

**NEOTROPICAL MIRIDAE, CCLXV: DESCRIPTIONS OF
NEW TAXA AND TAXONOMIC NOTES (HETEROPTERA)**

JOSÉ C. M. CARVALHO

Research Fellow, National Council for Development of
Science and Technology, National Museum of Natural History,
Rio de Janeiro, Brazil

Abstract.—The present paper contains descriptions and habitus illustrations of the following new Miridae: *Araucanomiris*, new genus (type species *Adelphocoris chilensis* Carvalho and Maldonado); *Froeschneriella*, new genus, *F. elsiae*, new species (Ecuador); *Phytocoris minensis*, new species (Brazil); *Proba froeschneri*, new species (Mexico); *Paraguayna*, new genus, (type species *Neofurius paraguayensis* Carvalho and Drake); *Ilnacora arnaudi*, new species (Mexico). *Eroticoris albiceps* Lethierry is transferred to *Neofurius* Distant, new combination. A lectotype is designated for *Aspidobothrus latipennis* Reuter.

In studying specimens of Miridae sent to me for identification by Dr. P. H. Arnaud, Jr., California Academy of Sciences, I discovered a number of undescribed genera and species of Miridae. My findings are presented in this paper, which is specially written to commemorate the seventieth birthday of Dr. Richard C. Froeschner, curator of Hemiptera, National Museum of Natural History, Washington, D.C.

Dr. Froeschner and I were companions at Iowa State College (presently Iowa State University of Science and Technology), Ames, Iowa. I had the privilege to enjoy his fellowship and our mutual friendship which extended to our wives and daughters. We used to frequent the home of Dr. Harry H. Knight and his wife Jessie to listen to music and watch television. During this period we also became friends with Drs. Carl J. Drake, Halbert M. Harris, and Leonard A. Kelton, James A. Slater, Joseph C. Schaffner.

It was during these years that I grew to admire Dick for his companionship and close collaboration. My admiration also extended to his wife, Elsie, not only because she was an excellent mother and clever wife, but also because of her excellent entomological illustrations. Our affection was so strong that during a trip to the Western United States, we stopped at Boseman, Montana, where Dick was Professor of Biology at the University of Montana. My wife Milza, and I were very pleased when we learned that he was soon to take on a new position as curator of Hemiptera at the United States National Museum of Natural History. During his years at the Museum, we had several opportunities to visit the Froeschners in Washington, D.C. and to correspond. I am one of the many people who has benefited very much from his friendly cooperation. It is then with great pleasure that I take this opportunity to acknowledge these many years of collaboration and pay modest honor to an excellent friend.

All measurements are in millimeters.

SUBFAMILY MIRINAE

Tribe Mirini

Araucanomiris, new genus

Diagnosis. This genus belongs to the group of mirids with a distinctly punctate and noticeably rugose scutellum, and the cuneus much longer than wide at base. It presents the general facies of *Adelphocoris* Reuter, 1896, by the strongly punctate pronotum and by the noticeably long cuneus, as well as the long rostrum.

Description. Body noticeably elongate, covered by dense semierect pubescence.

Head slightly inclined, vertex weakly marginate, frons prominent, striate, eyes rounded, contiguous with collar, antenna cylindrical, with short hairs, segment I slightly shorter than width of head, segment II about three times longer than first, very slightly thickened toward apex, clypeus prominent, rounded, lorum also prominent, eyes seen from side reaching gula, rostrum reaching middle coxae, segment I attaining midpoint of medially sulcate prosternum xyphus.

Pronotum strongly punctate, collar wide, calli flat, reaching sides of disc, hind margin straight; mesoscutum largely exposed, scutellum prominent, noticeably rugose.

Hemelytra with sides parallel, embolium explanate, narrow, cuneus noticeably longer than wide at base, narrowed toward apex, membrane biareolate, cells elongate.

Underside of body with propleura narrowed posteriorly, mesosternum large, ostiolar peritreme small, legs long and slender.

Type species. *Adelphocoris chilensis* Carvalho and Maldonado, 1973.

Froeschneriella, new genus

Diagnosis. This genus approaches *Neurocolpus* Reuter, 1876, in the general facies but lacks scalelike setae on first antennal segment.

Description. Body elongate, densely covered by long erect hairs, intermixed with woolly adpressed pubescence covering a silvery pruinosity distinctly visible on the hemelytra, the base of some hairs showing minuscule grains especially on disc of pronotum and scutellum, surface without punctures.

