A REVISION OF THE GENUS LYGOFUSCANELLUS (HETEROPTERA; LYGAEOIDEA; RHYPAROCHROMIDAE)

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ABSTRACT

The genus *Lygofuscanellus* Scudder is redefined and the status of the stridulitrum as a taxonomic character discussed. A key to species is included. Two new species, *L. elegans* and *L. ozophoroides*, are described from South and Central America. *Ozophora baliocoris* Slater is transferred to *Lygofuscanellus*. The type species of *Lygofuscanellus* (*alboannulata* Champion) is redescribed and additional distributional data given. Dorsal views of *L. alboannulatus* and *L. elegans* are included.

Key Words: *Lygofuscanellus*, *Ozophora*, Lygaeoidea, stridulatory structures, Neotropical

RESUMEN

Se redefine el género *Lygofuscanellus* Scudder y se discute la condición del stridulitrum como carácter taxonómico. Se incluye una clave para las especies. Se describen dos especies, *L. elegans y L. ozophoroides*, de Centro y Sudamérica. Se transfiere *Ozophora baliocoris* Slater a *Lygofuscanellus*. La especie tipo de *Lygofuscanellus* (*alboannulata* Champion) se redescribe y se presentan datos adicionales de distribución. Se incluyen ilustraciones dorsales de *L. alboannulatus* y *L. elegans*.

The genus *Lygofuscanellus* was established by Scudder (1962) in the Cleradini (*sensu* Scudder) for *Pamera alboannulata* Champion (1913) who described the species from Costa Rica. Scudder related the genus to *Ozophora* Uhler from which he stated (without comparative information) that it differed in color and the shape of the head and pronotum. Actually none of these features distinguish *Lygofuscanellus* from *Ozophora* which it closely resembles. Scudder's comments that the lateral pronotal margins are carinate and that the pronotum lacks a transverse impression are not completely true. In recent literature the carinate condition of the lateral pronotal margins has been restricted to a sharp knife-like edge to distinguish it from the raised but obtuse margins found in most *Ozophora*. Species of *Lygofuscanellus* are like most species of *Ozophora* in this feature. The really distinctive feature mentioned by Scudder is the presence of a distinct lunate stridulitrum on abdominal sterna two, three and four. Ashlock & Slater (1982) recognized the genus on the basis of this abdominal stridulitrum.

The recognition of genera on the basis of the presence or absence of an abdominal stridulitrum is one of questionable validity, but is adopted here as a matter of convenience more than a belief that such a feature will prove in the long run to be of synapomorphic significance. One must recognize that a similar condition occurs in at least three genera of myodochine lygaeoids (*Ligyrocoris*, *Froeschneria* and *Pseudopamera*) in the western Hemisphere and in *Afrovertanus* in Africa. These genera were all recognized by Harrington (1982) as distinct taxa.

The whole question of monophyly based on the occurrence of similar stridulatory structures in the Lygaeoidea is a perplexing one. For example, there is a wing stridulitrum along the edge of the corium in members of several tribes. Even more striking is the possibly convergent head stridulitrum in the pamphantine genus *Cattarus* and in the new world Colobathristidae.

My decision to recognize *Lygofuscanellus* as a distinct genus for the present is based on the already complex nature of the genus *Ozophora*. Placing the species treated here in *Lygofuscanellus* within *Ozophora*, while defensible, would not add to knowledge of the relationships of species within the latter since the species discussed here appear to form a monophyletic group whether they are recognized as a distinct genus or as a unit within *Ozophora*.

There is little doubt but that these species are very closely related to species of *Ozophora* which they resemble in size, shape, type of fore femoral spines, color patterns and most other structural details. Indeed Slater (1983) placed *Ozophora baliocoris* in that genus despite his recognition of the presence of an abdominal stridulitrum.

Thus while most of the features of *Lygofuscanellus* are shared with *Ozophora* the third antennal segment is usually enlarged and fusiform in members of this genus suggesting monophyly.

Almost nothing is known of the biology of any of the species. Champion (1913) reported his specimens from bromeliads and there are, as noted below, records of interception on orchids and bananas. However there are no actual field observations.

