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Fifteen New Species of *Ozophora* from Central and South America with a Key to Mainland Neotropical Species (Hemiptera: Lygaeidae)

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ABSTRACT

Fifteen new species of *Ozophora* Uhler are described from Central and South America: *australis, badia, belezei, cuscoensis, decora, dolichocephala, inca, irrorata, neotropicalis, paranana, rubra, rubronotata, schaffneri, sylvana,* and *vandoesburgi.* A key to all known mainland Neotropical species of *Ozophora* is included. Mimetic relationships are suggested for *neotropicalis.*

INTRODUCTION

The genus *Ozophora* is one of the most speciose taxa of Western Hemisphere Lygaeidae. The present paper includes descriptions of a series of new species that are of special importance for the following reasons. (1) Several of the species appear to have sister species on islands of the West Indies, thus knowledge of these relationships is essential to any attempt to determine the derivation of the Caribbean fauna. (2) Some of the species represent a complex that does not appear to occur north of South America. Several of these are of relatively large size and in one case (and probably others) form what appears to be a Mullerian mimicry association with a species of Myodochini. (3) The unique characteristics of some of these species make their description essential before meaningful phylogenetic hypotheses can be developed and also before the zoogeographic relationships of the Mexican and Central American species can be understood.

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There are additional undescribed species in the Neotropics; discussion of their relationships and taxonomic positions awaits additional material and/or study.

I have not attempted to make phylogenetic interpretations in this paper for two reasons. Most important is the probability of many additional undescribed species being present in South America. Second is a study underway on the fauna of the West Indies. When it is completed we should be in a position to make some meaningful generalizations. At this time, it is possible to state that the majority of the West Indian species are not known from the mainland. Exceptions are *rubrolinea* Slater, *agilis* Slater, and possibly *coleoptrata* Slater. However, there are several sister species on the islands and in Central and South America. Those relationships will be treated in a separate paper.

A key to the mainland Neotropical species, which does not include species known only from the West Indies, is provided. I have attempted where possible to avoid complex measurement and genital characters, but their use is critical in a number of cases. It is essential to use the key in conjunction with the descriptions, because undescribed species may be at hand and because in some cases more variability may exist than available material would indicate. Therefore, the key should be considered a preliminary attempt to make determination of species in this complex taxon easier than has previously been the case. All measurements are in millimeters.

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Abbreviations

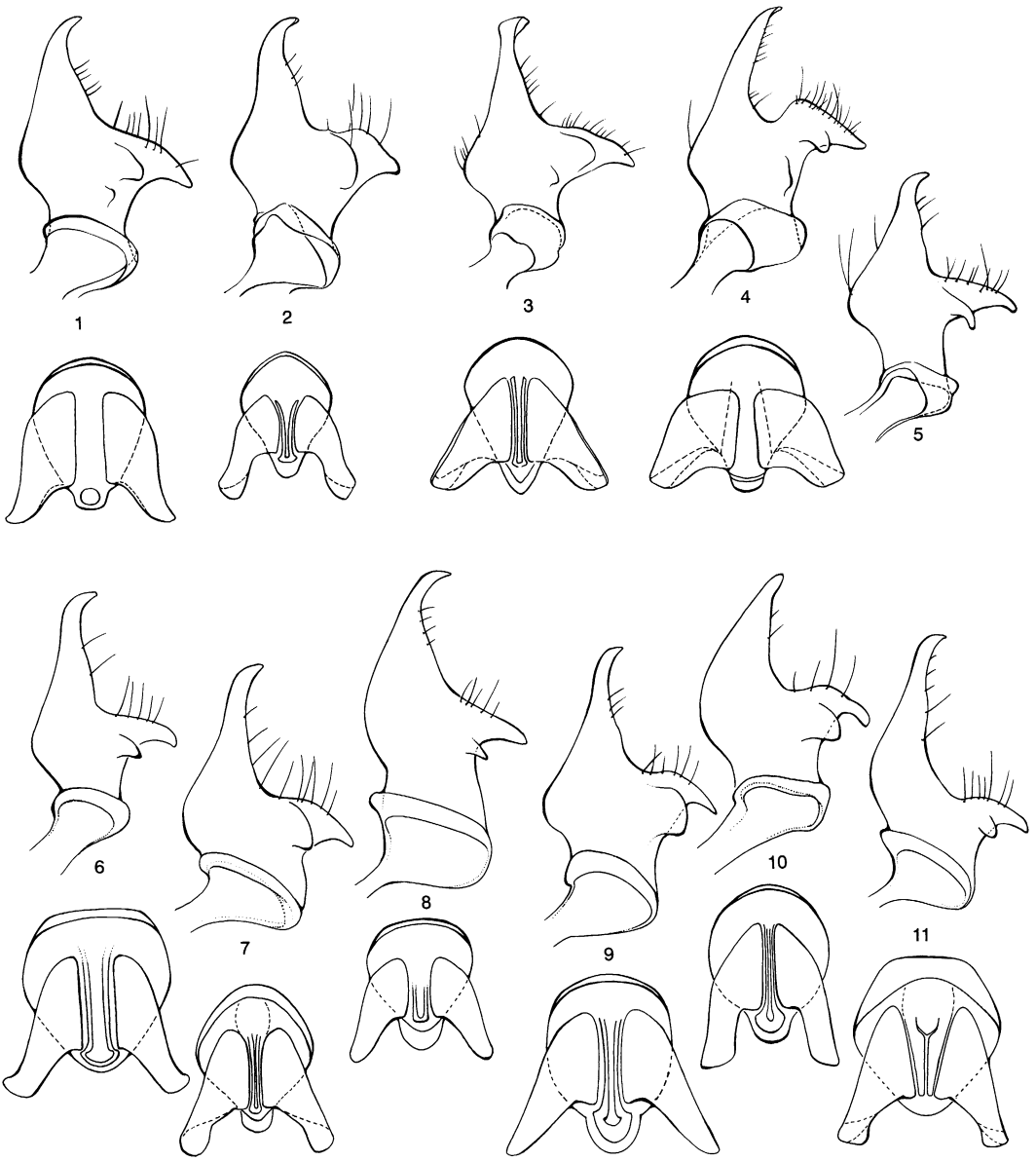
AMNH	American Museum of Natural History
DE	D. Engleman collection
JAS	James A. Slater collection
LU	Lund University
MJA	M. J. d'Aguilar collection
MNRJ	Museu Nacional Rio de Janeiro
NHML	Natural History Museum (London)
RB	R. M. Baranowski collection
RVNH	Rijksmuseum van Naturrlijke Histoire (Leiden)
TA&M	Texas A&M University
UAN	Universidad Agraria del Norte (Peru)
UCV	Universidad Central de Venezuela
UKL	University of Kansas at Lawrence
USNM	United States National Museum

Ozophora australis, new species

Figure 10

Diagnosis: Small species barely exceeding 5 mm in length. Lateral margins of pronotum pale, contrasting with remainder of pronotum. Fourth antennal segment lacking, or having a very obscure, pale subbasal annulus. First antennal segment shorter than interocular space. Posterior pronotal lobe with a dark brown median macula. Elevated scutellar carina not white. Paramere inner tooth tusklike.

Description: Relatively short, stout, nearly parallel sided. Head, anterior lobe of pronotum, and scutellum uniformly bright tan. Anterior pronotal collar, entire lateral margins of pronotum, and irregular calloused areas on posterior pronotal lobe (between obscure dark red brown loops) bright yellow. Apex of scutellum white. Hemelytra primar-



Figs. 1–11. Genital structures each double (unless stated otherwise) with paramere in lateral view above and sperm reservoir in dorsal view below: **1.** *neotropicalis,* **2.** *irrorata,* **3.** *vandoesburgi,* **4.** *sylvana,* **5.** *dolichocephala* (paramere only), **6.** *rubra,* **7.** *paranana,* **8.** *badia,* **9.** *decora,* **10.** *australis,* **11.** *belezei.*

ily light testaceous; distal half of clavus, with exception of PCu vein, infuscated with darker brown. Chocolate brown macula present at inner angle of corium surrounding pale elliptical macula and between R and Cu on proximal third. A small but distinct chocolate brown macula present along lateral corial margins just posterior to level of apex of clareval commissure and with a prominent apical dark macula. Intermediate areas infuscated, but not forming a complete transverse fascia across corium. Membrane chiefly dark reddish brown with slightly paler apex and conspicuously pale veins. Pleural and ventral surfaces nearly uniformly bright reddish brown. Acetabula and posterior lobe of me-

tapleuron yellow, dorsolateral margin of latter becoming white. Labium and legs nearly uniformly pale testaceous (hind leg missing in type). Antennae with first, second, and proximal three-fourths of third segment testaceous, distal end of segment 3 and all of segment 4 dark chocolate brown. Lacking elongate upstanding hairs on dorsal surface.

Head moderately acuminate, nondeclivent, reaching at least to middle of first antennal segment; vertex not strongly convex; eyes set only slightly away from anterolateral pronotal angles. Length head 0.68, width 0.87, interocular space 0.80. Pronotum with punctate calli prominent, not deeply excavated on midline between calli; lateral pronotal margins prominently calloused and moderately sinuate; transverse impression shallow but complete; posterior margin nearly straight, slightly concave before base of scutellum; posterior lobe only slightly elevated above anterior. Length pronotum 0.87, width 1.44. Scutellum with Y-shaped elevation, not differentiated in color from remainder of scutellum. Length scutellum 0.72, width 0.72. Length claval commissure 0.65. Corium with lateral margins crenulately toothed proximally, only slightly sinuate. Midline distance apex clavus–apex corium 1.10. Midline distance apex corium–apex abdomen 1.18. Metathoracic scent gland auricle very short, straight, not curving posteriorly. Forefemora moderately incrassate, armed below with three conspicuous dark spines plus a tiny subdistal spine and one or two hair spines proximad of major spines. Labium extending well between hindcoxae, first segment about attaining base of head. Length labial segments I 0.76, II 0.76. Length antennal segments I 0.53, II 1.18, III 0.99, IV 1.25. Total body length 5.17.

Parameres with blade elongate, curving, inner projection elongate, fingerlike with inner tooth narrow (fig. 10, top). Sperm reservoir with bulb narrowly elliptical, wings not strongly divergent (fig. 10, bottom). Vesica with five coils.

HOLOTYPE: Male. BRAZIL: *Santa Catarina*: Nova Teutonia 27°11'S, 52°23'W 300–500 m 25.VII.1958 (Fritz Plaumann). In AMNH.

PARATYPES: BRAZIL: *Santa Catarina*: 1♀ same data as holotype. 1♂, 4♀, same except 9.VI.1958. 1♂, same except 10.VI.1958. 1♀, 1 (no abd.), same except 24.VII.1958. *Rio Grande du Sul*: 1♂, Nova Petropolis XII.1964 (F. Plaumann). In UKL, AMNH, JAS.

ADDITIONAL MATERIAL EXAMINED: BRAZIL: *Santa Catarina*: 1♀, Nova Teutonia 27° 11'S, 52°23'W 300–500 m (Fritz Plaumann). 1♀, Ibicare IX.1960 (F. Plaumann). *Rio Grande du Sul*: 1♂, Trinhaus IV.1959 (F. Plaumann). *Parana*: 1♂, 7♀, Bocaiuva 1000 m 25 08 49 04, V.1964 (F. Plaumann). 1♂, 5♀, 1 no abd. same except XII.1963. ARGENTINA: *Jujuy*: 2♂, Termas de Reyes 25.XII.1971 (L. Herman) 818. 1♂, 1♀, San Salvador 21.X.1968 (night) (L. & C. W. O'Brien). In UKL, AMNH, JAS.

VARIATION: The limits of this species are very difficult to understand. What I treat as *australis* may in fact be a complex. Most of the type series is from Nova Teutonia. Of these, the males have an almost completely dark fourth antennal segment while the females have the base of this segment very slightly paler but still without a distinct white or light yellow annulation. A series of females from Bocaiuva, by contrast, has a conspicuous white annulus on the basal portion of the fourth antennal segment. In general, females are more brightly colored than males and often have a complete dark transverse fascia running across the corium at a level just posterior to the distal end of the claval commissure. The male from Bocaiuva has a paramere with the tooth somewhat broader than in the Nova Teutonia specimens, but has a dark fourth antennal segment as in those specimens.

DISCUSSION: I have examined four specimens from Argentina as noted above. These specimens are very slightly submacropterous. They may represent a distinct species but are so similar externally to the type material that recognition as a distinct species is premature at this time. The parameres of the Argentine material are also distinctive in that the inner projection is considerably blunter and more strongly bent downward at the apex; the tooth is broader and there is a conspicuous projection in the middle of the base of the shaft. These Argentine specimens are very dull in color and the posterior pronotal lobe is less elevated than it is in Brazilian specimens, usually lower than the calli of the anterior lobe. They also have infuscations subdistally on the hind femora. A single male from Trin-

haus, Brazil, also appears to be conspecific with *australis,* but again the male paramere is somewhat different in that the inner projection is produced broadly at its base and then tapers abruptly to a nipplelike apex.

Given the degree of variation and the limited material available, it seems to me that the conservative course is to consider that we are probably dealing with a single variable species.

One female from Bocaiuva, Brazil, shows antennal oligomery. The left antenna has only three segments, the second segment is longer than the normal second and the third segment nearly as long as the normal third and fourth combined and very slightly paler at the base than the remainder, which is dark, chocolate brown.

O. australis sometimes shows somewhat notched humeral pronotal angles. Such specimens may be distinguished from *englemani* Slater by the pale, strongly contrasting, lateral pronotal margins.

ETYMOLOGY: Named for its southern distribution in South America.

Ozophora badia, new species

Figure 8

DIAGNOSIS: Small species, less than 5 mm in length. Pronotum almost completely dark, with a pair of light spots on posterior lobe on either side of midline near transverse impression. Corium nearly uniformly pale except for apical margin. (Hemelytral coloration similar to that of *Pseudopachybrachius vincta* [Say].) Forefemora with only two major spines. Humeral angles of pronotum rounded.

DESCRIPTION: Body relatively stout. Head, almost entire pronotum, and scutellum bright red brown. Pronotum with a pair of testaceous spots on either side of midline immediately posterior to transverse impression; frequently additional pale banding present immediately within humeral angles. Scutellum with Y-shaped elevations marked with prominent testaceous maculae; apex white. Hemelytra in large part pale testaceous, a large apical dark brown patch present, dark area along corial margins at level of distal end of claval commissure reduced to a narrow stripe not extending mesad of radial vein, latter usually with a suffused dark stripe along distal third which bisects the subapical white macula. Body below nearly uniformly bright red brown. Legs chiefly testaceous but hind femora with a conspicuous, somewhat diffuse, subdistal band. Antennae dusky testaceous, fourth segment lacking a conspicuous white proximal annulus (although this area sometimes slightly lighter than terminal portion of segment), third segment suffused with brown at distal end. Lacking upstanding hairs on dorsal surface.

