

THREE NEW SPECIES OF RHYPAROCHROMINE LYGAEIDAE
(HEMIPTERA: HETEROPTERA) FROM HISPANIOLA

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ABSTRACT

Three new species of rhyparochromine Lygaeidae, of the tribe Myodochini, *Heraeus caliginosus* **New Species**, *Heraeus concolor* **New Species**, and *Catenes spiculus* **New Species** from Hispaniola are described. *H. caliginosus* and *C. spiculus* are figured. *Catenes Distant* has previously been known only from a single Central American species.

Key Words: West Indies, Myodochini, *Heraeus*, *Catenes*

RESUMEN

Se describen tres nuevas especies de Lygaeidae rhyparochromine, de la tribu Myodochini, *Heraeus caliginosus* **Nueva Especie**, *Heraeus concolor* **Nueva Especie** y *Catenes spiculus* **Nueva Especie** colectados en Española. Se proveen figuras de *H. caliginosus* y de *C. spiculus*. El género *Catenes Distant* se *conocía* previamente en base a una sola especie Centroamericana.

During the course of our ongoing study of the lygaeid fauna of the West Indies, we have had occasion to study several interesting specimens taken in light traps in the Dominican Republic. Several of these specimens represent undescribed species of the tribe Myodochini that are treated below.

The genus *Heraeus* Stal is a complex taxon with four species previously known from the West Indies (Slater 1964). *Catenes Distant*, however, has been known previously only from a single Central American species, *Catenes porrectus* Distant (Distant 1893).

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One of the striking features of these new species is that all of them show a contrastingly dark and light color pattern. This is also true for a species of *Ozophora* (tribe Ozophorini) which will be discussed in a later paper. This convergence of color pattern in what are otherwise unrelated taxa must be an adaptation to a substrate which will only be clarified when material can be taken *in situ* in the field.

All measurements are in millimeters.

Catenes spiculus Slater and Baranowski, **New Species**
(Fig. 1)

DESCRIPTION: Elongate, nearly parallel-sided. Head black, shining. Anterior pronotal lobe dark chestnut brown with a black median stripe running through entire pronotum and scutellum. Anterior pronotal collar reddish brown, concolorous with posterior pronotal lobe. Posterior pronotal lobe reddish brown on either side of black midline, becoming darker reddish brown laterally. Scutellum dark chocolate brown with a median black stripe, apex white. Hemelytra nearly uniformly testaceous with punctures strongly contrastingly dark brown; lateral corial margins pale yellow; corium posteriorly with an apical dark brown macula and a second macula laterally not reaching lateral margin of corium, located at level of middle of apical corial margin. Membrane fumose with veins contrastingly white. Thoracic pleura and sterna dark chocolate brown, almost black. Abdomen bright reddish brown. Legs white, or pale yellow, with distal third of meso- and metafemora and distal half of forefemora strongly contrastingly dark brown. Labium pale yellow. Antennae with first segment chocolate brown, second segment pale yellow with extreme distal end infuscated, third segment pale yellow on proximal two thirds, but with an extensively developed dark brown distal third, fourth segment with base and apical third dark chocolate brown, remainder of segment white. Dorsal surface clothed with upstanding hairs. Pronotum and scutellum dull, strongly contrasting with shining surface of head.

Head extremely elongate and tapering, apex exceeding distal end of first antennal segment. Eyes sessile, set midway along lateral margins of head, remote from anterior pronotal margin. Length head 1.36, width 0.92, interocular space 0.36. Pronotum with a distinct anterior collar, anterior lobe much narrower than posterior, transverse impression complete. Length pronotum 1.30, width 1.60. Scutellum lacking a prominent median carina, although mesal area somewhat elevated. Length scutellum 1.02, width 0.76. Hemelytra with corium nearly parallel sided, slightly concave at level of apex of scutellum. Length claval commissure 0.90. Midline distance apex clavus to apex corium 1.28. Midline distance apex corium to apex abdomen 1.06. Metathoracic scent gland auricle directed slightly postero-laterad, short, subelliptical. Evaporative area large, occupying most of anterior lobe of metapleuron, narrowing posteriorly and extending anteriorly onto posterior area of mesopleuron. Mesepimeron emergent. Forefemora relatively slender, slightly incrassate, armed below distally with a simple series of spines as follows: two major spines with three minor spines between them, a proximally placed hair spine and a single small distal spine. Labium elongate, extending onto second abdominal sternum. First labial segment extending caudad beyond posterior margin of eye but not reaching base of head; second segment reaching between forecoxae; third segment reaching or slightly exceeding metacoxae. Length labial segments I 1.04, II 1.24, III 1.24, IV 0.50. Antennae slender, fourth segment narrowly fusiform. Length antennal segments I 0.56, II 1.40, III 1.20, IV 1.20. Total body length 6.64.