The species are rare in collections. I have examined thousands of specimens of *Ozophora* from light traps as well as having seen extensive concentrations of these insects in the field yet the few specimens of *Lygofuscanellus* listed below is all of the material that has come to my attention. To illustrate this is the collection of three specimens of *Lygofuscanellus alboannulatus* at light at the Simla Biological station by Dr. Michael Emsley. Emsley collected extensively at light at this locality as have many other collectors including those concentrating on lygaeoids such as Dr. Baranowski (U. Florida, Homestead) and myself, yet no other specimens have come to hand. Dr. Baranowski's extensive collecting on Trinidad did not result in the collection of a single specimen. All of this suggests that these may not be ground living lygaeoids and may well occur in specialized habitats.

All measurements are in millimeters.

Key to the Species of *Lygofuscanellus*

1. Head, pronotum and scutellum completely black or dark chocolate brown, unicolorous . . . . . *alboannulatus* (Champion)

1'. Pronotum with a distinct pattern of dark and light longitudinal stripes on posterior pronotal lobe; scutellum with a pair of light spots or stripes present 2

2. Pronotum with a light median line running through dark central ovoid stripe of posterior pronotal lobe . . . . . *baliocoris* (Slater)

2'. Median area of posterior pronotal lobe with a complete dark stripe, lacking a median pale line, a broad median dark stripe present on posterior pronotal lobe. . 3

3. Third antennal segment dark chocolate brown, strongly swollen and fusiform; length of pronotum less than one and one fourth times length of scutellum . . . . . *elegans* new species

3'. Third antennal segment terete, not conspicuously fusiform, usually reddish brown; length of pronotum more than one and one third times length of scutellum. . . . . *ozophoroides* new species

Lygofuscanellus alboannulatus (Champion)
Fig. 1

Pamera alboannulata Champion 1913: 6-7.
Lygofuscanellus alboannulatus Scudder 1962: 988.

(Redescription of Lectotype)

Body color chiefly dark chocolate brown to black including entire head, pronotum, scutellum, clavus, an elongate stripe on corium adjacent to claval suture, a complete transverse fascia (with a large white spot near inner angle), apical corial margin, a large apical corial macula and entire membrane (latter lacking an apical light macula or stripe). Remainder of corium and apex of scutellum white. Dark markings on corium causing development of a large bluntly triangular white subapical corial patch. All femora reddish brown, contrasting with pale yellow tibiae and tarsi. First, third and apical two-thirds of antennal segment four reddish brown to chocolate brown. Second antennal segment yellow. Basal one-third of fourth antennal segment with a conspicuous white annulus. Dorsal and pleural surfaces dull, former bearing numerous elongate hairs. Pronotal punctures on posterior lobe obscure, those on hemelytra large and darkened.

Head non-declivent. Eyes large set well away from anterior margin of pronotum. Vertex slightly convex. Tylus attaining middle of first antennal segment. Length head 0.90, width 0.94, interocular space 0.46. Pronotum with lateral margins deeply concave, transverse impression shallow but complete, posterior lobe moderately elevated above anterior lobe, humeral angles rounded, posterior margin deeply concave. Length pronotum 1.08, width 1.40. Scutellum moderately swollen on distal half. Length scutellum 0.86, width 0.68. Length claval commissure 0.72. Midline distance apex clavus-apex corium 1.20. Midline distance apex corium-apex membrane 0.80. Metathoracic scent gland auricle finger-like, angled posteriorly. Evaporative area poorly defined, occupying inner half of metapleuron, distally truncate. Fore femur with 3 large pediculate spines and a smaller more proximally placed spine (left femur appearing to have only two large spines). Labium apparently extending to or between mesocoxae. Length labial segments I 0.62, II 0.62, III 0.46 (approx.), IV (obscured). First antennal segment stout, second segment slender, terete, third segment moderately fusiform. Length antennal segments I 0.48, II 1.40, III 1.34, IV 1.34. Total body length 5.57.

The above description is taken from the male lectotype in the Natural History Museum London. It is a male bearing the following labels. 1. round label with red border "type:". 2. A handwritten label "Pamera alboannulata Ch." 3. Pointed label "♂" 4. "Orosi Costa Rica ex C. Picado" 5. "Found in Bromeliads" 6. "1913-83" 7. a round label with a purple border "Lectotype" 8. "Pamera alboannulata Champion, G. G. E. Scudder LECTOTYPE".

There is very little variation in the material listed below. Some specimens have a more strongly fusiform third antennal segment than do others and there is variation in the size of the white annulus on the fourth antennal segment. One Trinidad specimen has the right antenna oligomerous.

