana*; closed squares: *H. schaffneri*.

size (3.20 mm), and straight fuscous spine and cluster of microspines on antennal segment II (Fig. 14).

Discussion. *Hyalochloria mexicana* is known from the male holotype (CAS) and 13 paratypes from Chiapas and District Federal, Mexico (CAS, TAMU), and Santa

Tecla, El Salvador (UPR). Henry (1978) illustrated the male antenna and parameres. No additional specimens have been discovered.

Hyalochloria schaffneri Henry
Figs. 15, 34, 41

Hyalochloria schaffneri Henry 1978: 81 (n. sp.), Schuh 1995: 122 (cat.).

Diagnosis. This species is distinguished from all other of the genus by the slender fuscous spine on antennal segment II (Fig. 15) and the overall testaceous, but weakly green-tinged, dorsum with only the basal angles of the pronotum narrowly fuscous (Fig. 34).

Discussion. *Hyalochloria schaffneri* previously was known only from the male holotype taken in Chiapas, Mexico. Henry (1978) illustrated the male antenna. It is now newly recorded from Veracruz, Mexico, and Costa Rica, where it was taken on *Inga vera* (L.) Britton [Fabaceae].

Material examined. COSTA RICA: 1 ♂, 1 ♀, San José, San Petro, Montes de Oca, 110 m, 26-XII-1988, P. Hanson, on *Inga vera* (BMNH). MEXICO, Chiapas: Holotype ♂, 29 mi. SW Cintalapa, July 7, 1971, taken at light, Clark, Murray, Hart and Schaffner, USNM Type No. 73946 (USNM). Veracruz: 1 ♀, 1 mi. w. Papantla, June 28, 1971, Clark, Murray, Hart, and Schaffner (TAM).

Hyalochloria schuhi Henry
Fig. 16, 42

Hyalochloria schuhi Henry 1978: 83 (n. sp.), Schuh 1995: 122 (cat.).

Diagnosis. This species is best distinguished by the uniform testaceous coloration and the single spine and apically curved setae on antennal segment II (Fig. 16).

Discussion. *H. schuhi* is known only from the male holotype (AMNH) and 11 male paratypes (AMNH) taken in Loreto Province, near Pucallpa, Peru. Henry (1978) illustrated the adult male and parameres. No additional specimens have been discovered.

Hyalochloria scutellata Henry
Figs. 17, 35, 42

Hyalochloria scutellata Henry 1978: 83 (n. sp.), Carvalho, 1985: 269 (note), Schuh 1995: 122 (cat.).

Hyalochloria scutata [sic]: Carvalho 1985: 265 (note).

Hyalochloria rondoniensis Carvalho 1985: 267 (n. sp.), Schuh 1995: 122 (cat.). **New synonymy**

Diagnosis. This species can be distinguished from all other species of the genus by the single, apically curved spine on antennal segment II (Fig. 17), the fuscous pronotum and markings on the hemelytra (Fig. 35), and the infuscated bulbous scutellum.

Discussion. *Hyalochloria scutellata* previously was known from only five specimens, a male holotype (AMNH) and four male paratypes (AMNH) taken in Loreto Prov-