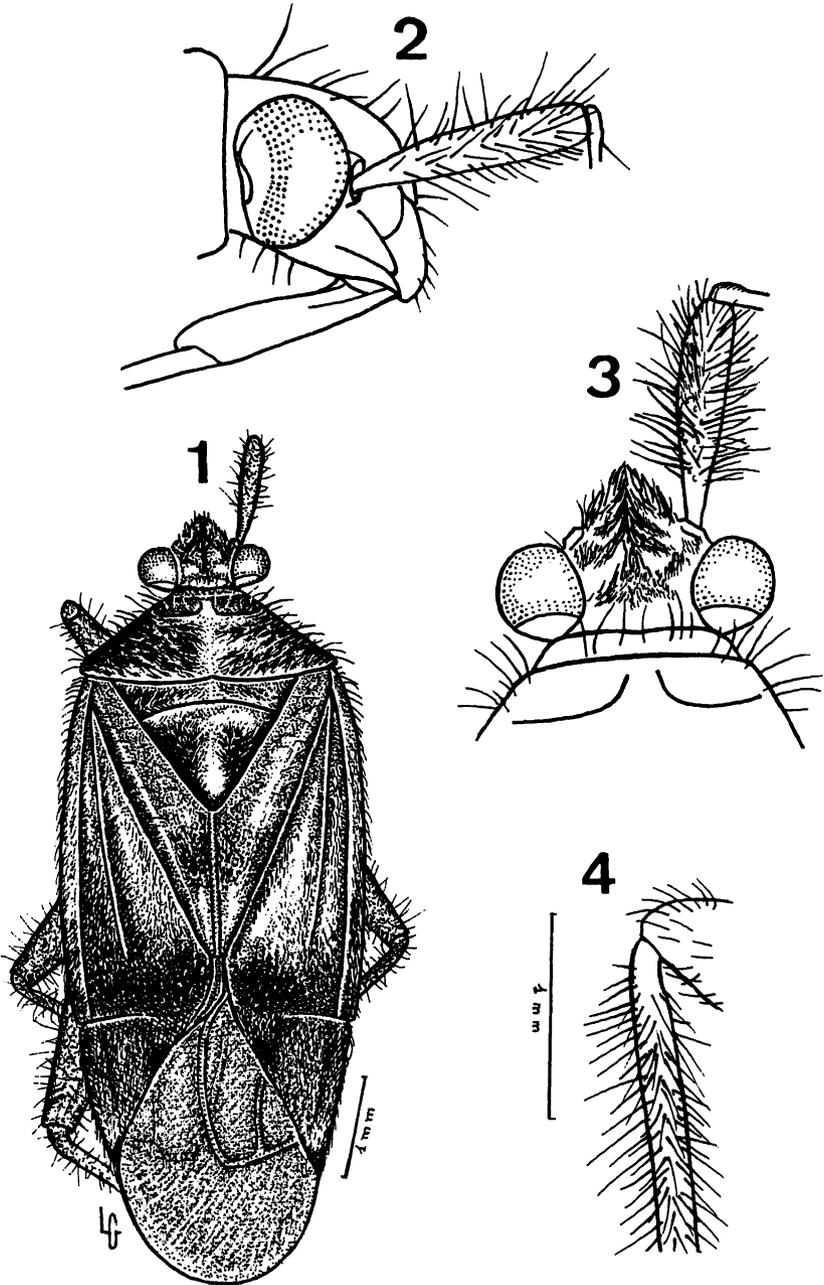
Head semihorizontal, vertex depressed at middle, a short neck present, frons striated and prominent, eyes slightly removed from collar by a distance approximately equal to diameter of second antennal segment, hind margin smooth, inclined forward; antennae with segment I noticeably incrassate toward apex, covered by very long setae, about as long as or longer than thickness of segment, segment II very slender, cylindrical, with very short hairs (segments III and IV mutilated); rostrum very long, reaching beyond hind coxae (about middle of abdomen).

Pronotum inclined and narrowed anteriorly collar wide, calli wide and flat, middle portion of disc depressed longitudinally, hind margin straight at middle, curved inward before humeral angles; mesoscutum exposed, scutellum very prominent.

