



# Article

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## Revision of genus *Repipta* Stål 1859 (Hemiptera: Heteroptera: Reduviidae: Harpactorinae) with new species and distribution data

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### Abstract

A revision was made of *Repipta* Stål, mostly a Neotropical genus with some species in the Neotropics and the Nearctic. Thirteen known species are redescribed: *R. annulipes* Barber, *R. antica* Stål, *R. coccinea* (Herrich-Schaeffer), *R. flavicans* (Amyot & Serville), *R. fuscospinosa* Stål, *R. fuscipes* Stål, *R. lepidula* Stål, *R. mucosa* Champion, *R. nigrontata* Stål, *R. obscuripes* Stål, *R. sexdens* (Fabricius), *R. spinosa* (Fabricius), and *R. taurus* (Fabricius). Twelve new species are described and illustrated, including data on male and female genitalia, new distributional records, and key to the species.

**Key words:** Reduviidae, Harpactorini, Neotropical, Nearctic, morphological characters, new species, distribution.

### Introduction

Reduviidae, also known as “assassin bugs, ambush bugs, or thread-legged bugs,” is one of the most numerous and morphologically diverse predatory families (the exception is the hematophagous Triatominae subfamily) (Froeschner & Kormilev, 1989; Maldonado, 1990; Schuh & Slater, 1995; Bérenger & Pluot-Sigwalt, 1997).

The Harpactorinae is the largest and most poorly studied subfamily in the Reduviidae (Chai & Tomokuni, 2003). Within this subfamily, the tribe Harpactorini is the most diverse (Davis, 1969), with more than 300 genera and 2000 species described worldwide (Putshkov & Putshkov, 1985; Maldonado, 1990).

Described mainly in the Neotropics, *Repipta* was proposed by Stål (1859) for *Zelus taurus* Fabricius (1803), and was cataloged as a valid genus by Stål (1859, 1862a, 1862b, 1866, 1872), Champion (1899), Wygodzinsky (1949), and Maldonado (1990). Beyond catalogs and some articles, *Repipta* spp. has received little mention in the literature, although *R. taurus* (Fabricius) is a well-known species (e.g., Uhler, 1876, 1886; Osborn & Drake, 1915; Van Duzee, 1916; Frost, 1964; Henry & Froeschner, 1988; Gaméz-Virués *et al.* 2003). Stål (1859) described this genus using these traits: head oblong armed with two spines; second rostral segment shorter than first segment; antennae long with the third segment increased in males; anterior lobe of pronotum constricted in the middle; posterior lobe of pronotum armed with four spines, the base truncate; hemelytron longer than abdomen; legs long and slender; femur unarmed at apex; fore femur slightly increased; last two tarsal segments of unequal length.

Based on the literature, we consider that other allied genera include *Zelus* (Fabricius), except it differs in the comparatively short second segment of the rostrum (Champion, 1899; Elgueta & Carpintero, 2004) and the lack of discal spines (Hart 1972, 1986, 1987). *Rocconota* Stål differs by the third antennal segment, which is slender in both sexes, and the abdomen with one or more basal segments armed with a spine at the outer apical angles; Stål (1859) mentioned the genera with an acute projection in the apex in some specimens, and the anterior lobe of pronotum is sculptured in *Rocconota* (Martin-Park, pers.obs.). *Atrachelus* Amyot & Serville can readily be separated because of the lack of parameres in males; the female sternite VIII extends distally further over sternite IX; and in *Repipta* Stål the head is highly polished covered with sparse, long, erect hairs (lacking in *Atrachelus*) (Elkins, 1954). *Corcia* Stål differs in having long spines on the posterior lobe of the pronotum, and a comparatively

short, broad abdomen and long hemelytra (Stål, 1859). *Debilis* Stål differs because the body is long and slender, rostrum I and II are of subequal length, the sixth abdominal segment is armed with a long spine on each side of the apex, and the post-scutellum is produced into a short tooth (Stål, 1859; Champion, 1899). *Mucrolicter* Elkins differs in having the posterior pygophore (male) border trifold and the female IX sternite subhorizontal (Elkins, 1962). *Ricolla* Stål, is easily distinguishable from all the allied forms by the apices of the femora being bispinous, and the abdominal segments 1–5 in the male and 1–6 in the female are each armed with a spine at the outer apical angles (Stål, 1859; Champion, 1899). All these genera are related for having antennifer spines, posterior lobe of pronotum quadrispinous, and abdominal segments unarmed or armed with spines on each side of the apex (Stål, 1859; Champion, 1899).

Our aim in this paper is to redescribe *Repipta* and its species, add new distributional information, describe and illustrate male and female genitalia, and produce a key to the *Repipta* species in the Americas. These data will facilitate *Repipta* species identification and function as the foundation for future phylogenetic analysis with its allies.

## Material and methods

The studied specimens and digital images were provided by the following institutions, using acronyms following Evenhuis (2007) and CONABIO (2008): American Museum of Natural History (AMNH), USA; Finnish Museum of Natural History (FMNH), Finland; Museo de La Plata—Universidad Nacional de La Plata (MLP), Argentina; Essig Museum of Entomology—University of California, Berkeley (MSME), USA; Museum of Zoology—Biological Museums Lund University (MZLU), Sweden; The Natural History Museum of Denmark—University of Copenhagen (NHMDO) Denmark; The Swedish Museum of Natural History (SMNH), Sweden; Colección Entomológica Regional- Facultad de Medicina Veterinaria y Zootecnia—Universidad Autónoma de Yucatán, (UADY-CER), Mexico; and The Zoologische Staatssammlung München (ZSM), Germany.

Observations were done with a Leica MZ95 stereoscope. Measurements were made with a micrometer eyepiece and expressed in millimeters (mm). Dissections of male genitalia were made by removing the pygophore from the abdomen with a pair of forceps, and female genitalia were removed by cutting the genital plates with a 12-cm dental standard straight scissors. Genitalia from both sexes were cleared in KOH solution for 24 hours. The phallus was everted by carefully pulling the dorsal endosomal processes with a pair of fine forceps. All dissected structures were studied and photographed in glycerin. Adults and genitalia images were taken with a digital camera (Sony DSC-W5). Specimen locations were georeferenced using Google Earth 6.1.0.4738 (beta) (Google Inc., 2011). Location decimal degree coordinates were processed with DIVA-GIS 7.4.0 (Hijmans *et al.* 2007) using an administrative divisions model of the Americas to generate a species distribution map. General morphology terminology is that of Lent & Wygodzinsky (1979), Hart (1986), and Coscarón, *et al.* (1999). Male genitalia terminology is that of Davis (1969) and Lent & Wygodzinsky (1979) and female genitalia terminology is that of Dupuis (1955, 1970), Davis (1957, 1966), Lent & Jurberg (1966), and Coscarón (1994).

## Taxonomy

### *Repipta* Stål

*Repipta* Stål, 1859:366, 369 [descr.]; Maldonado, 1990:269 [cat.].

Type of genus: *Zelus taurus* (Fabricius), 1803:291. By subsequent designation, Van Duzee, 1916:31.

Redescription.—Head about nearly length of pronotum; two spines on antennifer curved outward or straight, and from short to long; gena spine absent or rarely present with an acute projection; with interocular suture; each single ocelli on a tubercle; without head granulations; head generally covered with abundant short and long hairs; first rostral segment 0.28–0.30 mm longer than second; without rostrum rugosities or granulations, all rostrum segments

with reduced hairs; antennae long and slender covered with short and long hairs; segment III generally thickened in males. Pronotum wider than long, subpentagonal; anterior lobe of pronotum unspined and generally covered by short and long hairs; anterolateral angles of anterior lobe of pronotum protuberant; longitudinal sulcus faint anteriorly, deep posteriorly, reaching posterior lobe; posterior lobe of pronotum armed with four variable length spines, two placed on disc and two on humeral angles; discal spines (in dorsal or lateral view) located higher and slightly further back than humeral spines; posterior margin of posterior lobe of pronotum carinated; submedian carina pattern of posterior lobe of pronotum poorly or well-developed, sometimes densely covered with short pilosity; granulations present on posterior lobe of pronotum and covered with pilosity, short hairs or both. Pleura generally covered with pilosity, abundant short and long hairs or both. Prosterna usually covered with abundant short hairs; mesosterna and metasterna generally covered with short and long hairs. Scutellum horizontal, higher than postscutellum; posterior process ending in a horizontal spine, in a few cases acute or rounded and acuminate or almost flat in lateral view; scutellum generally covered with short and long hairs. Legs moderately long; without spines; femora generally covered with abundant short erect hairs ventrally and abundant short and long erect hairs dorsally; apices of femora slightly incurved with 1 + 1 short blunt lateral projections; fore femora in dorsal view basally and apex incrassate; tibiae generally with abundant short and long erect hairs; fore tibiae straight, with a small preapical spur and with a small apical pad of setae. Hemelytra as long as abdomen or surpassing abdominal apex, covered with abundant short hairs. Abdomen widening posteriorly or, in a few cases narrow, covered with sparse or abundant short and long hairs; connexival segments usually unarmed or, in some species, armed with short spines at II–VI or III–VI or IV–VI or only VI. Male genitalia: pygophore globose or subquadrangular longer than wide with short or long hairs distally, median process generally subquadrangular or acute, median lateral process semicircular or acute or absent; parameres usually short or long, thick or thin, curved or straight, with short or long hairs distally and externally; phallus: articulatory apparatus generally subquadrangular, basal plate bridge short or long and thin or wide, pedicel thin or wide. Female genitalia: gonocoxite VIII with sparse or abundant thin hairs or thick hairs, anterior fibula generally curved, widened basally; gonapophysis VIII generally with abundant thin hairs ventrally, or without hairs, distal margin generally widened; gonocoxite IX generally with abundant thin hairs ventrally and wide basally.

### ***Repipta annulipes* Barber**

Fig. 1, Map 1

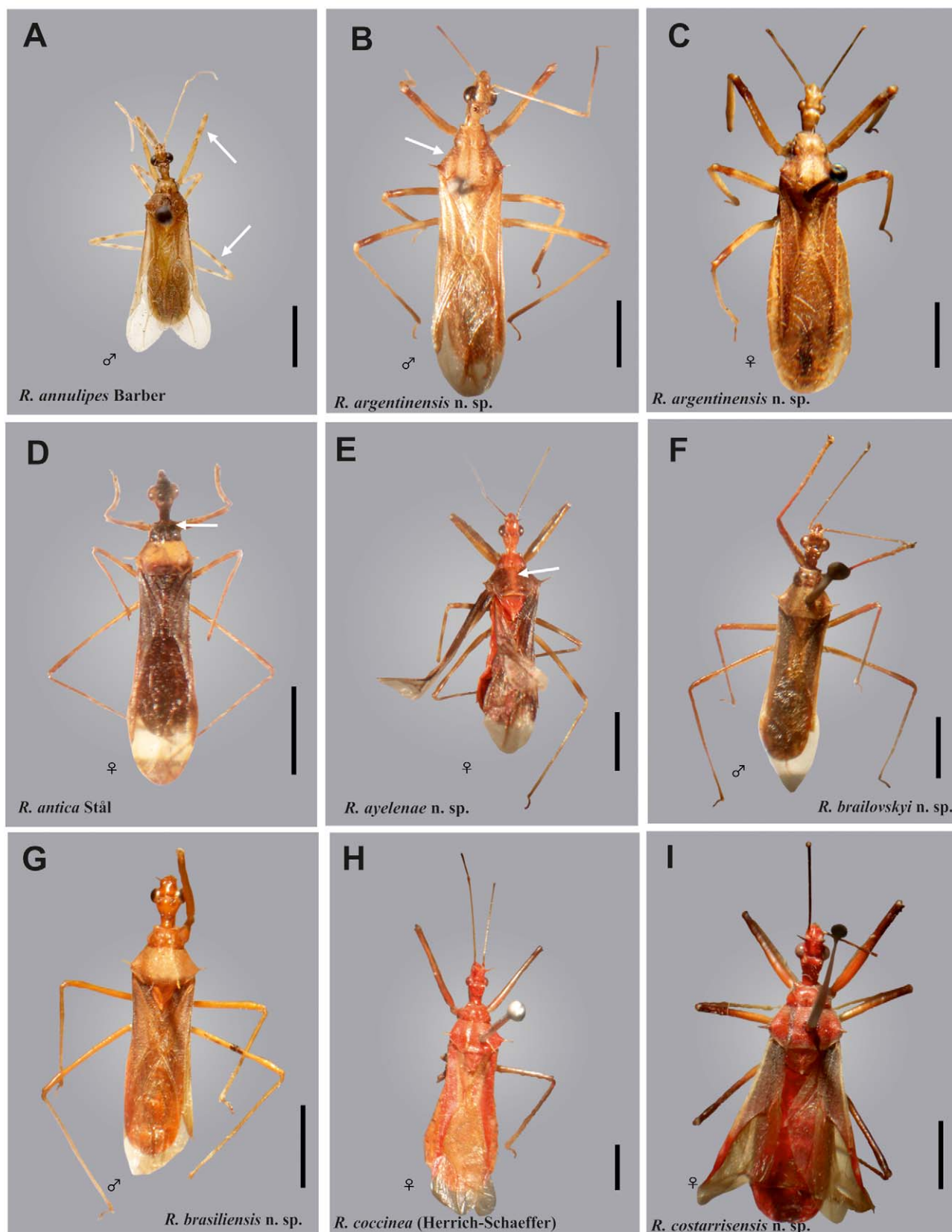
*Repipta annulipes* Barber, 1925:250 [descr.], Galapagos Is., Indefatigable; Wygodzinsky, 1949:45 [cat.]; Maldonado, 1990:269 [cat.].

Redescription.—General coloration light brown and brown. Head: brown except antenniferous tubercles, clypeus and antennifer spines, these light brown; eyes not surpassing margins of head; antenna I and II light brown, III and IV brown, III slightly increased; rostrum I–III light brown or pale, reduced hairs. Pronotum: anterior lobe and collar light brown dorsally with two brown circular spots on either side of longitudinal sulcus, laterally brown; anterolateral angles brown; posterior lobe brown. Scutellum: principal body light brown; posterior process pale, short and acuminate. Pleura: light brown; propleura with a brown broad band; mesopleura with two brown subparallel bands reaching anteriorly; single band on metapleura. Legs: femurs light brown; fore-, mid-, and hind femora with two brown bands, one beyond middle and two apically (Fig. 1A); tibiae with two bands, at base and medially, apices brown, abundant short and long hairs. Abdomen: connexival segments: light brown; unarmed; urosternites II–V with a broad dark brown, almost black, longitudinal band placed near lateral margin with an oblique pale depression. Macropterous form: brown. Hemelytra: corium and clavus brown; hemelytron longer than abdomen; membrane hyaline.

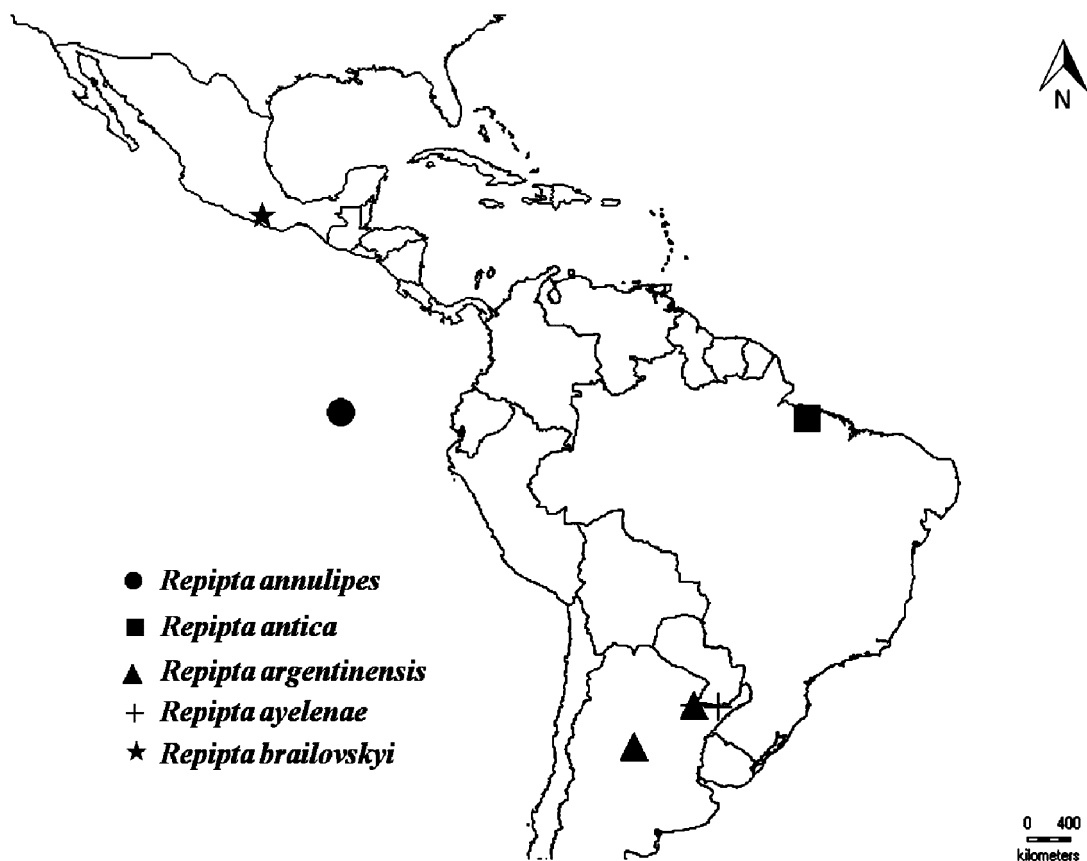
**Distribution:** Ecuador.

**Material examined.** HOLOTYPE, 1 ♂ **Ecuador: Galapagos:** Indefatigable Island, [0°48'S–90°58'W], 1925, Barber det., (AMNH).

**Remarks.** Images provided by Type Specimens Database of (AMNH). Available from: [http://research.amnh.org/iz/types\\_db/images/Repipta\\_annulipes.jpg](http://research.amnh.org/iz/types_db/images/Repipta_annulipes.jpg). No visible traits were taken from original description (Barber, 1925). It superficially resembles *R. flavicans* but can be differentiated by the lack of inverted “V” coloration pattern on posterior lobe of pronotum.



**FIGURE 1.** General aspect. A, *R. annulipes* Barber, B–C, *R. argentinensis* sp. nov., male (left) and female (right), D, *R. antica* Stål, E, *R. ayelenae* sp. nov., F, *R. brailovskyi* sp. nov., G, *R. brasiliensis* sp. nov., H, *R. coccinea* (Herrich-Schaeffer), I, *R. costarrisensis* sp. nov. Arrows refer to character under descriptions/redescriptions. Scale 1mm.



MAP 1. Distribution of *R. annulipes*, *R. antica*, *R. argentinensis* sp. nov., *R. ayelenae* sp. nov., and *R. brailovskyi* sp. nov.

### *Reipta antica* Stål

Figs 1, 5, 11–13, Map 1

*Zelus anticus* Stål, 1860:78 [descr.], Brazil.

*Reipta antica*; Stål, 1872:80 [cit.]; Lethierry & Severin, 1896:180 [cat.]; Wygodzinsky, 1949:45 [cat.]; Maldonado, 1990:269 [cat.].

Redescription.—General coloration dark brown and light brown. Head: antecular, postocular region, interocular sulcus, antennifer spines and neck dark brown, almost black, except clypeus, this dark brown; eyes surpassing inferior margin of head; antenna I and II dark brown; rostrum I brown basally, near middle, light brown apically; II light brown; III brown. Pronotum: anterior lobe, anterolateral angles and collar dark brown, almost black; submedian carina reaching half of posterior lobe; posterior lobe yellowish except posterior margin and insertion of discal spines, these dark brown. Scutellum: dark brown; posterior process long, acute and rounded. Pleura: dark brown, almost black; prosterna dark brown, almost black. Legs: coxae and trochanters dark brown, almost black, femora brown; tibiae brown; tarsus dark brown. Abdomen: connexival segments: light brown; unarmed; urosternites light brown and darker at edges, near connexival suture brown. Macropterous form: brown. Hemelytra: corium and clavus dark brown, almost black; hemelytron 1.60 mm longer than abdomen; membrane hyaline-brownish. Female genitalia: posterior view: as in (Fig. 11A). Gonocoxite VIII: without pilosity, anterior fibula slightly curved and wide basally (Fig. 12A). Gonapophysis VIII: without hairs (Fig. 12A). Gonocoxite IX: without hairs and wide basally (Fig. 13A).

**Distribution:** Brazil.

**Material examined.** Brazil: 1 ♀ Pará: Belem, [1°27'S–48°30'W], (ZSM).

**Measurements.** As in Table 1.

**TABLE 1.** Selected measurements (mm.) of *Repipta antica* Stål

	Female N=1
	Max
Total length	10.9
Head length	1.50
Head width	1.10
Anteocular region	0.45
Postocular region	0.35
Interocular region	0.50
Interocellar region	0.25
Pronotum length	1.95
Pronotum width	2.05
Scutellum length	0.50
Scutellum width	0.55
Scutellum posterior process length	0.37
Abdomen width	1.80
Eye length	0.55
Eye width	0.35
Eye height	0.60
Antennal segment 1	4.45
Antennal segment 2	1.45
Antennal segment 3	-
Antennal segment 4	-
Rostral segment 1	0.95
Rostral segment 2	0.80
Rostral segment 3	0.35
Head spines length	0.15
Posterior lobe of pronotum discal spines length	0.95
Posterior lobe of pronotum humeral spines length	0.55
Distance between head spines	0.50
Distance between discal spines	1.20
Distance between discal/humeral spines	1.15

**Remarks.** It superficially resembles *R. lepidula* and *R. nigrospinosa* sp. nov., but can be differentiated by the posterior lobe of pronotum, yellowish, the unarmed connexival segments, and genitalia traits. This species is confirmed from Brazil.