HOLOTYPE. Female. **Dominican Republic:** Guanumo, Finca Goya, 30.V.1989 (Gustavo Anzerro) (blacklight trap). In National Museum of Natural History (NMNH).

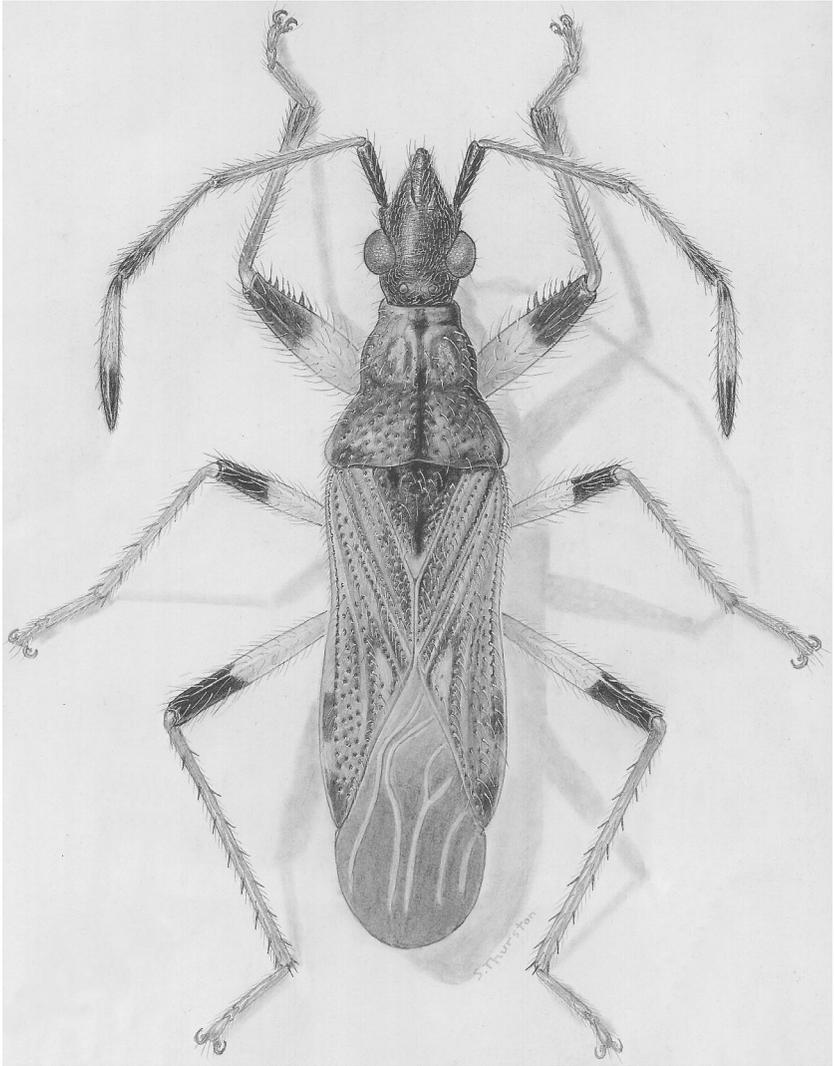


Figure 1. *Catenes spiculus* Slater and Baranowski **New Species**.

ETYMOLOGY. Referring to the sharp needle-like anterior end of the head.

Distant's (1893) original description of *Catenes porrectus*, the only previously known species in the genus, is very short. It was described from Guatemala and Panama and is known only from these locations. Distant's (1893) color plate shows *C. porrectus* differing from *C. spiculus* n. sp. in having a pale yellow first antennal segment, the forefemora yellow with dark dots over the entire surface, the darkened distal third of the meso- and metafemora interrupted by a pale yellow annulus, dark distal ends

to all tibiae, a reddish brown head and scutellum and lacking a subapical dark macula along the costal margin of the corium. *Catanes porrectus* is said to be 8 mm long.