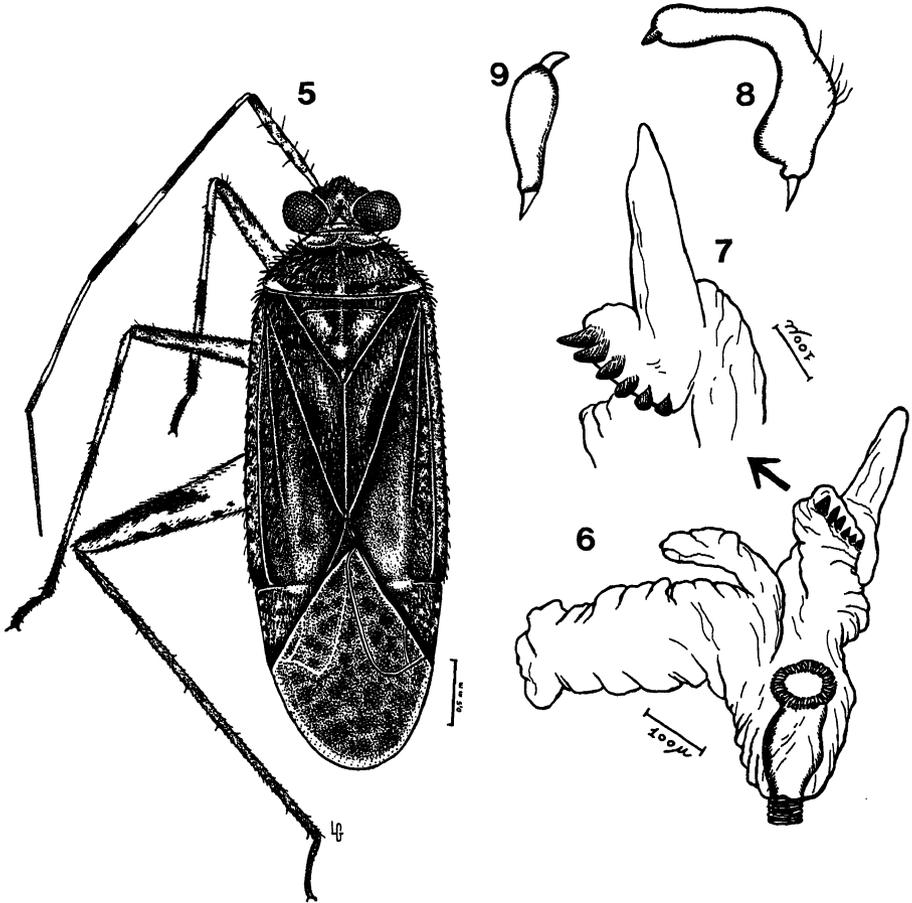
Hemelytra with claval vein prominent, embolium wide, cuneus about twice as long as wide at base, membrane biareolate.

Legs densely pilose, tibiae with numerous setae about as long as or longer than their thickness.

Type species. *Froeschneriella elsieae*, new species.



Figs. 1-4. *Froeschneriella elsiae*. 1. Female, holotype. 2. Side view of head. 3. Head and first antenna seen from above. 4. Basal portion of hind tibia.



Figs. 5-9. *Phytocoris minensis*. 5. Habitus. 6. Vesica of aedeagus. 7. Sclerotized comb of vesica. 8. Left paramere. 9. Right paramere.

Etymology. The name is given in honor to my colleague Richard C. Froeschner in recognition of his work on the Hemiptera.

Froeschneriella elsiae, new species

Figs. 1-4

Diagnosis. Characterized by its color and dimensions.

Description. Female: Length 7.2, width 2.8. *Head:* Length 0.6, width 1.2, vertex 0.50. *Antenna:* Segment I, length 1.1; II, 2.8; III and IV mutilated. *Pronotum:* Length 1.0, width at base 2.4. *Cuneus:* Length 1.20, width at base 0.80 (holotype).

General coloration brown, intermixed with dark brown to black areas; head pale yellow with an X-like dark spot on vertex, striae of frons and eyes brown, neck pale,

antenna with segment I pale and a few dark grains at base of setae, segment II brown with apical third dark, segment III with base pale.

Pronotum brown with some darker grains at bases of hairs, humeral angles with dark spots and tufts of hairs on both sides of hind margin and middle of scutellum; longitudinal middle portion of disc paler.

Hemelytra brown with some irregular darker areas, apical portion of clavus paler, transverse distal fascia of corium and embolium dark brown, cuneus brown with a dark spot over paracuneus, membrane fuscous, covered by silvery pruinosity.

Underside of body with a mixture of brown and pale yellow, coxae and femora brown with numerous small pale spots, hind femora with a pale band at middle, tibiae with four dark rings, tarsi with apical segment black.

Male: Unknown.

Holotype. ♀, ECUADOR, 2 mi N of Santa Rosa, El Oro, 10 m, 1.24.55, E. I. Schlinger and E. S. Ross; deposited in the California Academy of Sciences, San Francisco.

Etymology. The specific name is dedicated to Elsie Froeschner in recognition of her illustrative work on numerous insects, including many hemipteran species.

***Phytocoris minensis*, new species**

Figs. 5-9

Diagnosis. Characterized by the color of scutellum and by the morphology of the male genitalia, by which characters it can be distinguished from *Phytocoris bergrothi*, Reuter, 1892.

Description. Male: Length 4.8, width 1.6. *Head*: Length 0.3, width 0.9, vertex 0.20. *Antenna*: Segment I, length 0.8; II, 2.0; III, 1.2; IV, 0.9. *Pronotum*: Length 0.5, width at base 1.2. *Cuneus*: Length 0.70, width at base 0.40 (holotype).