Head prominent, moderately convex across vertex; tylus extending at least to middle of first antennal segment; eyes relatively flat, set well away from anterolateral pronotal angles. Length head 0.80, width 0.78, interocular space 0.36. Pronotal calli nearly confluent mesally; transverse impression complete but shallow mesally; lateral margins deeply sinuate; surface of posterior lobe only slightly elevated above anterior; posterior margin nearly straight. Length pronotum 0.80, width 1.24. Length scutellum 0.68, width 0.60. Hemelytra with lateral corial margins only slightly narrowed at level of apex of scutellum. Midline distance apex clavus–apex corium 1.06. Midline distance apex corium–apex membrane 0.56. Length claval commissure 0.76. Metathoracic scent gland auricle tapering, slightly curved posteriorly. Forefemora moderately incrassate, armed below with two prominent spines distally, with at least one proximal hair spine present. Labium extending well between mesocoxae. Length labial segment I 0.70. Antennae terete. Length antennal segments I 0.60, II 1.30, III 1.08, IV 1.24. Total body length 4.56.

Parameres with blade short, broad, evenly tapering; inner projection elongate, subacute; inner tooth narrow, dentate; basal flange not strongly produced upward and outward (fig. 8, top). Sperm reservoir with conventional-shaped bulb; wings rather broad, short, strongly divergent (fig. 8, bottom).

HOLOTYPE: Male. BELIZE: San Antonio, British Hon. VI-1931 (J. J. White) (J. C. Lutz Collection). In USNM.

PARATYPES: 3♀, same data as holotype. In USNM, JAS.

DISCUSSION: The holotype has an indication of pale markings laterally on the posterior pronotal lobe but the three paratypes are quite unusual in *Ozophora* in having both the anterior and posterior lobes similarly colored

with the only light markings on the pronotum being a pair of spots on either side of the midline of the posterior lobe immediately behind the transverse impression and a small and minute macula posteriorly near each humeral angle. The hemelytral coloration is similar to that found in the myodochine *Pseudopachybrachius vincta* (Say).

ETYMOLOGY: Referring to its small size.

Ozophora belezei, new species

DIAGNOSIS: Humeral angles of pronotum distinctly notched. Pronotum with four dark rays on posterior lobe. Hemelytra variegated with dark and pale stripes and macula. Membrane of forewing lacking an apical pale macula. Forefemora with three major spines. Legs uniformly pale yellow. Second antennal segment more than 3¾ times as long as interocular space. Over 6 mm in length. Crenulate tooth present on blade of paramere.

DESCRIPTION: Body rather robust, subparallel. General coloration bright reddish to chocolate brown, including greater portion of hemelytra. Testaceous as follows: four irregular, incomplete rays on posterior pronotal lobe, central portion of cubital vein on clavus, a large quadrate distal macula on corium extending from lateral margin inward to radius, extreme apex of corium, middle portion of medius, elliptical spot at inner corial angle, and a pale irregular area laterad of medius at level of middle of claval commissure. Legs completely pale yellow, lacking subdistal dark annulations on femora. Antennae with first, second, and most of third segment pale yellow; distal enlargement of third antennal segment fuscous (segment 4 absent). Posterior pronotal lobe conspicuously punctate. No upstanding hairs on dorsal surface.

Head relatively broad and short; moderately declivent; vertex convex; eyes large, occupying most of lateral head surface. Length head 0.86, width 1.04, interocular space 0.48. Pronotal calli large, occupying most of anterior lobe, confluent or nearly so mesally; lateral margins sinuate; humeral angles distinctly "notched"; posterior pronotal margin almost straight; transverse impression complete but shallow mesally. Length pronotum 1.14, width 1.80. Scutellum lacking distinct pale markings but with a somewhat lighter brown Y-shaped elevation; apex white. Length scutellum 1.04, width 0.96. Hemelytra with lateral corial margins conventionally sinuate. Midline distance apex clavus–apex corium 1.48. Midline distance apex corium–apex abdomen 1.06. Length claval commissure 0.92. Metathoracic scent gland auricle short, subtruncate, slightly curved posteriorly. Forefemora moderately incrassate, each armed below with three sharp spines followed proximally by at least three "hair-spines." Labium obscured, first segment slightly exceeding base of head. Length labial segments I 0.36, II 0.42, (III and IV obscured). Length antennal segments I 0.74, II 1.72, III 1.40 (IV missing). Total body length 6.08.

Paramere with blade elongate, nearly straight, inner margin distally with distinct crenulatelike teeth, inner projection prominent, broadly curved basally, inner "tooth" short, broad, almost semicircular, a distinct knoblike elevation in middle of shaft, basal attachment flange most distally pronounced toward posterior margin broad and prominent (fig. 11). Sperm reservoir very large, with broadly elliptical bulb, wings moderately flaring (fig. 11, below).

HOLOTYPE: Male. BELIZE: Punta Gorda X.1933 (J. J. White) (BM 1934-60). In NHML.

PARATYPE: 1♀, BELIZE: Punta Gorda IV.1934 (J. J. White). In JAS.

DISCUSSION: This is probably the sister species of *Ozophora pallidifemur* Scudder, known only from the Cayman Islands. However, it is obviously distinct. Not only are posterior pronotal lobe punctures less rugose and irregular than in the latter species, but more importantly, the second antennal segment is relatively much longer. In *belizei,* the ratio of the second antennal segment divided by the interocular space is more than 3.75, whereas in *pallidifemur* the same ratio is less than 2.75. The parameres of the two species differ significantly. *O. pallidifemur* lacks crenulate teeth distally on the paramere blade, has a much more strongly tapered and produced inner tooth, and a less broadly developed basal attachment. *O. belizei* is also a somewhat larger species than *pallidifemur.* Nevertheless, the two species are very closely related and the Cayman Island species is probably derivative from this Central Amer-

ican population. In both species the extensive dark coloration of the hemelytra, the lack of a pale distal macula on the membrane, the rather coarsely punctate posterior pronotal lobe, the similar configuration and coloration of the scutellum, and in particular the shape of the sperm reservoir and small projection on the shaft of the paramere, indicate two closely related taxa.

ETYMOLOGY: Referring to the location of the holotype in the country of Belize.

Ozophora decora, new species

Figure 9

DIAGNOSIS: Elongate, slender, species with attenuated porrect head. Clavus with completely pale cubital vein. Fourth antennal segment with a dull yellow annulus. Apical corial margin dark. Hemelytra variegated, lacking orange spots. No forefemoral spots. Scutellum dark, lacking a pale Y-shaped elevation. Inner tooth of paramere forming a nearly semicircular projection.

DESCRIPTION: Body elongate, slender, nearly parallel sided. Head, anterior pronotal lobe, and scutellum black, latter becoming dark chocolate brown on elevated Y-shaped area. Anterior pronotal collar and greater portion of posterior pronotal lobe dark chocolate brown, a dull testaceous stripe present on posterior lobe on either side of midline. Clavus nearly uniformly chocolate brown with strongly contrasting pale testacous PCu vein. Corium in large part pale testaceous, but dark fascia at lateral margin posterior to level of distal end of claval commissure broadly expanded both posteriorly and anteriorly laterad of radial vein and extending irregularly completely across hemelytron; apical dark macula relatively large and covering caudal portion of apical corial margin (this combination of color leaving a variegated pattern with a contrasting large subapical pale macula on corium). Membrane chiefly dark chocolate brown, veins and extreme apex pale. Head and pleural and ventral thoracic surfaces nearly black. Acetabula, posterior lobe of propleuron, posterior lobe of metapleuron, and abdomen reddish brown. Legs and labium sordid yellow. Antennae dull yellowish brown with fourth segment (of paratype) pale, very slightly more so basally, but not forming a distinct white or strongly contrasting pale annulus; second and third segments darker at distal ends. Body lacking upstanding hairs on dorsal surface. Pronotal punctures relatively small and inconspicuous. Area about pronotal calli gray pruinose, strongly contrasting with dark color of calli.

Head only slightly declivent, elongate, appearing acuminate. Tylus extending to or nearly to middle of first antennal segment; eyes large, prominent; vertex moderately convex. Length head 0.96, width 1.02, interocular space 0.42. Pronotum with posterior lobe very strongly elevated above anterior; calli not noticeably swollen; lateral pronotal margins strongly concave but scarcely sinuate, with lateral callosities very narrow and inconspicuous; posterior pronotal margin nearly straight; humeral angles evenly rounded. Length pronotum 1.10, width 1.62. Scutellum with Y-shaped elevation low and inconspicuous. Length scutellum 0.94, width 0.88. Hemelytra with lateral corial margins obsoletely crenulate anteriorly, only moderately sinuate. Length claval commissure 0.94. Midline distance apex clavus–apex corium 1.48. Midline distance apex corium–apex membrane 1.18. Metathoracic scent gland auricle very short, straight, obtuse, not at all curved posteriorly. Forefemora moderately incrassate, armed below on distal third with three conspicuous sharp spines followed proximally by at least one hair spine. Labium extending well between metacoxae, first segment attaining base of head. Length labial segments I 0.98, II 1.00, III 0.88, IV 0.44. Antennae terete. Length antennal segments I 0.78, II 1.92, III 1.62, IV 1.94. Total body length 6.24.

Paramere distinctive with blade elongate, slender, and tapering, shaft broad, inner projection broadly fingerlike, inner tooth forming a broad elliptical nearly semicircular projection (fig. 9). Sperm reservoir nearly ovoid with wings widely divergent (fig. 9).

HOLOTYPE: Male. BRAZIL: *Matto Grosso*: 12°31′S, 55°37′W "Sinop" X.1974 (M. Alvarenga). In AMNH.

PARATYPES: BRAZIL: *Matto Grosso*: 1♂, same data as holotype. 1♂, Vila Vera 12°46′S, 55°30′W, X.1973 (M. Alvarenga). *Rondonia*: 1♂, 1♀, Vilhena XI.1973 (M. Alvarenga).

Amazonas: 1♂, 2♀, 5 km N. Manaus, 24-27.XII.1964 (R. Thorington). VENEZUELA: *Amazonas*: 12♂, 13♀, Cerro Unturan Camp, 01°33'N, 65°14'W, 1100 m 11-15.III.1989 (Phipps-FUDECI Exped. by Am. Mus. Nat. Hist., D. A. Grimaldi). In AMNH, JAS.

DISCUSSION: Females tend to be somewhat broader than males, often have brown second and third antennal segments, and are in general more brightly colored, especially on the posterior pronotal lobe where there may be two lines of testaceous streaking to almost form the looped appearance of so many other *Ozophora* species.

O. decora is distinguishable from *singularis* Slater by the completely pale cubital vein on the clavus, and variegated hemelytral color pattern that lacks orange spots. From *attagenis* it is readily separable by the lack of forefemoral spots, lack of an irrorate membrane, and uniformly pale cubital vein.

ETYMOLOGY: Referring to its relatively decorative appearance.

Ozophora decora surinamensis, new subspecies

Figure 12

DIAGNOSIS: Similar to nominate *decora* except for very elongate labium that extends onto third abdominal sternum.

DESCRIPTION: Very similar in form and color to the nominate subspecies but with labium appreciably longer, extending well beyond the metacoxae onto the second or third visible abdominal sternum. Tendency for coloration to be brighter with complete striping on posterior pronotal lobe. Length head 1.02, width 1.04, interocular space 0.42. Length pronotum 1.12, width 1.64. Length scutellum 0.96, width 0.82. Length claval commissure 0.90. Midline distance apex clavus–apex corium 1.58. Midline distance apex corium–apex membrane 1.10. Length labial segments I 1.26, II 1.26, III 1.20, IV 0.50. Length antennal segments I 0.76, II 1.78, III 1.48, IV 1.82. Total body length 6.24.

HOLOTYPE: Female. SURINAME: Zandery Savanne 20.VII.1964 (Geyskes). In RVNH.

PARATYPES: SURINAME: 1♀, same data as holotype. 2♀, same except 28.IX.1964. 1♀, same except 25.IX.1964. 1♀, same except 7.IX.1964. 1♀, same except 11-15.IX.1964 (P. H. v Doesburg). 1♂, "2054 Surin." 19-(P. H. v Doesburg). 1♀, "2049" same. 1♂, 4♀, "2034" same. 1♂, Surinam "P-2110." In RVNH, JAS.

DISCUSSION: *Ozophora decora* is very closely related to *O. dolichocephala,* n. sp. Both species are elongate and slender with attenuated, rather porrect heads, black to dark chocolate brown heads and anterior pronotal lobes, and are similar in coloration especially in the lack of a distinctive white annulus on the elongate fourth antennal segment. Both species have a strongly elevated posterior pronotal lobe and extremely narrow calloused pronotal margins. In addition to the genital differences, which are considerable, *decora* can readily be separated from *dolichocephala* in that the scutellum of *decora* is always dark, whereas in all specimens of *dolichocephala* the Y and the base of the stem of the elevated area are contrastingly pale testaceous. The apical corial margin of *decora* is always dark, in *dolichocephala* it is always either pale or (frequently) crimson along the posterior portion. The subspecies *surinamensis,* of course, is readily distinguishable by the much longer labium.

It is surprising to find two species so similar externally as *dolichocephala* and *decora* with parameres so strikingly different. One female shows antennal oligomery.

ETYMOLOGY: Referring to its occurrence in Surinam.

Ozophora dolichocephala, new species

Figures 5, 13

DIAGNOSIS: Body elongate, slender, head porrect. Apical corial margin pale, often marked with crimson. Fourth antennal segment lacking a pale subbasal annulus. Labium not reaching third abdominal sternum. Scutellum with Y-shaped elevation pale, contrasting with ground color of rest of scutellum. Paramere with inner projection elongate and slightly drooped at end.