***Repipta argentinensis* Martin-Park & Coscarón, sp. nov.**

Figs 1, 5, 8–13, 16, Map 1

Description.—General coloration light brown and brown. Head: light brown except laterally neck brown; anteocular and postocular region, gena, antenniferous tubercles, labium, clypeus and jugum brown or dark brown in some specimens, each ocelli tubercle brown; eyes surpassing inferior margins of head in males; antenna I light brown basally in males, darker apically, light brown basally in females, in middle brown, close to apex light brown

and brown apically; II basally to middle light brown, and brown toward apex; III brown, thickened at base and reduced gradually toward apex in males; rostrum I and II light brown or brown in some specimens; III brown or dark brown in some specimens. Pronotum: anterior lobe light brown medially and brown or dark brown laterally; anterolateral angles brown or dark brown; collar light brown; males with two narrow lines of hairs placed next to longitudinal sulcus, beginning in anterior margin and reaching posterior lobe; submedian carina reaching less than half of posterior lobe; posterior lobe light brown with a very narrow brown middle longitudinal line beginning in anterior margin and ending in posterior margin; two brown inverted “V” coloration patterns, each one reaching humeral and discal spines (Fig. 1B) (female specimen light brown medially, humeral angles and part of disc dark brown). Scutellum: principal body light brown or yellowish in some specimens; posterior process pale, brown or yellowish in some specimens, acuminate, short and rounded. Pleura: light brown or brown in some specimens with a brown or dark brown irregular broad lateral line covering pro-, meso-, and metapleuron near inferior margin; prosterna brown or dark brown except stridulatory sulcus, this light brown; mesosterna and metasterna brown, light brown or yellowish in some specimens. Legs: coxae light brown with a brown dorsal spot basally; trochanters light brown; femora light brown, apex darker, with four brown lines: two dorsally and two ventrally covering from base to apex; fore tibiae light brown with four brown bands: basally, close to base, medially and apically; tarsus brown. Abdomen: connexival segments: light brown; unarmed; urosternites light brown with an irregular brown broad lateral band pattern near connexivum in segments II–VII. Macropterous form: brown. Hemelytra: corium and clavus light brown; hemelytron in males 1.60 mm longer than abdomen, in female as long as abdomen; membrane hyaline-brownish. Male genitalia: pygophore subquadrangular, slightly longer than wide, median process (mp) developed, short, acute, lateral median process (lmp) rounded, much longer than median process with abundant long hairs (Fig. 8A), parameres very long surpassing apex of abdomen (Fig. 5B), thick, curved, pigmented with brown externally, abundant long hairs all around parameres beginning in middle and directed distally (Fig. 9A). Phallus: articulatory apparatus (aap) long, oval and narrow, basal plate bridge (bpb) short and thin, pedicel (ped) very wide (Fig. 10A). Female genitalia: posterior view: as in (Fig. 11B). Gonocoxite VIII (gcox8): sparse thin hairs with a brown semicircular spot near external margin (Fig. 12B), anterior fibula slightly (af) subquadrangular, widened at base (Fig. 12B). Gonapophysis VIII (gnp8): without hairs (Fig. 12B). Gonocoxite IX: ventrally with abundant thin hairs, not wide basally (Fig. 13B).

**Distribution:** Argentina.

**Material examined.** HOLOTYPE, 1 ♂ **Argentina: Córdoba:** Cabana, [31°13'S–64°22'W], 03–06/I/1926. PARATYPES, 5 ♂ 1 ♀ **Córdoba:** Cabana, [31°13'S–64°22'W], 27/XII/1925, 03–06/I/1926; 1 ♂ **Corrientes:** Chavarría, [28°57'S–58°34'W], 25/I/1920; 1 ♀ Pellegrini, [27°27'S–58°50'W], 29/IV/2003, M.C. Melo, leg., Coscarón expedition; 1 ♂ **Misiones:** Loreto, [27°19'S–55°31'W], P. Denier det., A. Ogloblin leg., (MLP).

**Remarks.** It superficially resembles *R. flavicans* but can be differentiated by its body length, and genitalia traits.

**Measurements.** As in Table 2.

**Etymology.** Named for its distribution in Argentina.

### ***Repipta ayelenae* Martin-Park, sp. nov.**

Figs 1, 5, 11–13, Map 1

**Description.**—General coloration red and dark brown. Head: red except clypeus and buccula, these dark brown; antennifer spines dark brown; eyes not surpassing margins of head; antenna I brown, darker apically; II dark brown; III brown; rostrum I red except laterally brown or red pigmented with brown in some specimens; II brown basally and dark brown toward apex or light brown in some specimens; III brown. Pronotum: anterior lobe, anterolateral angles and collar red or red pigmented with brown in some specimens; posterior lobe dark brown except a red pigmented with brown middle band pattern beginning in anterior margin, passing middle of discal spines and ending near posterior margin (Fig. 1E); submedian carina beginning in center of anterior lobe and ending before middle of posterior lobe; posterior margin light brown. Scutellum: principal body red; posterior process pale, long, acuminate and flat. Pleura: red with a dark brown fringe near middle of metapleuron; pro-, meso-, and metasterna red. Legs: coxae and trochanters red, fore femora brown dorsally and dark brown ventrally or completely brown in some specimens; mid and hind femora brown with a dark brown band pattern medially or with a light brown band pattern in some specimens; fore tibiae brown with a dark brown band near base or

completely brown in some specimens; mid and hind tibiae brown with two brown bands, basally and medially; tarsus brown. Abdomen: connexival segments: red except segment VI–VII, these with a dark brown irregular spot; segments IV–VI armed with short spines at their outer apical angles; urosternites red with a dark brown spot in segments I–IX and ventrally brown; urotergites I–VIII red except a dark brown band pattern in segments VI–VIII. Macropterous form: brown. Hemelytra: corium and clavus dark brown; hemelytron 1.28 mm longer than abdomen; membrane hyaline-brownish. Female genitalia: posterior view: as in (Fig. 11C). Gonocoxite VIII: sparse thin hairs with a brown semicircular spot near anterior fibula (Fig. 12C), anterior fibula curved (Fig. 12C). Gonapophysis VIII: ventrally with abundant thin hairs (Fig. 12C). Gonocoxite IX: distally and ventrally with abundant thin hairs, wide basally (Fig. 13C).

**Distribution:** Argentina.

**Material examined.** HOLOTYPE, 1 ♀ Argentina: Corrientes: Ituzaingó, [27°36'S–56°42'W], 14/XII/2004, Benetti leg., Coscarón expedition. PARATYPE, 1 ♀ Pellegrini, [27°27'S–58°50'W], 06/V/2002, Martín leg., (MLP).

**TABLE 2.** Selected measurements (mm.) of *Repipta argentinensis* Martin-Park & Coscarón, sp. nov.

	Male (Holotype) N= 1	Female N=2		Male N=3	
	Max	Min	Max	Min	Max
Total length	14.1	12.9	15.5	13.0	15.4
Head length	2.45	2.40	2.75	2.25	2.60
Head width	1.35	1.25	1.35	1.35	1.60
Anteocular region	0.70	0.80	0.95	0.70	0.70
Postocular region	0.55	0.60	0.75	0.55	0.55
Interocular region	0.75	0.70	0.80	0.70	0.75
Interocellar region	0.40	0.40	0.45	0.40	0.40
Pronotum length	2.50	2.75	2.95	2.50	2.75
Pronotum width	2.85	2.85	3.05	2.85	3.05
Scutellum length	1.30	0.80	1.15	0.85	1.30
Scutellum width	1.15	1.00	1.60	1.15	1.45
Scutellum posterior process length	0.35	0.30	0.45	0.30	0.35
Abdomen width	3.20	3.95	4.10	2.70	3.25
Eye length	0.60	0.65	0.65	0.60	0.75
Eye width	0.50	0.25	0.35	0.45	0.50
Eye height	0.80	0.70	0.70	0.80	0.90
Antennal segment 1	4.70	3.25	4.45	4.70	4.85
Antennal segment 2	1.50	1.50	1.85	1.50	1.55
Antennal segment 3	-	-	-	-	-
Antennal segment 4	-	-	-	-	-
Rostral segment 1	1.40	1.30	1.40	1.30	1.40
Rostral segment 2	1.10	1.05	1.25	1.05	1.15
Rostral segment 3	0.50	0.50	0.55	0.45	0.50
Head spines length	0.50	0.40	0.50	0.45	0.50
Posterior lobe of pronotum discal spines length	0.70	0.45	0.60	0.65	0.75
Posterior lobe of pronotum humeral spines length	0.50	0.30	0.55	0.50	0.65
Distance between head spines	1.00	0.85	1.05	0.90	1.00
Distance between discal spines	2.15	2.10	2.10	2.10	2.20
Distance between discal/humeral spines	1.20	1.10	1.40	1.20	1.40



TABLE 3. Selected measurements (mm.) of *Repipta ayelenae* Martin-Park, sp. nov.

	Female (Holotype) N= 1	Female N=1
	Max	Max
Total length	11.2	9.60
Head length	1.84	1.72
Head width	1.16	1.12
Anteocular region	0.52	0.44
Postocular region	0.40	0.36
Interocular region	0.56	0.56
Interocellar region	0.36	0.36
Pronotum length	1.80	1.60
Pronotum width	2.48	2.28
Scutellum length	0.85	0.85
Scutellum width	1.00	0.87
Scutellum posterior process length	0.25	0.20
Abdomen width	2.75	2.60
Eye length	0.56	0.52
Eye width	0.32	0.32
Eye height	0.60	0.60
Antennal segment 1	3.84	3.76
Antennal segment 2	1.28	1.24
Antennal segment 3	-	-
Antennal segment 4	-	-
Rostral segment 1	1.16	1.04
Rostral segment 2	0.84	0.84
Rostral segment 3	0.40	0.40
Head spines length	0.56	-
Posterior lobe of pronotum discal spines length	0.88	0.76
Posterior lobe of pronotum humeral spines length	0.64	0.64
Distance between head spines	0.88	-
Distance between discal spines	1.40	-
Distance between discal/humeral spines	1.74	1.72

**Measurements.** As in Table 3.

**Remarks.** It superficially resembles *R. paraguayensis* sp. nov., but can be differentiated by its red anteocular region, mid-, and hind femora with a dark or light brown band medially, wider abdomen, connexival segments IV–VI armed with short spines, and genitalia traits.

**Etymology.** Named derived from *Ayelén*, a Mapuche name meaning *joy*.

***Repipta brailovskyi* Martin-Park & Coscarón, sp. nov.**

Figs 1, 5, 8–10, Map 1

Description.—General coloration brown and light brown. Head: brown pigmented with red except labrum, this brown; eyes surpassing inferior margin of head; antenna I brown; II brown basally and dark brown toward apex;

rostrum I brown pigmented with red; II and III light brown laterally, brown dorsally and ventrally. Pronotum: anterior lobe, anterolateral angles and collar brown pigmented with light brown; submedian carina beginning in middle of anterior lobe and ending less than half length of posterior lobe; anterior lobe with abundant short and long hairs laterally; posterior lobe brown, lighter in posterior margin. Scutellum: brown pigmented with red; posterior process long, acute and flat. Pleura: light brown pigmented with red; pro-, meso-, and metasterna light brown. Legs: coxae, trochanters and femora brown pigmented with red; tibiae light brown pigmented with red; tarsus brown. Abdomen: connexival segments: brown; unarmed; urosternites brown pigmented with red. Macropterous form: brown, external margins lighter. Hemelytra: corium and clavus brown, internal margins light brown; hemelytron 1.32 mm longer than abdomen; membrane hyaline-brownish. Male genitalia: pygophore globose, longer than wide, median process developed, quadrangular with abundant short hairs (Fig. 8B), parameres short, curved with a few long hairs distally (Fig. 9B). Phallus: articulatory apparatus quadrangular, basal plates bridge long and thin, pedicel wide (Fig. 10B).

**TABLE 4.** Selected measurements (mm.) of *Repipta brailovskyi* Martin-Park & Coscarón, sp. nov.

	Male (Holotype) N=1
	Max
Total length	12.7
Head length	2.16
Head width	1.32
Anteocular region	0.60
Postocular region	0.56
Interocular region	0.60
Interocellar region	0.36
Pronotum length	2.32
Pronotum width	2.44
Scutellum length	0.62
Scutellum width	0.70
Scutellum posterior process length	0.25
Abdomen width	2.36
Eye length	0.60
Eye width	0.32
Eye height	0.68
Antennal segment 1	4.40
Antennal segment 2	1.24
Antennal segment 3	-
Antennal segment 4	-
Rostral segment 1	1.24
Rostral segment 2	0.96
Rostral segment 3	0.40
Head spines length	0.76
Posterior lobe of pronotum discal spines length	0.80
Posterior lobe of pronotum humeral spines length	-
Distance between head spines	0.92
Distance between discal spines	1.20
Distance between discal/humeral spines	1.68

**Distribution:** Mexico.

**Material examined.** HOLOTYPE, 1 ♂ Mexico: Oaxaca: Putla de Guerrero, [17°02'N–97°56'W], 02/IX/1990, R. Baranowky leg., (MZLU).

**Measurements.** As in Table 4.

**Remarks.** It superficially resembles *R. flavicans* but can be differentiated by the lack of inverted “V” coloration pattern on posterior lobe of pronotum, and genitalia traits.

**Etymology.** Named for Dr. Harry Brailovsky, in honor of his contributions to the study of Heteroptera in Mexico.



**MAP 2.** Distribution of *R. brasiliensis* sp. nov., *R. coccinea*, *R. costarrisensis* sp. nov., *R. ecuadorensis* sp. nov. and *R. flavicans*.

### *Repipta brasiliensis* Martin-Park & Coscarón, sp. nov.

Figs 1, 5, 8–10, Map 2

**Description.**—General coloration brown and light brown. Head: brown; eyes surpassing inferior margin of head; antenna I–III light brown; rostrum I brown; II light brown; III dark brown. Pronotum: anterior lobe brown; submedian carina beginning in middle of anterior lobe and ending less than half length of posterior lobe; posterior lobe brown with a light brown broad longitudinal middle band pattern from collar to posterior margin. Scutellum: light brown; posterior process short, acuminate, and flat. Pleura: brown; pro-, meso-, and metasterna brown. Legs: coxae and trochanters brown; femora light brown; fore tibiae light brown, apically darker; mid-, and hind tibiae light brown; tarsus light brown basally and brown toward apex. Abdomen: connexival segments: brown; unarmed; urosternites brown not homogeneously pigmented with light brown. Macropterous form: brown. Hemelytra: corium and clavus brown; hemelytron 1.08 mm longer than abdomen; membrane hyaline-brownish. Male genitalia: pygophore: globose, longer than wide, median process developed, quadrangular (Fig. 8D), parameres: short, slightly curved, brown medially to distally with few short hairs ventrally (Fig. 9D). Phallus: articulatory apparatus short, square, basal plates bridge short and thin, pedicel thin (Fig. 10D).

**Distribution:** Brazil.

**Material examined.** HOLOTYPE, 1 ♂ Brazil: Santa Catarina: Nova Teutonia, [27°03'S–52°24'W], 27/II/1945, J.M. Bérenger det. as *Repipta* sp. PARATYPE, 1 ♂ Santa Catarina: Nova Teutonia, [27°03'S–52°24'W], 18/IV/1954, J.M. Bérenger det. as *Repipta* sp., (ZSM).

**Measurements.** As in Table 5.

TABLE 5. Selected measurements (mm.) of *Repipta brasiliensis* Martin-Park & Coscarón, sp. nov.

	Male (Holotype) N= 1	Male N=1
	Max	Max
Total length	10.7	9.90
Head length	1.84	1.68
Head width	1.16	1.12
Anteocular region	0.40	0.40
Postocular region	0.40	0.36
Interocular region	0.52	0.52
Interocellar region	0.52	0.48
Pronotum length	1.96	1.96
Pronotum width	2.12	2.04
Scutellum length	0.62	0.62
Scutellum width	0.67	0.65
Scutellum posterior process length	0.22	0.20
Abdomen width	2.32	1.80
Eye length	0.48	0.44
Eye width	0.40	0.24
Eye height	0.64	0.60
Antennal segment 1	3.88	3.64
Antennal segment 2	1.04	0.92
Antennal segment 3	-	-
Antennal segment 4	-	-
Rostral segment 1	1.04	1.04
Rostral segment 2	0.76	0.72
Rostral segment 3	0.32	-
Head spines length	0.40	-
Posterior lobe of pronotum discal spines length	-	-
Posterior lobe of pronotum humeral spines length	0.28	-
Distance between head spines	0.68	-
Distance between discal spines	-	-
Distance between discal/humeral spines	-	-

**Remarks.** It superficially resembles *R. flavicans* and *R. schaeferi* sp. nov., but can be distinguished by the lack of inverted “V” coloration pattern on posterior lobe of pronotum (vs. *R. flavicans*) and spines on antennifer not curved (vs. *R. flavicans* and *R. schaeferi*).

**Etymology.** Named to indicate its distribution in Brazil.

TABLE 6. Selected measurements (mm.) of *Repipta coccinea* (Herrich-Schaeffer).

	Female N=3	
	Min	Max
Total length	13.9	15.2
Head length	2.45	2.55
Head width	1.30	1.55
Anteocular region	0.75	0.85
Postocular region	0.55	0.80
Interocular region	0.70	0.75
Interocellar region	0.40	0.45
Pronotum length	2.60	2.80
Pronotum width	2.90	3.20
Scutellum length	0.70	1.35
Scutellum width	0.90	1.55
Scutellum posterior process length	0.15	0.25
Abdomen width	3.50	4.20
Eye length	0.50	0.65
Eye width	0.25	0.35
Eye height	0.60	0.70
Antennal segment 1	5.00	5.65
Antennal segment 2	1.75	2.05
Antennal segment 3	-	-
Antennal segment 4	-	-
Rostral segment 1	1.35	1.45
Rostral segment 2	0.95	1.10
Rostral segment 3	0.45	0.50
Head spines length	0.60	0.75
Posterior lobe of pronotum discal spines length	0.85	1.35
Posterior lobe of pronotum humeral spines length	0.45	1.00
Distance between head spines	1.00	1.25
Distance between discal spines	1.80	2.00
Distance between discal/humeral spines	1.60	1.70

***Repipta coccinea* (Herrich-Schaeffer)**

Figs 1, 5, 11–13, Map 2

*Zelus coccineus* Herrich-Schäffer, 1853:120 [descr.], Brazil.

*Repipta coccinea*; Stål, 1872:80 [cit.]; Lethierry & Severin, 1896:180 [cat.]; Wygodzinsky, 1949:45 [cat.]; Maldonado, 1990:269 [cat.].

Redescription.—General coloration red and brown. Head: red or brown in some specimens except labrum and anteclypeus, these dark brown; gena brown; eyes not surpassing margins of head; antenna I and II brown; rostrum I red except intersegmental line, this brown or brown pigmented with red in some specimens; II brown or red basally

and brown distally in some specimens; III brown, all with a ventral longitudinal brown line. Pronotum: anterior lobe red or brown in some specimens; anterolateral angles red or dark brown in some specimens; collar dark brown; submedian carina reaching less than half length of posterior lobe; posterior lobe red or red pigmented with brown in some specimens; discal and humeral spines yellowish. Scutellum: red or brown pigmented with red in some specimens; posterior process brown, short, acuminate and rounded. Pleura: red or red pigmented with light brown in some specimens; pro-, meso-, and metasterna red pigmented with brown or red in some specimens. Legs: coxae and trochanters red or brown pigmented with red in some specimens; femora brown; fore femur dark brown apically in some specimens; tibiae brown, in some specimens red or brown basally and light brown apically; tarsus brown. Abdomen: connexival segments: brown pigmented with red; unarmed; urosternites light brown pigmented with red or urosternite VII dark brown in some specimens. Macropterous form: red. Hemelytra: corium red, clavus brown; hemelytron 2.64 mm longer than abdomen; membrane hyaline-brownish. Female genitalia: Posterior view: as in (Fig. 11D). Gonocoxite VIII: sparse thick hairs, anterior fibula curved, widened throughout (Fig. 12D). Gonapophysis VIII: ventrally with few thin hairs (Fig. 12D). Gonocoxite IX: ventrally with abundant thin hairs, wide basally (Fig. 13D).

**Distribution:** Brazil, Colombia.

**Material examined.** **Brazil:** 1 ♀ [14°01'S–50°58'W], J.C. Elkins det; **Colombia:** 2 ♀ Bogotá, [4°35'N–74°04'W], J.C. Elkins det., (SMNH).

**Measurements.** As in Table 6.

**Remarks.** In the first record from Colombia, *R. coccinea* is very similar to *R. obscuripes*, but can be differentiated by its brown mid-, and hind femora, yellowish discal and humeral spines, wider abdomen, and genitalia traits.

### ***Repipta costarrisensis* Martin-Park & Coscarón, sp. nov.**

Figs 1, 5, 11–13, Map 2

**Description.**—General coloration red and dark brown. Head: red except labrum, this brown and antennifer spines, these dark brown; eyes not surpassing margins of head; antenna I and II brown; rostrum I red except intersegmental line brown; II red pigmented with brown; III brown. Pronotum: red except posterior lobe, this with two dark brown narrow bands, each one beginning in junction of anterior and posterior lobes and ending in discal spines (Fig. 11); humeral and discal spines brown; submedian carina not clearly visible; posterior margin of posterior lobe yellowish. Scutellum: principal body red; posterior process whitish, short, acuminate and rounded. Pleura: red; prosterna and metasterna red, mesosterna with a dark brown irregular spot medially. Legs: coxae and trochanters red; femora light brown basally to medially and brown pigmented with red apically; tibiae light brown except apically, this red pigmented with brown; tarsus brown. Abdomen: connexival segments: red pigmented with brown; unarmed; urosternites laterally pale, ventrally red, with intersegmental suture dark brown. Macropterous form: brown except distally red. Hemelytra: corium and clavus red pigmented with brown and distally until membrane red; hemelytron 1.68 mm longer than abdomen; membrane hyaline-brownish. Female genitalia: posterior view: as in (Fig. 11E). Gonocoxite VIII: sparse thin hairs (Fig. 12E), anterior fibula curved (Fig. 12E). Gonapophysis VIII: ventrally with abundant thin hairs (Fig. 12E). Gonocoxite IX: distally and ventrally with abundant thin hairs, wide basally (Fig. 13E).

**Distribution:** Costa Rica.

**Material examined.** **HOLOTYPE**, 1 ♀ **Costa Rica:** Cordillera de Talamanca, [9°30'N–83°40'W], Bovallius leg., (SMNH).

**Measurements.** As in Table 7.

**Remarks.** It superficially resembles *R. coccinea* and *R. obscuripes* but can be differentiated by having two dark brown longitudinal bands on posterior lobe of pronotum, each one reaching discal spines of posterior lobe of pronotum, femurs colored light brown basally and brown pigmented with red toward apex, and different body length, and genitalia traits.

**Etymology.** Named for its distribution in Costa Rica.

TABLE 7. Selected measurements (mm.) of *Repipta costarrisensis* Martin-Park & Coscarón, sp. nov.

	Female (Holotype) N=1
	Max
Total length	10.9
Head length	2.28
Head width	1.24
Anteocular region	0.68
Postocular region	0.60
Interocular region	0.60
Interocellar region	0.44
Pronotum length	2.40
Pronotum width	2.60
Scutellum length	0.50
Scutellum width	0.77
Scutellum posterior process length	0.30
Abdomen width	2.84
Eye length	0.48
Eye width	0.32
Eye height	0.60
Antennal segment 1	4.08
Antennal segment 2	1.28
Antennal segment 3	-
Antennal segment 4	-
Rostral segment 1	1.12
Rostral segment 2	0.96
Rostral segment 3	0.44
Head spines length	0.76
Posterior lobe of pronotum discal spines length	0.72
Posterior lobe of pronotum humeral spines length	0.80
Distance between head spines	-
Distance between discal spines	-
Distance between discal/humeral spines	10.9

***Repipta ecuadorensis* Martin-Park & Coscarón, sp. nov.**

Figs 2, 5, 11–13, Map 2

Description.—General coloration brown and dark brown. Head: light brown except clypeus, labrum, postocular region and antennifer spines, these dark brown; eyes not surpassing margins of head; antenna I–IV brown; rostrum I and II brown; III dark brown. Pronotum: anterior lobe, anterolateral angles and collar dark brown, light brown laterally; submedian carina reaching less than half length of posterior lobe; posterior lobe brown; humeral and discal spines light brown. Scutellum: principal body dark brown; lateral edges light brown; posterior process pale, long and rounded. Pleura: light brown; prosterna brown, meso-, and metasterna light brown. Legs: coxae brown dorsally, light brown ventrally; trochanters brown; fore femora dark brown except a portion basally, this light

brown; mid- femora light brown except apically, this dark brown; hind femora light brown with three dark brown bands, basally, medially and apically; fore tibiae brown; mid-, and hind tibiae brown with two light brown bands: basally and medially; tarsus brown. Abdomen: connexival segments: light brown; segments III–VI armed with short dark brown spines at their outer apical angles; urosternites light brown. Macropterous form: brown. Hemelytra: corium and clavus brown; hemelytron 2.60 mm longer than abdomen; membrane hyaline-brownish. Female genitalia: posterior view: as in (Fig. 11F). Gonocoxite VIII: sparse thin hairs (Fig. 12F), anterior fibula slightly curved, wide basally. Gonapophysis VIII: ventrally with abundant thin hairs (Fig. 12F). Gonocoxite IX: distally and ventrally with abundant thin hairs, wide basally, with two brown bands (Fig. 13F).