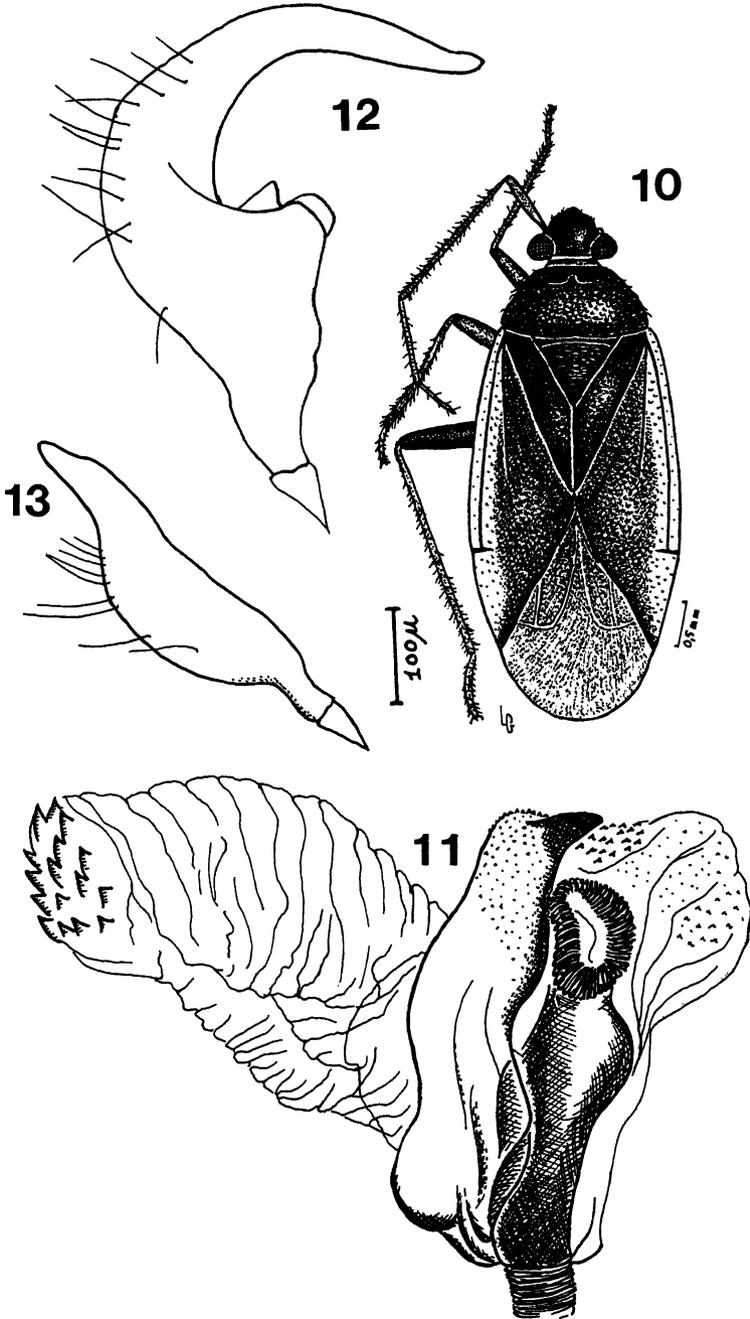
General coloration brown with pale yellow, black and green areas; head brown with pale spots on frons and margin of eye, neck whitish with two brown longitudinal fasciae as seen from above, antenna with segment I pale, speckled with brown, segment II black with a basal and a median pale ring, segment II black, white basally, segment IV fuscous.

Pronotum brown, area of calli and hind margin of disc (in some specimens with only three elongate spots) pale, two spots behind calli (at each side) and a submarginal transverse fascia (in some specimens seen as tufts of hairs) black; mesoscutum brown with two pale spots laterally, scutellum green with a median longitudinal fascia (divided or not by a pale line) branched subapically into two black spots, apex pale.

Hemelytra brown, mottled with pale, light brown on endocorium, darker along veins, embolium with alternate pale and brown spots, cuneus brown, speckled with pale, spot on paracuneus, basal third of inner margin and apex black; membrane pale, marmorate with brown, smaller vein with a longitudinal or oblique dark fascia.

Underside of body brown, gula, xyphus of prosternum, coxae, coxal clefts and ostiolar peritreme whitish, legs pale speckled with brown, hind femora dark apically, tibiae with an apical and median dark rings (sometimes also a basal one).

Body covered by long erect setae (especially on sides of calli and on collar) and stiff bristles, smooth, scutellum noticeably prominent on apical third, eyes very large, occupying most of lateral portion of head, segment I of antenna with erect setae, segment II with very short hairs, rostrum reaching abdominal segment VIII.