DESCRIPTION: Body unusually elongate and slender, tapering anteriorly. Head and anterior pronotal lobe black to very dark chocolate brown; anterior pronotal collar with a pale yellow vitta on either side of midline;

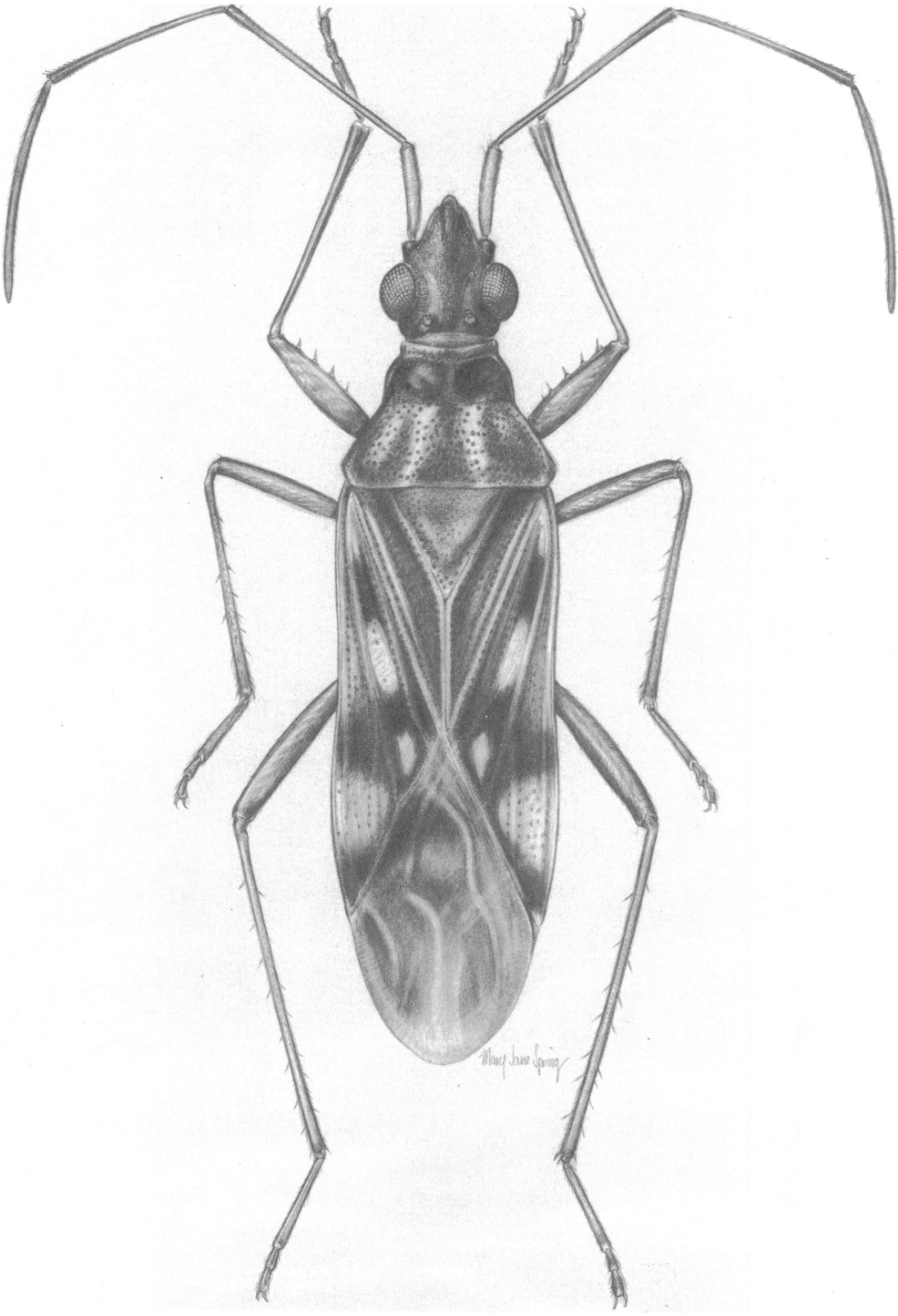


Fig. 12. *decora surinamenis.*

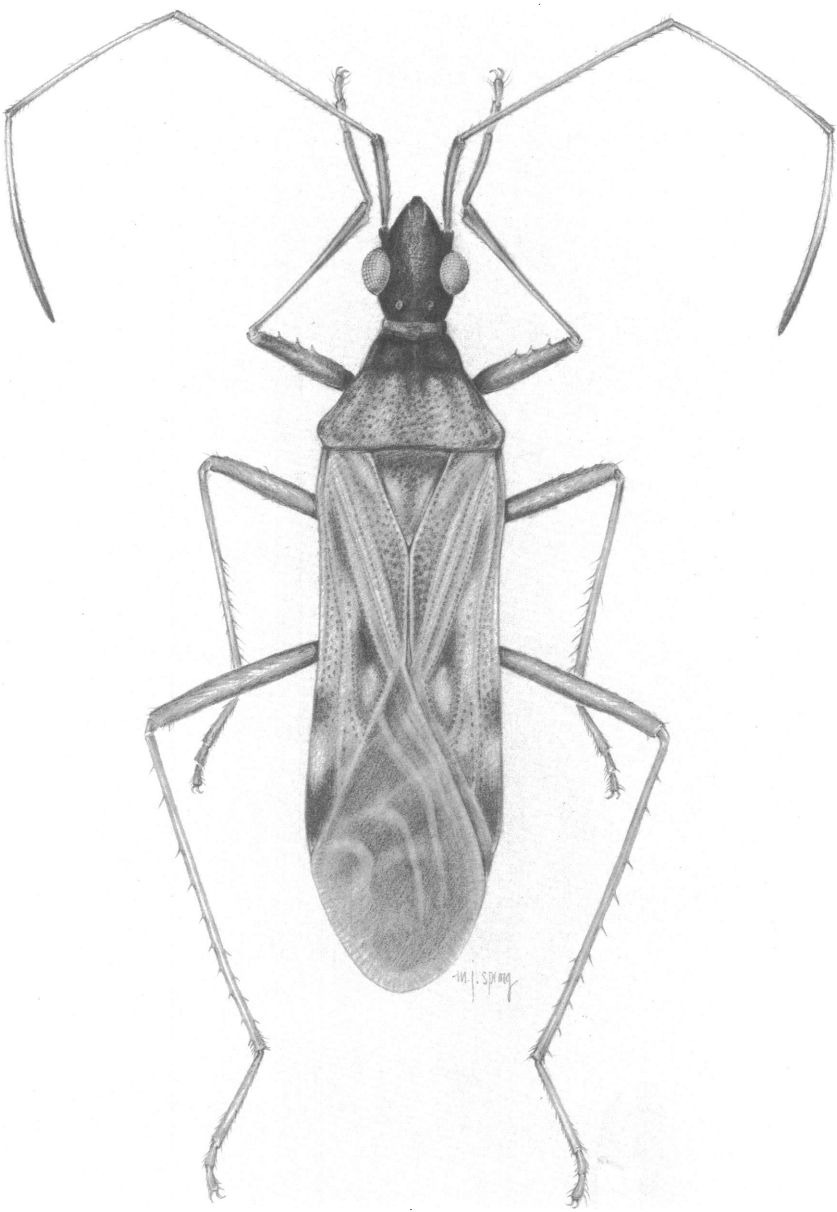


Fig. 13. *dolichocephala.*

posterior pronotal lobe chiefly reddish brown including a broad median stripe, but with a prominent yellow stripe on either side of dark median stripe and an obscure sublateral yellow stripe; extreme lateral margins of both anterior and posterior lobes dark. Scutellum black to dark chocolate brown with pale yellow apex and a prominent strongly contrasting light yellow diagonal streak on elevated Y-shaped area. Hemelytra suffused with yellow, reddish brown, and darker brown; area at level of apex of scutellum with an obscure darker red brown fascia and another irregular fascia at level of apex of claval commissure. Lateral corial margins chiefly pale yellow with a dark subapical macula; outer half of apical

corial margin pale reddish to yellowish, inner half infuscated. Membrane chiefly dark red brown including apex, but with inner vein prominently outlined in pale yellow. Femora dull reddish brown. Tibiae and tarsi pale yellow, apical tarsal segment darkened. First and second antennal segments reddish brown, third segment yellowish with a chocolate brown distal end, fourth segment with proximal third somewhat paler than fuscous distal two-thirds but not evident as a strikingly differentiated white annulus. Dorsal body surface lacking upstanding hairs.

Head elongate, tapering, acuminate, nondeclivent; vertex not conspicuously convex; eyes prominent, placed a considerable distance away from anterior margin of pronotum; tylus reaching at least to middle of first antennal segment. Length head 0.98, width 1.04, interocular space 0.44. Pronotum with a complete deep transverse impression; calli smooth almost shining; area surrounding calli pruinose; posterior lobe well elevated above anterior; lateral margins deeply sinuate; posterior margin shallowly concave. Punctures of posterior pronotal lobe large, conspicuous, and dark. Length pronotum 1.24, width 1.80. Length scutellum 1.18, width 1.02. Lateral corial margins shallowly concave. Length claval commissure 1.08. Midline distance apex clavus–apex corium 1.74. Midline distance apex corium–apex membrane 1.26. Metathoracic scent gland auricle short, triangular, scarcely extending laterad of orifice and not projecting caudally. Forefemora slender, moderately incrassate, armed below on distal third with three prominent sharp spines followed proximally by one or two slender hair spines. Labium elongate, exceeding metacoxae, and extending onto first visible abdominal sternum. Length labial segments I 1.14, II 1.20. Antennae terete, slender. Length antennal segments I 0.80, II 1.88, III 1.50, IV 1.82. Total body length 7.20.

Paramere with inner projection elongate, slightly "drooped" at tip, inner tooth slender, set well out on inner projection and strongly down-curved, blade elongate, strongly curved and tapered at distal end (fig. 5). Sperm reservoir with bulb ovoid, almost round, wings projecting strongly downward but little flared laterad. Approximately three vesical coils present.

HOLOTYPE: Female. VENEZUELA: *Bolivar*: km 125 El Dorado-Santa Elena 1100 m 23.IX.67 (C. J. Rosales, M. Gelbez, L. Rodriguez V.). In AMNH. (A female has been selected as the holotype as the only males available are in poor condition.)

PARATYPES: VENEZUELA: *Bolivar*: 1♂, 6♀, same data as holotype. 1♀, same except 24.IX.1967. *Amazonas*: 1♂, Mt. Duida 13.I.1929 Ac. 291500 Tate, No. 671. *Aragua*: 1♀, Rancho Grande 1100 m 29.VIII.1967 (A. Montagne, M. Gelvez). In AMNH, UCV, JAS.

DISCUSSION: This handsome species is very similar to *decora surinamensis,* which also has a long, tapering black head and reddish brown markings on the pronotum and which also lacks a strongly differentiated white annulus on the fourth antennal segment. However, in *surinamensis* the labium is extremely elongate, extending posteriorly to the third or fourth abdominal segment and the scutellum is always uniformly dark red brown. Furthermore, in the latter the pale markings on the corium are usually more extensively developed.

ETYMOLOGY: Referring to its elongate head.

Ozophora inca, new species

DIAGNOSIS: Small species, not over 5 mm in length. Fourth antennal segment with a white subbasal annulus. First antennal segment much longer than interocular width. Lateral margins of pronotum pale. Forefemora with three major spines. Inner tooth of paramere with only a short blunt projection.

DESCRIPTION: Body elongate, slender, nearly parallel sided. Head and anterior pronotal lobe dark chocolate brown, almost black. Scutellum dark basally and marginally but elevated central area and divergent arms a contrasting reddish brown, apex white. Anterior pronotal collar, lateral margins, and entire posterior pronotal lobe, as well as greater portion of hemelytra testaceous. Clavus infuscated with dark brown mesally on distal half. Corium with dark chocolate brown markings at inner angle surrounding an elliptical pale spot; an elongate dark spot subbasally between median and cubital veins; a quadrate dark lateral patch on corium ex-

panding toward lateral margin, becoming diffuse mesally, not quite forming a complete transverse fascia. Distal dark spot not occupying extreme apex of corium, somewhat suffuse along apical corial margin. Membrane fumose with veins contrastingly pale, apex slightly paler. Head, thoracic sterna, and pleura including acetabula dark chocolate brown; posterior lobe of metapleuron becoming pale dorsocaudad. Met-acetabula, coxae, and abdomen red brown. Legs uniformly pale yellow including distal ends of forefemora and all tarsal segments. First antennal segment reddish brown, segments 2 and 3 testaceous, latter chocolate brown at distal end, fourth segment chocolate brown with a broad conspicuous white subproximal annulus. Body lacking upstanding hairs on dorsal surface. Dorsal punctures coarse, dark, conspicuous mesally on pronotal calli.

Head large, broad, slightly declivent anteriorly; tylus reaching over proximal third of first antennal segment; vertex moderately convex; eyes prominent, set well away from anterolateral pronotal angles. Length head 0.74, width 0.84, interocular space 0.44. Pronotum with lateral margins deeply sinuate; transverse impression complete; calli prominently swollen even across midline; posterior lobe less elevated than anterior lobe; posterior pronotal margin shallowly concave before base of scutellum. Length pronotum 0.94, width 1.28. Length scutellum 0.70, width 0.54. Hemelytra with lateral corial margins obscurely toothed anteriorly, shallowly concave at level of apex of scutellum. Length claval commissure 0.68. Midline distance apex clavus–apex corium 1.16. Midline distance apex corium–apex abdomen 0.72. Membrane not quite attaining distal end of abdomen. Metathoracic scent gland auricle short, finger-shaped, obtuse at distal end, not curving posteriorly. Forefemora moderately incrassate, armed below with three sharp, dark spines. Labium reaching between hindcoxae, first segment attaining base of head. Length labial segments I 0.72, II 0.70, III 0.56, IV 0.26 (approx.). Antennae with first segment relatively elongate. Length antennal segments I 0.70, II 1.52, III 1.30, IV 1.50. Total body length 4.96.

HOLOTYPE: Male. PERU: *Junin*: 1800 m Huacapistana, 27-30.VII.1965 (P. & B. Wygodzinsky collectors). In AMNH.

DISCUSSION: This species, although represented by only a single specimen, is quite distinct. It is related to *australis* but the antennae of *inca* are much more elongate than are those of *australis*. In *inca* the length of the first antennal segment is much greater than the interocular space, whereas in *australis* it is much shorter. *Inca* has a much larger head, a more elongate, slender body, and the paramere is of a very different shape. In *inca* the inner tooth is reduced to a broad, blunt projection in contrast to the sharp, acute toothlike or tusklike development in *australis* (fig. 10). The two species are similar in the shape of the pronotum with its pale, deeply incised lateral margins and the somewhat flattened posterior lobe.

ETYMOLOGY: Referring to the Inca Indians living in Peru where the type was taken.

Ozophora irrorata, new species

Figures 2, 14

DIAGNOSIS: Large, robust, over 7 mm. Coloration chiefly brown, membrane strongly variegated with irrorate pale yellow and dark fumose markings. Legs pale yellow. Fourth antennal segment with a short but distinct pale subbasal annulus. Forefemora with four major spines. Inner projection of paramere large, broad, and strongly angulate.