**Distribution:** Ecuador.

**Material examined. HOLOTYPE, Ecuador:** 1 ♀ Napo, [0°44'S–78°06'W], 05/III/1983, L. Huggert leg., (MZLU).

**Measurements.** As in Table 8.

**TABLE 8.** Selected measurements (mm.) of *Repipta ecuadorensis* Martin-Park & Coscarón, sp. nov.

	Female (Holotype) N=1
	Max
Total length	13.8
Head length	2.00
Head width	1.40
Anteocular region	0.60
Postocular region	0.32
Interocular region	0.48
Interocellar region	0.32
Pronotum length	2.68
Pronotum width	2.92
Scutellum length	0.52
Scutellum width	0.60
Scutellum posterior process length	0.22
Abdomen width	3.20
Eye length	0.64
Eye width	0.52
Eye height	0.80
Antennal segment 1	6.12
Antennal segment 2	1.84
Antennal segment 3	5.28
Antennal segment 4	3.36
Rostral segment 1	1.24
Rostral segment 2	1.04
Rostral segment 3	0.40
Head spines length	1.08
Posterior lobe of pronotum discal spines length	1.40
Posterior lobe of pronotum humeral spines length	1.32
Distance between head spines	1.24
Distance between discal spines	1.60
Distance between discal/humeral spines	1.96



**Remarks.** It superficially resembles *R. sexdens* but can be differentiated by the connexival spines in segments III–VI and urosternites colored light brown without a band pattern.

**Etymology.** Named for its distribution in Ecuador.

### ***Repipta flavicans* (Amyot & Serville)**

Figs 2, 5, 6, 8–15, Map 2

*Zelus flavicans* Amyot & Serville, 1843:374 [descr.], Brazil.

*Zelus lateralis* Herrich-Schaeffer, 1853:120 [descr.], Brazil. Synonymized by Stål, 1872.

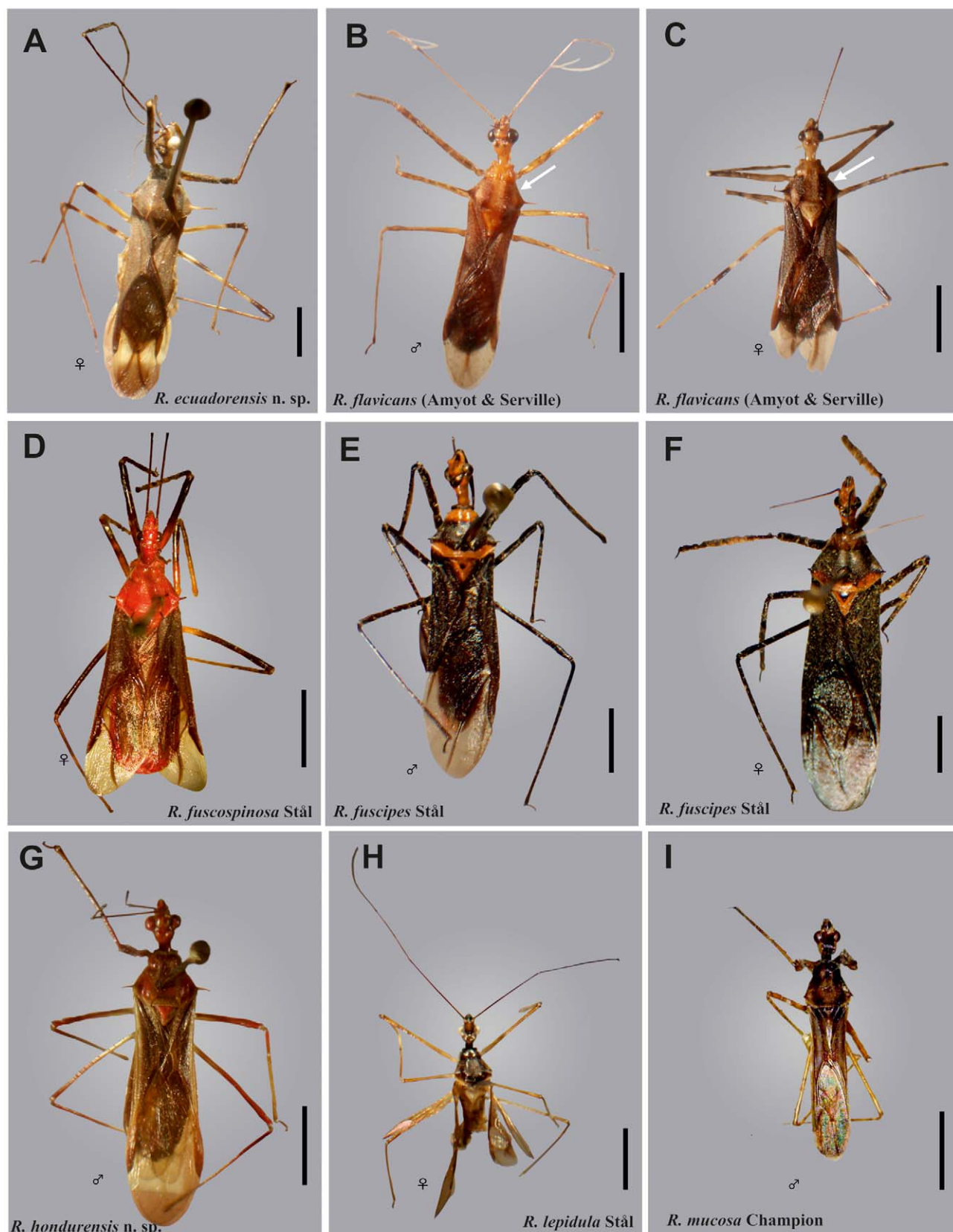
*Zelus ochraceus* Herrich-Schaeffer, 1853:121 [descr.], Brazil. Synonymized by Stål, 1872.

*Zelus varipes* Herrich-Schaeffer, 1853:121 [descr.], Brazil. Synonymized by Lethierry & Severin 1896.

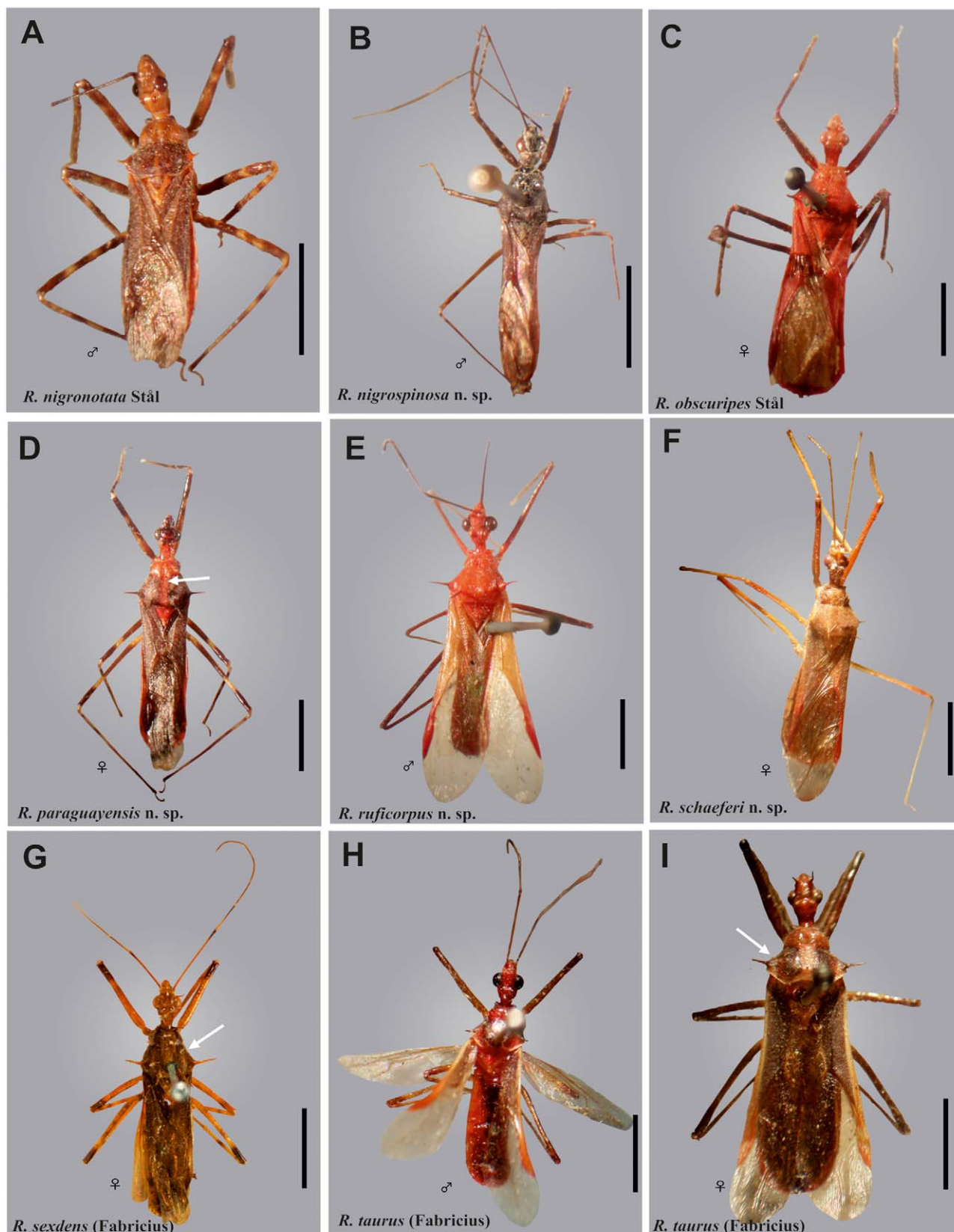
*Repipta varipes* Stål, 1872:80 [cit.]; Wygodzinsky, 1949:45 [cat.].

*Repipta flavicans*; Stål, 1862a:447 [descr.]; Stål, 1872:80 [cit.]; Berg, 1879: 147 [descr.]; Lethierry & Severin, 1896:180 [cat.]; Osborn & Drake, 1915:531 [cit.]; Van Duzee, 1916:31 [cat.]; Readio, 1927:199 [cit.]; Rau, 1933:189 [cit.]; Wygodzinsky, 1949:45 [cat.]; Ruffinelli & Pirán, 1959:1–60 [cat.]; Henry & Froeschner, 1988:634 [cat.]; Maldonado, 1990:269, 270 [cat.]; Froeschner, 1999:209 [cat.]; Gámez-Virués *et al.* 2003:127–131 [descr.].

Redescription.—General coloration light brown, brown, red or red pigmented with brown. Head: brown, light brown, red or red pigmented with brown in some specimens; gena, clypeus, jugum, labrum and interocular suture brown or dark brown, light brown in some specimens; antennifer spines light brown, brown or dark brown; eyes not surpassing margins of head; antenna I light brown or brown in some specimens; II light brown, dark brown or basally to medially light brown and brown toward apex in some specimens; III and IV light brown or brown in some specimens; rostrum I and II brown, light brown, red or yellowish pigmented with brown in some specimens; III brown or dark brown in some specimens. Pronotum: anterior lobe light brown, brown, red or red pigmented with brown, with a wide longitudinal light brown band across all anterior lobe in some specimens; anterolateral angles light brown, red or brown in some specimens; collar like anterolateral angles or red pigmented with brown in some specimens; submedian carina reaching less than half length of posterior lobe; posterior lobe light brown, dark brown, red or light brown pigmented with red in some specimens, with an inverted “V” brown or dark brown pattern or four bands, beginning in anterior margin and reaching each humeral and discal spines, these brown. Scutellum: principal body red pigmented with brown, red, light brown or pale in some specimens; posterior process pale, light brown or brown, short or moderately long, acuminate and rounded in some specimens. Pleura: light brown, brown, pale, red or red pigmented with brown in some specimens; if light brown pro-, meso-, and metapleuron with a dark brown irregular spot near inferior margin in some specimens; pro-, meso-, and metasterna light brown, brown, red or red pigmented with brown. Legs: light brown not homogeneously pigmented with brown; coxae and trochanters light brown, brown, red or red pigmented with brown in some specimens; femora brown, light brown or red pigmented with brown, with three brown bands, sometimes dark brown: basally, near center and apically in some specimens; tibiae with same coloration and banded pattern like femora; tarsus brown. Abdomen: connexival segments: brown, light brown, red or red pigmented with brown in some specimens; unarmed or segments III–V armed with short, light brown, curved spines at their outer apical angles (Fig. 16F) in some specimens; urosternites light brown not homogeneously pigmented with brown, brown, light brown, red or red pigmented with brown, with a dark brown quadrangular spot above connexival segments and ventrally with dark brown intersegmental lines in some specimens. Macropterous form: brown, dark brown or red pigmented with brown in some specimens. Hemelytra: corium and clavus brown, dark brown or red pigmented with brown in some specimens; hemelytron 1.00–1.80 mm longer than abdomen; membrane hyaline-brownish. Male genitalia: pygophore: globose, longer than wide, few short hairs distally, median process developed and quadrangular (Fig. 8D), parameres: short, thick and curved, brown medially to distally with long hairs ventrally (Fig. 9D). Phallus: articulatory apparatus quadrangular, medium long, basal plate bridge thin and long, pedicel thin, with a rounded protuberance medially (Fig. 10D). Female genitalia: posterior view: as in (Fig. 11G). Gonocoxite VIII: abundant thin and thick hairs, anterior fibula curved, wide basally with a brown circular spot near external margin and reaching anterior fibula (Fig. 12G). Gonapophysis VIII: ventrally with abundant thick hairs (Fig. 12G). Gonocoxite IX: ventrally with abundant thin hairs and wide basally (Fig. 13G).



**FIGURE 2.** General aspect. A, *R. ecuadorensis* sp. nov., B–C, *R. flavicans* Amyot & Serville, male (left) and female (right), D, *R. fuscospinosa* Stål, E–F, *R. fuscipes* Stål, male (left) and female (right), G, *R. hondurensis* sp. nov., H, *R. lepidula* Stål, I, *R. mucosa* Champion. Arrows refer to character under descriptions/redescriptions. Scale 1mm.



**FIGURE 3.** General aspect. A, *R. nigronotata* Stål, B, *R. nigrospinosa* sp. nov., C, *R. obscuripes* Stål, D, *R. paraguayensis* sp. nov., E, *R. ruficornus* sp. nov., F, *R. schaeferi* sp. nov., G, *R. sexdens* (Fabricius), H–I, *R. taurus* (Fabricius), male (left) and female (right). Arrows refer to character under descriptions/redescriptions. Scale 1mm.

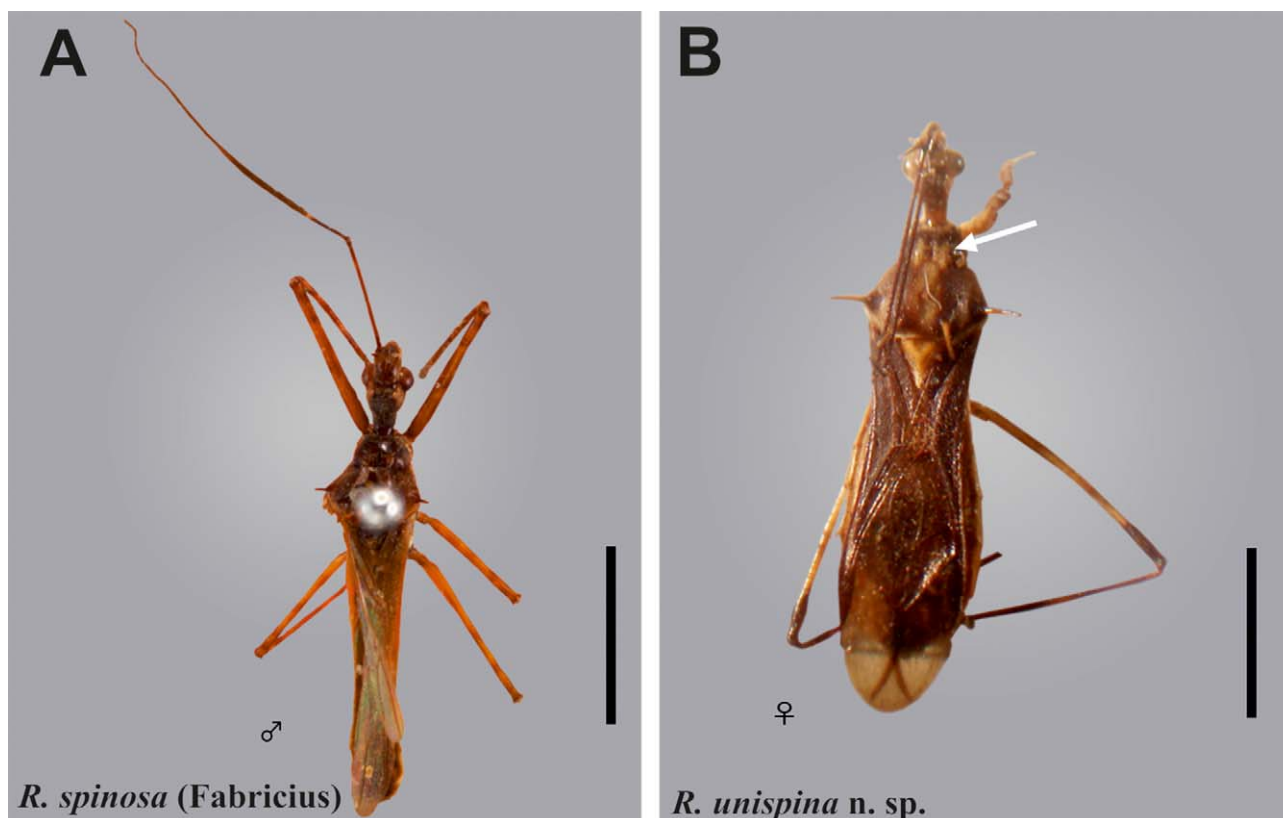


FIGURE 4. General aspect. A, *R. spinosa* (Fabricius), B, *R. unispina* sp. nov. Arrows refer to character under descriptions/redescriptions. Scale 1mm.

**Distribution:** Argentina, Brazil, Bolivia, Costa Rica, Colombia, Cuba, Guatemala, French Guiana, Honduras, Mexico, Nicaragua, Panama, Paraguay, Uruguay.

**Material examined.** **Argentina:** 1 ♂ 1 ♀ **Chaco:** Quitilipi, [26°54'S–60°12'W], 05/II/1942, (MLP), (ZSM); 2 ♀ **Corrientes:** Ituzaingo, [27°35'S–56°41'W], 29/IV/2003; 1 ♀ Mburucuyá [28°02'S–58°08'W], 10/XII/2004, M.C. Coscarón det; 1 ♂ Pellegrini, [27°27'S–58°50'W], 02/XII/2001, M.C. Melo leg., Coscarón expedition; 1 ♀ **Formosa:** Misión Laishi, [26°14'S–58°37'W], 12/XI/1942, Biraben-Bezzi leg; 1 ♀ **Misiones:** Iguazú [25°39'S–54°30'W], XI/1944, M. Biraben leg. (MLP); **Bolivia:** 1 ♀ **Chapare**, [16°31'S–65°03'W], 30/IX/1952; 1 ♀ **Nor Yungas:** Coroico, [16°11'S–67°43'W], 17/V/1950, P. Wygodzinsky det. (ZSM); **Brazil:** 2 ♂ 2 ♀ [14°01'S–50°58'W], F. Sahlb leg; 2 ♂ 1 ♀ **Brasília**, [15°46'S–47°55'W]; 1 ♀ **Río Grande do Sul**, [29°32'S–56°41'W], J.C. Elkins det., (SMNH); 1 ♂ 2 ♀ **Santa Catarina:** Nova Teutonia, [27°03'S–52°24'W], 29/XII/1944, V/1949, 13/IX/1944, J.M. Bérenger, P. Wygodzinsky det., F. Plaumann leg., (ZSM); **Colombia:** 4 ♂ 1 ♀ [4°34'N–74°17'W], 1939, S. Dalh leg., (MZLU); 1 ♂ Cordillera Oriental, [8°27'N–73°25'W], M. Redondo leg., (ZSM); 2 ♀ **Cundinamarca**, [5°01'N–74°01'W], III/1931, (MLP); **Guatemala:** 1 ♂ Cerro Zapote, [15°29'N–88°31'W], G.C. Champion det., (SMNH); **Mexico:** 1 ♀ **Tabasco:** Teapa, [17°33'N–92°57'W], (SMNH); **Paraguay:** 1 ♀ **Asunción**, [21°16'S–57°38'W]; 1 ♂ Hohenau, [27°04'S–55°38'W], 12/XII/1924; 2 ♂ 2 ♀ Independencia, [25°41'S–56°15'W], (ZSM); 1 ♂ **Caaguazu:** Raúl Oviedo, [25°08'S–55°26'W], 08/12/2000, B & S. Bembé leg; 1 ♀ **Guairá:** Villarrica, [25°45'S–56°25'W], 1924, J. Maldonado det., F. Schade leg., (FMNH); **Peru:** 1 ♀ **Amazonas:** Iquitos, [3°43'S–73°15'W], J.C. Elkins det., (SMNH); 5 ♂ 1 ♀ **Huánuco**, [9°55'S–76°13'W], 06–17/IV/2000, T. Kothe leg., (ZSM); 2 ♂ **Madre de Dios**, [12°12'S–70°27'W], 01/I/1984, L. Huggert, E. Burmeister, E. Diller, T. Kothe & W. Sclang leg., (MZLU); 1 ♀ **Loreto:** Pevas, [3°19'S–71°51'W], J.C. Elkins det., (SMNH); 1 ♂ **Satipo**, [11°15'S–74°38'W], 18/I/1984, L. Huggert leg., (MZLU); 1 ♂ **Canchis:** Sicuani, [14°17'S–71°13'W], (ZSM).

**Measurements.** As in Table 9.

**Remarks.** In the first records from Colombia, Paraguay, and Peru, *R. flavicans* varies widely in body size, legs, anterior and posterior lobe coloration pattern, size of antennifer, and posterior lobe spines (14 A–D). Colombian

and Argentinian specimens are armed with short spines in the connexival segments (Fig. 16F). We agree with Berg (1879) and Champion (1899), who noted these differences between specimens from Mexico and Central America compared to those from South America, as “transitional form.” We also agree with the redescription of Gaméz-Virués *et al.* (2003), but have included additional data such as male and female genitalia traits.