Genitalia: Vesica of aedeagus (Figs. 6, 7) membranous, with a characteristic structure at one of the lobes, consisting of six sclerotized teeth and a pointed prolongation. Left paramere (Fig. 8) curved, with a few setae dorsally and an acute apex. Right paramere (Fig. 9) small, ended by a sclerotized lobe.

Female: Similar to male in coloration and general aspect, vertex 0.36, cuneus length 0.80, width at base 0.50, rostrum reaching base of ovipositor.

Holotype. ♂, BRAZIL, Minas Gerais, Vicosá, 13.X-15.IX.82, Fiuza and Martins; deposited in the collection of the National Museum, Rio de Janeiro.

Paratypes. 3♂♂ and 1♀, same data as holotype; deposited in the collections of the Department of Biology, Federal University of Vicosá, Minas Gerais, and the author.

Etymology. The specific name refers to the state of Minas Gerais where the specimens were collected.

***Proba froeschneri*, new species**

Figs. 10-13

Diagnosis. Characterized by the color of the hemelytra, the long setae on the underside of the second femur, and the morphology of the male genitalia.

Description. Male: Length 6.2, width 2.6. *Head*: Length 0.4, width 1.2, vertex 0.52. *Antenna*: Segment I, length 0.6; II, 1.8; III, 1.0; IV, 0.6. *Pronotum*: Length 0.8, width at base 1.8. *Cuneus*: Length 1.10, width at base 0.60 (holotype).

General coloration dark brown to black with pale yellow areas; head black, hind margin of vertex pale, eyes brown, exocorium, embolium and outer portion of cuneus pale yellow, membrane fuscous, nervures darker. Underside of body dark brown, tibiae paler on apical portion, rostrum pale yellow.

Body practically glabrous (only a few very short hairs present on cuneus and embolium), punctate, scutellum rugose, membrane translucent, vertex marginate and slightly curved, eyes contiguous to pronotum, antenna with short setae (apical portion of segments II, III and IV with a few erect setae), rostrum long, reaching the hind coxae or slightly beyond, middle femur with a dense and long tuft of setae on underside, middle tibiae also with hairs, spines, and long setae, in both cases the length of setae is greater or equal than thickness of femur or tibia, calli and area between them without punctures.

Genitalia: Vesica of aedeagus (Fig. 11) with distal portion of seminal duct enlarged at middle, a spicular-like structure more sclerotized apically, and membranous lobes covered with small teeth, as seen in illustration. Left paramere (Fig. 12) curved, basal lobe prominent, followed by a small tooth-like structure, apical portion tapering distally and with numerous dorsal setae. Right paramere (Fig. 13) smaller, wider at middle, tapering distally, with a few dorsal setae.

Female: Similar to male in coloration and general aspect, with membrane slightly shorter. Length 5.6-6.0, vertex 0.60; setae ventrally on middle femur less numerous and shorter than in the male.

←

Figs. 10-13. *Proba froeschneri*. 10. Male, holotype. 11. Vesica of aedeagus. 12. Left paramere. 13. Right paramere.

Holotype. ♂, N.E. Citlalpetel, Ver. (Veracruz), MEXICO, 6.27.64, elev. 11,000, L. W. Swan; deposited in the California Academy of Sciences, San Francisco.

Paratypes. 31♂♂ and 47♀♀, same data as for holotype, in the California Academy of Science and in the collections of the National Museum of Natural History, Washington, D.C., American Museum of Natural History, New York, British Museum (Natural History), London, and the author.

Etymology. The species is named after Dr. Richard C. Froeschner in recognition for his work on the Hemiptera and collaboration with other colleagues.

SUBFAMILY BRYOCORINAE

Tribe Eccritotarsini

Aspidobothrus latipennis Reuter

Aspidobothrus latipennis Reuter, 1907:34.

Aspidobothrus latipennis: Bergroth, 1922:16.

Aspidobothrus latipennis: Carvalho, 1957:91.

Discussion. This species was described by O. M. Reuter based on specimens from Brazil (Rio Grande do Sul, D. Stieglmayr; Sierra Geral, D. Hensel, Berlin Museum) and Paraguay (Villa Encovnacio Encarnacion, D. Schouteden). The syntype deposited at the Royal Institute of Natural Sciences of Brussels is hereby designated as lectotype.

Neofurius albiceps (Lethierry), New Combination

Fig. 14

Eroticoris albiceps Lethierry, 1881:5.

Hallodapus albiceps: Carvalho, 1958:168.