DESCRIPTION: Body broad, robust, strongly tapering anteriorly. Size and body shape very similar to *Ozophora sylvana*. Color predominantly red-brown. Head and anterior pronotal lobe darker red-brown. Anterior pronotal collar dark red-brown mesally and laterally with a testaceous patch on either side of mesal brown area. Posterior pronotal lobe chiefly light brown marked with yellow as follows: a macula on either side of midline immediately behind transverse impression, four rather indistinct spots along posterior margin, these vaguely extending anteriorly as obsolete rays. Scutellum with a short, diagonal yellow streak on each arm of elevated Y contrasting strongly with nearly uniform red-brown coloration of remainder of scutellum. Hemelytra chiefly testaceous, marked with darker brown between corial furrow and cubital vein, with elliptical yellow spot at inner angle of corium large. Chocolate brown patch in lateral explanate margin located at level just caudad of claval commissure. A

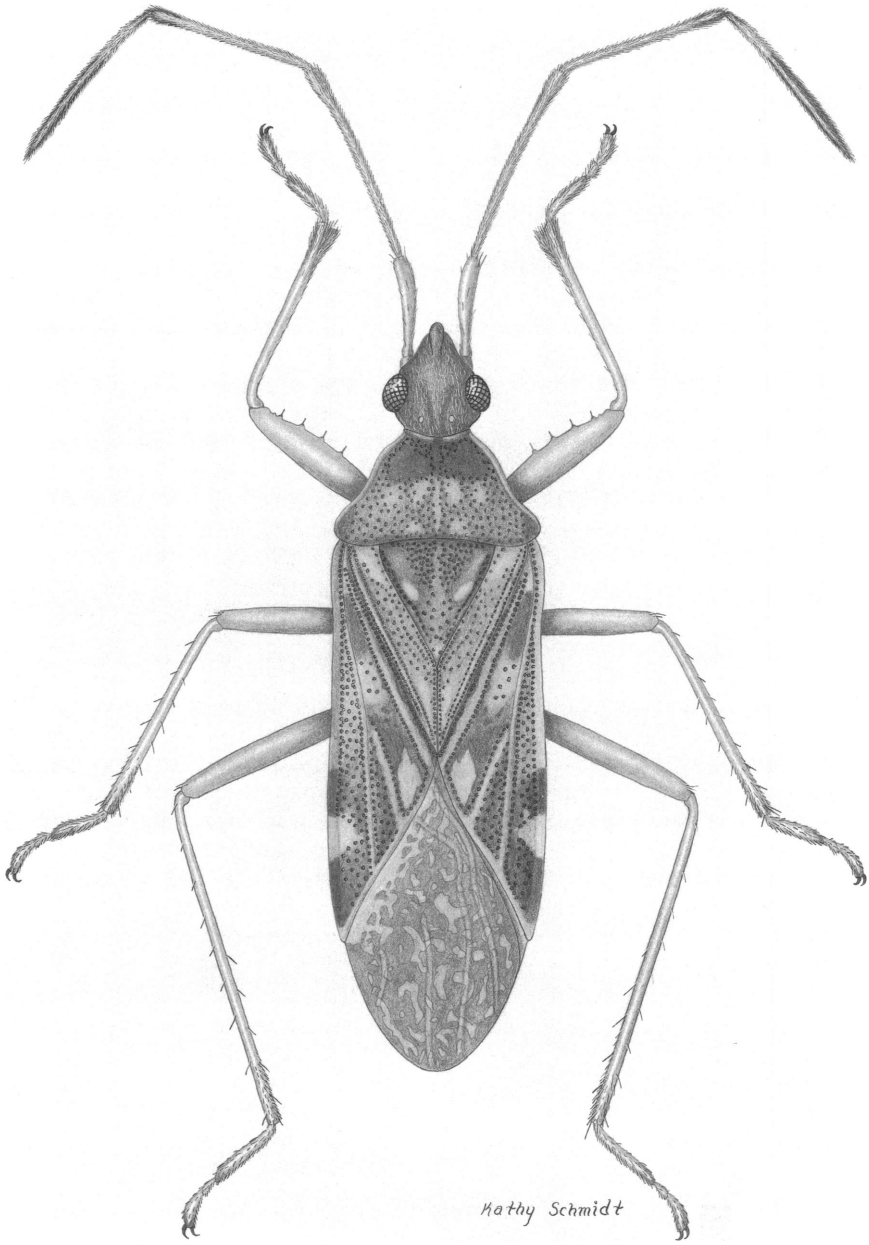


Fig. 14. *irrorata.*

prominent dark brown apical triangular patch. Membrane fumose, extensively marked with an irrorate pattern of yellow, sometimes confluent, spots. Lateral and ventral surfaces dark red-brown, becoming almost chocolate brown on meso- and metapleura, distal ends of acetabula pale yellow. Caudodorsal angle of metapleuron white. Abdomen red-brown. Legs nearly uniformly pale yellow, third tarsal segment infuscated. First, second, and third antennal segments chiefly light yellowish tan, second segment slightly infuscated at distal end, third segment prominently chocolate brown on distal enlargement, fourth segment with a prominent but short subbasal white annulus, remainder of segment choc-

olate brown. Body lacking upstanding hairs on dorsal surface.

Head small, very slightly or not declivent, prominently convex across vertex. Tylus extending only slightly beyond proximal third of first antennal segment. Length head 0.90, width 1.08, interocular space 0.52. Pronotum with transverse impression shallow, rather obsolete mesally; calli prominent, occupying most of anterior pronotal lobe, pruinose before, between, and behind calli; lateral pronotal margins sinuate with thickened margins somewhat paler than red-brown calli; posterior lobe only slightly elevated above anterior; humeral angles weakly notched, posterior margin slightly sinuate. Length pronotum 1.30, width 2.20. Length scutellum 1.28, width 1.16. Hemelytra broad, lateral margins only slightly concave, punctures prominent. Length claval commissure 1.08. Midline distance apex clavus–apex corium 1.86. Midline distance apex corium–apex membrane 1.50. Metathoracic scent gland auricle rather elongate, fingerlike, extending considerably outward from orifice opening and curving slightly posteriorly, blunt at distal end. Forefemora slightly incrassate, armed below with four sharp, conspicuous spines. Labium extending to or between metacoxae. Length labial segments I 1.04, II 1.00, III 0.80, IV 0.44. Length antennal segments I 1.04, II 2.28, III 1.76, IV 2.16. Total body length 7.20.

Paramere broad, blade thick and heavy, strongly sinuate on inner margin, inner projection very large, broad, strongly angulate, inner tooth developed as a broad semicircular flange. A distinct ridgelike elevation present on shaft running from area of center of basal flange inward nearly to bottom of inner tooth (fig. 2, top). Sperm reservoir with bulb relatively narrow, strongly tapered proximad, wings slightly divergent along inner margin, distally projecting downward and outward but not markedly tapering (fig. 2). Vesica with approximately nine coils.

HOLOTYPE: Male. PERU: *Cusco*: Machu Picchu, 2300 m, at light (P. Wygodzinsky). In AMNH.

PARATYPES: PERU: *Junin*: 3♂, same data as holotype. 3♂, 1♀, 1800 m Haucapistana 27-30.VII.1965 (P. & B. Wygodzinsky). 1♀, Utcuyacu, Tarma 5.IV.1948, 1600–3000 m (F. Woytkowski coll. Donor Wm. Proctor), 1♂, same except 9.II.1947. 3♂, 2♀, same except 1600–1800 m 9.XI.1948 (F. Woytkowski, J. C. Lutz coll. 1961). 1♀, same except 6.XI.1948. 1♀, same except 15.XI.1948. 1♂, same except 10.XI.1948. 1♂, 1♀, same except 23.XI.1948. *State?*: 1♂, Chiriaco 24.IX.1968 (C. Woytkowski) (883.69). *Huanuco*: 1♂, Cucharas, Vall. of Riv. Huallaga 500 m a.s.l. 24.II.1954 (F. Woytkowski, J. C. Lutz coll. 1961). 1♀, same except 15.VI.1954. 1♂, same except 7.VI.1954. VENEZUELA: *Bolivar*: 1♀, Kanarakuni Alto Caura 450 m 10-13.IX.1964 (F. F. Yepez & J. Bechyne) (lgt.). ECUADOR: *Pastaza*: 1♂, 1♀, Cuisimi, on Rio Cuisimi 150 km SE Puyo 350 m 15-31.V.1971 (B. Malkin). 1♀, Zamora III.1965 (L. F. Pena). FRENCH GUYANA: 3♀, Massifiri-Oyapock 17.XI.1969, Piege lumineux Guyane Mission Balachowsky-Gruner X-XI 1969. 1♂, same except 27.XI.1969. 1♂, same except 18.XI.1969. 2♂, Alicoto-Oyapock 14.XI.1969 Guyane Mission Balachowsky-Gruner X-XI 1969. In AMNH, USNM, UCV, UAN, MJA, JAS.

DISCUSSION: Some specimens have the posterior pronotal lobe more variegated than does the holotype. Such specimens have a pale median line with a dark stripe on either side followed by a pale stripe, another dark stripe, another pale stripe and are then dark to the lateral margin. These specimens, as is true of many *Ozophora,* tend to have the outer two dark stripes fused basally to form a loop, this is also occasionally true of the two dark stripes on either side of the pale midline. In a few specimens the median elevation of the scutellum is paler than the surrounding areas but in such cases the two diagonal pale stripes are white and still distinctive in color from that of the median elevation.

ETYMOLOGY: Referring to the irrorate appearance of the front wings.

Ozophora neotropicalis, new species

Figures 1, 15

DIAGNOSIS: Very large elongate species, over 8 mm. Antennae sexually dimorphic, much longer in males, often as long as entire body length. Three dark stripes on posterior pronotal lobe. First antennal segment chocolate brown contrasting with pale second seg-

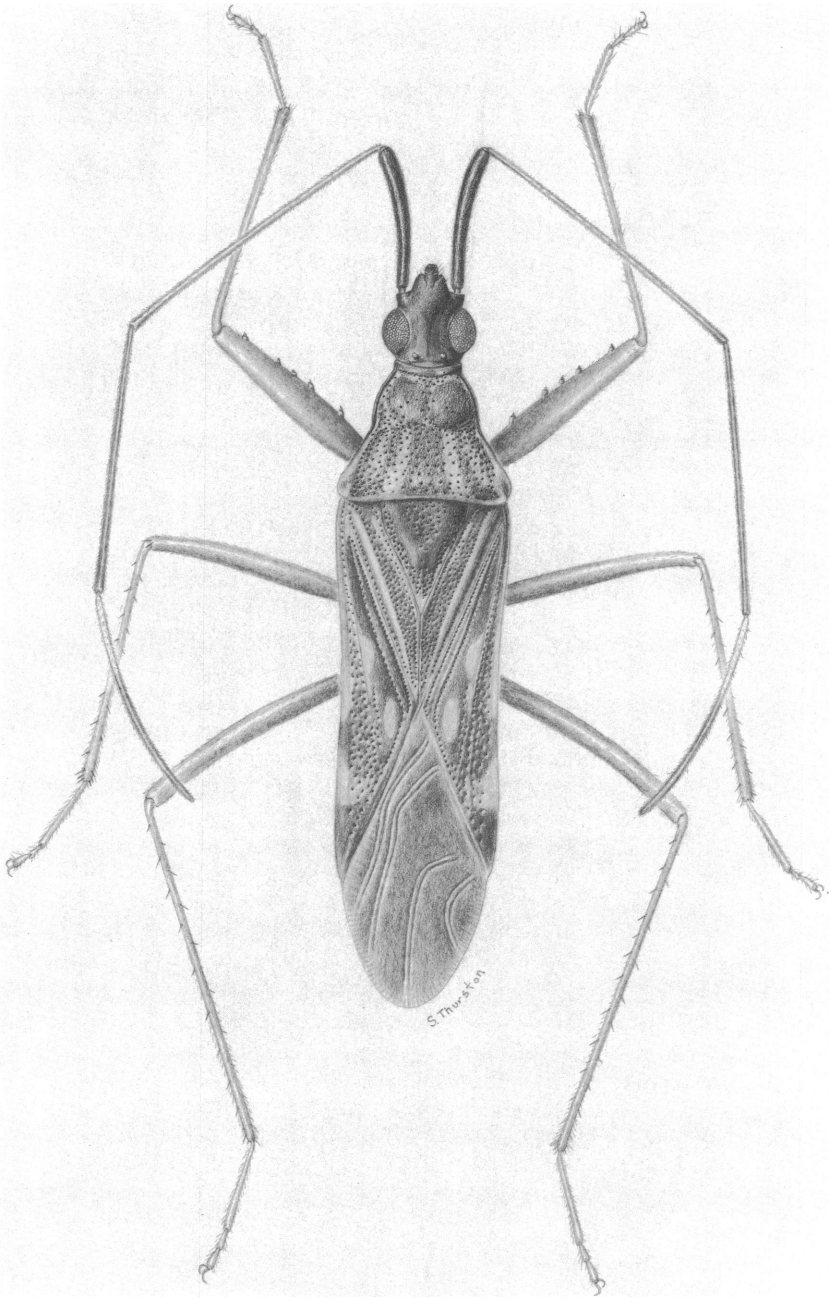


Fig. 15. *neotropicalis.*

ment. Fourth antennal segment with a white subbasal annulus. Labium extending between mesocoxae. Forefemora with 6–7 spines. Coloration resembling that of *Neopamera neotropicalis* (Kirkaldy).

DESCRIPTION: Large, elongate, slender, nearly parallel sided. Head, anterior pronotal lobe, first antennal segment, scutellum, and greater portion of hemelytra dark chocolate brown to almost black. Posterior pronotal

lobe with a broad median black stripe; a dark chocolate brown stripe midway between meson and lateral margins, intervening areas reddish brown. Diagonal arms of Y-shaped elevation of scutellum slightly paler than background color but not white or yellow. Hemelytra pale yellow along PCu vein of clavus, as an elliptical spot near inner angle of corium, entire lateral margins of corium with exception of a large subapical black spot and a dark patch slightly posterior to level of distal end of claval commissure, forming distinct pale subdistal maculae. Membrane fumose, extreme apex pale, proximal parts of principal veins in part pale yellow. Head and thorax dark chocolate brown to nearly black below. Abdomen reddish brown, legs nearly uniformly testaceous with distal tarsal segment infuscated. First antennal segment dark chocolate brown, strongly contrasting with pale yellow second segment, latter becoming chocolate brown at distal end, third segment in large part reddish brown, paler at proximal end, fourth segment with distal two-thirds chocolate brown, proximal third with a strongly contrasting pale yellow annulus. Lacking upstanding hairs on dorsal surface.

Head small, rather short and broad, markedly declivent at anterior end, eyes prominent, vertex moderately convex. Length head 1.08, width 1.22, interocular space 0.50. Tylus extending only to proximal fourth or fifth of first antennal segment. Pronotum with transverse impression complete; calli large, occupying most of anterior lobe; lateral margins sinuate; posterior lobe strongly elevated above anterior lobe with posterior margin nearly straight; humeral angles obscurely notched. Pronotum elongate, strongly tapered from humeri to anterior margin. Length pronotum 1.82, width 2.22. Length scutellum 1.46, width 1.18. Hemelytra concave along corial margin but appearing almost parallel sided because of elongate body. Length claval commissure 1.28. Midline distance apex clavus–apex corium 2.12. Midline distance apex corium–apex membrane 1.78. Metathoracic scent gland auricle very short, stout, scarcely extending beyond opening of orifice, not curved posteriorly. Forefemora slender, only slightly incrassate, armed below with six or seven stout, conspicuous spines. Labium short, at most barely reaching anterior end of mesocoxae, first segment not reaching base of head. Length labial segments I 1.00, II 1.00, III 0.70, IV 0.44. Antennae extremely elongate, first segment stout but second, third, and fourth segments very slender and sweeping, extending nearly length of body. Length antennal segments I 1.86, II 4.04, III 3.56, IV 3.00. Total body length 8.64.

Paramere with blade broad but sharply curved at distal end, inner projection elongate, sharply tapering. Inner directed tooth broad and flaplike, a secondary projection on shaft proximad of tooth (fig. 1). Sperm reservoir with bulb elliptical, rather prominently tapered proximally, wings short, broad, only moderately projecting upward at distal ends (fig. 1). Vesica with approximately three coils.

HOLOTYPE: Male. PERU: *Junin*: San Ramon de Pangoa 40 km SE Satipo 750 m, 2.III.1972 (R. T. & J. C. Schuh) (sweeping understory of high secondary forest). In AMNH.