**TABLE 9.** Selected measurements (mm.) of *Repipta flavicans* (Amyot & Serville).

	Female N=5		Male N=5	
	Min	Max	Min	Max
Total length	10.6	12.3	10.3	11.1
Head length	1.80	2.00	1.76	1.90
Head width	1.05	1.24	1.10	1.24
Anteocular region	0.40	0.56	0.44	0.50
Postocular region	0.44	0.56	0.40	0.50
Interocular region	0.44	0.52	0.48	0.50
Interocellar region	0.30	0.36	0.30	0.36
Pronotum length	1.90	2.24	1.76	2.00
Pronotum width	2.15	2.52	1.92	2.15
Scutellum length	0.55	0.65	0.35	0.70
Scutellum width	0.75	0.87	0.37	0.80
Scutellum posterior process length	0.22	0.35	0.15	0.25
Abdomen width	2.60	2.96	1.55	2.00
Eye length	0.44	0.48	0.45	0.60
Eye width	0.25	0.36	0.30	0.40
Eye height	0.50	0.60	0.55	0.70
Antennal segment 1	3.05	4.12	4.00	4.20
Antennal segment 2	1.24	1.52	0.88	1.05
Antennal segment 3	-	3.20	-	5.55
Antennal segment 4	-	-	-	2.15
Rostral segment 1	0.96	1.16	0.90	1.10
Rostral segment 2	0.80	0.96	0.60	0.90
Rostral segment 3	0.28	0.44	0.28	0.45
Head spines length	0.45	0.76	0.45	0.48
Posterior lobe of pronotum discal spines length	0.40	0.92	0.75	0.80
Posterior lobe of pronotum humeral spines length	0.30	0.72	0.45	0.60
Distance between head spines	0.60	0.96	0.70	0.96
Distance between discal spines	1.15	1.36	-	-
Distance between discal/humeral spines	1.72	2.00	1.45	1.55

### *Repipta fuscipes* Stål

Figs 2, 6, 8–13, 16, Map 3

*Isocondylus fuscipes* Stål, 1855:189 [descr.], Mexico, USA—Texas.

*Repipta fuscipes*; Stål, 1862a:446 [descr.]; Uhler, 1886:24 [cat.]; Lethierry & Severin, 1896:180 [cat.]; Wygodzinsky, 1949:45 [cat.]; Maldonado, 1990:270 [cat.].

Redescription.—General coloration dark brown and light brown. Head: brown or light brown in some specimens, except clypeus and antennifer spines, these darker; ocellar area with a dark brown semicircular spot; eyes surpassing inferior margin of head in males; antenna I–IV dark brown; III thickened at base and reduced gradually toward apex in males; rostrum I–III dark brown, cream colored between intersegmental segments. Pronotum: anterior lobe light brown, except an inverted “U” formed by anterolateral angles and collar, reaching or near anterior acetabulum, this with a dark brown pattern (Fig. 16A); submedian carina reaching less than half length of posterior lobe; posterior lobe dark brown except posterior margin, this light brown. Scutellum: principal body light brown except a circular or triangular dark brown spot medially; posterior process brown, acute short and rounded. Pleura: propleura brown with a dark brown spot; meso-, and metapleura light brown; prosterna light brown; meso-, and metasterna brown. Legs: coxae light brown; trochanters dark brown; femora dark brown; hind femora with a whitish spot basally; tibiae dark brown; tarsus basally to medially brown and dark brown apically. Abdomen: connexival segments: brown or light brown with a dark brown spots placed in intersegmental suture in some specimens; unarmed; urosternites light brown or with cream tones in some specimens; ventrally with a dark brown intersegmental line in segments IV–VI in males and IV–VII in females. Macropterous form: brown or dark brown in males, almost black in females. Hemelytra: corium and clavus brown or dark brown in males, almost black in females; hemelytron 2.16–2.56 mm longer than abdomen; membrane hyaline-brownish in males and dark brown in females. Male genitalia: pygophore: subquadrangular, longer than wide, with abundant long hairs distally (Fig. 8E), median process developed, long and rounded (finger-shaped), lateral median process semicircular with long hairs (Fig. 8E), parameres long, thin and straight, medially to distally brown with long hairs ventrally and externally (Fig. 9E). Phallus: articulatory apparatus oval, medium long, basal plate bridge very short, pedicel wide (Fig. 10E). Female genitalia: posterior view: as in (Fig. 11H). Gonocoxite VIII: sparse thin hairs (Fig. 12H), anterior fibula slightly subquadrangular, widened proximally (Fig. 12H). Gonapophysis VIII: ventrally with abundant thin hairs (Fig. 12H). Gonocoxite IX: ventrally with abundant thin and thick hairs, not wide basally (Fig. 13H).



MAP 3. Distribution of *R. fuscipes*, *R. fuscospinosa*, *R. hondurensis* sp. nov., *R. lepidula* and *R. mucosa*.

**Distribution:** El Salvador, Mexico, USA.

**Material examined.** Mexico: 2 ♂ 2 ♀ Oaxaca, [17°04'N–96°43'W], 06, 19, 22/IX/1990, (MULU); 1 ♂ Volcán de Colima, [17°05'N–96°42'W], 18/VIII/1918, P. Wygodzinsky det., (ZSM).

**Measurements.** As in Table 10.

**Remarks.** Posterior lobe spines vary in size from very short to very long, and antennifer spines are very short.

**TABLE 10.** Selected measurements (mm.) of *Repipta fuscipes* Stål.

	Female N=2		Male N=3	
	Min	Max	Min	Max
Total length	18.8	18.9	15.8	16.4
Head length	1.60	3.16	2.55	2.70
Head width	1.56	3.20	1.55	1.80
Anteocular region	1.04	1.08	0.65	0.80
Postocular region	0.60	0.68	0.50	0.55
Interocular region	0.80	0.80	0.60	0.70
Interocellar region	0.40	0.44	0.35	0.45
Pronotum length	3.40	3.52	2.30	2.70
Pronotum width	4.32	4.44	3.10	3.20
Scutellum length	0.62	0.71	0.62	1.21
Scutellum width	0.90	0.90	0.78	1.25
Scutellum posterior process length	0.21	0.25	0.18	0.25
Abdomen width	4.60	4.80	2.25	2.25
Eye length	0.64	0.68	0.60	0.75
Eye width	0.40	0.44	0.45	0.55
Eye height	0.68	0.76	0.70	0.90
Antennal segment 1	5.28	5.84	3.95	5.84
Antennal segment 2	1.96	2.16	-	1.40
Antennal segment 3	-	4.80	-	-
Antennal segment 4	-	-	-	-
Rostral segment 1	1.52	1.56	1.30	1.44
Rostral segment 2	1.16	1.28	0.96	1.20
Rostral segment 3	0.60	0.60	0.45	0.55
Head spines length	-	-	-	0.20
Posterior lobe of pronotum discal spines length	0.24	0.48	0.40	1.24
Posterior lobe of pronotum humeral spines length	0.32	0.60	0.25	0.60
Distance between head spines	0.72	0.80	0.60	0.76
Distance between discal spines	1.64	1.76	0.95	1.36
Distance between discal/humeral spines	1.92	2.40	1.25	2.04

### *Repipta fuscospinosa* Stål

Figs 2, 5, Map 3

*Repipta fuscospinosa*; Stål, 1859:369 [descr.], Brazil; Lethierry & Severin, 1896:181 [cat.]; Wygodzinsky, 1949:45 [cat.]; Maldonado, 1990: 270 [cat.].

Redescription.—General coloration red with brown. Head: red except labrum and bucculae, these brown, antennifer spines darker; eyes not surpassing margins of head. Pronotum: red; anterior lobe with abundant short hairs

laterally; submedian carina beginning in middle of anterior lobe and reaching less than half length of posterior lobe; posterior lobe (discal and humeral) spines dark brown at tip. Scutellum: red; posterior process short, acuminate and rounded. Pleura: red pigmented with light brown in anterior and superior margins; prosterna red; meso-, and metasterna brown medially and red laterally. Legs: coxae red pigmented with brown in inferior margin and trochanters light brown; fore-, and mid- femora red basally to medially or light brown and dark brown apically in some specimens; hind femora red at base and dark brown apically, light brown in some specimens; fore tibiae dark brown basally to near middle and light brown toward apex; mid tibiae dark brown basally to slightly beyond middle and light brown toward apex; hind tibiae dark brown basally to center with a middle light brown band pattern, and brown pigmented with dark brown apically; tarsus dark brown except last tarsal segment and claws, these light brown. Abdomen: connexival segments: red; unarmed; urosternites red pigmented with brown; ventrally with dark brown intersegmental lines (Fig. 5L). Macropterous form: dark brown. Hemelytra: corium and clavus dark brown; hemelytron longer than abdomen; membrane hyaline-brownish.

**Distribution:** Brazil.

**Material examined. Brazil:** 1 ♀ **Río de Janeiro:** Nova Friburgo, [22°17'S–42°32'W], I/1946, P. Wygodzinsky Leg., J.C. Elkins det., (AMNH); 1 ♀ **São Paulo**, [23°46'S–46°38'W], J.C. Elkins det., (SMNH).

**Remarks.** Images provided by (AMNH) and (SMNH). It superficially resembles *R. costarrisensis* sp. nov., but can be differentiated by the posterior lobe of pronotum without longitudinal band pattern.

### ***Repipta hondurensis* Martin-Park & Coscarón, sp. nov.**

Figs 2, 6, 8–10, 16, Map 3

**Description.**—General coloration red and brown. Head: red pigmented with brown except clypeus, buccula and labrum, these brown; antennifer spines of a lighter tone; eyes surpassing inferior margin; antenna I red pigmented with brown; II brown; III brown, thickened at base and reduced gradually toward apex; IV like III but not increased; rostrum I red, intersegmental segment brown in some specimens; II and III brown; all rostral segments with a ventral longitudinal brown line. Pronotum: red pigmented with brown; submedian carina beginning in middle of anterior lobe and reaching each discal spines of posterior lobe, covered with short hairs; humeral and discal spines brown basally and dark brown toward apex; posterior margin brown. Scutellum: principal body red; lateral edges brown; posterior process light brown or red in some specimens, short, acute and rounded. Pleura: red pigmented with brown; mesopleuron with two pale spots on posterior margin reaching metapleuron; prosterna light brown except stridulatory sulcus, this red pigmented with brown; meso-, and metasterna light brown. Legs: coxae red pigmented with brown, inferior margin light brown, trochanters red pigmented with brown, fore femora red pigmented with brown; mid-, and hind femora light brown from base to near middle and red pigmented with brown apically; fore tibiae basally to medially red pigmented with brown and light brown apically; mid- tibiae basally red pigmented with brown, and light brown apically; hind tibiae red pigmented with brown basally, near center, and light brown apically; tarsus brown. Abdomen: connexival segments: light brown; urosternites light brown; unarmed. Macropterous form: light brown or brown in some specimens. Hemelytra: corium red pigmented with brown or brown in some specimens, clavus light brown pigmented with brown; hemelytron 2.08–2.60 mm longer than abdomen; membrane hyaline-brownish. Male genitalia: pygophore: ovoid, longer than wide, distally with abundant long hairs (Fig. 8F), parameres: short, straight, distally brown and with a few long hairs ventrally (Fig. 9F) Phallus: articulatory apparatus long, quadrangular, basal plate bridge long and thin, pedicel wide (Fig. 10F).

**Distribution:** Honduras.

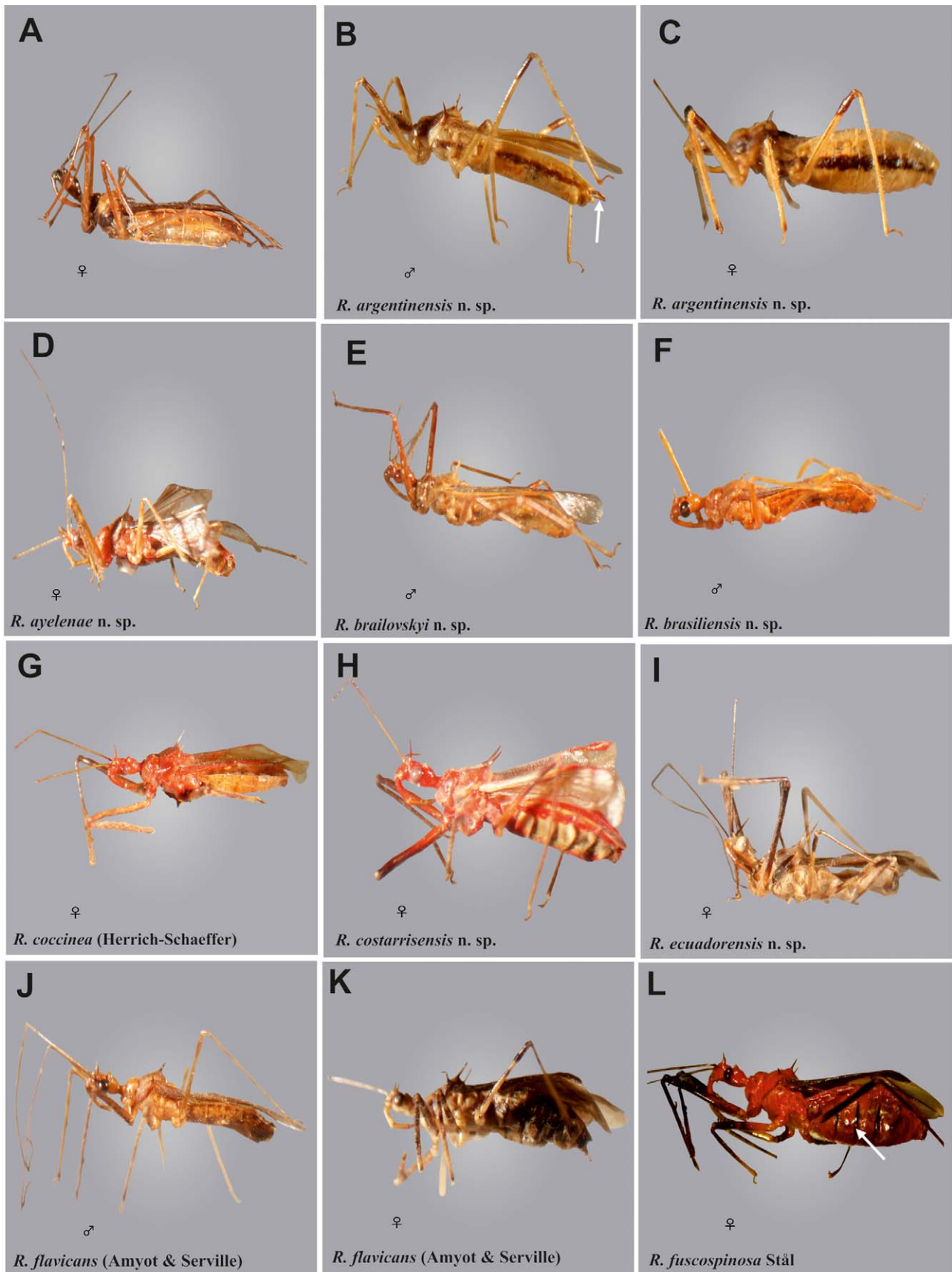
**Material examined. HOLOTYPE**, 1 ♂ **Honduras: Olancho:** Parque Nacional La Muralla, [15°04'N–86°45'W], 01/IV/1995, R. Cave leg. **PARATYPE**, 1 ♂ **Olancho:** Parque Nacional La Muralla, [15°04'N–86°45'W], 14/IX/1996, R. Cave leg., (MZLU).

**Measurements.** As in Table 11.

**Remarks.** It superficially resembles to *R. schaeferi* sp. nov., but can be differentiated by the pronotum coloration and presence of complete submedian carina with hairs.

**Etymology.** Named for its distribution in Honduras.





**FIGURE 5.** Lateral aspect. A, *R. antica* Stål, B–C, *R. argentinensis* sp. nov., male (left) and female (right), D, *R. ayelenae* sp. nov., E, *R. brailovskyi* sp. nov., F, *R. brasiliensis* sp. nov., G, *R. coccinea* (Herrich-Schaeffer), H, *R. costarrisensis* sp. nov., I, *R. ecuadorensis* sp. nov., J–K, *R. flavicans* Amyot & Serville, male (left) and female (right), L, *R. fuscospinosa* Stål. Arrows refer to character under descriptions/redescriptions.

TABLE 11. Selected measurements (mm.) of *Repipta hondurensis* Martin-Park & Coscarón, sp. nov.

	Male (Holotype) N=1	Male N=1
	Max	Max
Total length	13.4	13.3
Head length	2.10	2.10
Head width	1.50	1.40
Anteocular region	0.60	0.60
Postocular region	0.55	0.55
Interocular region	0.60	0.60
Interocellar region	0.40	0.35
Pronotum length	2.35	2.25
Pronotum width	2.60	2.60
Scutellum length	0.50	0.45
Scutellum width	0.90	0.80
Scutellum posterior process length	0.25	0.25
Abdomen width	2.65	2.40
Eye length	0.65	0.55
Eye width	0.50	0.35
Eye height	0.70	0.45
Antennal segment 1	4.15	4.10
Antennal segment 2	1.15	1.10
Antennal segment 3	5.50	-
Antennal segment 4	-	-
Rostral segment 1	1.25	1.15
Rostral segment 2	0.85	0.80
Rostral segment 3	0.40	0.35
Head spines length	0.55	0.40
Posterior lobe of pronotum discal spines length	0.75	0.65
Posterior lobe of pronotum humeral spines length	0.50	0.50
Distance between head spines	0.90	0.90
Distance between discal spines	1.45	1.25
Distance between discal/humeral spines	1.50	1.45

***Repipta lepidula* Stål**

Figs 2, 6, 11–13, Map 3

*Repipta lepidula*; Stål, 1866:296 [descr.], Brazil; Lethierry & Severin, 1896:181 [cat.]; Wygodzinsky, 1949:45 [cat.]; Maldonado, 1990:270 [cat.].

Redescription.—General coloration dark brown. Head: brown or dark brown in some specimens; if brown, interocular region, anteocular region, jugum, clypeus, gena, labrum, buccula, antennifer spines, and neck dark brown; if dark brown, interocular region covered by a band pattern, ocellar and postocular region ventrally brown, and bucculae ventrally brown; antenniferous tubercles pale; eyes not surpassing margins of head; antenna I–IV dark brown; rostrum I basally brown or dark brown and light brown toward apex in some specimens; II light brown or dark brown basally and light brown toward apex in some specimens; III brown. Pronotum: dark brown except

posterior margin of posterior lobe, this light brown, and posterior lobe spines, these brown; submedian carina beginning in anterior margin of posterior lobe and reaching middle of posterior lobe. Scutellum: principal body yellowish or light brown in some specimens; lateral edges with granulations; posterior process, yellowish, acuminate and flat. Pleura: light brown except meso-, and metapleuron in upper margin, these dark brown; pro-, meso-, and metasterna light brown or pale in some specimens. Legs: coxae and trochanters light brown, brown or dark brown in some specimens; femora brown; tibiae brown; tarsus brown or brown medially and dark brown apically in some specimens. Abdomen: connexival segments: brown; unarmed; urosternites light brown pigmented with white and with an irregular lateral brown band from connexivum across segments II–VIII (Fig. 6D). Macropterous form: brown, base light brown. Hemelytra: corium and clavus brown; hemelytron 0.92–1.00 mm longer than abdomen; membrane hyaline-brownish. Female genitalia: posterior view: as in (Fig. 11I). Gonocoxite VIII: without hairs (Fig. 12I), anterior fibula slightly curved, wide basally (Fig. 12I). Gonapophysis VIII: without hairs (Fig. 12I). Gonocoxite IX: ventrally with abundant thin hairs, wide basally (Fig. 13I).

**TABLE 12.** Selected measurements (mm.) of *Repipta lepidula* Stål.

	Female N=5	
	Min	Max
Total length	8.50	10.7
Head length	1.32	1.72
Head width	1.00	1.12
Anteocular region	0.48	0.56
Postocular region	0.36	0.40
Interocular region	0.40	0.44
Interocellar region	0.24	0.32
Pronotum length	1.76	2.04
Pronotum width	1.80	2.08
Scutellum length	0.50	0.65
Scutellum width	0.62	0.77
Scutellum posterior process length	0.25	0.30
Abdomen width	1.40	2.28
Eye length	0.44	0.60
Eye width	0.32	0.36
Eye height	0.56	0.64
Antennal segment 1	4.96	5.64
Antennal segment 2	1.20	1.52
Antennal segment 3	-	4.88
Antennal segment 4	-	-
Rostral segment 1	0.88	1.04
Rostral segment 2	0.68	0.80
Rostral segment 3	0.24	0.28
Head spines length	0.12	0.16
Posterior lobe of pronotum discal spines length	0.76	0.80
Posterior lobe of pronotum humeral spines length	0.24	0.24
Distance between head spines	0.40	0.44
Distance between discal spines	1.24	1.40
Distance between discal/humeral spines	-	1.36

**Distribution:** Brazil, Guadalupe, Peru.

**Material examined. Brazil:** 2 ♀ **Amazonas:** Río Cauaburi, [0°31'N–67°16'W], 23/01/1963, 24/II/1964, C. Lindenmann leg., **Peru:** 3 ♀ **Huánuco:** Panagua, Río Lullapichis, [3°52'S–73°13'W], 6–17/IV/2003, 28/IX–06/X/2000, E. Burmeister, E. Diller, T. Kothe & W. Sclang leg., (ZSM).

**Measurements.** As in Table 12.

**Remarks.** In the first record from Peru it superficially resembles *R. nigrospinosa* sp. nov., but can be differentiated by its unarmed connexivum and the lateral band pattern of abdomen.

### *Repipta mucosa* Champion

Figs 2, 6, Map 3

*Repipta mucosa*; Champion, 1899:271 [descr.], Panama; Readio, 1927:199 [cit.]; Wygodzinsky, 1949:45 [cat.]; Maldonado, 1990:270 [cat.].

Redescription.—General coloration brown and dark brown. Head: dark brown dorsally and brown laterally; antennifer spines dark brown; antenna I, II and IV dark brown almost black; I usually with a pale band pattern close to apex; III brown pigmented with yellow basally and in male thickened at base; rostrum I brown dorsally and dark brown ventrally; II brown with a red pigmented with brown line ventrally; III dark brown. Pronotum: anterior lobe dark brown with two brown spots, each one next to longitudinal sulcus; anterolateral angles and collar dark brown; posterior lobe brown with an irregular two broad longitudinal dark brown bands beginning in posterior margin of anterior lobe and ending in each discal spines. Scutellum: principal body dark brown pigmented with white; posterior process whitish, acute and flat. Pleura: propleura dark brown, meso-, and metapleura brown; prosterna brown; mesosterna dark brown and metasterna brown. Legs: coxae brown pigmented with yellow and brown basally; trochanters brown; fore-, and mid- femora brown; hind femora light brown; fore tibiae light brown basally to medially and brown apically; mid- tibiae light brown; hind tibiae light pigmented with brown; tarsus brown. Abdomen: connexival segments: light brown; unarmed; urosternites light brown not homogeneously pigmented with brown. Macropterous form: brown. Hemelytra: corium and clavus brown except basally, dark brown; hemelytron slightly longer than abdomen; membrane hyaline-brownish.

**Distribution:** Panama, USA.

**Material examined. USA:** 1 ♂ **Texas:** Hamlin, [32°53'N–100°07'W], (MSME).

**Remarks.** Images provided by (MSME). No visible traits taken from the original description by Champion (1899). It superficially resembles *R. nigrospinosa* sp. nov. and *R. spinosa*, but can be differentiated by the unarmed connexival segments.