This species is readily recognized by the much darker coloration than any of the others. In all other species the posterior pronotal lobe has elongate stripes and "loops" whereas it is completely dark in this species.

Distribution: Originally described from Costa Rica and previously known only from there. Specimens examined: GUATEMALA: intercepted Philadelphia 29.VI.1936 "ship light socket". (USNM). PERU: intercepted Miami, Fla. 7.II.1961 "with orchid plant" (USNM). FRENCH GUIANA: Montagne des Singes nr. Kourou, 3.VI.1986 (Riley & D.A. Rider) (at light) (RIDER coll.); TRINIDAD: Simla Biol. Stat. (M. Emsley) (at light) (JAS, RMB).

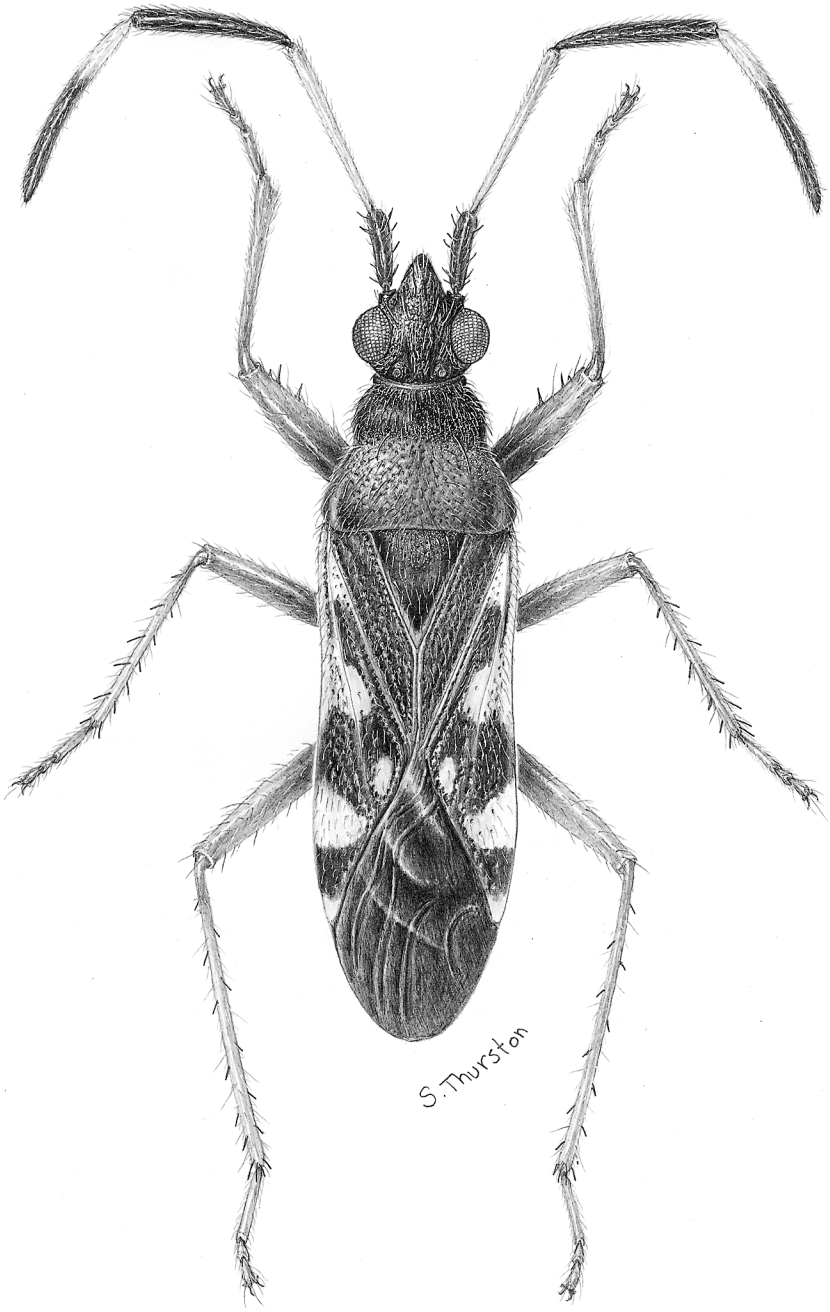

Fig. 1. *Lygofuscanellus alboannulatus* (Champion). Dorsal view.