We have examined two males from Venezuela (Miranda EST. EXT. Rio Negro cr. CAPAYA, 100 m. 17-19.VI.80) (in Universidad Central de Venezuela) which agree with the figure and description of *C. porrectus* (Distant 1893) in all respects, except that the meso- and metafemoral annuli are obscure, all femora have numerous black spots, and the hemelytra are completely and uniformly yellowish.

Heraeus caliginosus Slater and Baranowski, **New Species**
(Fig. 2)

DESCRIPTION. Coloration chiefly black to extremely dark brown. Head black, strongly shining. Pronotum and scutellum dull black, with two small yellow macula on either side of midline on posterior lobe immediately behind transverse impression. Scutellum gray on anterior half, with a narrow black median stripe and an oblique black macula midway between meson and lateral margin on each basal half. Hemelytra in large part dark chocolate brown. Clavus yellow on anterior two-thirds with contrasting dark brown punctures, extreme base and distal third dark brown. Corium yellowish basally, area at level of claval commissure interspersed with yellowish and dark brown. A large rectangular white macula distally on corium at level of middle of apical corial margin, extending from costal margin nearly to apical corial margin, but not actually attaining latter. Membrane dark brown, veins in part pale yellow, a very conspicuous rectangular white bar mesally on apical third of membrane. Thoracic pleura and sterna uniformly dull black. Abdomen shining reddish brown, a quadrate yellow macula present along dorsal margin of sternum five. Entire forefemora and distal halves of middle and hind femora dark chocolate brown, strongly contrasting with white proximal halves of middle and hind femora. Tibiae and tarsi pale yellow, tibiae infuscated with brown at extreme proximal and distal ends. Labium pale yellowish brown. First antennal segment dark red-brown, second and third segments almost uniformly yellow, segment three becoming ochraceous distally, fourth segment dark brown with a short, narrow, inconspicuous, poorly differentiated, pale annulus on proximal third (figure exaggerates pale annulus). Dorsal surface with a few scattered upright hairs present, these more numerous and elongate on head and scutellum. Thoracic punctures weak, indistinct, those on clavus and corium larger and conspicuous.

Head elongate, porrect. First antennal segment slightly exceeding apex of tylus. Eyes placed near middle of head, area behind eyes characteristically constricted. Length head 1.34, width 0.88, interocular space 0.42. Pronotum with anterior collar narrow dorsally becoming strongly widened ventrally (typical for genus). A row of deep conspicuous punctures on depression behind posterior margin of anterior collar. Anterior pronotal lobe moderately convex but not elevated to level of posterior lobe, transverse impression complete and punctate. Length pronotum 1.0, width 1.44. Length scutellum 0.92, width 0.72. Lateral corial margins nearly parallel-sided, slightly concave at level of apex of scutellum. Length claval commissure 0.56. Midline distance apex clavus to apex corium 1.24. Midline distance apex corium to apex abdomen 0.98. Metathoracic scent gland auricle short, slightly curving posteriorly. Evaporative area occupying inner two thirds of metapleuron. Forefemora strongly incrassate, armed below with at least four major spines, distally with a series of smaller spines. Labium elongate, exceeding metacoxae, attaining middle of abdominal sternum two (first visible segment), segment one almost reaching base of head, second segment extending onto anterior portion of mesosternum. Length labial seg-