### *Repipta nigronotata* Stål

Figs 3, 6, 8–10, 16, Map 4

*Zelus nigronotatus* Walker, 1873:133 [cat.].

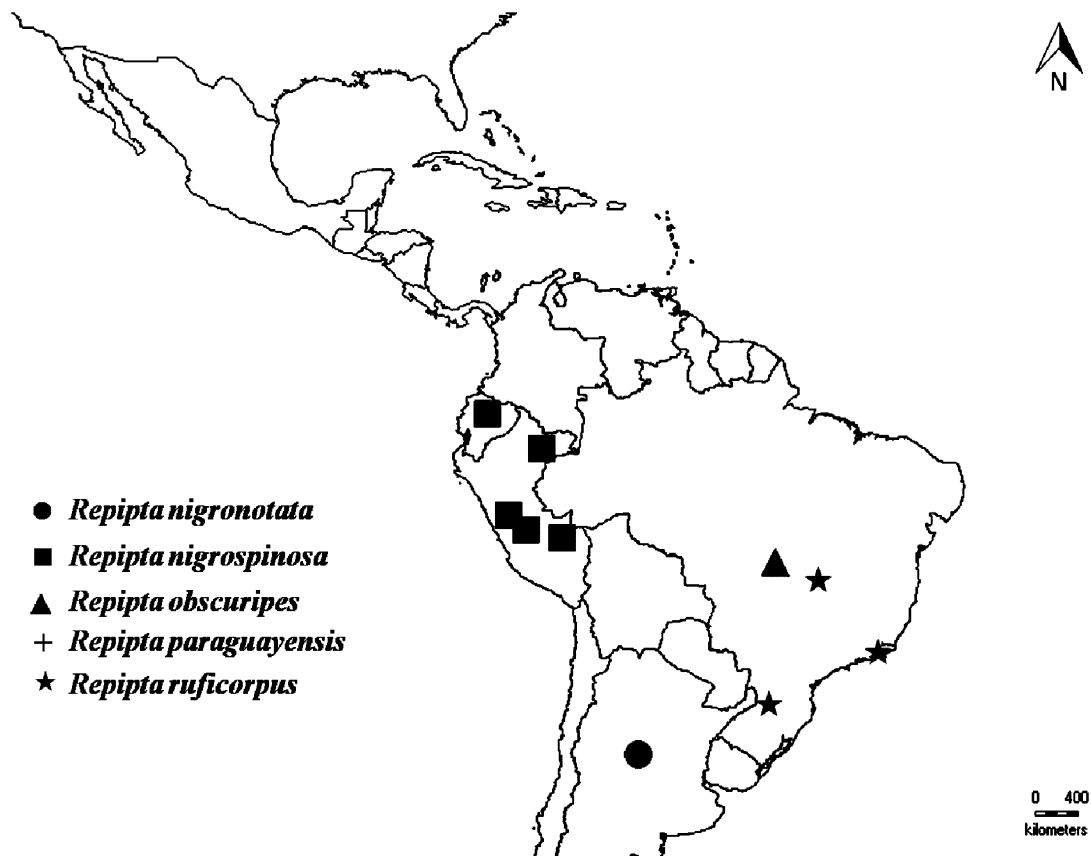
*Repipta nigronotata*; Stål, 1862a:447 [descr.], Guatemala, Mexico; Uhler, 1886:24 [cat.]; Lethierry & Severin, 1896:181 [cat.]; Osborn & Drake, 1915:531 [cit.]; Wygodzinsky, 1949:45 [cat.]; Maldonado, 1990:270 [cat.].

Redescription.—General coloration brown and light brown. Head: light brown except antenniferous tubercles, clypeus and antennifer spines, these brown; eyes not surpassing margins of head; antenna I brown with a yellowish band pattern close to apex; rostrum I, II and III brown. Pronotum: anterior lobe light brown with two broad longitudinal brown bands, each one next to longitudinal sulcus beginning at anterolateral angles and reaching anterior margin of posterior lobe; anterolateral angles and collar brown; submedian carina not clearly visible; posterior lobe brown, humeral spines and posterior margin lighter, with a middle narrow longitudinal light brown band beginning in posterior margin, across discal spines and ending near anterior margin; discal spines short (dentiform) (Fig. 16G), abundant short hairs. Scutellum: principal body brown, light brown above and laterally; posterior process light brown, moderately long, acute and flat. Pleura: light brown except mesopleuron, this brown from medially above, meso-, and metasterna brown. Legs: coxae and trochanters brown; fore femora brown with

two irregular light brown bands, medially and apically; mid- femora brown with two irregular, light brown bands: near medially; hind femora brown with three irregular light brown bands, basally, medially and apically; fore tibiae brown with three bands, these irregular and light brown, two bands close to base and one medially; mid- tibiae brown with two irregular, light brown bands, basally and near center; hind tibiae with three irregular light brown bands: basally, near base and medially; fore tarsus light brown; mid-, and hind tarsus light brown, claws darker. Abdomen: connexival segments: brown; unarmed; urosternites brown. Macropterous form: brown except margins, these dark brown. Hemelytra: corium and clavus brown; hemelytron 0.68 mm longer than abdomen; membrane hyaline-brownish. Male genitalia: Pygophore semicircular with 1 + 1 blunt projections laterally (Fig. 8G), longer than wide, distally with a few long hairs, median process developed, blunt, lateral median process slightly rounded (Fig. 8G), parameres: medium long, thin and straight, brown with short hairs ventrally (Fig. 9G). Phallus: articular apparatus long, quadrangular, basal plate bridge long and wide, pedicel very wide (Fig. 10G).

**TABLE 13.** Selected measurements (mm.) of *Repipta nigronotata* Stål.

	Male N=1
	Max
Total length	8.90
Head length	1.85
Head width	1.10
Anteocular region	0.65
Postocular region	0.45
Interocular region	0.50
Interocellar region	0.40
Pronotum length	1.60
Pronotum width	2.05
Scutellum length	0.52
Scutellum width	0.70
Scutellum posterior process length	0.27
Abdomen width	2.25
Eye length	0.45
Eye width	0.30
Eye height	0.50
Antennal segment 1	3.25
Antennal segment 2	-
Antennal segment 3	-
Antennal segment 4	-
Rostral segment 1	1.05
Rostral segment 2	0.95
Rostral segment 3	0.40
Head spines length	-
Posterior lobe of pronotum discal spines length	0.15
Posterior lobe of pronotum humeral spines length	0.15
Distance between head spines	-
Distance between discal spines	0.90
Distance between discal/humeral spines	0.95



MAP 4. Distribution of *R. nigronotata*, *R. nigrospinosa* sp. nov., *R. obscuripes*, *R. paraguayensis* sp. nov. and *R. ruficarpus* sp. nov.

**Distribution:** Argentina, Guatemala, Mexico.

**Material examined.** **Argentina:** 1 ♂ **Córdoba:** Alta Gracia, La Granja, [31°39'S–64°25'W], 27/I/1937, P. Wygodzinsky det. as *Reipta flavicans*, Biraben-Scott leg., (MLP).

**Measurements.** As in Table 13.

**Remarks.** The first record is from Argentina. A single South American specimen differs from Mexican and Central American specimens in having two longitudinal brown band patterns next to the longitudinal sulcus of the anterior lobe, and a narrow light brown band across the middle of the discal spines.

### *Reipta nigrospinosa* Martin-Park & Coscarón, sp. nov.

Figs 3, 6, 8–10, 16, Map 4

**Description.**—General coloration dark brown and brown. Head: dark brown, almost black; eyes not surpassing margins; antenna I and II dark brown; III and IV light brown, III thickened and reducing gradually toward apex in males; rostrum I dark brown basally and beyond medially, and light brown apically; II dark brown basally without reaching centre, and light brown apically; intersegmental line I and II light brown; III dark brown. Pronotum: dark brown, almost black; submedian carina from anterior margin of posterior lobe to less than half length of posterior lobe. Scutellum: principal body dark brown; posterior process dark brown or yellowish in some specimens, short, acuminate and flat. Pleura: dark brown, almost black; pro-, meso-, and metasterna dark brown, almost black. Legs: coxae and trochanters dark brown, almost black; fore femora dark brown, mid-, and hind femora brown, hind femora with a yellowish band pattern basally; fore tibiae dark brown with two yellowish band patterns: basally and medially; mid- and hind tibiae variable in coloration pattern: first variety, brown with a yellowish band basally; second variety, brown with two yellowish or light brown bands, basally and medially in some specimens; third variety, brown with three bands, basally, medially and apically (this broader, reaching less than half of tibiae); tarsus brown basally and dark brown toward apex or entire dark brown in some specimens. Abdomen: connexival segments: yellowish; segments III–VI armed with a short dark brown or yellowish spines at their outer apical

angles, being spine VI longer than basal spines (Fig. 16E); urosternites brown except superior margin to connexivum, this red or light brown in some specimens. Macropterous form: brown. Hemelytra: corium and clavus brown; hemelytron 0.12–0.28 mm, as long as abdomen or slightly shorter; membrane hyaline-brownish. Male genitalia: pygophore: subquadrangular, longer than wide, median process developed, rounded-acute (Fig. 8H), parameres: short, curved (Fig. 9H). Phallus: articulatory apparatus medium long, quadrangular and narrow, basal plates bridge short and thin, pedicel wide (Fig. 10H).

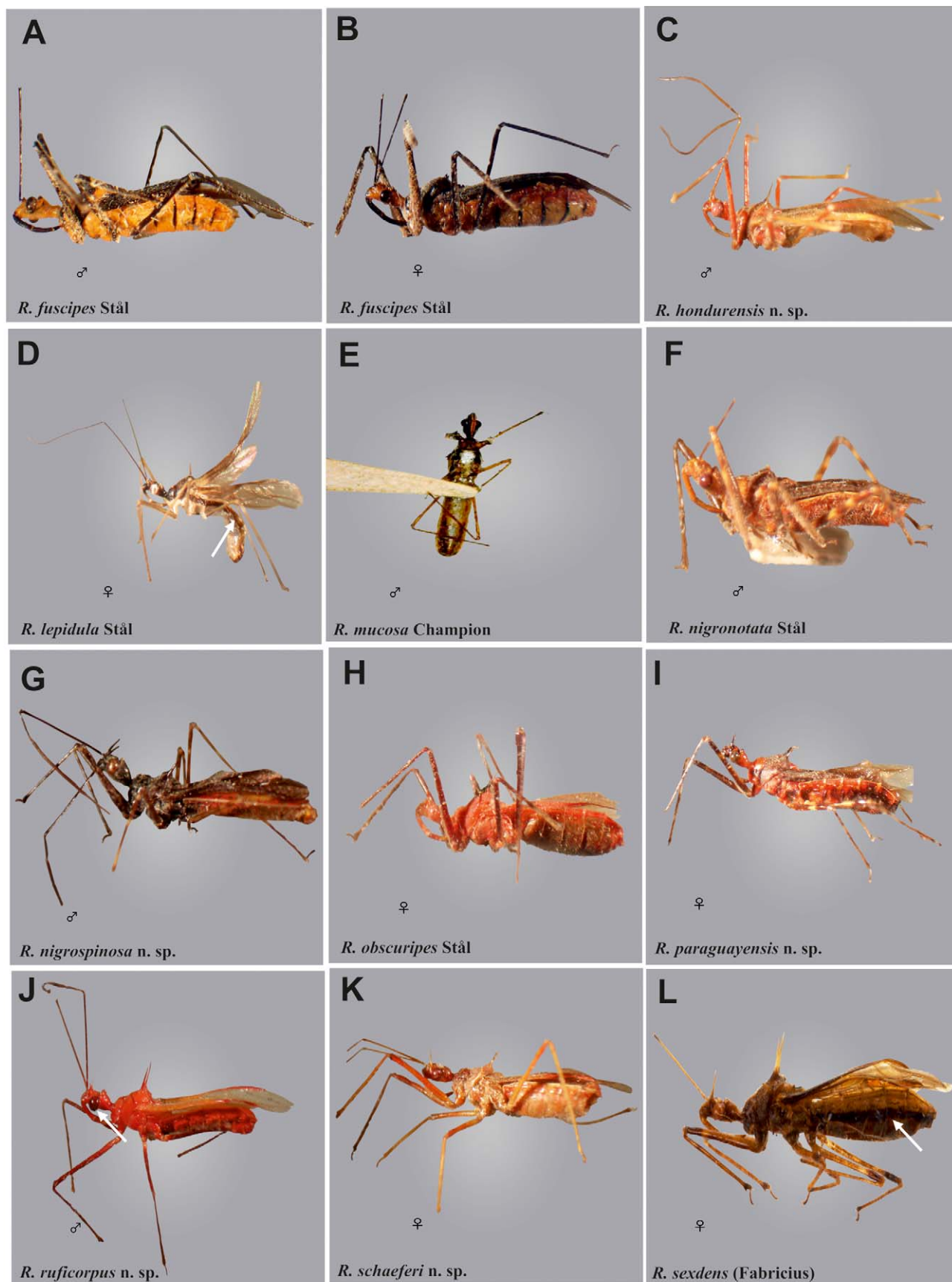
**Distribution:** Ecuador, Peru.

**Material examined. HOLOTYPE**, 1 ♂ **Ecuador: Napo**, [0°44'S–78°06'W], 07/III/1983, L. Huggert leg. **PARATYPES**, 1 ♂ **Peru: Satipo**, [11°15'S–74°38'W], 24/I/1984, L. Huggert leg., (MZLU); 1 ♂ **Huánuco**, [9°55'S–76°13'W], 17/VI/2003, T. Kothe leg.; 2 ♂ **Huánuco: Panagua, Río Llullapichis**, [3°52'S–73°13'W], 06/10/2000, 17/IV/2003, T. Kothe, G. Riedel leg., (ZSM).

**Measurements.** As in Table 14.

**TABLE 14.** Selected measurements (mm.) of *Repipta nigrospinosa* Martin-Park & Coscarón, sp. nov.

	Male (Holotype) N=1		Male N=3	
	Max	Min	Max	Min
Total length	8.10	7.50	8.30	7.50
Head length	1.50	1.35	1.50	1.35
Head width	1.00	0.90	1.00	0.90
Anteocular region	0.40	0.40	0.40	0.40
Postocular region	0.45	0.45	0.55	0.45
Interocular region	0.50	0.45	0.50	0.45
Interocellar region	0.40	0.35	0.45	0.35
Pronotum length	1.75	1.65	1.75	1.65
Pronotum width	1.65	1.45	1.60	1.45
Scutellum length	0.30	0.30	0.42	0.30
Scutellum width	0.40	0.40	0.47	0.40
Scutellum posterior process length	0.22	0.20	0.27	0.20
Abdomen width	1.32	1.32	1.44	1.32
Eye length	0.48	0.44	0.48	0.44
Eye width	0.28	0.24	0.36	0.24
Eye height	0.48	0.48	0.56	0.48
Antennal segment 1	3.64	3.64	4.16	3.64
Antennal segment 2	1.00	0.84	1.00	0.84
Antennal segment 3	-	4.04	4.68	4.04
Antennal segment 4	-	-	1.80	-
Rostral segment 1	0.88	0.88	0.96	0.88
Rostral segment 2	0.64	0.64	0.72	0.64
Rostral segment 3	0.32	0.28	0.32	0.28
Head spines length	0.80	0.68	0.88	0.68
Posterior lobe of pronotum discal spines length	0.96	0.88	0.96	0.88
Posterior lobe of pronotum humeral spines length	0.56	0.40	0.56	0.40
Distance between head spines	0.68	0.68	1.04	0.68
Distance between discal spines	1.20	0.80	1.08	0.80
Distance between discal/humeral spines	1.48	1.16	1.48	1.16



**FIGURE 6.** Lateral aspect (A–D, F–L). A–B, *R. fuscipes* Stål, male (left) and female (right), C, *R. hondurensis* sp. nov., D, *R. lepidula* Stål. Ventral aspect. E, *R. mucosa* Champion, F, *R. nigronotata* Stål, G, *R. nigrospinosa* sp. nov., H, *R. obscuripes* Stål, I, *R. paraguayensis* sp. nov., J, *R. ruficorpus* sp. nov., K, *R. schaeferi* sp. nov., L, *R. sexdens* (Fabricius). Arrows refer to character under descriptions/redescriptions.



**Remarks.** It superficially resembles *R. lepidula*, *R. mucosa*, and *R. spinosa* but can be differentiated from *R. spinosa* and *R. mucosa* by connexivum armed with short spines in segments III–VI; and from *R. lepidula* by the lateral band pattern of the abdomen.

**Etymology.** Named for general dark brown to black body coloration and connexival spines in segments III–VI.

### *Repipta obscuripes* Stål

Figs 3, 6, 11–13, Map 4

*Zelus obscuripes* Stål, 1860:77 [descr.], Brazil.

*Repipta obscuripes*; Stål, 1862b:61 [cit.]; Lethierry & Severin, 1896:181 [cat.]; Wygodzinsky, 1949:45 [cat.]; Maldonado, 1990:270 [cat.].

Redescription.—General coloration red and dark brown. Head: red; eyes not surpassing margins of head; rostrum I red with a yellowish ventral line; II red basally and brown distally; III brown; II and III with a ventral brown line. Pronotum: red except anterolateral angles and collar, these red pigmented with light brown; submedian carina reaching less than half length of posterior lobe; posterior lobe spines dark brown. Scutellum: red; posterior process medium long, acuminate and flat. Pleura: red; pro-, meso-, and metasterna red. Legs: coxae and trochanters red pigmented with yellow; femora dark brown; tibiae dark brown; tarsus brown. Abdomen: connexival segments: red; unarmed; urosternites red pigmented with brown ventrally, intersegmental lines lighter. Macropterous form: red. Hemelytra: corium and clavus; membrane hyaline-brownish. Female genitalia: posterior view: as in (Fig. 11J). Gonocoxite VIII: sparse thin hairs (Fig. 12J), anterior fibula slightly curved, wide basally (Fig. 12J). Gonapophysis VIII: without hairs (Fig. 12J). Gonocoxite IX: distally with sparse thin hairs and ventrally with abundant thin and thick hairs, slightly wide basally (Fig. 13J).

**Distribution:** Brazil.

**Material examined. Brazil:** 1 ♀ [14°01'S–50°58'W], J. Maldonado det., (FMNH).

**Measurements.** As in Table 15.

**Remarks.** This species resembles *R. coccinea* but can be differentiated by the dark brown color of the mid-, and hind femora, dark brown discal and humeral spines, a narrower abdomen, and genitalia traits.

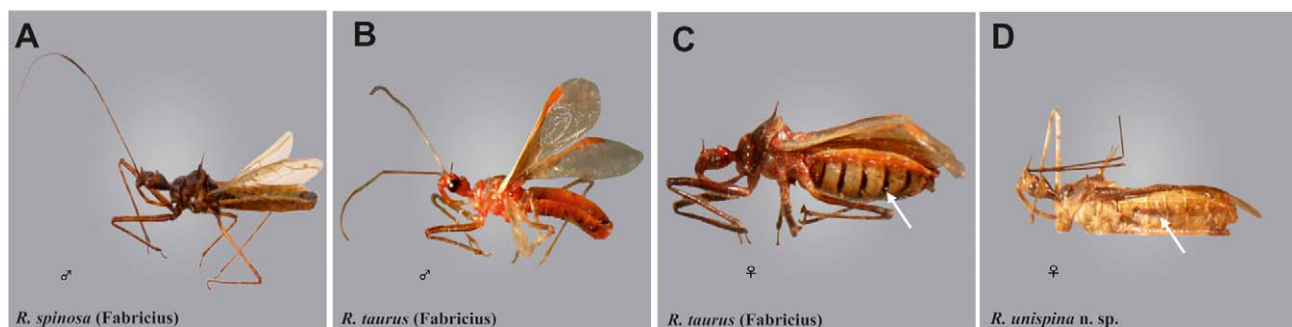
### *Repipta paraguayensis* Martin-Park & Coscarón, sp. nov.

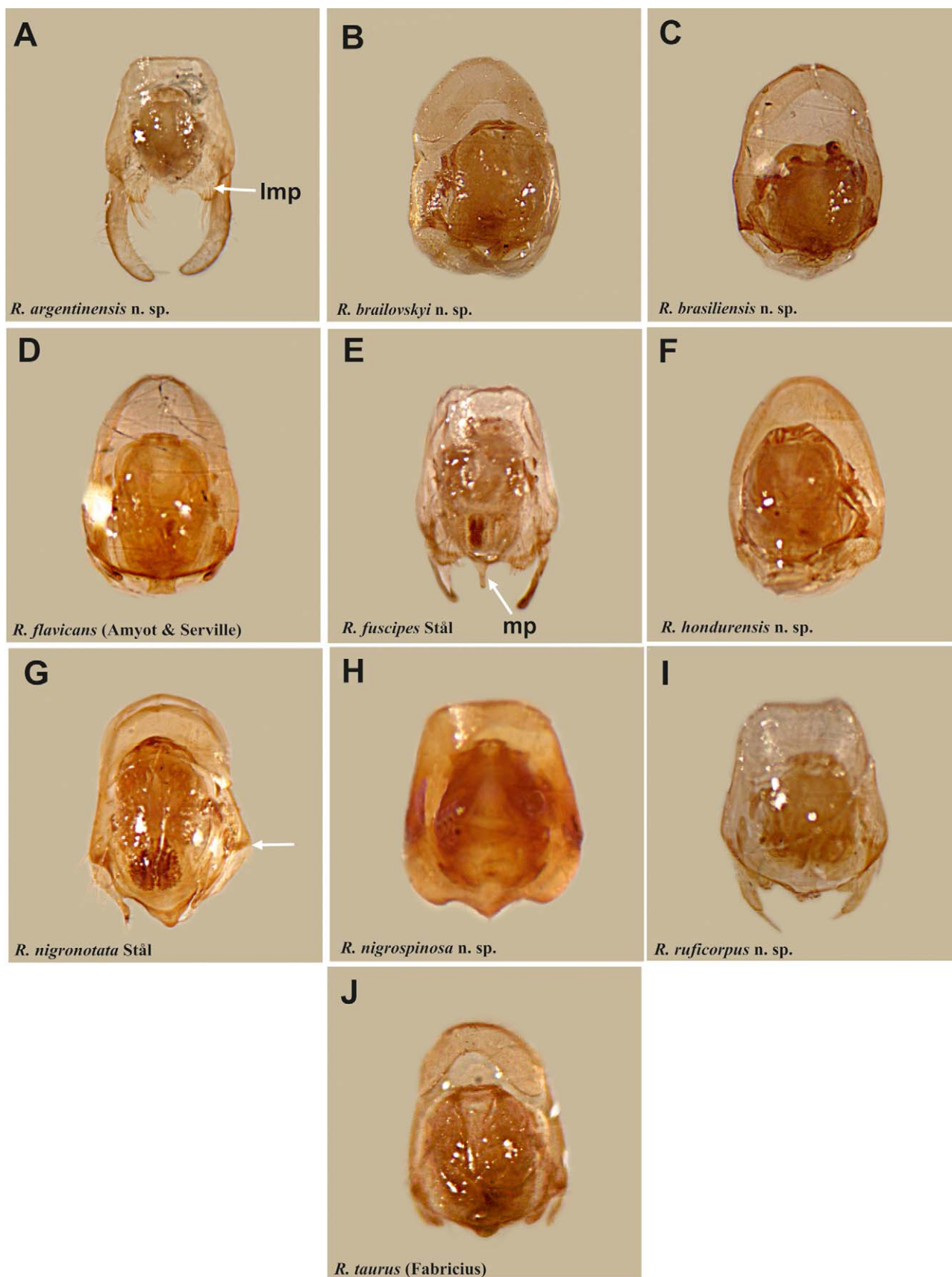
Figs 3, 6, 11–13, Map 4

Description.—General coloration dark brown, almost black and red. Head: red except clypeus, gena, jugum, labrum, buccula, antecular region, interocular suture, ocellar tubercles and most of interocular region and antennifer spines, these dark brown; eyes not surpassing margins of head; rostrum I red pigmented with dark brown; II brown and dark brown; III dark brown. Pronotum: anterior lobe, anterolateral angles and collar red; submedian carina reaching less than half length of posterior lobe; posterior lobe dark brown with a red pigmented with a brown narrow band pattern beginning in anterior margin, passing through middle of discal spines and ending in posterior margin (Fig. 3D). Scutellum: red; posterior process short, acuminate and flat. Pleura: propleuron red, brown medially; mesopleuron red with a vertical dark brown spot near posterior margin; metapleuron, superior margin to middle red and dark brown to inferior margin; prosterna red; mesosterna brown with two red lines; metasterna dark brown. Legs: coxae and trochanters red, fore femora brown with a light brown fringe basally to medially, and light brown band pattern near center; mid- femora brown with a light brown band pattern slightly beyond middle; hind femora brown with two light brown bands, basally and close to apex; tibiae brown with a light brown band near middle; tarsus brown basally and dark brown toward apex. Abdomen: connexival segments: red except segments VII and VIII, these with dark brown irregular spots; segments III–VI armed with short light brown spines at their outer apical angles; urosternites red not homogeneously pigmented with dark brown, almost black. Macropterous form: dark brown. Hemelytra: corium and clavus dark brown; hemelytron 0.88 mm longer than abdomen; membrane hyaline-brownish. Female genitalia: posterior view: as in (Fig. 11L). Gonocoxite VIII: without hairs, with a brown subquadrangular spot (Fig. 12L), anterior fibula curved (Fig. 12L). Gonapophysis VIII: with sparse thin hairs (Fig. 12L). Gonocoxite IX: distally and ventrally with abundant thin hairs, wide basally with two brown spots (Fig. 13L).