Discussion. The genus *Eroticoris* Douglas and Scott, 1865, was considered by Carvalho (1958) to be a synonym of *Hallodapus* Fieber, 1858, and as a consequence, species previously placed in *Eroticoris* were transferred to *Hallodapus*. Lethierry's species *albiceps*, described from the Island of Guadeloupe, was one of the species treated under Fieber's genus. Schuh (1974:92) recorded in his work: "A single species (*Hallodapus*) has been recorded from the New World (Carvalho, 1958); it is, however, not a species of *Hallodapus*, but belongs to the Bryocorinae, as I have confirmed by examination of the holotype [*sic*] of *Eroticoris albiceps* Lethierry in the Brussels Museum. *Eroticoris* is a junior synonym of *Hallodapus* and therefore *albiceps* will have to be placed in another existing genus or in a new genus. This action, however, will have to await study of *albiceps* by a specialist of the Bryocorinae." I have borrowed syntypes of *albiceps* from the Brussels Museum and find that it actually belongs in the genus *Neofurius* Distant, the species being recognizable by its coloration.

Diagnosis. Lectotype female: Length 4.6, width 1.4. *Head*: Length 0.3, width 0.6, vertex 0.42. *Antenna*: Segment I, length 0.6; II, 1.0; III, 0.6; IV, 0.6. *Pronotum*: Length 0.8, width at base 1.2. *Cuneus*: Length 0.80, width at base 0.50.

General coloration pale yellow to light lutescent with black areas; antennal segments II-IV and scutellum black, base of membrane fuscous.

Body with very fine erect hairs becoming more dense on embolar margins, rostrum reaching the middle coxae, portion anterior to calli wide, tibiae with fine hairs.