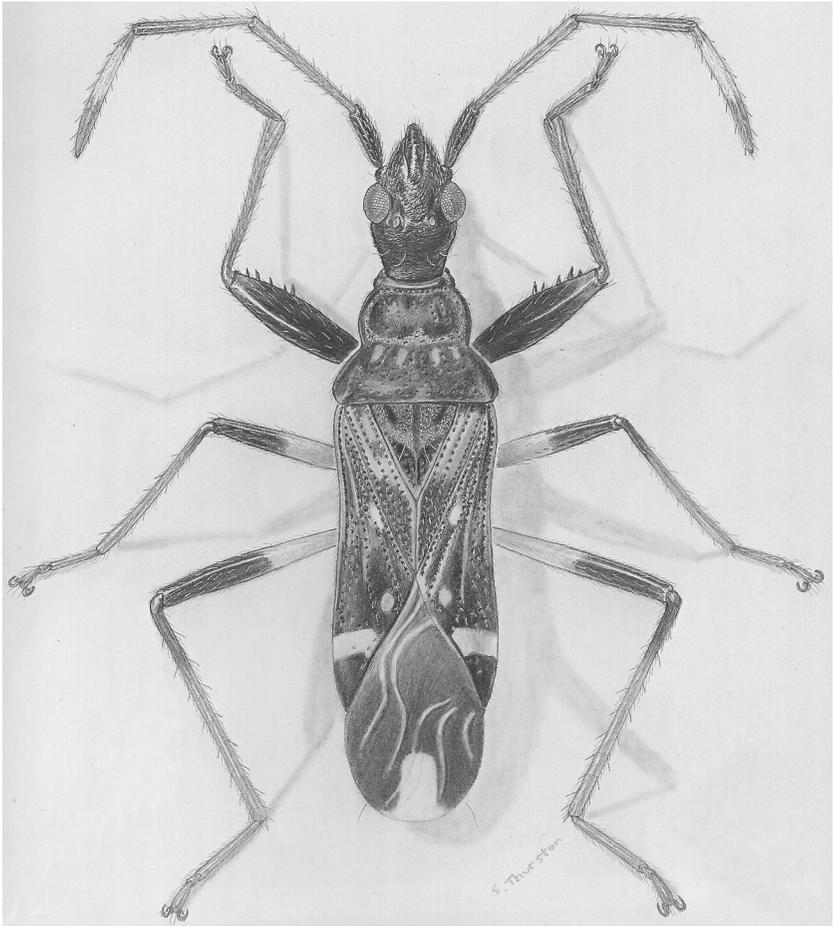


Figure 2. *Heraeus caliginosus* Slater and Baranowski **New Species**.

ments I 1.08, II 1.20, III 0.60, IV 0.66 (approx.). Antennae conventionally terete, fourth segment narrowly fusiform. Length antennal segments I 0.58, II 1.16, III 1.10, IV 1.20. Total body length 5.76.

TYPES. Holotype. Female. **Dominican Republic:** Pedernales Prov., 21 km. N. Cabo Rojo, 19.VI.1976 (R. E. Woodruff) (blacklight trap). In Florida State Collection of Arthropods. Paratype: 1 male. **Dominican Republic:** Barahona, 6 km. NW Paraiso, Rio Nizao, 18-02N, 17-12W, 170 m. 25-26-VII-1990 (C. Young, J. E. Rawlins, S. A. Thompson). In Carnegie Museum.

ETYMOLOGY. Referring to the dark coloration of the body.

Heraeus caliginosus n. sp. is most closely related to *Heraeus guttatus* (Dallas), the two species resembling one another closely in size and general body proportions. *Heraeus caliginosus* may readily be distinguished from *H. guttatus* by the elongate labium which extends well onto the second abdominal segment. In *H. guttatus* the labium extends, at most, only between the metacoxae. In *H. caliginosus* the first an-

tennal segment is chocolate brown and contrasts strongly with the pale yellow second segment; in *H. guttatus* both the first and second antennal segments are pale yellow and concolorous. *Heraeus caliginosus* has a quadrate white corial macula with the anterior and posterior margins parallel (somewhat irregular in the paratype) and at right angles to the body length; in *H. guttatus* the subdistal pale macula has irregular margins, the anterior margin being convexly, although irregularly, produced, whereas the posterior margin of the macula is concave and the entire macula is oriented slightly antero-mesad from the lateral margin. In *H. caliginosus* the apex of the membrane has a large conspicuous white parallel-sided patch. In *H. guttatus* the membrane is often pale at the end, but the pale area does not form a large evenly parallel-sided patch. *Heraeus guttatus* has at most only a trace of a brown distal area on the mesofemora and a pale brown distal one third to one half of the metafemora, whereas *H. caliginosus* has the distal two-thirds of both the meso- and metafemora dark chocolate brown.

Heraeus caliginosus is a very dark species predominately black in color, whereas *H. guttatus* is chiefly yellowish brown.

Differences from the similarly colored *H. concolor* described below are discussed under the latter species.

The other Antillean species are readily separable, *H. pulchellus* Barber and *H. plebejus* Stal are much smaller, pale testaceous to light tan species, and *H. triguttatus* (Guerin) is a strikingly-colored orange and black species.