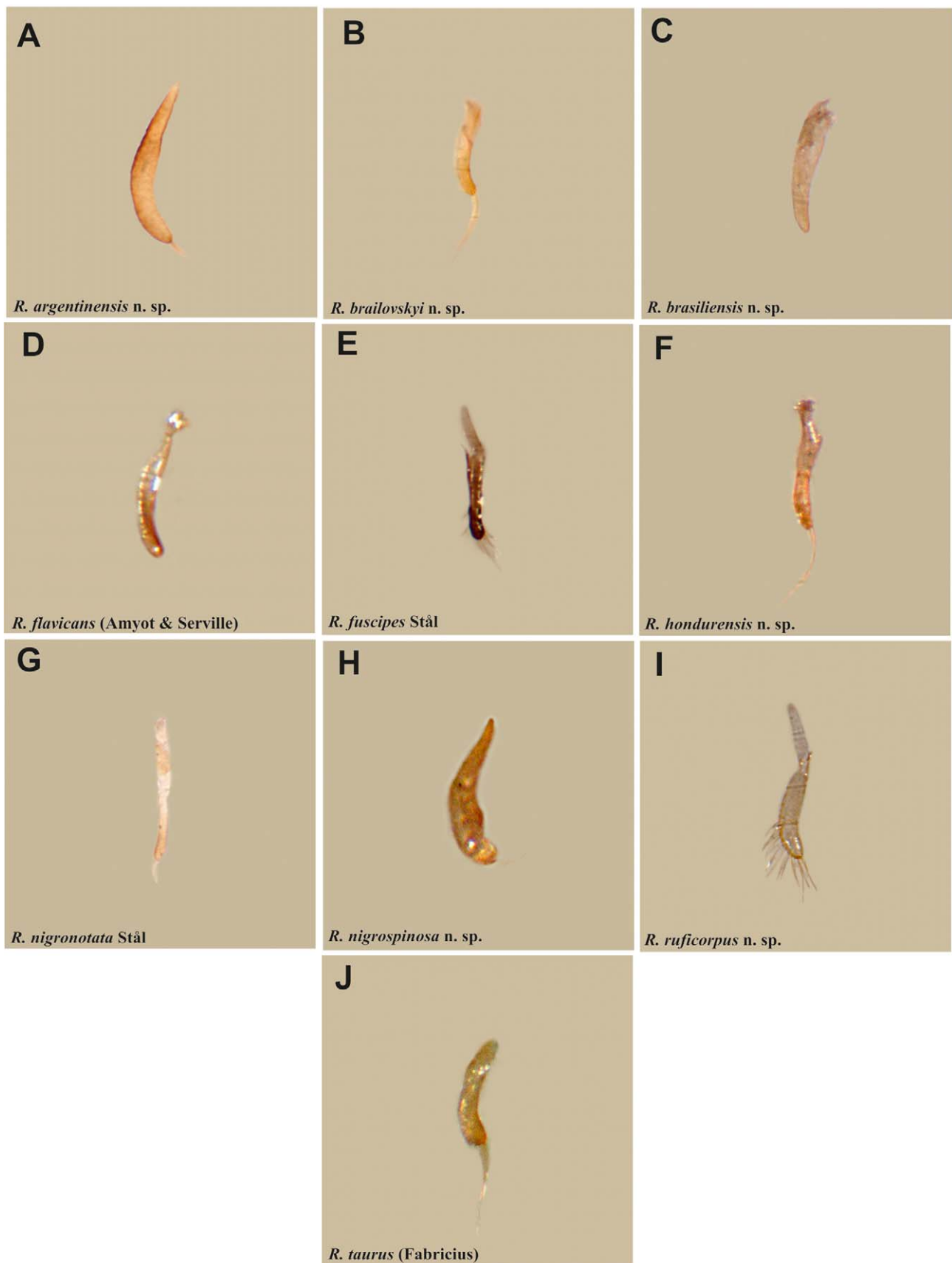
**TABLE 15.** Selected measurements (mm.) of *Repipta obscuripes* Stål.

	Female N=1
	Max
Total length	12.5
Head length	2.25
Head width	1.25
Anteocular region	0.80
Postocular region	0.55
Interocular region	0.60
Interocellar region	0.35
Pronotum length	2.40
Pronotum width	2.70
Scutellum length	0.90
Scutellum width	0.95
Scutellum posterior process length	0.40
Abdomen width	3.15
Eye length	0.45
Eye width	0.35
Eye height	0.60
Antennal segment 1	-
Antennal segment 2	-
Antennal segment 3	-
Antennal segment 4	-
Rostral segment 1	1.30
Rostral segment 2	1.05
Rostral segment 3	0.45
Head spines length	0.50
Posterior lobe of pronotum discal spines length	0.90
Posterior lobe of pronotum humeral spines length	-
Distance between head spines	1.00
Distance between discal spines	1.45
Distance between discal/humeral spines	1.30

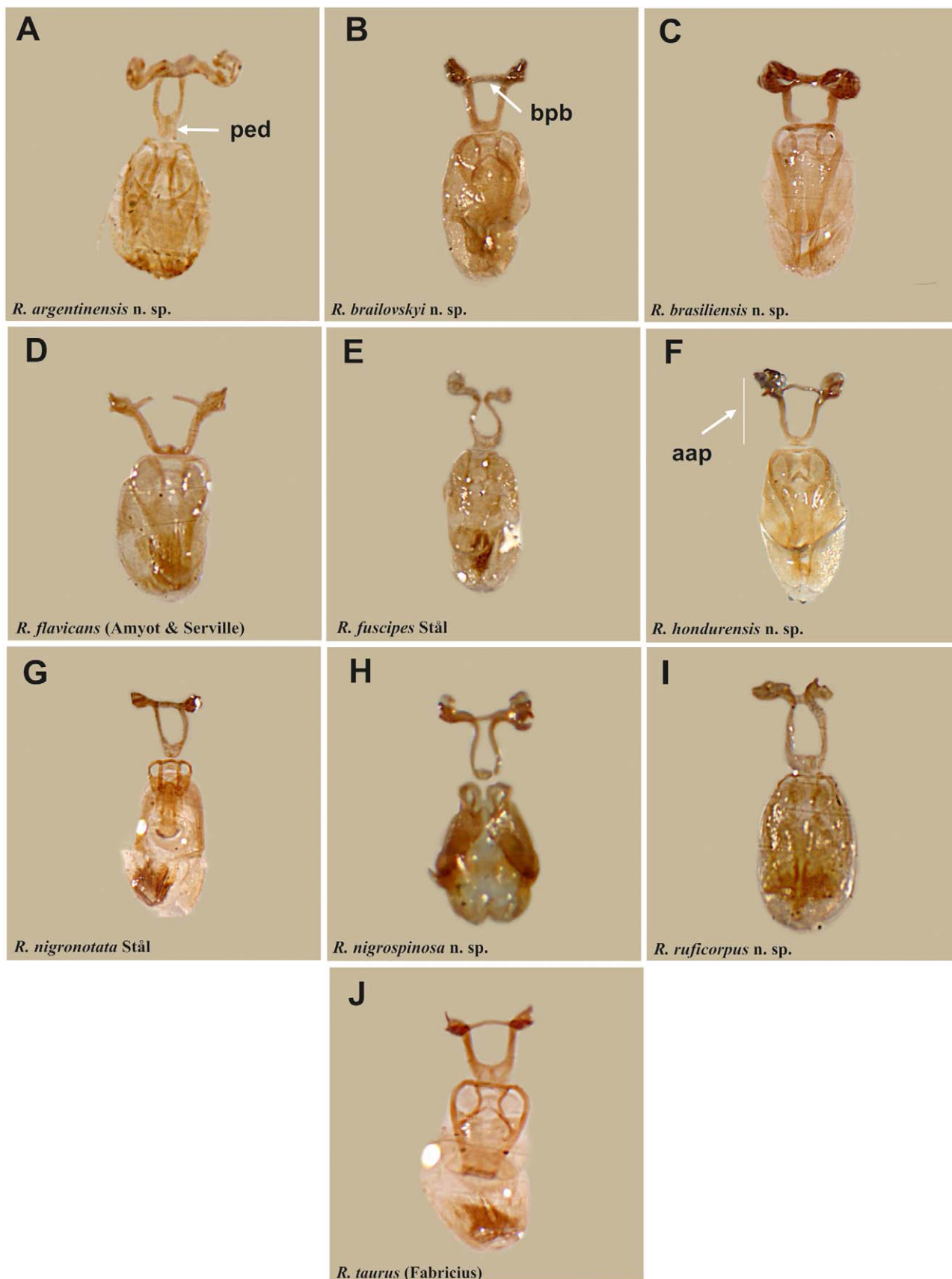
**FIGURE 7.** Lateral aspect. A, *R. spinosa* (Fabricius), B–C, *R. taurus* (Fabricius), male (left) and female (right), F, *R. unispina* sp. nov. Arrows refer to character under descriptions/redescriptions.



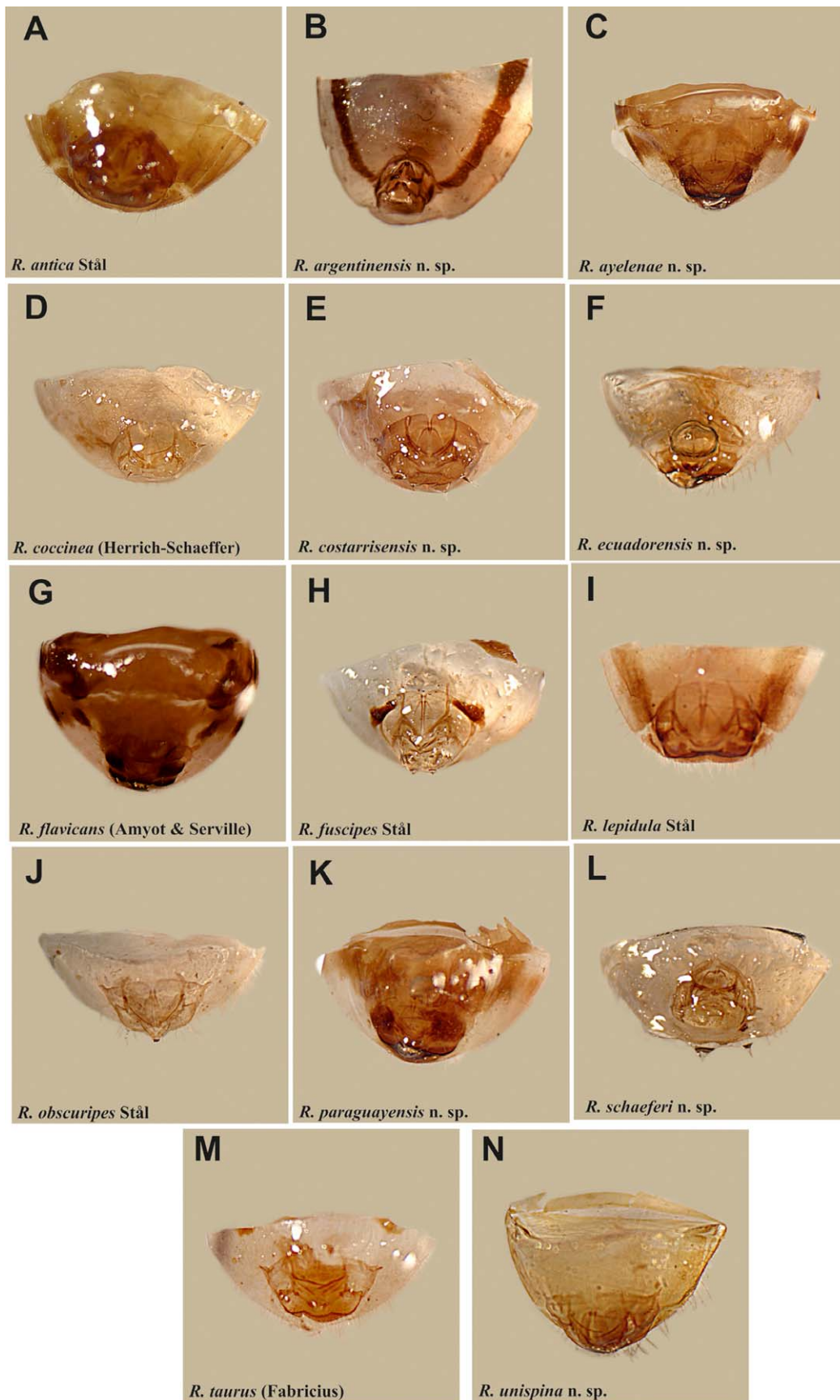
**FIGURE 8.** General aspect pygophore of males. A, *R. argentinensis* sp. nov., B, *R. brailovskyi* sp. nov., C, *R. brasiliensis* sp. nov., D, *R. flavicans* Amyot & Serville, E, *R. fuscipes* Stål, F, *R. hondurensis* sp. nov., G, *R. nigronotata* Stål, H, *R. nigrospinosa* sp. nov., I, *R. ruficarpus* sp. nov., J, *R. taurus* (Fabricius). Arrows and abbreviation refer to character under descriptions/redescriptions.



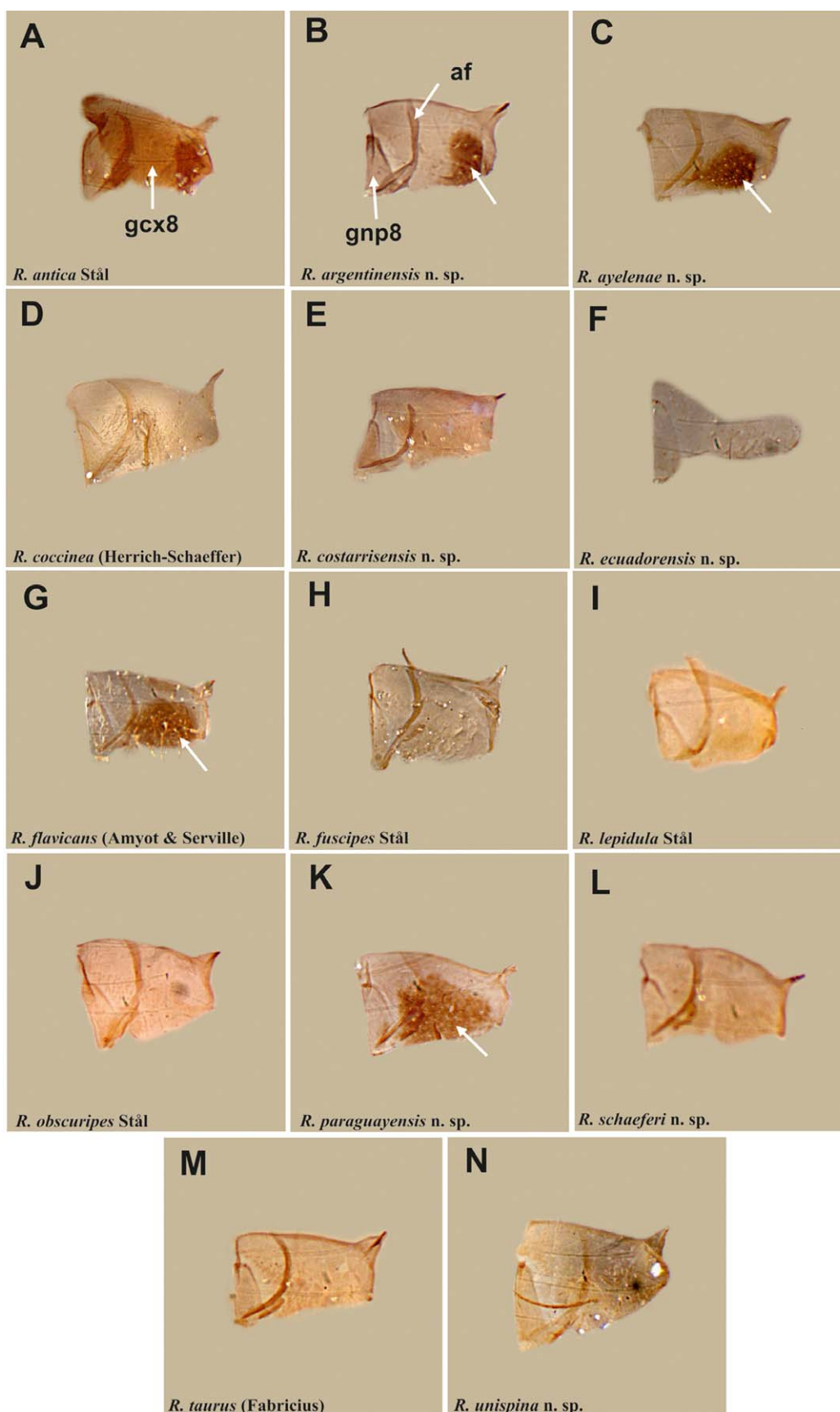
**FIGURE 9.** Paramers of males. A, *R. argentinensis* sp. nov., B, *R. brailovskyi* sp. nov., C, *R. brasiliensis* sp. nov., D, *R. flavicans* Amyot & Serville, E, *R. fuscipes* Stål, F, *R. hondurensis* sp. nov., G, *R. nigronotata* Stål H, *R. nigrospinosa* sp. nov., I, *R. ruficorpus* sp. nov., J, *R. taurus* (Fabricius).



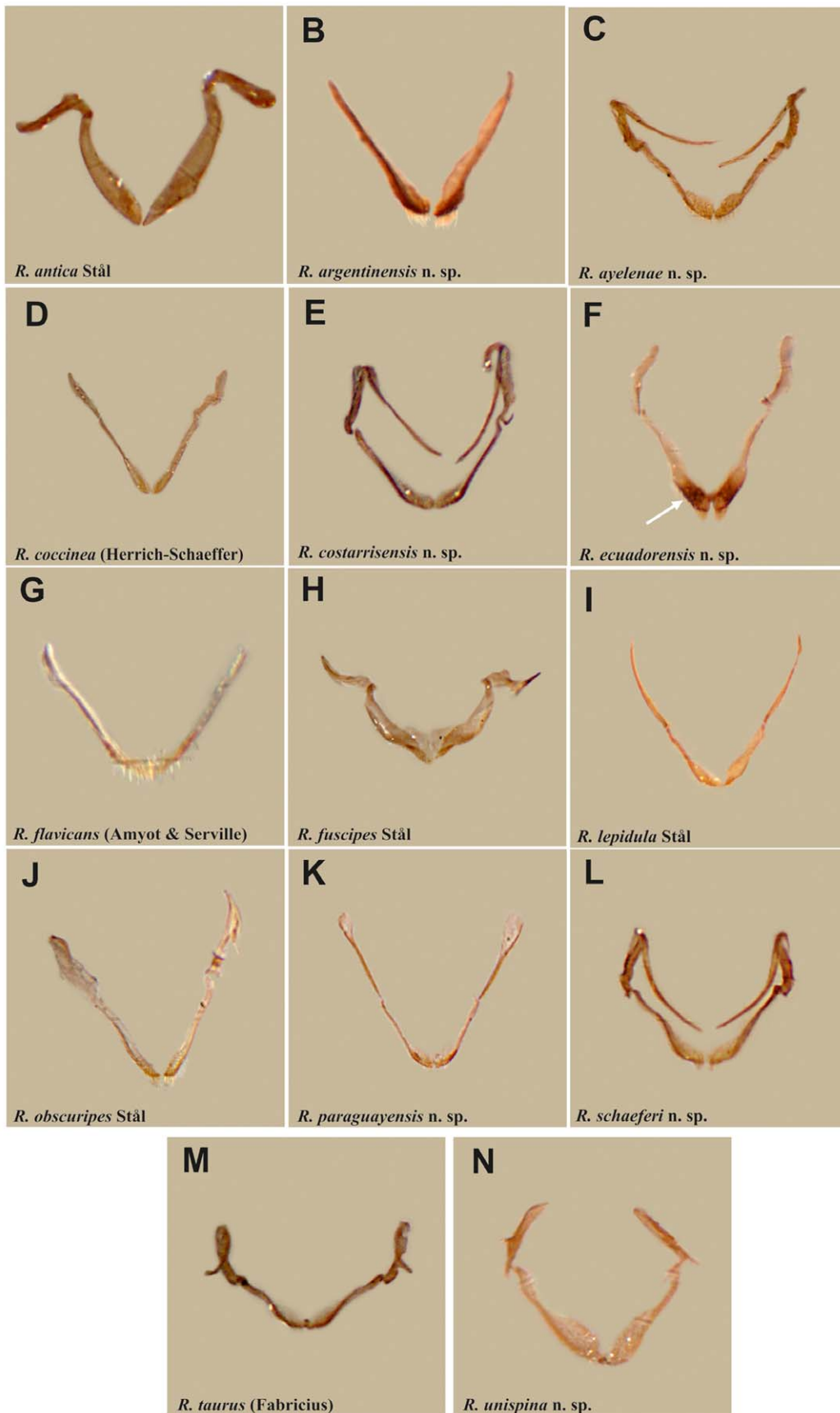
**FIGURE 10.** Phallus of males. A, *R. argentinensis* sp. nov., B, *R. brailovskyi* sp. nov., C, *R. brasiliensis* sp. nov., D, *R. flavicans* Amyot & Serville, E, *R. fuscipes* Stål, F, *R. hondurensis* sp. nov., G, *R. nigronotata* Stål, H, *R. nigrospinosa* sp. nov., I, *R. ruficarpus* sp. nov., J, *R. taurus* (Fabricius). Arrows and abbreviation refer to character under descriptions/redescriptions.