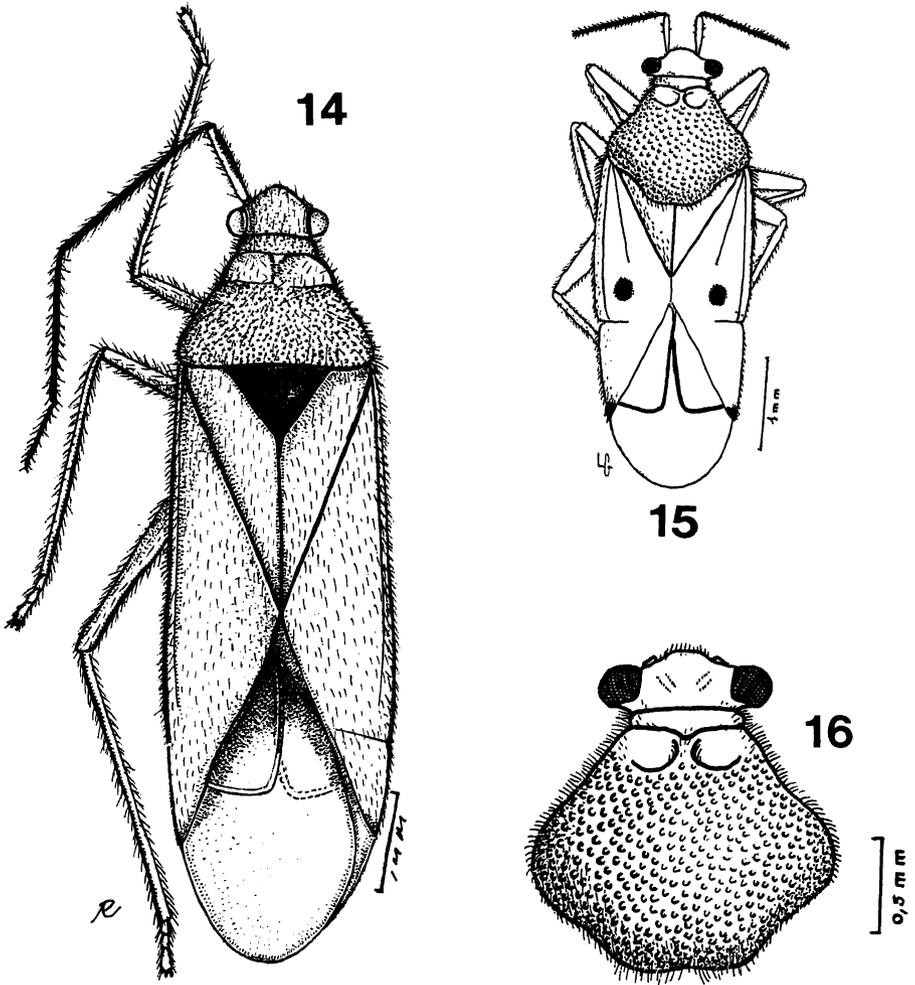


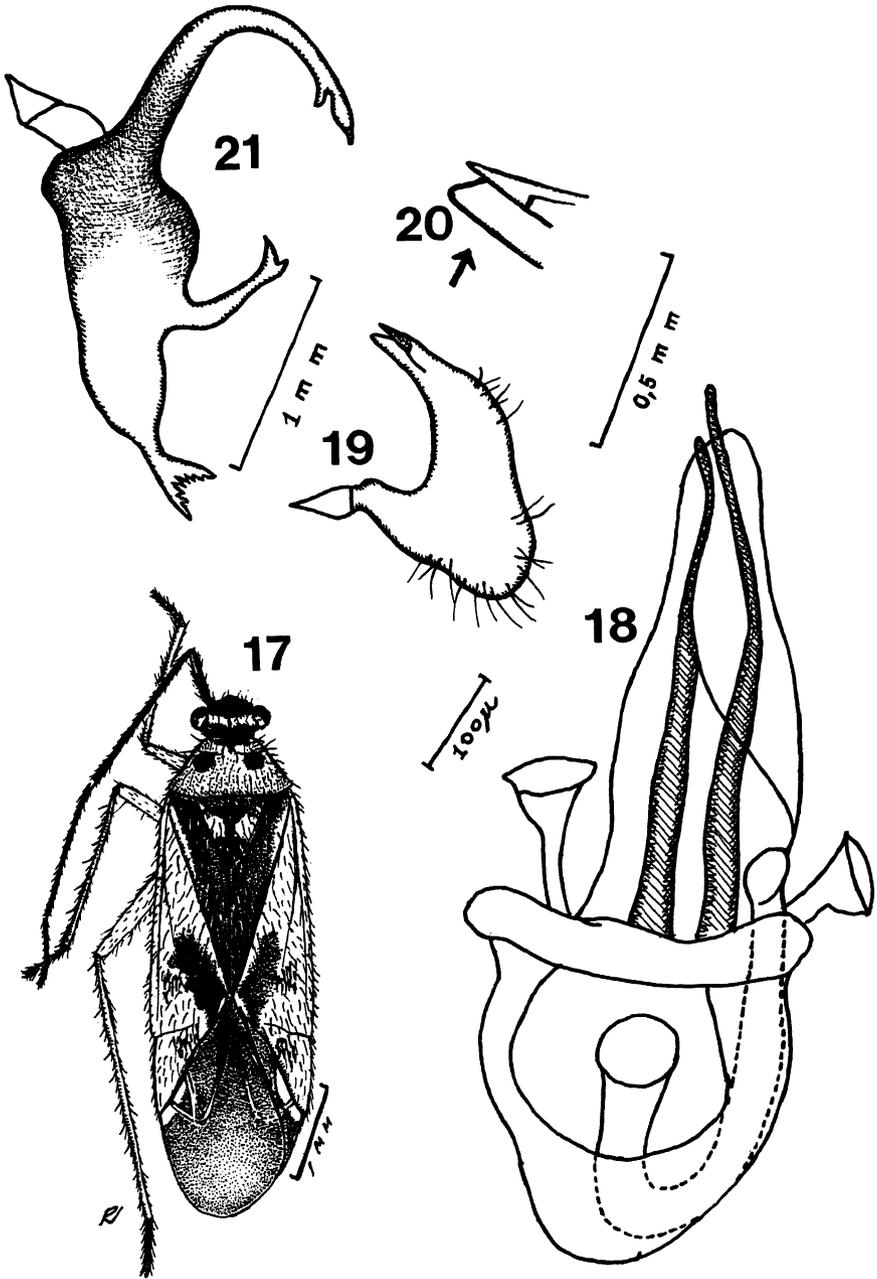
Fig. 14-16. 14. *Neofurius albiceps*, female, lectotype. 15, 16. *Paraguayna paraguayensis*. 15. Habitus. 16. Head and pronotum from above.

Male: Unknown.

Specimens examined. ♀ (herein designated as lectotype), Guadeloupe, Delauney, *Eroticoris albiceps* Lethiery, type, *Halodapus albiceps* Lethierry, syntype, col. R. I. Sci. N. B.; ♀, (hereby designated as paralectotype), same data as for lectotype.

Paraguayna, new genus

Diagnosis. Has the general facies of *Eccritotarsus* Stål, 1860, but differs by having the scutellum totally covered by the hind margin of pronotum. It is closely related to the *Eccritotarsus* group of species in which some have the scutellum partially



Figs. 17-21. *Ilacora arnaudi*. 17. Male, holotype. 18. Penis. 19. Left paramere. 20. Apex of left paramere. 21. Right paramere.

covered, such as *Eccritotarsus pilosus* Carvalho and Gomes, 1971. The genus *Pseudobryocoris* Distant, 1884 also has the scutellum almost covered by the pronotum; however, the shape of the hind margin is different.

Description. Body elongate, finely punctate, covered by fine, erect or semierect dense hairs.

Head wider than long, hind margin of vertex and frons rounded, antenna with segment I thicker than others, hairs about as long or longer than thickness of segment, segment II densely pilose, II and IV mutilated.