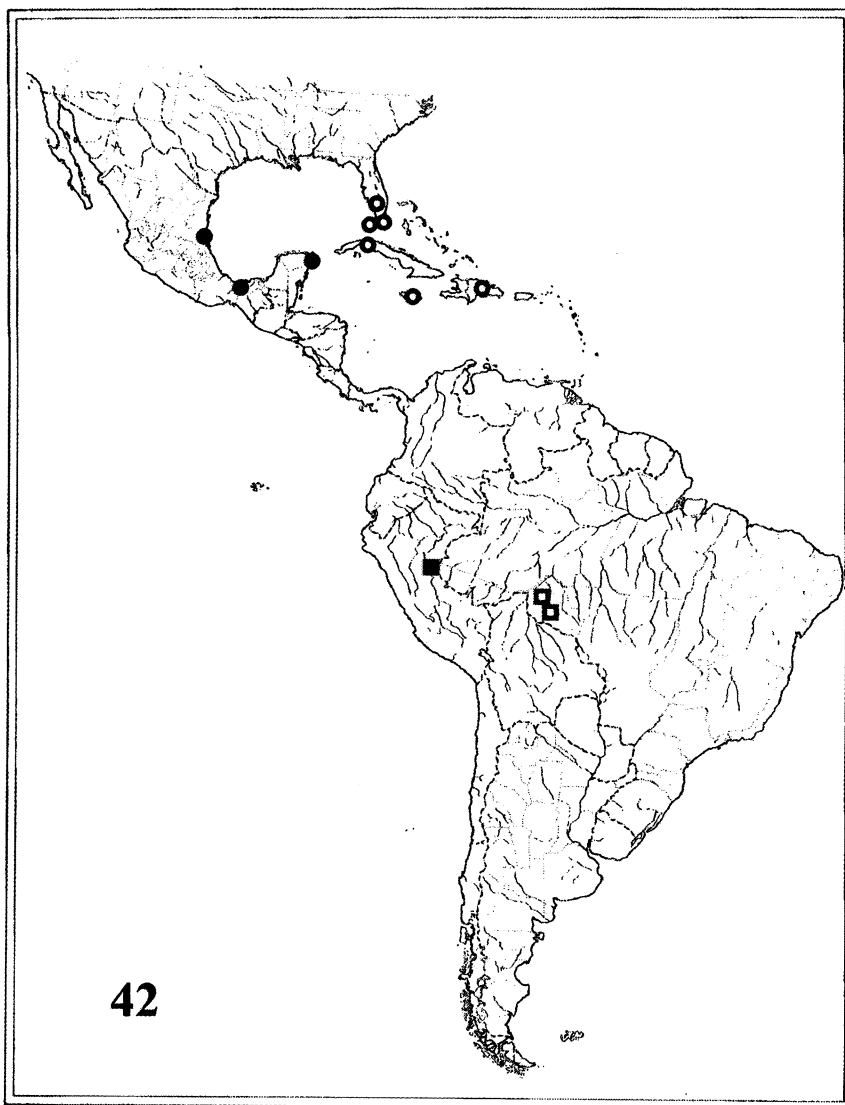


Fig. 42. Distribution of *Hyalochloria* spp. Closed square: *H. schuhi*; open squares: *H. scutellata*; closed circles: *H. tuberculata*; open circles: *H. unicolor*.

ince, near Pucallpa, Peru. Henry (1978) illustrated the adult male. Carvalho (1985) described the new species *H. rondoniensis* from Rondônia, Brazil. Based on examination of the male holotype and two additional specimens examined from Rondônia, I consider this species a junior synonym of *H. scutellata*. The male antennae and

the dorsal color pattern for all of these specimens is very similar to those of of *H. scutellata*, except for the extent of dark markings on the clavus (entire for *H. rondoniensis*; apical half for *H. scutellata*; apical three fourths for specimens examined) and on the pronotum (entire for *H. rondoniensis*; entire except posterior angles for *H. scutellata*; entire except pronotal disk for specimens examined). The Ecuador specimens recorded below represent a new country record.

Material examined. BRAZIL, **Rondônia:** Holotype ♂ (of *H. rondoniensis*), Ouro Preto, XI.1983, Roppa coll. (MNHN); 2 ♂♂, 62 km SW Ariquemes, nr. F[a]z[en]da. Rancho Grande, 6-15-XII-1990, D. A. Rider & J. E. Eger, at light (USNM). EC-UADOR, **Napo:** 1 ♂, 3 ♀♀, Tiputini Biodiversity Station, 00°37'55"S, 076°08'39"W, Oct. 1998, T. L. Erwin, et. al, insecticidal fogging of mostly bare green leaves, some with covering of lichenous or bryophytic plants (USNM)

Hyalochloria tuberculata Henry

Figs. 18, 36, 42

Hyalochloria tuberculata Henry 1978: 85 (n. sp.), Schuh 1995: 122 (cat.).

Diagnosis. This is one of the most distinct species of the genus in having a basal, as well as subbasal, spines on antennal segment II (Fig. 18), a short apically tuberculate antennal segment I, and two pubescent tubercles on each side of the vertex adjacent to the eyes (Fig. 36).