PARATYPES: VENEZUELA: *Bolivar*: 3♂, 2♀, km 125 El Corado-Santa Elena 1100 m 23.IX.1967 (C. J. Rosales, M. Gelbez, L. Rodriquez. V). 1♀, Chirima Gran Sabana 30.X.1966 (J. Bechyne, E. Osuna). PERU: *Huanuco*: 1♂, Cucharas, Vall. of Riv. Huallaga 500 m a.s.l. 16.III.1954 (F. Woytkowski). *Junin*: 2♀, same data as holotype. 1♀, same except 40 km S 26.I.1974 (R. T. Schuh). 1♀, same except 29.I.1974. 1♀, *Junin*: between San Ramon de Pangoa and Sonomora 40 km SE Satipo 750 m 13.III.1972 (R. T. & J. C. Schuh). 1♂, 1♀, San Ramon de Pangoa, elevation 735 m 30.I.1974 (R. T. Schuh). 1♀, Satipo 20.VIII.1941 (P. Paprzycki) (J. C. Lutz Coll). COLOMBIA: *Putumayo*: 1♀, Sta. Rosa de Sucumbios Kofan Indian Village Rio San Miguel 400 m 26.VIII-4.IX.1971 (B. Malkin). ECUADOR: 1♀, Limoncocha 0°26′S 76°38′W, 900′ 23-31.III. 1974 (D. Engleman). *Pastaza*: 1♀, Cuisimi, on Rio Cuisimi 150 km SE Puyo 350 m 15-31.V.1971 (B. Malkin). BRAZIL: *Amazonas*: 1♂, Titirico 13.IV.1964 (J. & B. Bechyne). *State*:? 1♀, Serra do Navio Au III.1963 (Roppa & Vielhe). *Rondonia*: 1♀, 62 km SW Ariquemes nr. Fzda Rancho Grande 18.IX.1922, Bl. trap (U. Schmitz). In AMNH, USNM, UCV, MNRJ, DE, RB, JAS.

DISCUSSION: The holotype described above is somewhat melanistic. The three females collected with it are more brightly colored in that the posterior pronotal lobe has a series of alternating black and yellow stripes, i.e., a black median stripe bordered on each side by a broad yellowish stripe, then another dark stripe, then another light stripe, then another dark stripe, then a pale lateral margin. The two lateral dark stripes tend to fuse posteriorly to form the rays so often found in species of *Ozophora*. These females also have distinct bright yellow diagonal streaks on the scutellum, pale markings distally and along the inner margin of the clavus in addition to the PCu vein, and have the corium much more variegated with dark and light striping than does the male holotype.

O. neotropicalis is sexually dimorphic. Males have much longer antennae, which is especially noticeable in the greatly elongated first segment. However, there is a great deal of variation in the length of the antennal segments, especially of the females.

Although the type series is from South America, the range will probably prove to be more extensive. I have examined two females from Nicaragua in the University of California (Berkeley) collection (Masawas, Wapuc River 13.X.1955 B. Malkin), which appear to be conspecific.

This species closely resembles in size, shape, and color pattern *Neopamera neotropicalis* (Kirkaldy), of the tribe Myodochini. In fact, Dr. R. T. Schuh, who collected the greater part of the type series, took both species together on the leaves of plants in the understory where they moved actively and appeared to be feeding upon the seeds present in bird droppings on the leaves. It is apparent that these two species are mimetic but whether this is a Batesian or Mullerian relationship is not understood at this time.

One of the females from the type locality shows antennal oligomery, the right antenna having three segments with the first being the same length as the left antenna, the second about a third longer, and the third equivalent to the remainder of the third and all of the fourth segment of the "normal" left antenna. In this individual, the proximal half to two-thirds of the terminal segment is pale.

ETYMOLOGY: Referring to the Neotropical zoogeographic region in which it lives.

Ozophora paranana, new species

Figure 7

DIAGNOSIS: Moderate size, less than 7 mm. Pronotal calli fused and smooth across midline of anterior pronotal lobe. Lateral pronotal margins pale, posterior lobe with a broad dark brown mesal stripe or lobe. Humeral pronotal angles obtusely notched. Y-shaped elevation on scutellum pale. Fourth antennal segment with a white subbasal annulus. Forefemora with three major spines. Paramere with inner projection very broad, rather spatulate.

DESCRIPTION: Form, color, and size very similar to *Ozophora quinquemaculata.* Head and anterior pronotal lobe bright red-brown; collar on either side of midline, lateral margins of anterior pronotal lobe, and anterior portion and disc of posterior lobe testaceous; posterior lobe with a median chocolate brown longitudinal vitta, this lobe becoming vittate with chocolate brown near lateral margins. Scutellum dark reddish brown, Y-shaped elevations with a conspicuous yellow vitta or macula, apex white. Hemelytra marked with alternating testaceous and dark brown; dark transverse fascia at level of posterior end of claval commissure nearly complete across hemelytra; membrane fumose, veins somewhat lighter, apex lightened. Pleuron and sternum laterally nearly uniformly bright red-brown with acetabula paler. Legs, labium, and first three antennal segments nearly uniformly pale testaceous, fourth antennal segment dark with a prominent subbasal white annulus; femora lacking conspicuous darker annulations distally. Third antennal segment suffused with reddish brown at distal end. Dorsal surface lacking upstanding hairs.

Head short, vertex moderately convex, tylus extending at least to middle of first antennal segment. Length head 0.68, width 0.95, interocular space 0.46. Pronotum with calli completely confluent across meson to form a single, broad, convex, elevated smooth area. Lateral margins almost subcarinate, prominent, deeply sinuate; posterior pronotal lobe little elevated above anterior; humeral angles obtusely but distinctly notched; posterior

margin slightly concave. Length pronotum 0.95, width 1.48. Length scutellum 0.84, width 0.84. Hemelytra with lateral corial margins shallowly concave at level of apex of scutellum. Length claval commissure 0.87. Midline distance apex clavus–apex corium 1.14. Midline distance apex corium–apex membrane 0.87. Metathoracic scent gland slightly curving posteriorly, subacute. Femora moderately incrassate, distally armed below with three sharp spines followed by two or three hair spines. Labium elongate, extending well between or slightly beyond metacoxae. Length labial segments I 0.84, II 0.95, III 0.76, IV 0.38. Antennae terete, elongate, slender. Length antennal segments I 0.76, II 1.71, III 1.56, IV 1.67. Total body length 5.78.

Paramere with blade elongate, slender, inner projection broadly fingerlike, inner toothlike projection very broad, strongly downcurved, almost spatulate, basal flange broad posteriorly (fig. 7). Sperm reservoir with bulb elongately elliptical, wings broad, strongly divergent distally (fig. 7).

HOLOTYPE: Male. MEXICO: *Puebla*: 20 mi E. Tezuitlan 13.VIII.1969, on *Ficus* sp., 450 ft (G. Gordon). In UKL.

PARATYPE: MEXICO: *Vera Cruz*: 1 ♀, Palama Solo, 30.VI.1972 (Reyes, Mateu, Halffter). In JAS.

DISCUSSION: This species is very similar in color, size, and shape to *Ozophora quinquemaculata* Barber. However, the parameres are extremely different. In *paranana* the inner toothlike projection is extremely broad and almost tusklike (fig. 7) whereas in *quinquemaculata* it is much smaller and more dentate. Also the inner projection is more elongate and slender in *quinquemaculata*. Externally the two species may be separated readily by *paranana* having the pronotal calli completely fused and smooth across the midline, whereas in *quinquemaculata* the anterior pronotal lobe is impressed mesally and the calli form two rather distinct elevations. In addition, all of the specimens of *quinquemaculata* thus far known have a pale vitta through the anterior pronotal lobe. The female paratype is submacropterous.

Despite its resemblance to *nana* Slater this species is presumably the sister species of *quinquemaculata* which is widely distributed in the West Indies.

ETYMOLOGY: Referring to its superficial similarity to the species *nana* Slater.

Ozophora rubra, new species

Figure 6

DIAGNOSIS: Short and stout, not over 5 mm in length. Dorsal surface shining, polished, reddish. First antennal segment more than one-half length of antennal segment 2. Transverse impression on pronotum obsolete. Forefemora with two major spines. Inner paramere projection not bilobed.

DESCRIPTION: Body relatively short and robust. General coloration bright reddish brown, becoming streaked with testaceous on posterior pronotal lobe. Scutellum with elevated Y nearly unicolorous with remainder of scutellar surface but somewhat lighter brown. Greater portion of hemelytra, including lateral corial margins, testaceous; a broad reddish to chocolate brown incomplete fascia at level of distal end of claval commissure; a small apical area of corium similarly colored. Membrane reddish brown with pale veins. Pleural and ventral body surfaces uniformly red brown. Legs and labium pale yellow; distal tarsal segment and extreme apex of labium chocolate brown. Antennae red brown. Body lacking upstanding hairs on dorsal surface. Pronotal and hemelytral punctures relatively small, widely separated from one another, inconspicuous.

Head nondeclivent, extending to or beyond middle of first antennal segment. Vertex moderately convex. Length head 0.72, width 0.62, interocular space 0.44. Pronotum with lateral margins deeply sinuate, lateral calloused areas relatively small; transverse impression obsolete mesally; posterior margin slightly concave before scutellum; posterior pronotal lobe only moderately elevated above anterior. Length pronotum 0.98, width 1.52. Length scutellum 0.86, width 0.88. Hemelytra with lateral corial margins finely toothed proximally, only shallowly concave at level of distal portion of scutellum. Length claval commissure 0.70. Midline distance apex clavus–apex corium 1.02. Midline distance apex

corium–apex membrane 0.82. Metathoracic scent gland auricle short, slightly curving posteriorly, apex acute. Forefemora moderately incrassate, armed below on distal third with two prominent, sharp spines. Labium extending well between metacoxae, first segment attaining or nearly attaining base of head. Length labial segments I 0.72, II 0.72, III 0.60, IV 0.40. Antennae terete. Length antennal segments I 0.62, II 1.08, III 0.86, IV (missing). Total body length 4.96.

Paramere with shaft broad, blade strongly tapering, inner projection tapered (as in *parva*) with a single inner tooth (fig. 6). Sperm reservoir with bulb broad and ovoid, wings strongly divergent (fig. 6).

HOLOTYPE: Male. BRAZIL: *São Paulo*: Serra da Bocaina S. Jose Barreiro 1650 m I-1969 (M. Alvarenga). In AMNH.

PARATYPES: BRAZIL: *São Paulo*: 1♂, 1♀, same data as holotype. *Rio de Janiero*: 1♀, Parque Nacional da Serra dos Orgaos Teresopolis 1600–1700 m 14-22.IV.1947 (Wygodzinsky). *Santa Catarina*: 1♀, Nova Teutonia 27°11'S 52°23'W, 300–500 m 26.VI.1958 (Fritz Plaumann). In AMNH, MNRJ, JAS.

DISCUSSION: *O. rubra* is closely related to *parva,* differing in the shining reddish dorsal surface and the shorter second antennal segment. Antennal segment 1 is only slightly more than ½ the length of segment 2 in *parva* (64-122) but much more than ½ in *rubra* (62-108). *Rubra* also differs by its lack of a bilobed inner paramere projection.

ETYMOLOGY: Referring to the reddish coloration of the body.

Ozophora rubronotata, new species

DIAGNOSIS: A medium-sized almost uniformly pale yellow-tan species. Apex of corium with a strongly contrasting bright red macula. Antennal segments 1 and 2 pale yellow. Forefemora with three (rarely four) major spines. Membrane lacking a pale apical macula.

DESCRIPTION: General coloration nearly uniformly yellowish-tan. Head and anterior pronotal lobe reddish-brown. Corium with a dark brown marginal macula along distal third. Apex of corium a contrasting bright red. Corium otherwise uniformly pale. Membrane fumose, lacking pale apex. Lateral margins of anterior pronotal lobe only slightly paler than area of calli. Scutellum with elongate smooth tan areas lighter than remainder of surface but not strongly contrasting pale yellow or white. Posterior pronotal lobe uniformly pale yellow-tan with numerous dark brown punctures and a very narrow paler median stripe. Antennal segments 1 and 2 uniformly pale yellow, segment 3 with a dark brown distal end, fourth segment with basal third white, distal two-thirds dark chocolate brown. Legs and labium uniformly pale yellow except dark brown fourth labial segment.

Head nondeclivent, tylus extending to middle of antennal segment 1. Length head 0.78, width 0.80, interocular space 0.40. Pronotum with lateral margins sinuate, a well-developed anterior collar, posterior margin straight, humeral angles rounded. Length pronotum 0.90, width 1.46. Length scutellum 0.84, width 0.84. Length claval commissure 0.70. Midline distance apex clavus–apex corium 1.20. Midline distance apex corium–apex abdomen 0.98. Metathoracic scent gland auricle short, not curving posteriorly. Forefemora slender, armed below with three prominent spines. Labium reaching or slightly exceeding mesocoxae. Length labial segments I 0.64, II 0.66, III 0.52, IV 0.36. Length antennal segments I 0.58, II 1.30, III 1.06, IV 1.26 (approx.). Total body length 5.04.

HOLOTYPE: COLUMBIA: *Guajira*: Sierra Nevada de Santa Marta. San Sebastian de Rabago, 2000 m 1-14.IV.1968 (Borys Malkin). In AMNH.

PARATYPES: COLUMBIA: *Guajira*: 9♂, 6♀, same data as holotype. VENEZUELA: *Lara*: 1♀, Hac. el Molino Carrt. Quibox Sanare, 3.VI.1967 (J. Semidey, C. Pifano). *Tachira*: 2♀, Delicias 1500 m 27.IX.1966 (C. J. Rosales, J. Salcedo). 1♂, Queniguea 23.IX.1966 (C. J. Rosales, J. Salcedo). In AMNH, UCV, JAS.

DISCUSSION: There is relatively little variation in the type series. In some specimens there is a narrow dark area along the lateral corial margin immediately before the red corial apex and the intensity of the red coloration varies. Some specimens have a fourth forefemoral spine.

The almost completely pale coloration and

red corial apex make this montane species readily recognizable.

ETYMOLOGY: Referring to the red macula at the apex of each corium.

Ozophora schaffneri, new species

DIAGNOSIS: Dorsal surface pale, clothed with numerous elongate upstanding hairs. Anterior pronotal lobe with lateral margins pale. Forefemora with 6–7 large spines. Labium exceeding hind coxae, reaching second visible abdominal sternum. Yellow spots present on scutellum.

DESCRIPTION: General coloration testaceous. Head and calli red brown. Anterior pronotal collar and calloused lateral margins of anterior pronotal lobe light yellow; lateral margins of posterior pronotal lobe dark; posterior pronotal lobe with an indistinct median vitta and a midlateral longitudinal dark vitta. Scutellum with a pair of lateral yellow spots, or stripes, a distinct narrow median stripe on posterior half. Hemelytral coloration chiefly pale but darker laterally at level of apex of scutellum, as a broad band (interrupted by pale veins and a large ovoid spot at inner corial angle); apical corial margin pale. Membrane dark fumose with a pale apical vitta, but with veins and two patches between veins pale yellow; pleuron and sternum chocolate brown, becoming paler distally on abdominal sternum. Legs and labium nearly uniformly pale yellow. Middle and hind femora with a weakly developed brown annulus. Antennal segments 1, 2, and 3 pale yellow with distal ends of segments 2 and 3 dark brown. Antennal segment 4 dark brown with a conspicuous white subbasal annulus. Dorsal punctures dark brown. Clothed above with numerous elongate upstanding hairs.