Pronotum characteristic, narrowed toward anterior end, wider at humeral angles (Figs. 15, 16), hind margin convex at sides and straight at middle, covering the scutellum and mesoscutum.

Hemelytra with thickened embolium and dense hairs on external margin, cuneus about twice as long as wide at base, membrane uniareolate.

Rostrum reaching the middle coxae, femora with long trichobothria, tibiae densely pilose.

Type species. *Neofurius paraguayensis* Carvalho and Drake, 1943.

Discussion. Based on the present generic criteria used to separate the genera of Bryocorinae, the author considers the species to represent a new genus in the tribe Eccritotarsini.

Etymology. The generic name taken after the country where the type was collected.

SUBFAMILY ORTHOTYLINAE

Tribe Orthotylini

Ilnacora arnaudi, new species

Figs. 17-21

Diagnosis. Differs from *Ilnacora chihuahuaensis* Knight and Schaffner, 1976, by morphology of the male genitalia, and the color of vertex and corium.

Description. Male: Length 5.4, width 1.6. *Head:* Length 0.3, width 0.9, vertex 0.46. *Antenna:* Segment I, length 0.5; II, 2.0; III 1.3; IV, 0.9. *Pronotum:* Length 0.7, width at base 1.3. *Cuneus:* Length 0.90, width at base 0.50 (holotype).

General coloration pale yellow to pale green with dark brown and black areas; head black, two large spots on vertex (one on each side) whitish, eyes (except posterior surface) and antenna black, extreme apex of antennal segment I, buccula, hind portion of lorum and antennal peduncle paler.

Pronotum pale yellow, collar and two spots behind calli black, mesoscutum and scutellum pale with longitudinal, wide, dark brown fascia that reaches apex of the latter.

Hemelytra pale greenish, endocorium with two spots at sides of corial commissure (one each side) black, membrane fuscous, veins pale.

Underside of body dark brown to black, rostrum (except apex), coxae, and legs pale, tibiae toward apex and tarsi fuscous.

Body covered by long, fine, erect setae and semierect or erect hairs, black spots of pronotum and corium with black scales, vertex carinate, segment I of antenna noticeably thicker than II.

Genitalia: Aedeagus (Fig. 18) with a large basal plate and vesica with two spicular

prolongations tapering toward the apex. Left paramere (Fig. 19) strongly curved and sclerotized, stout, with a subapical acute lobe (Fig. 20) and several dorsal setae. Right paramere (Fig. 21) with three elongate branches (each one with two slender sclerotized spines or points), middle portion widened.

Female: Similar to male in coloration and general aspect.

Holotype. ♂, MEXICO, Chihuahua, 37 mi S of Hidalgo de Parral, VIII.21.60, P. H. Arnaud, Jr., E. S. Ross, and D. C. Rentz; deposited in the California Academy of Sciences, San Francisco.

Paratypes. 2♂♂, 5♀♀, same data and depository as holotype.

Etymology. The specific name is dedicated to P. H. Arnaud, Jr., collector of this species and curator of insects, California Academy of Sciences, San Francisco.

ACKNOWLEDGMENTS

I wish to thank Dr. P. H. Arnaud, Jr., for sending some of the interesting species of neotropical Miridae included in this paper. The illustrations were made by Paulo Roberto Nascimento and Maria Lilia Gomide da Silva.

LITERATURE CITED

- Bergroth, E. 1922. On the South American Miridae described by C. Stål. *Ark. Zool.* 14(22): 1-25.
- Carvalho, J. C. M. 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. 1958. A Catalogue of the Miridae of the World. Part II. Subfamily Phylinae. *Arq. Mus. Nac., Rio de Janeiro* 45:1-216.
- Carvalho J. C. M. and C. J. Drake. 1943. Neotropical Miridae: concerning the Pennington Collection (Hemiptera). *Rev. Ent., Rio de Janeiro* 14:522-524.
- Carvalho, J. C. M. and J. Maldonado C. 1973. Mirídeos Neotropicais, CL: descrição de três espécies novas (Hemiptera). *Rev. Brasil Biol.* 33(1):39-42.
- Lethierry, L. 1881. Liste des Hémiptères recueillis par M. Delauney a la Guadeloupe, la Martinique et Saint-Barthelémy. *Ann. Soc. Ent. Belg.* 25:1-12.
- Reuter, O.M. 1907. Capsidae in Brasilia collectae in Museo I.R. Vindobonensi asservatae. *Ann. Nat. Hofmus. Wien* 22:33-80.
- Schuh, R. T. 1974. The Orthotylinae and Phylinae (Hemiptera: Miridae) of South Africa with a phylogenetic analysis of the ant-mimetic tribes of the two subfamilies for the world. *Ent. Amer.* 47:1-332.