Discussion. *Hyalochloria tuberculata* previously was known only from the male holotype taken at El Limon, Tamaulipas, Mexico (USNM). Henry (1978) illustrated the male head and antenna. I have examined three additional specimens, two from southern Veracruz and one from Quintana Roo, Mexico.

Material examined. MEXICO, **Tamaulipas:** Holotype ♂, 8 miles west of El Limon, July 20, 1970, taken at light, Murray, Phelps, Hart, and Schaffner (USNM). **Quintana Roo:** 1 ♂, Cozumel, Espiritu Santo Bay, 5-iv-1960, J. F. G. Clarke (USNM). **Veracruz:** 1 ♂, 1 ♀, UNAM Los Tuxtlas Estac. Biol., N. Catemaco, 16-19 Sept. 1989, E. Barrera, T. J. Henry, and I. M. Kerzhner (USNM).

Hyalochloria unicolor Reuter

Figs. 19, 37, 42

Hyalochloria unicolor Reuter 1907: 20 (n. sp.), Van Duzee 1907: 29 (note), Hsiao 1945: 24 (note), Krauss 1953: 124 (distr., host), Maldonado 1986: 130 (distr.), Carvalho 1990: 200 (descrip., distr.), Schuh 1995: 122 (in part; cat.).

Hyalochloria caviceps: Van Duzee 1907: 29 (in part; note), 1916: 218 (distr.), 1917: 390 (cat.); Blatchley 1926: 849 (descrip., distr.); Carvalho 1958: 76 (in part; cat.); Frost 1966: 245 (note); Henry 1978: 73 (descrip., distr., hosts); Mead 1986: 5 (distr.); Henry and Wheeler 1988: 412 (in part; cat.); Schuh 1995: 122 (in part; cat.).

Diagnosis. This species can be recognized by the peculiar recurving knobbed protuberance on the antennal segment II of the male (Fig. 19), rather than a more typical erect spine found in most other species, and the delicate, hyaline, green-tinged dorsum (Fig. 37).

Description. *Male* (N = 5). Overall coloration pale hyaline green to yellowish green on hemelytra; uniformly clothed on dorsum with erect, pale yellow, simple setae. Length 2.63–2.83 mm, width 1.14–1.24 mm. *Head*. Width 0.62–0.65 mm, vertex 0.33–0.35 mm. *Rostrum*. Length 0.85–0.90 mm, extending to bases of metacoxae. *Antenna*. Segment I, length 0.27–0.29 mm, stout, barrel-shaped, more bulbous on basal half, unarmed; II, 0.83–0.90 mm, base with an apically rounded, ventrally recurving tubercle, area between basal tubercle and indistinct subapical cluster of microsetae compressed or flattened, flattened area sometimes with a small indistinct tubercle at middle and row of very small peglike microsetae; III, 0.40–0.42 mm, brown; IV, 0.33–0.35 mm, brown. *Pronotum*. Length 0.39–0.40 mm, basal width 0.88–0.92 mm; pale yellow to greenish, calli indistinct, separated from disc by a shallow transverse, impressed line. *Scutellum*. Weakly swollen, raised only slightly above level of hemelytra. *Hemelytron*. Pale hyaline yellowish green to green. *Ventral surface*. Pale green to yellowish green. *Legs*. Pale green to yellowish green.

Female (N = 5; holotype in parentheses). Length 2.05–2.85 mm (3.52 mm), 1.11–1.27 mm (1.50 mm). *Head*. Width 0.55–0.61 mm (0.65 mm), vertex 0.33–0.34 mm (0.38 mm). *Rostrum*. 0.87–0.91 mm (missing). *Antenna*. Segment I, length 0.21–0.22 mm (0.23 mm); II, 0.69–0.71 mm (0.88 mm); III, 0.36–0.40 mm (0.46 mm); IV, 0.38–0.39 mm (0.52 mm). *Pronotum*. Length 0.85–0.96 mm (1.13 mm). The female is similar to the male in general body form and coloration, differing in the simple antennae, smaller eyes, and proportionately wider vertex. The holotype female is considerably larger than most other females examined, but otherwise it appears conspecific with other material, including that from Florida, associated with *H. unicolor*.