Tylus almost attaining middle of antennal segment 1; eyes large, set slightly away from anterior pronotal margin; vertex convex. Length head 0.92, width 1.0, interocular space 0.50. Pronotum with anterior collar well delimited posteriorly by a series of impressed black punctures; calli prominent, almost confluent across midline; lateral pronotal margins strongly sinuate; posterior margin straight, or very slightly concave. Length pronotum 0.98, width 1.52. Length scutellum 0.90, width 0.80. Lateral corial margins slightly sinuate, nearly parallel sided. Length claval commissure 0.80. Midline distance apex clavus–apex corium 1.20. Midline distance apex corium–apex membrane 0.94. Metathoracic scent gland auricle relatively elongate, straight, not curving posteriorly. Forefemora armed below with 6–7 sharp dark spines extending almost entire length of femur. Labium elongate, exceeding metacoxae and reaching onto second visible abdominal sternum. Length labial segments I 1.02, II 1.10, III 0.74, IV 0.42. Length antennal segments I 0.70, II 1.76, III 1.42, IV 1.62 (approx.). Total body length 5.68.

HOLOTYPE: Male. MEXICO: *Jalisco*: Chamela, 22.VIII.1978 (J. Bueno). In USNM.

PARATYPES: MEXICO: *Jalisco*: 2♀, 16 km N. Autlan 12-14.VII.1983 (Kovarik, Harrison, Schaffner) (at black light). *Colima*: 1♀, Colima 15.VII.1983 (Kovarik, Harrison) (at black light). In TA&M, JAS.

DISCUSSION: The three female paratypes are very similar to the holotype described above, but possess conspicuous dark, longitudinal stripes on the pronotum, and for the most part lack the dark distal ends of antennal segments 2 and 3. The membrane of two of the paratypes has the pale spots so extensively developed as to be pale dull yellow over most of the surface.

This species is related to *concava* Distant but is readily distinguishable by the large, coarse dorsal punctures, the pale lateral margins of the anterior pronotal lobe, the predominantly pale dorsal coloration, and the appreciably longer labium.

It is a pleasure to dedicate this handsome species to Dr. J. C. Schaffner of Texas A&M University, who has been such an assiduous student of the Mexican Hemiptera fauna and has done the author many personal favors.

ETYMOLOGY: Referring to Dr. Joseph Schaffner of Texas A&M University, College Station, TX.

Ozophora sylvana, new species

Figures 4, 16

DIAGNOSIS: Large species, over 6 mm. Nearly uniformly brown above with pale lateral corial margins and orange-yellow apical corial margins. Membrane of forewing lacking a pale apical macula. Paramere with a

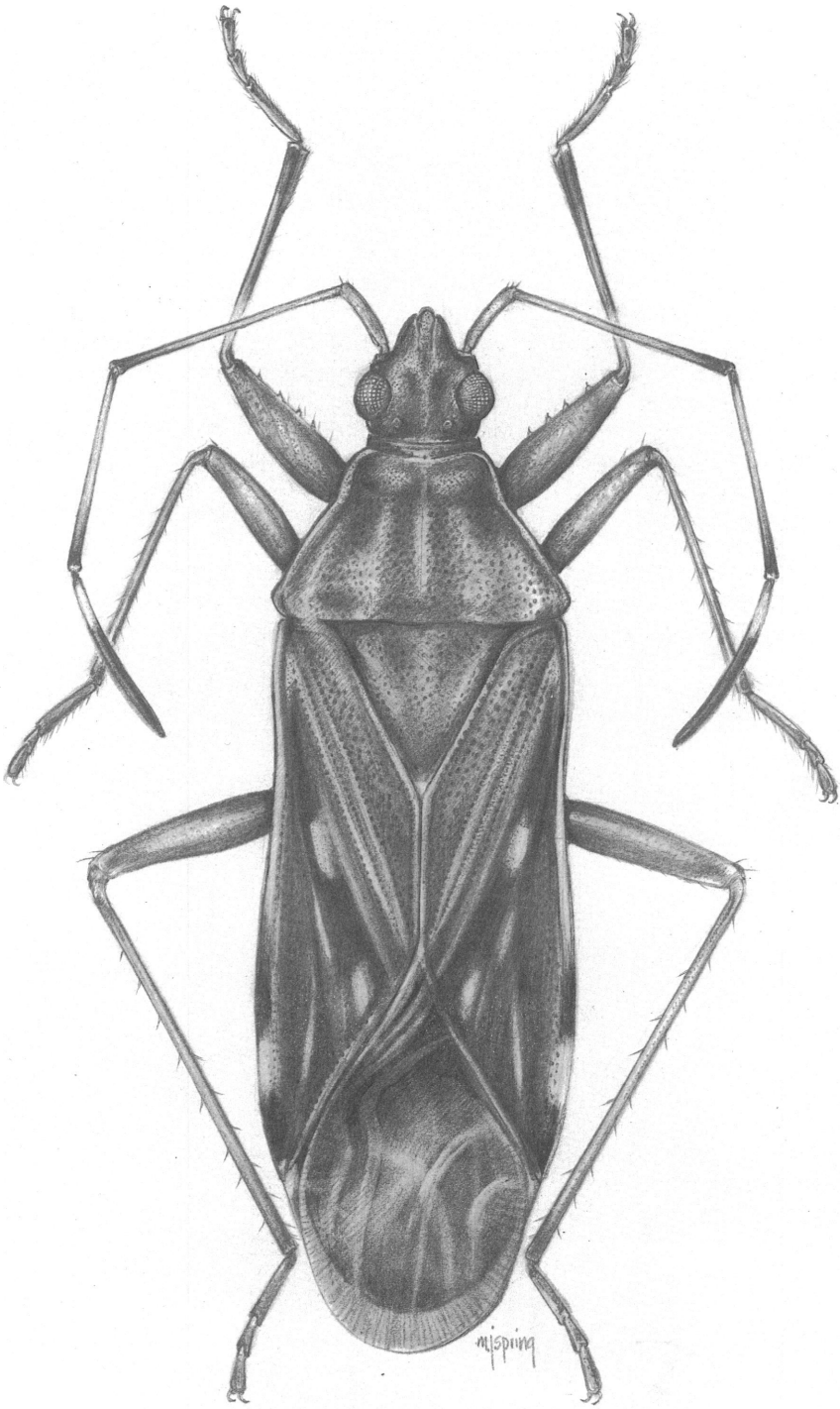


Fig. 16. *sylvana.*

unique deep concavity near margin of distal base of inner projection.

DESCRIPTION: Large, moderately robust. Head and anterior pronotal lobe bright reddish brown. Remainder of body nearly uniformly dusky brown. Pale yellow as follows: mesal stripe on posterior pronotal lobe, a pair of narrow obscure stripes on either side of midline on pronotum, PCu vein of clavus, distal portion of Cu vein on corium, small spot near inner corial angles, a short streak on vein adjacent to distal end of claval commissure, distal portion of radial vein, and a small rectangular patch along distal portion of outer corial margin. Scutellum lacking distinct pale striping diagonally on elevated portions, apex white. Apical corial margin orange-yellow suffused with chocolate brown just before extreme posterior end. Membrane nearly uniformly fumose, including apex with veins paler. Legs nearly uniformly dull yellowish shading to yellowish brown; third tarsal segment appreciably darker than preceding. Antennae with first, second, and third segments yellow, distal ends of segments 2 and 3 a strongly contrasting reddish to chocolate brown, fourth segment with a short but prominent subbasal pale yellow to white annulus, remainder of fourth segment dark chocolate brown. Body nearly uniformly bright reddish brown below, acetabula slightly paler. Lacking upstanding hairs on dorsal surface. Males with central area of abdomen bearing numerous very elongate hairs, these generally curving at tip.

Head short, slightly declivent, eyes only moderately produced, vertex markedly convex between eyes, tylus extending nearly to middle of first antennal segment. Length head 0.86, width 1.00, interocular space 0.42. Pronotum with a complete, deep transverse impression; calli shining, nude, contrasting with pruinosity on remainder of pronotal, scutellar and hemelytral surfaces; lateral pronotal margins deeply constricted; posterior lobe elevated well above anterior lobe; posterior margin shallowly sinuate or concave. Length pronotum 1.26, width 1.92. Length scutellum 1.22, width 1.04. Hemelytra with lateral margins concave. Length claval commissure 0.94. Midline distance apex clavus–apex corium 1.58. Midline distance apex corium–apex membrane 1.40. Metathoracic scent gland relatively elongate, angulate but not curving posteriorly at distal end. Acetabula punctate. Forefemora moderately incrassate, armed below on distal half with three or four sharp spines. Labium extending between mesocoxae, first labial segment attaining or nearly attaining base of head. Length labial segments I 0.92, II 0.90, III 0.62, IV 0.42. Antennae terete. Length antennal segments I 0.92, II 1.88, III 1.52, IV 1.96. Total body length 6.40.

Paramere unique, a deep concavity on inner margin at distal base of inner projection, latter with a small tooth developed on proximal margin and a larger tooth present along inner margin of shaft; basal flange large, flaring, occupying greater portion of attachment area (fig. 4). Sperm reservoir with bulb ovoid, strongly tapering proximally; wings broad, flaring, short, widely divergent (fig. 4). Vesica with approximately five coils.

HOLOTYPE: Male. VENEZUELA: *Aragua*: Rancho Grande 1100 m 16.VIII.1965 (F. Fernandez Y., E. Osuna). In AMNH.

PARATYPES: VENEZUELA: *Aragua*: 2♂, same data as holotype. 1♀, same except 27.III.1967 (C. J. Rosales, J. Salcedo). 1♂, 1♀, same except 27.VII.1965 (F. Fernandez Y., E. Osuna). 2♂, 1♀, same except 26.VIII.1965 (E. Osuna, C. J. Rosales). 1♂, 2♀, same except 3.XII.1965 (F. Fernandez Y., J. Salcedo). 2♀, same except 13.VII.1967 (L. Rodriquez, A. Ramirez). 1♀, same except 3.VIII.1965 (F. Fernandez Y.). 1♀, same except 5.VIII.1965 (J. Salcedo). 1♂, same except 22.VII.1965 (F. Fernandez Y., E. Osuna). 1♂, same except 11.I.1966 (no collector). 1♂, same except 10.VII.1945. 1♂, same except 17.XI.1968 a.l. (P. H. v Doesburg), 2♂, same except 19.XI.1968. 2♂, same except 20.XI.1968. 1♂, same except 24.XI.1968. 1♀, Rancho Grande nr. Maracay 8.V.1956 (no collector). PERU: 1♂, *Junin*: San Ramon de Pangoa, 40 km SE Satipo 750 m 23.II.1972 (R. T. & J. C. Schuh). BRAZIL: *Rondonia*: 1♀, 62 km SW Ariquemes nr. Fzda Rancho Grande 20.IX.1992, B1, trap (U. Schmidt). 1♂, same except 18.IX.1992. In RVNH, UCV, AMNH, USNM, RB, JAS.

DISCUSSION: This large, handsome species, which occurs at Rancho Grande, Venezuela, with *O. vandoesburgi,* is readily recognizable by the nearly uniformly bright brown, prui-

nose body. The dark coloration of the distal ends of the second and third antennal segments give the antennae a rather variegated appearance. The head is small and the lateral pronotal margins are usually conspicuously yellow. The paramere is extremely different from that of any other described species of *Ozophora* and will serve immediately to distinguish this striking species.

ETYMOLOGY: Referring to the woodland *Ficus* habitat in which it presumably lives.

Ozophora vandoesburgi, new species

Figures 3, 17

DIAGNOSIS: Large, nearly 7 mm, elongate, slender species. Three dark rays on posterior pronotal lobe, the median one with a very narrow raised pale carina. Lateral pronotal margins white or pale yellow. Antennal segment I dark brown. Forefemora with three major spines. Fourth antennal segment with a pale subbasal annulus. Sexually dimorphic: males with elongate hairs on meson of abdominal sternum and a very small or obsolete white apex to membrane of forewing. Females lack elongate abdominal hairs and have a large white apical membrane macula.

DESCRIPTION: Very elongate, slender, nearly parallel sided. Head, anterior pronotal lobe, and scutellum red brown. Lateral margins of both anterior and posterior pronotal lobes conspicuously striped with yellow. Posterior pronotal lobe with a dark chocolate brown mesal stripe and two lateral stripes. These lateral stripes usually confluent posteriorly. Anterior mesal area of posterior lobe raised into a narrow pale carina.

Scutellum lacking yellow vittae, nearly unicolorous. Hemelytra marked with alternating pale yellow and chocolate brown coloration. Clavus nearly uniformly dark brown, pale only proximally along PCu vein. Dark coloration in area of level of apex of claval commissure extending entirely across corium (but very irregularly so). Membrane dark chocolate brown, almost black, extreme apex white and basal portion of veins maculated with paler coloration. All legs uniformly pale yellow except for chocolate brown third tarsal segments. Antennal segment 1 dark chocolate brown, segment 2 pale yellow, somewhat infuscated with reddish brown at distal end, segment 3 pale at proximal end but chocolate or red brown over most of surface, segment 4 with a conspicuous white subbasal annulus, remainder of segment dark chocolate brown. Lacking upstanding hairs on dorsal surface. Overall dorsal surface shining to subshining.

Head relatively short, only slightly declivent, eyes prominent, vertex not markedly convex, tylus extending only over proximal third of first antennal segment. Length head 0.94, width 1.08, interocular space 0.42. Pronotum with transverse impression deep and complete; pruinosity before and behind calli; lateral margins rather deeply sinuate, almost carinate anteriorly; posterior margin straight, or very slightly concave; posterior pronotal lobe moderately raised above level of anterior lobe. Length pronotum 1.30, width 1.80. Length scutellum 1.16, width 0.96. Hemelytra with corial margins shallowly concave. Length claval commissure 1.00. Midline distance apex clavus–apex corium 1.80. Midline distance apex corium–apex membrane 1.42. Metathoracic scent gland auricle elongate, tapering, somewhat scimitar shaped with distal end slightly curved posteriorly. Forefemora slender, armed below with three sharp spines followed proximally by three or four rather prominent hair spines. Labium relatively short, extending only between mesocoxae, first segment at most reaching base of head. Length labial segments I 0.94, II 0.90, III 0.68, IV 0.42. Antennae very elongate, sweeping, first segment especially prominent. Length antennal segments I 1.16, II 2.64, III 2.12, IV 2.08. Total body length 6.88.

Paramere unique, apex considerably twisted, contorted, and subtruncate at end, inner projection elongate, fingerlike, the inner tooth broad, rounded, and subhemispherical, basal flange very broad, covering greater portion of articulated opening (fig. 3, top). Sperm reservoir with bulb elongate, elliptical, strongly tapered to base, wings broad and strongly divergent (fig. 3). Vesica with nine coils.

HOLOTYPE: Male. VENEZUELA: *Aragua*: Rancho Grande 1100 m 26.VIII.65 (E. Osuna, C. J. Rosales). In AMNH.