**FIGURE 11.** General aspect female genitalia. A, *R. antica* Stål, B, *R. argentinensis* sp. nov., C, *R. ayelenae* sp. nov., D, *R. coccinea* (Herrich-Schaeffer), E, *R. costarrisensis* sp. nov., F, *R. ecuadorensis* sp. nov., G, *R. flavicans* Amyot & Serville, H, *R. fuscipes* Stål, I, *R. lepidula* Stål, J, *R. obscuripes* Stål, K, *R. paraguayensis* sp. nov., L, *R. schaeferi* sp. nov., M, *R. taurus* (Fabricius), N, *R. unispina* sp. nov.

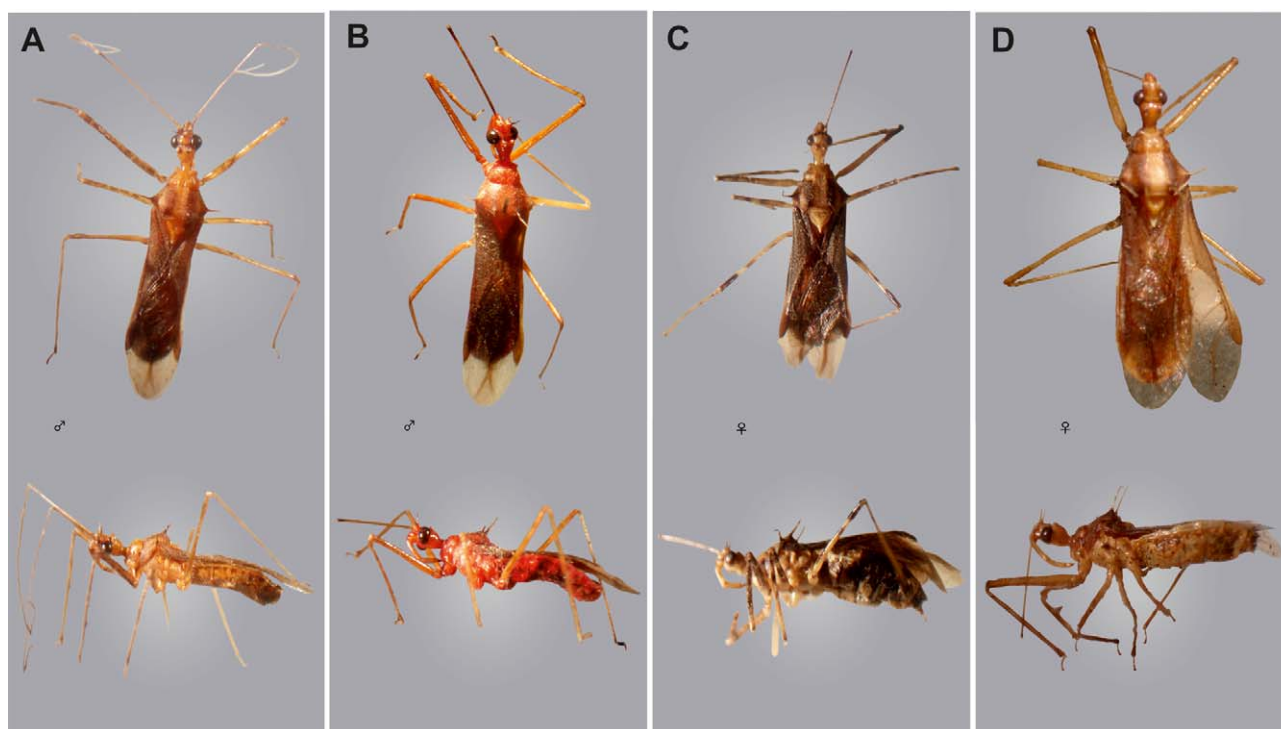


**FIGURE 12.** Gonocoxite and gonapophysis VIII. . A, *R. antica* Stål, B, *R. argentinensis* sp. nov., C, *R. ayelenae* sp. nov., D, *R. coccinea* (Herrich-Schaeffer), E, *R. costarrisensis* sp. nov., F, *R. ecuadorensis* sp. nov., G, *R. flavicans* Amyot & Serville, H, *R. fuscipes* Stål, I, *R. lepidula* Stål, J, *R. obscuripes* Stål, K, *R. paraguayensis* sp. nov., L, *R. schaeferi* sp. nov., M, *R. taurus* (Fabricius), N, *R. unispina* sp. nov. Arrows and abbreviation refer to character under descriptions/redescriptions.



**FIGURE 13.** Gonocoxite IX. A, *R. antica* Stål, B, *R. argentinensis* sp. nov., C, *R. ayelenae* sp. nov., D, *R. coccinea* (Herrich-Schaeffer), E, *R. costarrisensis* sp. nov., F, *R. ecuadorensis* sp. nov., G, *R. flavicans* Amyot & Serville, H, *R. fuscipes* Stål, I, *R. lepidula* Stål, J, *R. obscuripes* Stål, K, *R. paraguayensis* sp. nov., L, *R. schaeferi* sp. nov., M, *R. taurus* (Fabricius), N, *R. unispina* sp. nov. Arrows refer to character under descriptions/redescriptions.





**FIGURE 14.** Variability coloration and shape body in members of *R. flavicans*. A and B, are examples of specimens in which color varies from Paraguay, C, specimen with darkness coloration from Argentina and D, specimen armed with spines in the connexival segments from Colombia.

**Distribution:** Paraguay.

**Material examined.** HOLOTYPE, 1 ♀ Paraguay: Itapúa, Hohenau, [27°04'S–55°38'W], (ZSM).

**Measurements.** As in Table 16.

**Remarks.** It superficially resembles *R. ayelenae* sp. nov., but can be differentiated by its dark brown anteocular region, dark brown mid-, and hind femora with two bands at the base and near its apex, narrower pronotum and abdomen, connexival segments III–VI armed with spines, and genitalia traits.

**Etymology.** Named for its distribution in Paraguay.

***Repipta ruficorpus* Martin-Park & Coscarón, sp. nov.**

Figs 3, 6, 8–10, Map 4

**Description.**—General coloration red, brown and light brown. Head: red except labrum, anteclypeus and gena, these brown or yellowish in some specimens; eyes surpassing inferior margin (Fig. 6J); antenna I and II brown; III dark brown, thickened basally and reduced gradually toward apex; rostrum I red, intersegmental line brown; II red basally and light brown distally or completely brown in some specimens; III light brown, all with a ventral longitudinal brown line. Pronotum: anterior and posterior lobe red or red pigmented with brown in some specimens; anterolateral angles and collar red or brown in some specimens; submedian carina reaching less than half length of posterior lobe. Scutellum: principal body and posterior process red, brown or yellowish in some specimens; posterior process acuminate and flat. Pleura: red or red with yellow in some specimens; pro-, meso-, and metasterna red or brown in some specimens. Legs: coxae red, intersegmental line brown or pale, trochanters red, fore femora red basally and brown toward apex; mid- femora red or brown in some specimens; hind femora red, brown or dark brown in some specimens (if dark brown, apex red-colored); fore-, and mid- tibiae brown or yellowish in some specimens (if yellowish, apex red-colored), hind tibiae yellowish, brown or dark brown in some specimens (in latter case, apically red); tarsus light brown or brown in some specimens. Abdomen: connexival segments and urosternites: red, red pigmented with brown or yellow in some specimens; unarmed. Macropterous form: red or brown in some specimens. Hemelytra: corium and clavus red or light brown basally and distally red

before membrane in some specimens; hemelytron 2.28–2.88 mm longer than abdomen; membrane hyaline. Male genitalia: pygophore: subglobose, slightly longer than wide, median process developed acute, lateral median process acute reaching middle of median process (Fig. 8I), parameres: medium long, thick and curved with abundant long hairs ventrally and externally (Fig. 9I). Phallus: articulatory apparatus, long, quadrangular, basal plate bridge short and wide, pedicel very wide (Fig. 10I).

**TABLE 16.** Selected measurements (mm.) of *Repipta paraguayensis* Martin-Park & Coscarón, sp. nov.

	Female (Holotype) N=1
	Max
Total length	11.7
Head length	1.96
Head width	1.24
Anteocular region	0.56
Postocular region	0.44
Interocular region	0.56
Interocellar region	0.36
Pronotum length	2.36
Pronotum width	2.32
Scutellum length	0.42
Scutellum width	0.62
Scutellum posterior process length	0.27
Abdomen width	2.20
Eye length	0.72
Eye width	0.36
Eye height	0.60
Antennal segment 1	-
Antennal segment 2	-
Antennal segment 3	-
Antennal segment 4	-
Rostral segment 1	1.20
Rostral segment 2	0.84
Rostral segment 3	0.40
Head spines length	0.60
Posterior lobe of pronotum discal spines length	0.88
Posterior lobe of pronotum humeral spines length	0.76
Distance between head spines	1.00
Distance between discal spines	-
Distance between discal/humeral spines	1.44

**Distribution:** Brazil.

**Material examined. HOLOTYPE**, 1 ♂ **Brazil: Santa Catarina:** Nova Teutonia, [27°03'S–52°24'W], 01/XII/1938, Froeschner det. as *Repipta* sp., F. Plaumann leg. (FMNH). **PARATYPES**, 1 ♂ **Brasilia**, [15°46'S–47°55'W], (ZSM); 1 ♂ **Río de Janeiro:** Nova Friburgo, [22°17'S–42°32'W], J. Maldonado det. as *Repipta obscuripes*, F. Sahlberg leg., (FMNH).

**Measurements.** As in Table 17.

TABLE 17. Selected measurements (mm.) of *Repipta ruficorpus* Martin-Park & Coscarón, sp. nov.

	Male(Holotype) N=1	Male N=2	
	Max	Min	Max
Total length	14.1	13.4	14.1
Head length	2.30	2.10	2.30
Head width	1.60	1.55	1.60
Anteocular region	0.65	0.55	0.65
Postocular region	0.50	0.45	0.50
Interocular region	0.55	0.55	0.55
Interocellar region	0.35	0.35	0.40
Pronotum length	2.35	2.30	2.35
Pronotum width	2.60	2.60	2.65
Scutellum length	0.70	0.70	0.80
Scutellum width	1.00	0.90	1.00
Scutellum posterior process length	0.20	0.20	0.25
Abdomen width	2.45	1.75	2.45
Eye length	0.70	0.65	0.70
Eye width	0.55	0.50	0.55
Eye height	0.80	0.80	0.85
Antennal segment 1	5.00	5.00	5.00
Antennal segment 2	-	-	1.25
Antennal segment 3	-	-	-
Antennal segment 4	-	-	-
Rostral segment 1	1.20	1.10	1.25
Rostral segment 2	0.75	0.75	0.95
Rostral segment 3	0.50	0.50	0.50
Head spines length	0.25	0.25	0.40
Posterior lobe of pronotum discal spines length	0.40	0.95	1.20
Posterior lobe of pronotum humeral spines length	0.35	0.35	0.90
Distance between head spines	0.70	0.70	0.75
Distance between discal spines	1.45	1.45	1.60
Distance between discal/humeral spines	1.40	1.40	1.95

**Remarks.** It superficially resembles *R. coccinea* and *R. obscuripes* but can be differentiated by its slender body, red coloration of entire body, and genitalia traits.

**Etymology.** Named for its red body coloration.

***Repipta schaeferi* Martin-Park & Coscarón, sp. nov.**

Figs 3, 6, 11–13, 16, Map 5

Description.—General coloration brown, light brown and red. Head: red pigmented with light brown except antennifer spines, these light brown; eyes not surpassing margins of head; antenna I and II light brown; rostrum I brown pigmented with red; II light brown; III brown. Pronotum: anterior lobe laterally, anterolateral angles and collar red pigmented with brown, and medially with a light brown band pattern; submedian carina not clearly

visible; posterior lobe red pigmented with light brown. Scutellum: light brown pigmented with red; posterior process short, acute and flat. Pleura: red pigmented with light brown; pro-, meso-, and metasterna red pigmented with light brown. Legs: coxae and trochanters red pigmented with light brown, femora light brown basally and beyond middle, red pigmented with light brown apically; tibiae light brown, apically red pigmented with light brown; tarsus brown. Abdomen: connexival segments: red; unarmed; urosternites red pigmented with light brown. Macropterous form: brown pigmented with red. Hemelytra: corium and clavus brown basally to middle, and red apically; hemelytron 1.72 mm longer than abdomen; membrane hyaline-brownish. Female genitalia: posterior view: as in (Fig. 11L). Gonocoxite VIII: without hairs (Fig. 12L), anterior fibula curved wide proximally (Fig. 12L). Gonapophysis VIII: ventrally with abundant thin hairs (Fig. 12L). Gonocoxite IX: ventrally with abundant thin hairs, slightly wide basally (Fig. 13L).

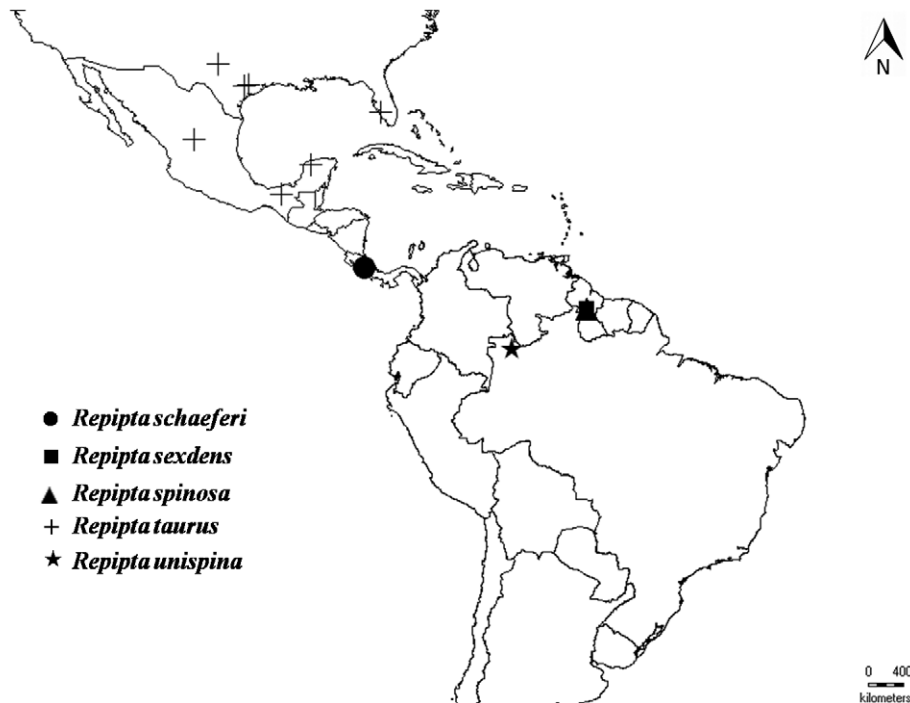
**Distribution:** Costa Rica.

**Material examined.** HOLOTYPE, 1 ♀ **Costa Rica:** Cordillera de Talamanca, [9°30'N–83°40'W], Bovallius leg., (SMNH).

**Measurements.** As in Table 18.

**Remarks.** It superficially resembles *R. flavicans* and *R. brasiliensis* sp. nov., but can be differentiated by the lack of bands in the coloration pattern of pronotum, and genitalia traits.

**Etymology.** Named for Dr. Carl Schaefer, in honor of his contributions to the study of Heteroptera.



MAP 5. Distribution of *R. schaeferi* sp. nov., *R. sexdens*, *R. spinosa*, *R. taurus* and *R. unispina* sp. nov.

### *Reipta sexdens* (Fabricius)

Figs 3, 6, Map 5

*Zelus sexdens* Fabricius, 1803:287 [descr.], Guyana.

*Corcia sexdens*: Stål, 1872:86 [cit.]. In error.

*Reipta sexdens*; Stål, 1868:102 [descr.]; Wygodzinsky, 1949:45 [cat.]; Maldonado, 1990:270 [cat.].

Redescription.—General coloration brown and light brown. Head: brown except clypeus, gena, buccula and postocular region, these dark brown laterally in some specimens; antennifer spines light brown; eyes not surpassing margins of head; antenna I and II brown except apically, this darker; III and IV brown, intersegmental joint yellowish; rostrum I and II light brown; III brown. Pronotum: brown with a broad middle longitudinal light brown band beginning in collar and ending in posterior margin of posterior lobe; anterior lobe; submedian carina from anterior margin of posterior lobe to less than half length of posterior lobe; posterior lobe with an inverted “V”

brown or dark brown coloration pattern beginning in anterior margin and reaching each humeral and discal spines (Fig. 3G); humeral and discal spines light brown. Scutellum: principal body brown basally and light brown toward apex; posterior process light brown, acute and flat. Pleura: propleura dark brown, acetabulum light brown; mesopleura dark brown except superior and inferior margins, these light brown; metapleura dark brown except superior and inferior margin, these lighter. Legs: fore coxae brown with a dark brown spot dorsally; mid-, and hind coxae brown; trochanters brown; femora brown, apically dark brown; tibiae brown, not homogeneously pigmented with dark brown; tarsus brown except distally dark brown. Abdomen: connexival segments: brown; segments II–VI armed with short spines at their outer apical angles, being V and VI longer than basal spines; urosternites brown with a dark brown band pattern laterally in middle covering segments I–IX (Fig. 6L). Macropterous form dark brown. Hemelytra: corium and clavus dark brown; hemelytron longer than abdomen; membrane hyaline-brownish.

**Distribution:** Guyana.

**TABLE 18.** Selected measurements (mm.) of *Repipta schaeferi* Martin-Park & Coscarón, sp. nov.

	Female (Holotype) N=1
	Max
Total length	11.7
Head length	2.04
Head width	1.28
Anteocular region	0.48
Postocular region	0.44
Interocular region	0.52
Interocellar region	0.32
Pronotum length	2.16
Pronotum width	2.28
Scutellum length	0.57
Scutellum width	0.72
Scutellum posterior process length	0.25
Abdomen width	2.00
Eye length	0.56
Eye width	0.40
Eye height	0.68
Antennal segment 1	4.20
Antennal segment 2	-
Antennal segment 3	-
Antennal segment 4	-
Rostral segment 1	0.96
Rostral segment 2	0.72
Rostral segment 3	0.28
Head spines length	0.48
Posterior lobe of pronotum discal spines length	0.72
Posterior lobe of pronotum humeral spines length	0.56
Distance between head spines	0.84
Distance between discal spines	-
Distance between discal/humeral spines	1.48

**Material examined.** TYPE, 2 ♀ **Guyana**, [5°48'N–59°01'W], Fabricius det., (NHMDO).

**Remarks.** Images provided by (NHMDO). It superficially resembles *R. ecuadorensis* sp. nov., but can be differentiated by connexival spines in segments II–VII and urosternites with a lateral band pattern.

### *Repipta spinosa* (Fabricius)

Figs 4, 7, Map 5

*Zelus spinosus* Fabricius, 1803:290 [descr.], Guyana.

*Corcia spinosa*: Stål, 1872:80 [cit.]. In error.

*Repipta spinosa*; Stål, 1868:102 [descr.]; Wygodzinsky, 1949:45 [cat.]; Maldonado, 1990:270 [cat.].

Redescription.—General coloration brown and dark brown. Head: dark brown except laterally, brown area from behind antennifer spines to ocellar; eyes not surpassing margins of head; antenna I brown, apically darker; II and IV dark brown; III brown basally to medially, and dark brown apically, thickened basally and reduced gradually toward apex; rostrum I dark brown except apically, this brown; II brown except base, this darker; III dark brown. Pronotum: anterior lobe, anterolateral angles and collar dark brown; submedian carina reaching discal spines; posterior lobe brown or dark brown except posterior margin, this brown in some specimens. Scutellum: principal body dark brown; posterior process brown, acute and flat. Pleura: propleura dark brown in anterior margin and brown to posterior margin; mesopleura brown and metapleura brown in anterior margin to middle and light brown to posterior margin. Legs: coxae and trochanters dark brown; femora dark brown or light brown not homogeneously pigmented with brown in some specimens; tibiae brown not homogeneously pigmented with light brown; tarsus dark brown. Abdomen: connexival segments: light brown; segments II–VI armed with short spines at their outer apical angles, being VI slightly longer than basal spines; urosternites dark brown laterally fading to brown toward apex, ventrally brown. Macropterous form: dark brown. Hemelytra: corium and clavus dark brown; hemelytron slightly longer than abdomen; membrane hyaline-brownish.

**Distribution:** Guyana.

**Material examined.** TYPE, 2 ♂ **Guyana**, [5°48'N–59°01'W], Fabricius det., (NHMDO).

**Remarks.** Images provided by (NHMDO). It superficially resembles *R. nigrospinosa* sp. nov., *R. mucosa*, and *R. lepidula* but can be differentiated by its narrower abdomen and connexival segments II–VI armed with spines at their outer apical angles.

### *Repipta taurus* (Fabricius)

Figs 3, 7, 8–13, Map 5

*Zelus taurus* Fabricius, 1803:291 [descr.], USA—Carolina.

*Zelus lineatus* Amyot & Serville, 1843:373 [descr.]. Synonymized by Stål, 1872.

*Repipta flavicans* Fracker, 1913:242 [cit.]. In error.

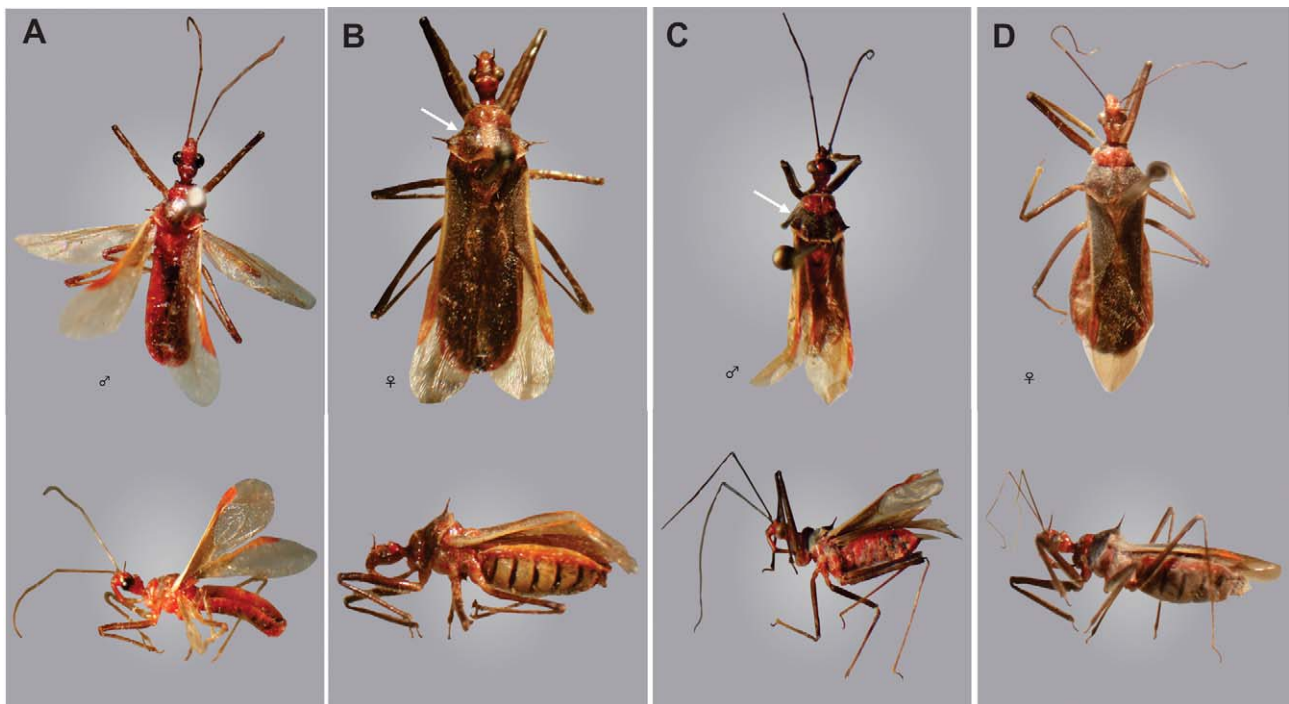
*Repipta taurus*; Stål, 1862a:446 [descr.]; Stål, 1866:447 [cit.]; Stål, 1872:80 [cit.]; Uhler, 1876:61 [cat.]; Uhler, 1886:24 [cat.]; Lethierry & Severin, 1896:181 [cat.]; Osborn & Drake, 1915:531 [cit.]; Van Duzee, 1916:31 [cat.]; Readio, 1927:198 [cit.]; Frost, 1964:135 [cit.]; Henry & Froeschner, 1988:634 [cat.]; Wygodzinsky, 1949:45 [cat.]; Maldonado, 1990:270 [cat.]; Froeschner, 1999:209 [cat.]; Gámez-Virués *et al.* 2003:131–134 [descr.].