Lygofuscanellus elegans **new species**
Fig. 2

Head and anterior pronotal lobe black, with anterior collar yellow. Dorsal surface otherwise extensively marked with dark brown on a yellow background. Posterior pronotal lobe with a broader dark brown median stripe and a pair of sublateral loops, leaving lateral and posterior margins of posterior lobe, including humeral angles, pale. Scutellum dark brown with exception of a pair of small, pale yellow, sublateral spots and a white apex, becoming gray pruinose on anterior half. Clavus brown but with central portion of claval vein pale. Corium with a broad, complete dark transverse fascia, an elongate dark streak between medius and radius and a large subapical dark patch which leaves a conspicuous distal white macula to corium. Apical corial margin dark brown on anterior 4/5. Membrane dark fumose, lacking an apical pale area, veins in part pale. Antennal segments one and two bright red-brown, third segment and distal half of segment four chocolate brown, almost black, basal half of segment four a strongly contrasting white. Fore femur, distal halves of middle and hind femora and fourth labial segment reddish brown. Dorsal surface with numerous upstanding hairs. Dorsal and pleural surfaces entirely dull. Patches of gray pruinosity present laterally near transverse impression of pronotum and near anterior collar. Head granulose. Anterior pronotal lobe with a few inconspicuous punctures. Posterior pronotal lobe, clavus and corium with conspicuous brown, but well separated, punctures.

Head with vertex moderately convex, tylus extending anteriorly only over basal third of first antennal segment. Eyes large, sessile, set well away from anterior margin of pronotum. Length head 0.92, width head 1.00, interocular space 0.52. Pronotum with anterior collar well defined and punctate; lateral margins deeply concave; a complete transverse impression present. Posterior pronotal lobe considerably elevated above anterior lobe; humeral angles rounded. Length pronotum 1.20, width 1.74. Scutellum slightly swollen on posterior half. Length scutellum 1.08, width 0.86. Length claval commissure 0.90. Midline distance apex clavus-apex corium 1.32, midline distance apex corium-apex membrane 1.20. Metathoracic scent gland auricle slender, finger-like, angled caudo-laterad. Evaporative area occupying inner three-fourths of metapleuron, truncate distally, poorly differentiated. Fore femur moderately incrassate, armed below on distal half with three sharp, pediculate spines. Labium extending between mesocoxae. first segment remote from base of head. Length labial segments I 0.30, II 0.80, III 0.56, IV 0.38. First antennal segment stout, second slender and terete, third swollen and fusiform, thicker than segment IV. Length antennal segments I 0.78, II 1.52, III 1.40, IV 1.54. Total body length 6.74.

Holotype: ♀. ECUADOR: Intercepted New Orleans 23.IV.1958 (Shiff-tlc (sp?) ("on bananas"). In National Museum of Natural History (USNM).

This specimen has been held for many years in the hope that additional specimens with more definitive locality data would become available.

Lygofuscanellus ozophoroides **new species**

Very similar to *L. elegans* in color and structure, differing in having elongate yellowish dashes on scutellum, lacking dark brown color markings on hemelytra anterior to the dark brown transverse fascia (although clavus infuscated) and by having the third antennal segment red-brown, concolorous with antennal segment two and linear, not swollen nor noticeably fusiform, and much paler than distal half of antennal segment four.

Length head 0.94, width 1.06, interocular space 0.44. Length pronotum 1.22, width 1.80. Length scutellum 0.88, width 0.90. Length claval commissure 0.92. Mid-