PARATYPES: VENEZUELA: *Aragua*: 3♂, 3♀, same data as holotype. 1♀, Rancho Grande 30.VI.1945 (no collectors). 1♀, same data as holotype except 1100 m 19.VII.1964 (J. & B. Bechyne). 4♂, 2♀, same except 27.VII.1965

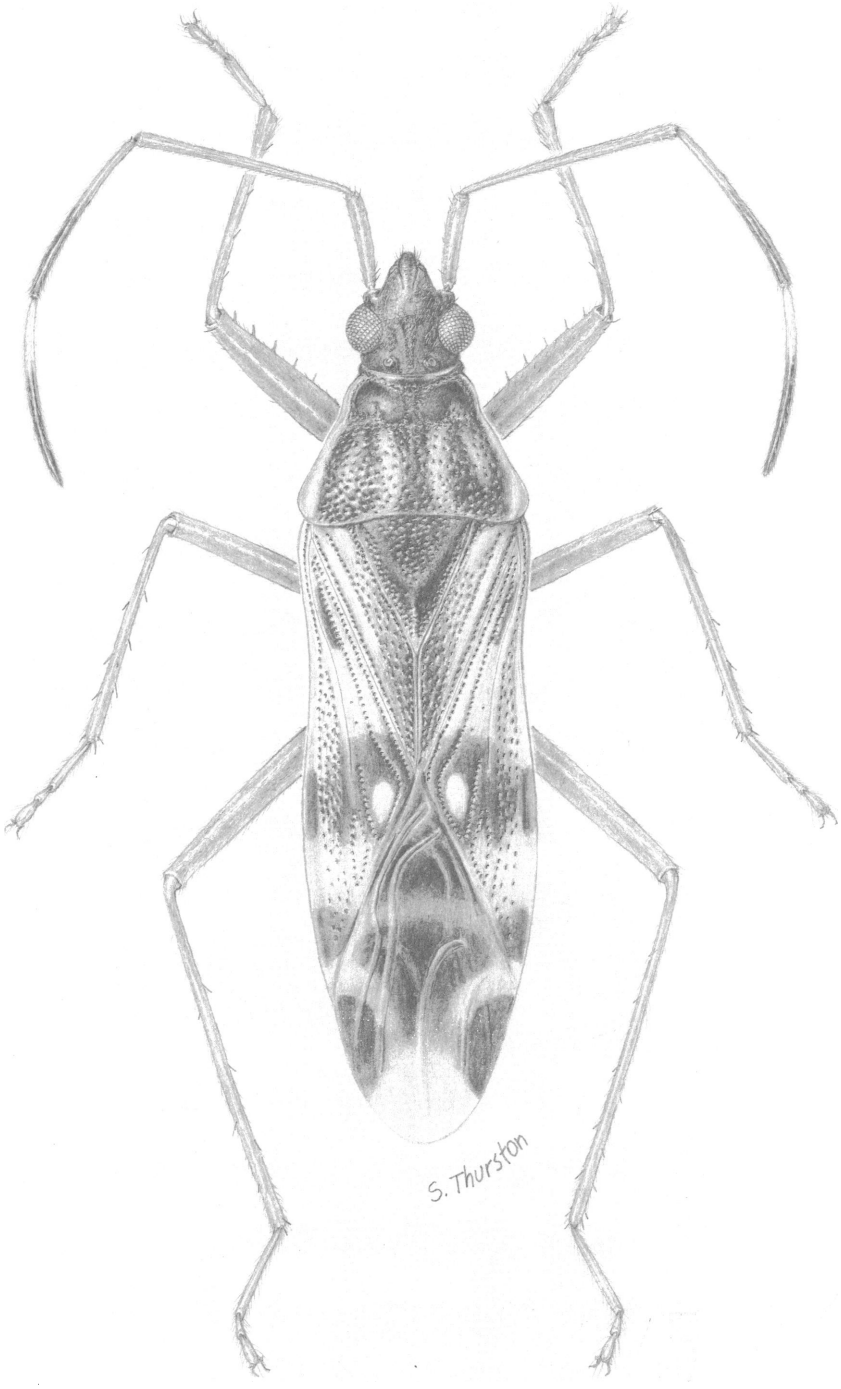


Fig. 17. *vandoesburgi.*

(F. Fernandez Y., E. Osuna). 1♂, same except 22.VII.1965. 1♀, same except 19.X.1947 (H. E. Box). 1♀, same except 3.VIII.1965 (F. Fernandez Y.). 1♂, same except 7.VI.1967 (F. Fernandez Y., E. Osuna). 1♀, same except 7.V.1965 (F. Fernandez Y., C. J. Rosales). 1♂, same except 5.VIII.1965 (J. Salcedo). 1♀, same except 15.VIII.1966. 1♀, same except 27.II.1967. 4♂, same except 16.VII.1965 (F. Fernandez Y., E. Osuna). 1♂, 3♀, same except 3.X.1972 (J. Salcedo, J. A. Clavijo). 1♀, same except 10.XII.1968 (A. Montagne, S. Clavijo). 3♀, same except 16-19.X.1972 (J. Salcedo, J. A. Clavijo). 1♀, same except 19.XI.1974 (J. L. Garcia, R. Dietz). 1♂, 2♀, same except 20.XI.1974 (J. L. Garcia). 1♂, same except 26.IX.1972 (J. Salcedo, J. A. Clavijo). 1♀, same except 29.IV.1975 (J. Salcedo, R. Dietz). 1♀, same except 6-11.XI.1972 (J. Salcedo, J. A. Clavijo). 1♀, same except 10.VII.1973. 1♀, same except 4.VII.1974 (J. L. Garcia, J. Salcedo). 1♂, same except 17.XI.1976 (J. Gonzalez). 3♀, same except 28.VI.1979 (J. Clavijo, G. Yepez). 1♂, same except 23.V.1979 (G. Yepez, J. Gonzalez). 1♀, same except 21.VI.1979 (J. Clavijo, G. Yepez). 1♀, same except 17.XI.1976 (J. Gonzalez). 1♂, same except 27.IX.1979 (J. Clavijo, G. Yepez). 1♀, same except 24.X.1976 (J. L. Garcia). 1♂, same except 26.IV.1973 (J. Salcedo, J. A. Clavijo). 4♂, 4♀, same except 19.XI.1968 a. 1. (P. H. v Doesburg). 1♂, 1♀, same except 20.XI.1968. 1♀, same except 18.XI.1968. 8♀, same except 17.XI.1968. 1♂, same except 15.V.1946 (no collectors). 2♀, same except 27.III.1967 (C. J. Rosales, J. Salcedo). 1♀, El Limon 450 m 12.IV.1967 (L. Rodriguez, V. C. Andara). 3♀, same except 480 m 15.VI.1973 (C. J. Rosales) (in malaise trap). 1♂, est. Exp. Catavrito, Villa de Cura 27.IX.1979 (J. L. Garcia). *Tachira*: 1♂, 8♀, Chorro del Indio 1800 m 17-18.VIII.1982 (A. Chacon, R. Grance). 1♀, Sta. Ana 22.VII.1972 (J. & B. Bechyne). In AMNH, RVNH, UCV, JAS.

DISCUSSION: This species is strongly sexually dimorphic. Females are much broader than males and frequently have a differentiated dark red diagonal mark on the scutellum. In males, the mesal portions of the abdominal sterna are covered with extremely elongate hairs, which are not present in the females.

One female specimen from Rancho Grande, taken on the same date as the holotype, is remarkable in having bilateral antennal oligomery. In this specimen the first segment is elongate and dark as usual, the second segment is pale on the proximal half and becomes progressively darker distally, the third segment has a very broad white annulus but both segments are equal in length. As noted by Slater and Baranowski (1983), this is a very unusual occurrence in the Lygaeidae. Those authors cited two previous cases in the literature and described the condition in *Ozophora levis* Slater and Baranowski from Florida.

Other than size, the most striking difference between males and females is that the apex of the membrane in females has a wide, white apical macula, which is usually very small or even obsolete in males. Females also usually have the extreme apex of the corium beyond the dark macula tinged with orange which, while sometimes true of males, is less obvious. Both sexes vary in the degree of development of the narrow raised carina on the posterior pronotal lobe. This carina, which is always pale, is sometimes developed only a third to half way down the pronotum but, in other cases, it extends to, or almost to, the base.

The degree of variation in the type series is quite minimal, most of it is from Rancho Grande, even though it was collected at different times by different collectors.

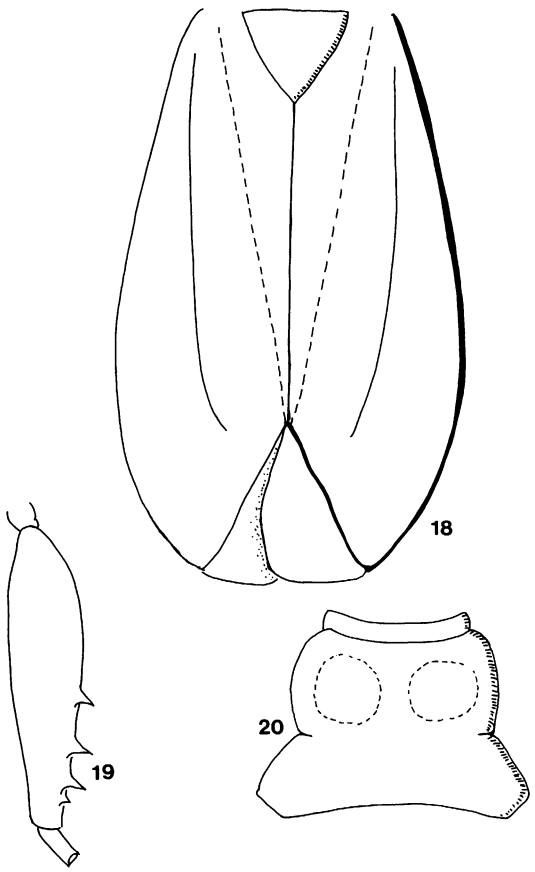
It is a pleasure to dedicate this striking species to Dr. P. H. van Doesburg, Jr., of the Leiden Museum, for his important contributions to Neotropical Hemipterology and his cooperation for many years.

ETYMOLOGY: Referring to Dr. P. H. van Doesburg, Jr., of the Leiden Museum, Netherlands.

Ozophora cuscoensis, new species

Figures 18, 19, 20

DIAGNOSIS: Slender, less than 6 mm coleopteroid, with clavus and corium fused into a coriaceous pad, these meeting evenly along midline. Membrane reduced to minute remnant. Forefemora with three major spines. Fourth antennal segment with a light subbasal annulus.



Figs. 18–20. *Ozophora cuscoensis*: **18.** dorsal view of forewings, **19.** forefemur, **20.** pronotum, dorsal view.

DESCRIPTION: Body black as follows: anterior pronotal lobe; a median stripe and lateral margins of posterior pronotal lobe; scutellum (except for small yellow maculae on divergent elevated area of posterior one-half); three large maculae on forewing, one at level of distal one-half of scutellum and limited to area laterad of median vein, a second along costal margin enlarging inward, irregular in outline, reaching mesally to level of median vein, a third at apex of corium but interrupted midway along apical margin; membrane remnant except for small ochraceous elliptical spot and curving vein remnants; all pleural surfaces. Abdomen above and below and narrow carinate lateral pronotal margins red-brown. Remainder of body dull yellow, including a large macula on either side of midline of anterior pronotal collar. Legs and antennae light orange-yellow, with third tarsal segment of each leg and distal ¾ and extreme base of fourth antennal segment contrastingly fuscous. Pronotum, scutellum, and wing pads conspicuously coarsely punctate. Nearly glabrous dorsally (a few short inconspicuous hairs visible in lateral view).

Head slightly declivent anteriorly, tylus reaching to proximal ⅓ of first antennal segment. Eyes set well away from anterior margin of pronotum, sessile. Ocelli well developed. Vertex moderately convex. Length head 0.82, width 0.90, interocular space 0.52. Pronotum with lateral margins narrowly but distinctly carinate, not explanate, deeply sinuate, a conspicuous punctate anterior collar present; calli large, convex, elevated well above surface of posterior pronotal lobe, latter only slightly wider across humeral angles than maximum width across anterior lobe; posterior pronotal margin slightly and evenly concave. Length pronotum 0.96, width across humeri 1.20, maximum width of anterior lobe 0.96. Scutellum with a median elevation on distal half, forming Y-shaped arms anteriorly, excavated mesally near base. Length scutellum 0.76, width 0.60. Forewing with clavus and corium fused, but area of fusion discernible. Coriaceous wing elongated, extending along lateral margin to base of abdominal tergum 7. Claval commissure greatly elongated, membrane reduced to a small lobate remnant, not extending posteriorly beyond coriaceous portion of wing; lateral margins of forewings broadened. Length wing pad 2.82. Length claval commissure 1.24. Seventh and eighth abdominal terga exposed. Metathoracic scent gland auricle short, bluntly tapered, bent slightly posteriorly. Evaporative area very large, occupying entire inner ¾ of anterior lobe of metapleuron and posterior ½ of mesoacetabulum. Forefemora moderately incrassate, armed below on distal ½ with three well-separated large spines and an additional small distal spinule. Labium reaching anterior margin of hindcoxae (length of individual segments obscured). Antennae elongate, slender, terete, fourth segment narrowly fusiform. Length antennal segments I 0.60, II 1.32, III 1.00, IV 1.26. Total body length 5.22.

HOLOTYPE: Female. PERU: *Cusco*: Machu Picchu, 21.XII.1983 (L. Huggert). In LU.

DISCUSSION: This striking coleopteroid ozophorine was first recognized as an undescribed species by the late Peter D. Ashlock. Coleoptery where the coriaceous portion of the forewing is elongated to cover most of the dorsal surface of the abdomen and the two wings to meet broadly along the midline with the clavus and corium completely fused is rare in the genus *Ozophora* but occurs in a number of other ozophorines (*Noualhieria* Puton, *Icaracoris* Slater, *Allotrophora* Slater & Bravilovsky etc.) and surprisingly in a species of *Ozophora* (*coleoptrata* Slater) from the low-lying Caicos Islands of the West Indies. However, the phenomenon in this tribe is chiefly found in species living in montane habitats.

O. cuscoensis is probably most closely related to *ovalis* Stal.

ETYMOLOGY: Referring to the locality in Peru where the holotype was obtained.