Heraeus concolor Slater and Baranowski, **New Species**

DESCRIPTION. Head, pronotum, scutellum, forefemora, distal annulus on middle and hind femora, pleuron, sternum and abdomen black. Posterior pronotal lobe with humeral angles and four small spots adjacent to transverse impression yellowish. Scutellum with a darker narrow median stripe. Hemelytra variegated: clavus chiefly dark brown, but with anterior half of cubital vein and a small macula mesad of vein near base testaceous; corium with a small dark brown spot near base, a complete broad, dark, transverse fascia completely across corium on distal third, and a dark apex beyond the prominent white subapical pale spot; a small pale spot present near inner angle of corium. Membrane black or dark chocolate brown with a conspicuous white rectangular apical mesal patch and light brown veins. Second and third antennal segments sordid tan, distal end of 3rd segment dark brown as is fourth segment except for a conspicuous white subbasal annulus. First antennal segment and first labial segment darkened. Head shining, contrasting strongly with dull surface of pronotum and scutellum. Body sparsely clothed with scattered upright hairs and short decumbent silvery hairs.

Head slightly declivent; neck short. Length head 0.94, width 0.84, interocular space 0.42. Transverse pronotal impression deep, anterior lobe not swollen above level of posterior lobe. Length pronotum 0.98, width 1.30. Scutellum lacking a median carina. Length scutellum 0.84, width 0.76. Length claval commissure 0.50. Midline distance apex clavus to apex corium 0.96. Midline distance apex corium to apex abdomen 0.76. Metathoracic scent gland auricle straight, short. Evaporative area covering at least inner half of metapleuron, its outer margin strongly rounded. Forefemora armed below with 3-4 large spines and several smaller ones. Labium extending posteriorly between mesocoxae. Length labial segments I 0.72, II 0.74, III 0.62, IV 0.24. Antennae conventionally terete with hairs on segments 2 and 3 longer than diameter of segments. Length antennal segments I 0.38, II 0.80, III 0.64, IV 0.82. Total body length 4.31.

HOLOTYPE. Female. **Dominican Republic:** Bayaguana. 4.IX.1991 (D. Brown) (blacklight trap). In National Museum of Natural History (NMNH).

ETYMOLOGY. Referring to a similarity in coloring (to *H. caliginosus*).

It is unfortunate that we have only a single female of this predominately black species. The color patterns of *H. caliginosus* and *H. concolor* are remarkably similar, both species having a dark head, pronotum and scutellum with a prominent pale annulus on the fourth antennal segment, a large black median stripe through the dark scutellum, a large rectangular white patch mesally at the apex of the hemelytral membrane, four small yellow spots on the posterior pronotal lobe immediately behind the transverse impression, and predominately dark femora.

Heraeus concolor has pale humeral pronotal angles, whereas the humeral angles of *H. caliginosus* are completely dark. The subapical white corial macula of *H. caliginosus* is relatively block-like with both anterior and posterior margins complete, whereas in *H. concolor* the anterior margin of this subapical corial macula is deeply invaded by dark coloration so that it takes on a rather hook-like appearance.

While the color differences discussed above could well be variable, the structural differences between these two species are greater than those between several other species of *Heraeus*. *Heraeus caliginosus* has a relatively much longer head with the eyes less produced outward from the surface of the head (Fig. 2) than does *H. concolor*. In *H. caliginosus* the head length is about 1/3 greater than the pronotal length (1.34-1.0), whereas in *H. concolor* the pronotum is slightly longer than the length of the head (0.94-0.98). *Heraeus caliginosus* has much longer, sweeping antennae. Antennal segments II and III are each longer than the pronotal length (length pronotum 1.0, length antennal segment II 1.16, III 1.10), whereas in *H. concolor* the length of the pronotum is appreciably greater than the length of either the second or third antennal segments (length pronotum 0.98, length antennal segment II 0.89, III 0.64). *Heraeus caliginosus* also has a much longer fourth antennal segment than does *H. concolor*. In *H. caliginosus* the length of the fourth antennal segment is more than 2 1/2 times (2.71) as great as the interocular distance, whereas in *H. concolor* the fourth antennal segment is less than twice as long as the interocular distance (1.95). The labium is relatively very long in *H. caliginosus* as noted above in the discussion of its relationship to *H. guttatus*. In *H. concolor* the labium is much shorter, extending only between the mesocoxae rather than reaching onto the abdominal sternum.

The occurrence of two such similarly colored, yet structurally, different species on Hispaniola once again demonstrates the complex past history of speciation on this enigmatic island.

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