Hosts. *Hyalochloria unicolor* is one of the few species of the genus having host associations. Henry (1978) reported it (as *H. caviceps*) from *Lantana* sp. [Verbenaceae] in Cuba. In addition, A. G. Wheeler and I have collected this species in Florida on *Batis maritima* L. [Batidaceae], *Bauhinia divaricata* L. [Fabaceae], *Cordia alliodora* Cham. [Boraginaceae], and *Solanum elaeagnifolium* D. Don [Solanaceae]. The wide array of recorded plant genera and families suggests that this predator tracks prey over the range its prey's host plants. The Jamaican record from *Lantana camara* L. reported by Henry (1978) as *H. caviceps* (of authors) is here referred to the true *H. caviceps* (which see).

Discussion. This species was described from “1 ♀” taken at Mandeville, Jamaica (CAS). Van Duzee (1907) listed the holotype and Krauss (1953) and Maldonado (1986) gave records for Cuba. As noted under *H. caviceps*, Carvalho (1990) studied the holotype female (CAS) and concluded that Van Duzee (1907) and most authors, including Henry (1978), confused *H. unicolor* with *H. caviceps*. I too have restudied the holotype of *H. unicolor* and specimens of *H. caviceps* from Mandeville collected by Van Duzee in Jamaica and agree that the names of these two species have been wrongly applied. Henry (1978) and most subsequent authors incorrectly followed Van Duzee's concept of *H. caviceps* because of his statement that it was “not uncommon” in Jamaica (Van Duzee 1907) and because he later (Van Duzee 1916, 1917) reported it from Florida where only one species occurs. Clearly, Van Duzee (1916, 1917) reversed the identities the two species and all records of *H. caviceps* from the United States and Cuba, as well as certain other specimens from Jamaica listed below should be referred to *H. unicolor*. Henry (1978) illustrated the adult

male and parameres of a Florida specimen and provided records from Dominica (as *H. caviceps*). The Dominican Republic specimens recorded below represent a new country record for *H. unicolor*.

Material examined. CUBA, **Prov. Habana:** 1 ♂, Habana-Alamar-Cojimar, 2–10 m, 10–18.6.1966, Jar Prokop (USNM). DOMINICAN REPUBLIC, **Prov. Pedernales:** 4 ♂♂, 24.5 km N Cabo Rojo, 750 m, 18°06'39"N 71°37'19"W, 10 April 2000, T. J. Henry & R. E. Woodruff (USNM). JAMAICA: Holotype ♀, Mandev'le, Ja., Apr. 06, Van Duzee (CAS); 1 ♂, Parrish Manchester, Mandeville, R. E. Woodruff, 26-VIII-69, blacklight trap (USNM). UNITED STATES, **Florida:** 4 ♀♀, Dade Co., Bisc[ayne] Bay (2 CAS, 2 USNM); 1 ♀, Dade Co., Miami, Feb. 12, 1924, W. T. Owrey, on *Assonia* [species name illegible] (USNM); 1 ♂, 4 ♀♀, Dade Co., Res. & Educ. Centr., Univ. Fla., Homestead, 13–19 Apr. 1981, T. J. Henry and A. G. Wheeler, Jr., on *Bauhinia divaricata* and *Cordia glabra* (USNM); 2 ♂♂, Highlands Co., Archbold Biol. Stn., S. W. Frost, 4-7-64 & 3-9-67 (USNM); 1 ♂, 1 ♀, Highlands Co., Lake Placid, II-4-52 & III-10-52, J. Needham (USNM); 4 ♂♂, 4 ♀♀, Monroe Co., Upper Key Largo, Apr. 9–18, 1981, T. J. Henry and A. G. Wheeler, Jr., on *Batis maritima*, *Bauhinia divaricata*, and *Solanum erianthum* (7 USNM, 1 ZMUH); 3 ♀♀, Monroe Co., Everglades National Park, Rt. 27, nr Visitor Centr. 12 Apr. 1981, T. J. Henry and A. G. Wheeler, Jr., on *Solanum erianthum* (USNM).

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