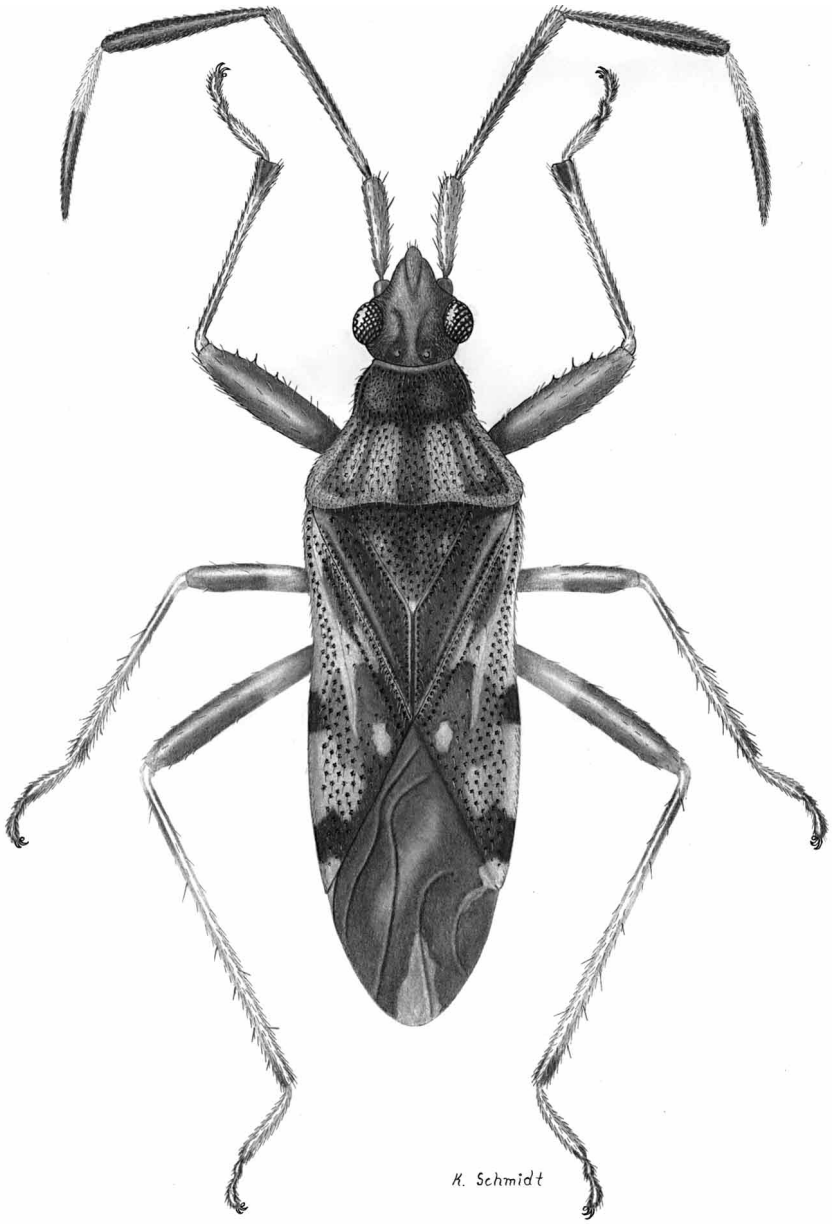

Fig. 2. *Lygofuscanellus elegans* new species. Dorsal view.

line distance apex clavus-apex corium 1.28. Midline distance apex corium-apex membrane 1.14. Length labial segments I 0.88, II 0.86, III 0.62, IV 0.38. Length antennal segments I 0.80, II 1.68, III 1.42, IV 1.90. Total body length 7.14.

Holotype: ♀. MEXICO: Chiapas, Bonompak, 21.V.1980 (E. Barrera). In Instituto de Biologia, U. Mexico (UNAM).

Paratypes: COSTA RICA: 3♀♀. Prov. Puntarena, Osa Peninsula, Tropical Science Center 5 km W. of Rincon de Osa, 26.VIII.1971 (D. J. Pool) (black light trap). PANAMA:1♀. Barro Colorado I. 5.XI.1973 (H. Wolda). 1 ♀. BELIZE: ("British Honduras") Toledo District Columbia For. Sta. 28.VII.1968 (W. L. Hasse) (black light trap). GUATEMALA: (no abdomen) Cayuga XII-1915 (Wm. Schaub). In Texas A. & M. University; RMB and JAS collections.

Lygofuscanellus baliocoris (Slater) **new combination**

Ozophora baliocoris Slater 1983: 6-7.

Slater (1983) described this species in *Ozphora* despite recognizing the presence of an abdominal stridulitrum. However, since *Lygofuscanellus* is recognized here as a valid genus in this paper this species must be placed there.

It is a smaller species than the others and readily distinguishable by the pale yellow median line that extends through the pronotum and scutellum, by a white calloused macula on either side of the midline immediately behind the transverse pronotal impression, by the spotted femora, incomplete dark transverse corial fascia, reddish brown anterior pronotal lobe and by the large white macula at the end of the membrane of the front wing.

The species was described from Mexico, Panama, Costa Rica and Ecuador. I have seen additional specimens from Panama and Mexico. It is apparently a widespread species, but like the other members of the genus, is scarce in collections.

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