Redescription.—General coloration red and dark brown. Head: light brown, brown pigmented with red or red in some specimens; if red, clypeus and labrum, dark brown; antennifer spines dark brown or red in some specimens; eyes not surpassing margins; antenna I light brown, brown or dark brown in some specimens; II light brown or brown in some specimens; III and IV light brown or brown in some specimens; III thickened basally and reduced gradually toward apex in males; rostrum I red, brown or red pigmented with light brown in some specimens; if red, apically light brown; II brown basally and dark brown ventrally, light brown with base brown, brown with base dark brown, light brown or brown in some specimens; III dark brown, light brown or brown in some specimens. Pronotum: anterior lobe red, red pigmented with brown, brown or light brown in some specimens; anterolateral angles and collar dark brown, brown or light brown in some specimens; submedian carina not clearly visible; posterior lobe brown, light brown, red except posterior margin, this pale or yellowish in some specimens, with an

inverted “V” brown or dark brown coloration pattern beginning in anterior margin and reaching each humeral and discal spines (Figs. 3I, 15B) or complete dark brown, almost black, in some specimens (Fig. 15C). Scutellum: principal body red pigmented with brown; posterior process dark brown, light brown, red or yellowish, short or long, acuminate and flat in some specimens. Pleura: propleura dark brown, brown, light brown or red pigmented with brown in some specimens; mesopleura with a yellowish spot; metapleura with a dark brown spot; pro-, meso-, and metasterna red pigmented with brown. Legs: coxae dark brown with brown spots dorsally and ventrally, brown, light brown, red pigmented with brown and red in some specimens; trochanters light brown; femora brown or light brown in some specimens; tibiae dark brown, light brown or brown in some specimens; tarsus brown. Abdomen: connexival segments: dark brown, light brown, brown, red pigmented with brown and red in some specimens; unarmed; urosternites brown, red or light brown in some specimens; intersegmental lines brown or dark brown in segments II–VII (Fig. 7C). Macropterous form: brown. Hemelytra: corium and clavus dark brown or brown except margins, these brown, cream colored, light brown or red in some specimens; hemelytron 0.36–1.52 mm longer than abdomen; membrane hyaline-brownish or hyaline in some specimens. Male genitalia: pygophore: globose, longer than wide, median process developed, subquadrangular (Fig. 8J), parameres: short, thick, slightly curved with long hairs ventrally (Fig. 9J). Phallus: articulatory apparatus, long, quadrangular, basal plate bridge long and thin, pedicel thin (Fig. 10J). Female genitalia: posterior view: as in (Fig. 11M). Gonocoxite VIII: sparse thin hairs (Fig. 12M), anterior fibula curved (Fig. 12M). Gonapophysis VIII: without hairs (Fig. 12M). Gonocoxite IX: ventrally with abundant thin hairs, slightly wide basally (Fig. 13M).

**Distribution:** Cuba, El Salvador, Guatemala, Honduras, Mexico, Nicaragua, Panama, USA.

**Material examined.** **Mexico:** 1 ♂ 1 ♀, [23°38'N–102°33'W], Sallé leg.; 1 ♂ **Tabasco:** Teapa, [17°33'N–92°57'W], H.H.S. leg., (SMNH); 1 ♂ 1 ♀ **Yucatán:** Dzoyaxché, [20°47'N–89°35'W], 25/IX/2005, 28/XII/2005, A. Martin-Park leg., (CER-UADY); **USA:** 1 ♂ **Florida:** Fort Myers, [26°38'N–81°52'W], 02/VI/1967, M. Baehr det., P. P. Bably leg., (ZSM); 1 ♀ **Texas:** Columbus, [29°42'N–96°32'W], 1910, J. Maldonado det., Wickham leg.; 1 ♀ Mobile city, [32°55'N–96°24'W], 1910, H. P. Löding leg., (FMNH); 1 ♀ **Texas,** [31°58'N–99°54'W], Belfrage leg., (SMNH).



**FIGURE 15.** Variability coloration and shape body in members of *R. taurus*. A, specimens from Mexico (Tabasco), B, specimen from USA (Texas), C–D, specimens from Mexico (Yucatán). Arrows refer to character under redescription.

**Measurements.** As in Table 19.

**Remarks.** It superficially resembles *R. flavicans* but can be differentiated by genitalia traits. We agree with the redescription of Gaméz-Virués *et al.* (2003), but include additional data such as male and female genitalia traits.

**TABLE 19.** Selected measurements (mm.) of *Repipta taurus* (Fabricius).

	Female N=5		Male N=3	
	Min	Max	Min	Max
Total length	11.3	12.5	8.90	11.1
Head length	1.80	2.25	1.50	2.10
Head width	1.05	1.25	1.05	1.35
Anteocular region	0.55	0.70	0.45	0.60
Postocular region	0.45	0.55	0.40	0.50
Interocular region	0.55	0.60	0.50	0.60
Interocellar region	0.30	0.45	0.30	0.35
Pronotum length	2.00	2.50	1.55	2.25
Pronotum width	2.20	2.90	1.85	2.80
Scutellum length	0.60	0.85	0.62	0.80
Scutellum width	0.65	1.40	0.80	1.05
Scutellum posterior process length	0.20	0.37	0.22	0.25
Abdomen width	2.40	3.50	1.40	2.10
Eye length	0.40	0.50	0.40	0.55
Eye width	0.25	0.40	0.30	0.40
Eye height	0.50	0.60	0.50	0.60
Antennal segment 1	3.70	4.00	2.75	3.45
Antennal segment 2	1.15	1.25	-	0.95
Antennal segment 3	3.45	3.95	-	-
Antennal segment 4	-	1.45	-	-
Rostral segment 1	0.90	1.15	0.80	1.15
Rostral segment 2	0.60	0.90	0.70	0.85
Rostral segment 3	0.30	0.45	0.35	0.45
Head spines length	0.40	0.65	0.45	0.60
Posterior lobe of pronotum discal spines length	0.85	0.90	0.30	0.60
Posterior lobe of pronotum humeral spines length	0.50	0.75	0.20	0.55
Distance between head spines	0.65	1.05	0.65	0.65
Distance between discal spines	1.25	1.75	-	1.15
Distance between discal/humeral spines	1.40	1.90	0.95	1.15

***Repipta unispina* Martin-Park & Coscarón, sp. nov.**

Figs 4, 7, 11–13, Map 5

Description.—General coloration dark brown and light brown. Head: light brown laterally beginning in anteocular region and ending in postocular region, dark brown dorsally, behind antennifer spines to neck (including clypeus); antennifer spines brown; eyes not surpassing margins of head; antenna I and II brown; rostrum I light brown dorsally and ventrally, dark brown laterally; II and III dark brown. Pronotum: anterior lobe, anterolateral angles, and collar brown, with an “H” light brown coloration pattern (Fig. 4B); submedian carina from anterior margin of posterior lobe to less than half length of posterior lobe; posterior lobe, humeral spines, discal spines and posterior margin light brown, with an inverted “V” brown coloration pattern beginning in anterior margin and reaching each humeral and discal spines. Scutellum: principal body light brown; posterior process pale, short, acuminate and flat. Pleura: light brown; prosterna brown. Legs: coxae and trochanters light brown; fore femora light brown with a brown narrow



band pattern close to apex; hind femora light brown except apically, this dark brown; fore tibiae light brown with a narrow brown band pattern near base and brown apically; hind tibiae brown with a light brown band pattern near center; tarsus brown. Abdomen: connexival segments: light brown; segment VI armed with a short brown spine at their outer apical angles; urosternites light brown except laterally with an irregular brown band pattern in segments III–IV near connexivum (Fig. 7D). Macropterous form: dark brown. Hemelytra: corium and clavus dark brown; hemelytron 1.04 mm longer than abdomen; membrane hyaline-brownish. Female genitalia: posterior view: as in (Fig. 11N). Gonocoxite VIII: sparse thin hairs (Fig. 12N), anterior fibula slightly curved (Fig. 12N). Gonapophysis VIII: without hairs (Fig. 12N). Gonocoxite IX: ventrally with sparse thin hairs, wide basally (Fig. 13N).

**Distribution:** Brazil.

**Material examined.** HOLOTYPE, 1 ♀ **Brazil: Amazonas:** Río Cauaburi, [3°10'N–67°16'W], 16/I/1963, C. Lindenmann leg., (ZSM).

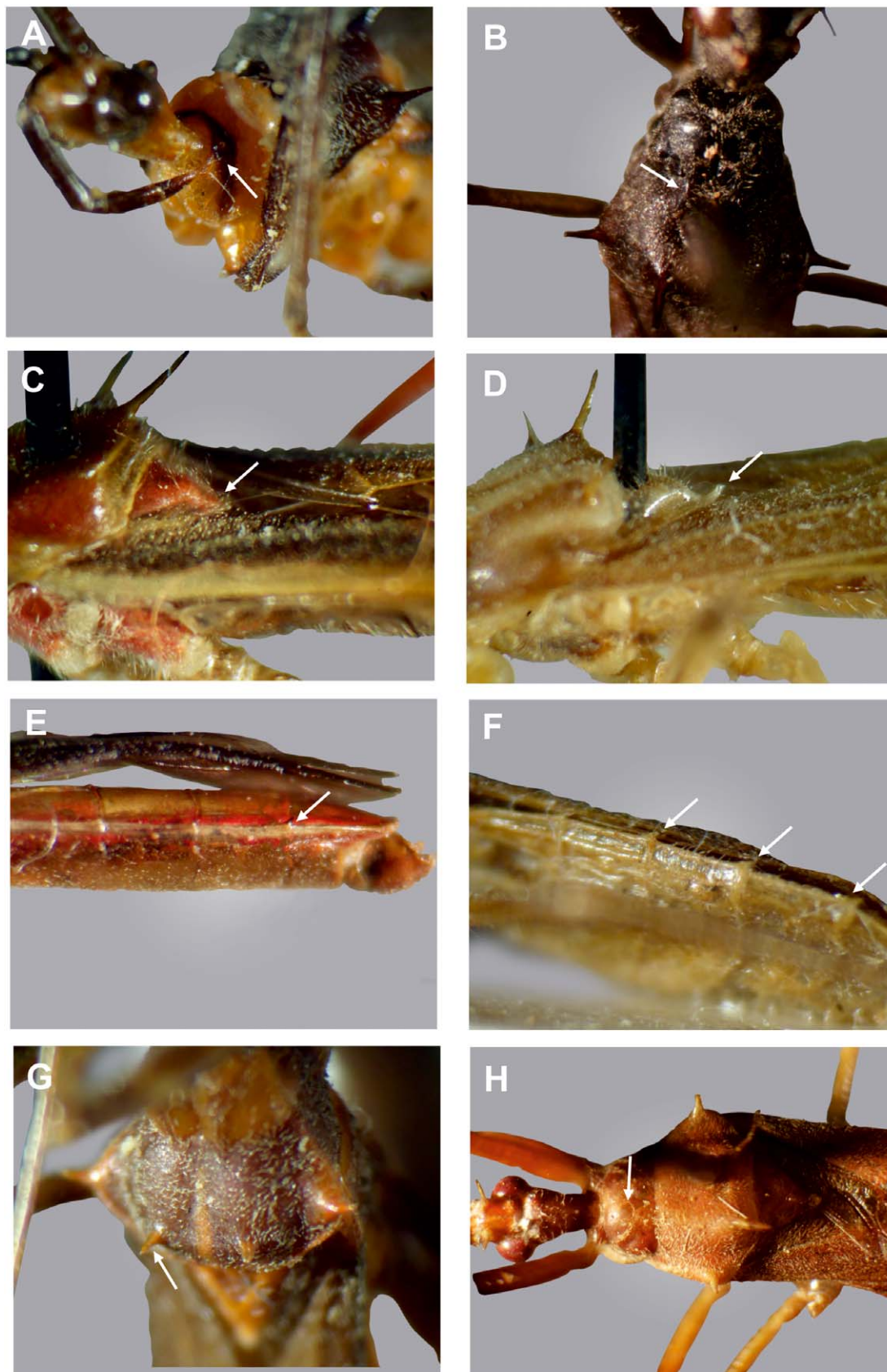
**Measurements.** As in Table 20.

**Remarks.** It superficially resembles *R. flavicans*, *R. brailovskyi* sp. nov., and *R. sexdens*, but can be distinguished by the light brown “H” shaped pattern on the anterior lobe of pronotum, connexival segment VI armed with a spine, and genitalia traits.

**Etymology.** Named for its unique spine in connexival segment VI.

TABLE 20. Selected measurements (mm.) of *Repipta unispina* Martin-Park & Coscarón, sp. nov.

	Female (Holotype) N=1
	Max
Total length	11.2
Head length	1.92
Head width	1.16
Anteocular region	0.52
Postocular region	0.40
Interocular region	0.52
Interocellar region	0.28
Pronotum length	2.16
Pronotum width	2.28
Scutellum length	0.57
Scutellum width	0.57
Scutellum posterior process length	0.30
Abdomen width	2.68
Eye length	0.48
Eye width	0.32
Eye height	0.60
Antennal segment 1	4.48
Antennal segment 2	1.40
Antennal segment 3	-
Antennal segment 4	-
Rostral segment 1	1.04
Rostral segment 2	0.88
Rostral segment 3	0.36
Head spines length	0.88
Posterior lobe of pronotum discal spines length	1.12
Posterior lobe of pronotum humeral spines length	0.88
Distance between head spines	1.04
Distance between discal spines	1.44
Distance between discal/humeral spines	1.60



**FIGURE 16.** A, coloration pattern in form of inverted “U” of *R. fuscipes*, B, short submedian carina in *R. nigrospinosa* sp. nov., C, posterior process of scutellum acute in *R. hondurensis* sp. nov., D, posterior process of scutellum acuminate in *R. argentinensis* sp. nov., E, connexival segments armed with spines in *R. nigrospinosa* sp. nov., F, connexival segments armed with spines in *R. flavicans*, G, dentiform discal spines in *R. nigronotata*, H, anterior lobe of pronotum with a band longitudinal pattern in *R. schaeferi* sp. nov.

Key to *Repipta* species in the Americas

1	Connexival segments armed with short spines at the outer apical angles (Fig. 16E, F) . . . . .	2
-	Connexival segments unarmed at the outer apical angles. . . . .	8
2	Anterior lobe of pronotum homogeneously pigmented . . . . .	3
-	Anterior lobe of pronotum with a coloration pattern . . . . .	7
3	Connexival spines beginning in segment III; posterior lobe of pronotum homogeneously pigmented . . . . .	4
-	Connexival spines beginning in segment II, III, or IV (if beginning in the segments III and IV, posterior lobe of pronotum with a longitudinal band). . . . .	5
4	Submedian carina present (Fig. 16B); small species 7.50–8.30 mm (Tab. 14) . . . . .	
-	. . . . . <i>R. nigrospinosa</i> Martin-Park & Coscarón, sp. nov.	
-	Submedian carina absent; medium species 13.80 mm (Tab. 8) (Figs 2A, 5I). . . . .	
-	. . . . . <i>R. ecuadorensis</i> Martin-Park & Coscarón, sp. nov.	
5	Spines not beginning in segment II, abdominal width bigger than 2.00 mm . . . . .	6
-	Spines in II–VI connexival segments, abdominal width less than 2.50 mm [see description of Stål (1868)] (Figs 4A, 7A) . . . . .	
-	. . . . . <i>R. spinosa</i> (Fabricius)	
6	Spines on IV–VI connexival segments; pronotum bigger than 2.60 mm (Tab. 3) (Figs 1E, 5D). . . . .	
-	. . . . . <i>R. ayelenae</i> Martin-Park, sp. nov.	
-	Spines on III–VI connexival segments; pronotum width less than 2.35 mm (Figs 3D, 6I) (Tab. 16) . . . . .	
-	. . . . . <i>R. paraguayensis</i> Martin-Park & Coscarón, sp. nov.	
7	Spines only on segment VI; abdomen with a lateral band on segments III–V (Figs 4B, 7B) . . . . .	
-	. . . . . <i>R. unispina</i> Martin-Park & Coscarón, sp. nov.	
-	Spines on segment II–VI; abdomen with a lateral band on segments I–IX (Figs 3G, 6L). . . . .	
-	. . . . . <i>R. sexdens</i> (Fabricius)	
8	Urosternites ventrally with an intersegmental suture pigmented (Figs 5L, 7C) . . . . .	9
-	Urosternites ventrally without an intersegmental suture pigmented. . . . .	12
9	Posterior lobe of pronotum with a pattern and posterior margin lighter. . . . .	10
-	Posterior lobe of pronotum without a pattern and homogeneously pigmented (Figs 2D, 5L) . . . . .	
-	. . . . . <i>R. fuscospinosa</i> Stål	
10	Posterior lobe of pronotum with other pattern; membrane hyaline brown. . . . .	11
-	Posterior lobe of pronotum with an inverted “V” pattern reaching humeral and discal spines (Fig. 3I, 15B); membrane hyaline transparent. . . . .	
-	. . . . . <i>R. taurus</i> (Fabricius)	
11	Anterolateral angles and collar form an inverted “U” pattern reaching or close to anterior acetabulum (Fig. 16A); scutellum with a dark dot in the principal body (Fig. 2E, F); legs homogeneously pigmented . . . . .	
-	. . . . . <i>R. fuscipes</i> Stål	
-	Anterolateral angles, collar, and scutellum of one color, legs not homogeneously pigmented (Fig. 11, 5H) . . . . .	
-	. . . . . <i>R. costarrisensis</i> Martin Park & Coscarón, sp. nov.	
12	Posterior process of scutellum acute (Fig. 16C) . . . . .	13
-	Posterior process of scutellum acuminate (Fig. 16D) . . . . .	18
13	Submedian carina visible . . . . .	14
-	Submedian carina not clearly visible . . . . .	15
14	Submedian carina beginning in the middle of anterior lobe of pronotum and reaching discal spines of posterior lobe of pronotum (Fig. 2G); species more than 13 mm of length (Tab. 11) . . . . .	
-	. . . . . <i>R. hondurensis</i> Martin-Park & Coscarón, sp. nov.	
-	Submedian carina beginning in the middle of anterior lobe of pronotum without reaching the middle of posterior lobe of pronotum (Fig. 1F); species less than 12 mm of length (Tab. 4) . . . . .	
-	. . . . . <i>R. brailovskyi</i> Martin-Park & Coscarón, sp. nov.	
15	Hemelytra surpassing $\leq 0.68$ mm the abdomen. . . . .	16
-	Hemelytra surpassing 1.70 mm the abdomen. . . . .	17
16	Posterior lobe of pronotum with a light brown middle narrow longitudinal band; posterior margin of posterior lobe of pronotum curved; discal spines very short (dentiform) (Fig. 16G) . . . . .	
-	. . . . . <i>R. nigronotata</i> Stål	
-	Posterior lobe of pronotum with two dark brown broad longitudinal irregular bands; posterior margin of posterior lobe of pronotum straight (Fig. 3B); discal spines long [see original description of Champion (1899)]. . . . .	
-	. . . . . <i>R. mucosa</i> Champion	
17	Collar of anterior lobe of pronotum thin (Fig. 3F); anterior lobe of pronotum with a light brown longitudinal band (Fig. 16H) . . . . .	
-	. . . . . <i>R. schaeferi</i> Martin-Park & Coscarón, sp. nov.	
-	Collar of anterior lobe of pronotum thick (Fig. 1D); anterior lobe of pronotum homogeneously pigmented. . . . .	
-	. . . . . <i>R. antica</i> Stål	
18	Urosternites laterally with a longitudinal band pattern . . . . .	19
-	Urosternites laterally without a band pattern . . . . .	21
19	Segments II–VII with a dark brown longitudinal irregular band; mid-, and hind femora light brown except apically brown; parameres exceeding abdomen (Fig. 5B) . . . . .	
-	. . . . . <i>R. argentinensis</i> Martin-Park & Coscarón, sp. nov.	
-	Different combination from above; mid-, and hind femora with other coloration pattern; parameres not exceeding abdomen. . . . .	
-	. . . . .	20
20	Segments II–V with a dark brown longitudinal band [see original description of Barber (1925)]; mid-, and hind femora light brown with two brown bands beyond the middle and apically (Fig. 1A) . . . . .	
-	. . . . . <i>R. annulipes</i> Barber	
-	Segments II–VIII with a dark brown almost black longitudinal band; mid-, and hind femora brown homogeneously pigmented (Fig. 6D) . . . . .	
-	. . . . . <i>R. lepidula</i> Stål	
21	Species less than 12.3 mm long (Tab. 9) . . . . .	22

- Species more than 12.3 mm long (Tab. 6) .....23
- 22 Posterior lobe of pronotum with an inverted “V” pattern or four bands beginning in the anterior margin and reaching each humeral and discal spines (Figs 2B, C, 14A–D) ..... *R. flavicans* (Amyot & Serville)
- Posterior lobe of pronotum with a middle longitudinal band across discal spines (Fig. 1G) .....  
..... *R. brasiliensis* Martin-Park & Coscarón, sp. nov.
- 23 Antennal segment more than 5.00 mm long (Tab. 6); pronotum spines yellowish; posterior margin of posterior lobe red or light red ..... *R. coccinea* (Herrich-Schaeffer)
- Antennal segment I less or equal to 5.00 mm long and different combination from above .....24
- 24 Eyes surpassing inferior margins of head; fore femora red basally and brown apically (Figs 3E, 6J) .....  
..... *R. ruficarpus* Martin-Park & Coscarón, sp. nov.
- Eyes not surpassing inferior margins; fore femora dark brown (Figs 3C, 6H) ..... *R. obscuripes* Stål

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