KEY TO MAINLAND NEOTROPICAL SPECIES OF *OZOPHORA*

1. Forewings coleopteroid, membrane reduced, corium and clavus fused and meeting evenly along midline 2
1a. Forewings macropterous, membranes completely developed overlapping one another, clavus and corium not fused 4
2. Body ovoid and rounded, forewings broadly widened ..... *ovalis* (Dallas)
2a. Body elongate, relatively slender 3
3. Body more than 5 mm, about 5¼ mm in length ..... *cuscoensis*, n. sp.
3a. Body less than 4½ mm in length ..... *coleoptrata* Slater
4. Dorsal surface of pronotum and hemelytra with numerous upright hairs (very short in *brunnea* and *robusta*) (view laterally) .. 5
4a. Dorsal surface of pronotum and hemelytra nearly glabrous, without numerous upright hairs 10
5. Small species, only slightly exceeding 5 mm in length, always less than 5¼ mm ... 6
5a. Larger more robust species, over 5½ mm in length 7
6. Third antennal segment nearly uniformly dark chocolate brown; distal half of scutellum completely calloused, pale yellow and concolorous with adjacent areas of clavus and corium; corium lacking a broad transverse dark fascia; posterior pronotal lobe with a very broad posteriorly widening chocolate brown median area .... *maculosa* Slater
6a. Third antennal segment chiefly pale yellow, with only distal end dark chocolate brown; scutellum reddish brown on distal half, contrasting with pale yellow coloration of adjacent clavus; corium with a broad irregular transverse dark fascia; posterior pronotal lobe with a narrow light brown median stripe ..... *villosa* Slater
7. Elevated cubital vein on clavus always pale yellow; hemelytral coloration either strongly contrasting pale yellow and dark brown, or almost uniformly pale yellow; scutellum usually with at least a suggestion of a pair of pale spots or oblique stripes present 8
7a. Elevated cubital vein on clavus usually dark brown, concolorous or nearly concolorous with remainder of clavus (if somewhat lighter, occasional specimens of *brunnea*, then scutellum lacking pale yellow spots or stripes); hemelytral coloration chiefly dark red brown or chocolate brown .. 9
8. Labium elongate, extending beyond hind coxae onto abdomen; hemelytra nearly uniformly pale yellow with coloration at most faintly evident in area of transverse fascia; calloused lateral margins of anterior pronotal lobe pale, strongly contrasting with remainder of anterior lobe .... *schaffneri*, n. sp.
8a. Labium at most barely attaining anterior portion of hindcoxae; hemelytra strongly variegated with dark brown and light yellow contrasting color; lateral margins of anterior pronotal lobe usually concolorous or only very slightly lighter than remainder of anterior lobe ..... *concava* Distant
9. First antennal segment more than 1¾ times as long as interocular width ....*brunnea* Slater
9a. First antennal segment less than 1½ times as long as interocular width .... *robusta* Slater
10. Lateral margins of posterior pronotal lobe forming an acute knifelike edge (view laterally) ..... *consanguinea* Distant
10a. Lateral pronotal margins obtusely thickened and produced but not with knifelike edge, especially on posterior lobe 11
11. Humeral angles deeply notched (relatively weakly so in *paranana*) or produced into an acute point 12
11a. Humeral angles rounded, lacking a distinct notch or acute point 15

12. Posterior pronotal angles produced into a short sharp point 13
12a. Posterior pronotal angles notched, but not produced into a sharp point 14
13. Mesal area of posterior pronotal lobe uniformly dark; first antennal segment twice as long as interocular space; distal half of third antennal segment usually dark .... *englemani* Slater
13a. Posterior pronotal lobe with a pale median stripe; first antennal segment less than twice as long as interocular space; only distal end of third antennal segment darkened .... *vazquezae* Slater
14. Scutellum with reddish elevated areas, but these never bright yellow; hemelytra predominantly dark; paramere (fig. 11) with shaft elongate, inner tooth short and stout, inner projection slender ... *belezei,* n. sp.
14a. Scutellum with a distinct yellow macula; hemelytra relatively variegated, pale and dark colored; parameres with inner tooth broad and inner projection relatively broad and attenuated (fig. 7) ..... *paranana,* n. sp.
15. Smaller species, at most barely exceeding 5 mm in length and usually less than 4¾ mm; forefemora rarely with more than two major ventral spines 16
15a. Larger species over 5 mm in length and frequently more than 5¾ mm; forefemora usually with three or four major spines 31
16. Bucculae meeting posteriorly to form an elongate tapering V-shaped groove .. 17
16a. Bucculae meeting posteriorly to form a broad rounded U-shaped groove 23
17. Hemelytra lacking a transverse dark median fascia, corium uniformly pale from base to dark apical spot; anterior and posterior pronotal lobes nearly uniformly dark colored, posterior lobe with very obscure markings ..... *badia,* n. sp.
17a. Hemelytra with a transverse darkened median fascia (in pale specimens sometimes rather obscure) attaining or nearly attaining lateral corial margins; posterior pronotal lobe either with a darkened median or submedian stripe or almost completely pale 18
18. Posterior pronotal lobe with a dark brown median stripe 19
18a. Posterior pronotal lobe either completely pale or with a pale median line 21
19. Dorsal surface shining, reddish brown; first antennal segment more than one-half length of second antennal segment (62:108) ..... *rubra,* n. sp.
19a. Dorsal surface yellow and brown, never appearing reddish; first antennal segment at most only slightly more than one-half length of segment 2 (64:122) 20
20. Fourth antennal segment with a wide white subbasal annulus ..... *parva* Slater
20a. Fourth antennal segment uniformly dark brown or dull yellow (rarely with an obscure pale subbasal annulus) .... *australis,* n. sp.
21. Posterior pronotal lobe nearly uniformly pale testaceous, lacking a differentiated pale median stripe; elevated area of scutellum red-brown, lacking yellow spots .... *inca,* n. sp.
21a. Posterior pronotal lobe with a narrow pale median stripe; scutellum with a pair of yellow spots 22
22. Labium relatively elongate, extending over first visible abdominal sternite; hemelytra extensively darkened; third antennal segment in large part dark (Cocos Is.) .... *cocosensis* Slater
22a. Labium extending at most only between hindcoxae; hemelytra predominately pale yellow; third antennal segment pale .... *pallescens* Distant
23. Fourth antennal segment nearly unicolorous, lacking a large conspicuous pale proximal annulus (at most, proximal area of segment very slightly paler than distal portion) 24
23a. Fourth antennal segment with a large conspicuous pale yellow or white proximal annulus, strongly differentiated from distal portion of segment 26
24. Metathoracic scent gland auricle elongate, semivermiform, and strongly curved posteriorly; frequently with a large solid dark macula at inner apical angle of corium adjacent to claval commissure and extending completely across corium as a laterally tapering transverse fascia .... *maculata* Slater & O'Donnell
24a. Metathoracic scent gland auricle relatively short and subtriangular, not semivermiform and not strongly curved posteriorly; inner apical angle of corium distally pale, margined with dark brown 25
25. Antennae relatively elongate, width of head shorter than or subequal to either antennal segment 2 or 4; posterior pronotal lobe with a median dark longitudinal stripe; body usually over 4 mm in length .... *baranowskii* Slater & O'Donnell
25a. Antennae shorter, width of head greater than length of second antennal segment and usually greater than length of fourth segment; posterior pronotal lobe with a narrow median pale vitta; body length less

than 4 mm .... *carvalhoi* Slater & O'Donnell

26. Posterior pronotal lobe with a narrow pale median stripe (sometimes obsolete, but then never with a distinctly dark median vitta): explanate lateral margins of anterior pronotum dark, slightly if at all differentiated from color of pronotal calli ... 27

26a. Posterior pronotal lobe with a relatively broad dark brown median longitudinal stripe; explanate lateral margins of anteror pronotal lobe usually pale yellow or white and strongly contrasting with dark coloration of calli 28

27. Fourth antennal segment elongate, more than twice as long as interocular space (South America) .... *similis* Slater & O'Donnell

27a. Fourth antennal segment relatively short, less than or about twice as long as interocular space (C. America) .... *costaricensis* Slater & O'Donnell

28. Fourth antennal segment very elongate, longer than segment 2 ....*antennata* Slater & O'Donnell

28a. Fourth antennal segment shorter than or subequal in length to segment 2 29

29. Labium elongate, reaching well between hindcoxae; ratio of interocular space/length second antennal segment 0.43 or greater; lateral pronotal margins much paler than area of calli ....*baranowskii* Slater & O'Donnell

29a. Labium much shorter, extending posteriorly only to anterior portion of middle coxae; ratio of interocular space/length second antennal segment less than or equal to 0.40; lateral explanate margins of anterior pronotal lobe only slightly differentiated in color from area of calli 30

30. Posterior pronotal lobe with a dark brown median stripe; labium extending only to anterior portion of middle coxae; paramere with a broad spatulate inner projection .....*peruviana* Slater & O'Donnell

30a. Posterior pronotal lobe pale, with (at most) indications of an incomplete median stripe; labium extending well between middle coxae; paramere with inner projection pointed, not broadly spatulate .... *slateri* Baranowski

31. Fourth antennal segment unicolorous, lacking a subbasal white annulus .... *gracilipes* Stal

31a. Fourth antennal segment with a distinct annulus 32

32. Scutellum with a pair of yellow spots or oblique stripes contrasting strongly with darker background, or with entire scutellum pale 33

32a. Scutellum lacking yellow spots or stripes, elevated areas of scutellum often somewhat paler than ground color but at most a dull reddish 44

33. Pale area of scutellum coalescing posteriorly, forming an elevated, calloused, completely pale yellow posterior portion .... *scutellata* Slater

33a. Pale areas of scutellum consisting of either spots or stripes usually not coalescing posteriorly, or if rarely coalescing, then not completely covering distal portion of scutellum 34

34. Lateral margins of anterior pronotal lobe very pale yellow or white and very strongly contrasting with adjacent area of calli ... 35

34a. Lateral margins of anterior pronotal lobe reddish to dark brown, often somewhat paler than area of calli, but never a strongly contrasting pale yellow to almost white, or entire pronotum, including lateral margins, pale 36

35. Labium at most barely attaining anterior end of metacoxae; second labial segment not exceeding forecoxae; large species usually 7 mm or more in length .....*festiva*

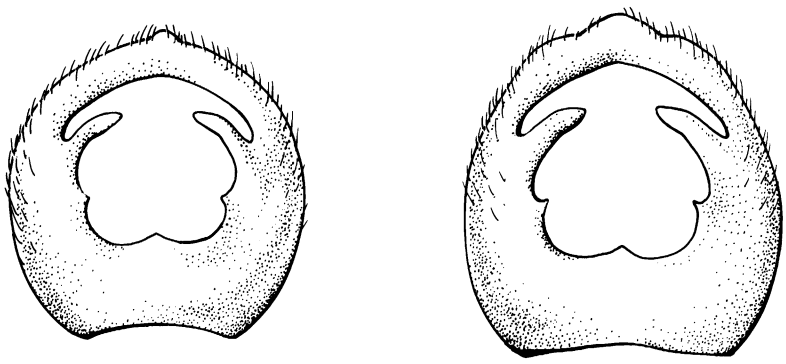
35a. Labium extending well between or slightly beyond metacoxae; second labial segment considerably exceeding forecoxae; somewhat smaller species seldom over 6½ mm ..... *atropicta* Barber[2]

36. First antennal segment relatively short, much less than a third longer than interocular distance; head and anterior pronotal lobe usually bright reddish brown; dorsal surface usually subshining, particularly in area of calli 37

36a. First antennal segment relatively elongate, a third or more longer than interocular distance; color variable, sometimes shining or subshining, but usually dorsal surface dull 38

37. First and second antennal segments pale yellow, concolorous; second antennal segment completely pale yellow or at most with a slightly darkened extreme distal end; pronotal calli usually shining; male genital capsule with caudodorsal margin produced mesally into a tiny point (fig. 21), lobes of cuplike sclerite narrowly separated, not strongly divergent .... *notabilis* Slater

[2] This is a West Indian species. The relationships of the mainland populations are treated in a separate paper.



21 22

Figs. 21, 22. Male genital capsules dorsal view: **21.** *notabilis,* **22.** *agilis.*

37a. First antennal segment darker than segment 2, sometimes black but when brown still noticeable darker than segment 2, latter with a distinctly darkened distal end; pronotal calli dull, appearing slightly granulose; caudodorsal rim of male genital capsule produced as a large blunt cone (fig. 22); lobes of cuplike sclerite strongly divergent ..... *agilis* Slater

38. Membrane distinctly irrorate (often difficult to see in greasy specimens) .... *irrorata,* n. sp.

38a. Membrane not irrorate 39

39. First antennal segment black; second antennal segment darkened distally, sometimes obscurely so; very large species, 8½ mm or more in length 40

39a. First antennal segment pale; second antennal segment usually pale throughout length 41

40. Very large species, 8½ mm or more in length; first antennal segment more than 1½ times length of head ..... *neotropicalis,* n. sp.

40a. Much smaller species, not exceeding 5½ mm in length; head longer than first antennal segment ..... *agilis* Slater

41. Clavus chiefly dark brown, at most pale along cubital vein and near base; head anterior to eyes longer than length of eye; larger species ..... *dolichocephala,* n. sp.

41a. Clavus chiefly pale yellow, at most darkened on distal third 42

42. Corium nearly uniformly pale tan .... *rubronotata,* n. sp.

42a. Corium with dark and light markings .. 43

43. Pronotum with a scalloped yellow border along posterior margin (except rarely in very dark specimens); a narrow pale median line through posterior pronotal lobe; length of eye subequal to length of head anterior to eye; distal area of apical corial margin frequently tinged with crimson .. .. *rubrolinea* Slater

43a. Pronotum lacking a conspicuous scalloped yellow border along posterior margin; meson of posterior pronotal lobe dark brown; length of head anterior to eye appreciably longer than length of eye; distal portion of apical corial margin lacking crimson coloration .... *versicolor* Slater

44. Lateral margins of pronotum pale yellow to nearly white, contrasting with darker coloration of pronotum, particularly that of anterior lobe 45

44a. Lateral margins of anterior pronotal lobe red-brown or chocolate brown, nearly concolorous with remainder of anterior pronotal lobe (sometimes slightly paler in *sylvana*) 48

45. First antennal segment pale 46

45a. First antennal segment dark brown to almost black ..... *vandoesburgi,* n. sp.

46. First antennal segment relatively long, width of head much less than 1.4 times as long as length of first antennal segment; posterior pronotal lobe lacking dark longitudinal rays ..... *inca,* n. sp.

46a. First antennal segment relatively short, width across eyes nearly 1½ times as great as length of first antennal segment; posterior pronotal lobe with dark rays; meson of posterior pronotal lobe has a broad dark stripe with a very narrow median pale line 47

47. Fourth antennal segment with a broad white annulus ..... *parapicta* Slater & Hassey

47a. Fourth antennal segment unicolorous, or at

most with a small, obscure pale annulus ..... *australis,* n. sp.

48. General coloration extremely variegated, with reddish brown, dark brown, pale yellow, and white; cubital vein of clavus with alternating brown and whitish patches; hemelytral membrane irrorate; forefemora yellow, with numerous strongly contrasting dark brown spots ... *attagenis* Slater

48a. General coloration dark chocolate brown and dark orange-red; not extremely variegated as above; femora not conspicuously spotted 49

49. Meson of posterior pronotal lobe with a narrow, pale, longitudinal stripe surrounded by darker vittae ..... *sylvana,* n. sp.

49a. Median longitudinal stripe on posterior pronotal lobe dark chocolate brown, lacking a narrow median pale vitta 50

50. Labium much shorter, at most barely attaining mesocoxae; length of third labial segment subequal to interocular space; corium with conspicuous orange spots .... *singularis* Slater

50a. Labium attaining, or sometimes considerably exceeding, hindcoxae; third labial segment at least twice as long as interocular space; lacking orange corial spots ..... *decora,* n. sp.

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