

On the tropical American Rhipidae (Tipulidae, Dipt.)

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The genus *Rhipidia* Meigen, remarkable in the possession of strongly pectinated antennae in the males of many species, reaches its maximum of specific development in the tropics of the New World.

I have before me over fifty specimens of American *Rhipidae*, referable to ten species, all of the described forms being included excepting *bipectinata* Will., *costalis* Will., *bryanti* Johns., *tabescens* End., and typical *subpectinata* Will. The types of *bryanti* are in Boston, and through the kindness of Mr. C. W. Johnson I was able to examine them in December, 1911. In addition to the hitherto known forms, I find among the material four new species and three additional varieties which are characterized in this paper.

All of the known *Rhipidae* are referable to three main groups, which seem to be equivalent to subgenera, based on the structure of the male antennae.

(1) The subgenus *Rhipidia*, constituting the *maculata* group with bipectinate antennae, including the type of the genus, *maculata* Meig., and *bipectinata* Will., *costalis* Will., *calverti* sp. nov., *trampioni* sp. nov., and probably *bryanti* Johns., and *tabescens* End., these latter known only from the females.

(2) The subgenus *Monorhipidia* subg. nov., constituting the *uniseriata* group, with unipectinate antennae, including *fidelis* Osten-Sacken, and *unipectinata* Will.

(3) The subgenus *Arhipidia* subg. nov., constituting the *domestica* group, with subpectinated antennae, including two subgroups,

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subpectinata Will. and its allies, *annulicornis* End., and *schwarzi* sp. nov., and the *domestica* subgroup, with *multiguttata* sp. nov., and *domestica* and its races.

The material studied is the property of the United States National Museum, the American Museum of Natural History, the Entomological Society of Philadelphia, and Cornell University; and I am indebted to Mr. Frederick Knab, Mr. John A. Grossbeck, Mr. E. T. Cresson, Jr., and Dr. J. Chester Bradley for the loan of the material. I wish to further express my appreciation to Mr. Knab for kind advice and assistance in many matters.

Key to the American Rhipidiæ (males only.)

1. Antennae of male bipectinated. 2
- Antennae of male unipectinated or subpectinated. 6
2. Flagellum with all except the last segment pectinated. (Wings with five costal spots; hind tarsi light yellow.) 6
- *calverti*, sp. n. (Costa Rica).
- Flagellum with the first segment simple; one or more terminal segments simple. 3
3. Wings nearly uniformly clouded with blackish; stigma dark. (Flagellar segments long, bipectinated; dorsal thoracic stripes not complete; pleural stripe distinct.) 3
- *bipectinata* Will.¹ (Lesser Antilles).
- Wings variegated with spots and dots. 4
4. Wings with the spots confined to the vicinity of the veins. (Antennae black; terminal three or four segments simple.) 4
- *costalis* Will.² (Lesser Antilles).
- Wings with numerous smaller spots and dots in all the cells. 5
5. Antennae with shorter pectinations; wings greyish with brown spots; several marks along costal margin. 5
- *maculata* Meig.³ (Holarctic region).
- Antennae with longer pectinations; wings hyaline with reddish-brown dots sprinkled in all the cells; larger costal marks not present. 7
- *cramptoni* sp. n. (North Brazil.)
6. Antennae of the male unipectinated (*uniseriata* group). 7
- Antennae of the male subpectinated (*domestica* group). 8
7. Thorax brown, gray pruinose; wings pale brownish, a whitish blotch in center of the disk; a round brown dot at origin of Rs, fork of Rs and tip of Sc; tarsi brown. *fidelis* O-S.⁴ (Eastern U. S.)
- Thorax yellow; wings with darker clouds along the anterior margin; apices of wings more clouded; posterior tarsi light yellow. *unipectinata* Will.⁵ (Central America; Lesser Antilles).

¹ Williston, Dipt. St. Vincent; Trans. Ent. Soc. Lond. (1896) 285, pl. 9, fig. 54.

² Williston, l. c., 286, pl. 9, fig. 56.

³ Meigen. System Beschreib. (1818) I: 153, pl. 5, figs. 9-11.

⁴ Osten-Sacken. Proc. Acad. Nat. Sci. Phila. (1859) 209.

⁵ Williston, l. c. 286, pl. 9, fig. 55.

8. Mesonotal præscutum broadly edged with pale yellowish-white in front and on sides. 9
- Mesonotal præscutum without a broad pale margin. 12
9. Wing membrane without numerous dots in the cells (*subpectinata*). 10
- Wing membrane dotted with pale brown in all the cells. 11
10. Antennae yellow; head ochraceous-yellow pleural stripes narrow. *subpectinata subpectinata* Will.⁶ (Lesser Antilles).
- Antennae blackish; segments 12, 13, pale; head gray; pleural stripes broad. *subpectinata pleuralis* subsp. n. (Central America.)
11. Antennae pale, except segments 7, 8 and 14; a large oval brown spot at fork of media. *annulicornis* End.⁷ (Trinidad, Colombia)
- Antennae dark brown, except segments 12-13; wings without a large blotch as described above. *schwarzi* sp. n. (Greater Antilles)
12. Mesonotal præscutum without conspicuous dark brown marks, unicolorous except behind; wings abundantly dotted in all the cells. *multiguttata* sp. n. (Central America).
- Mesonotal præscutum with darker longitudinal lines; wings with markings large, scanty, confined to the neighborhood of veins (*domestica*). 13
13. Thoracic præscutum with the middle stripes fused behind into a rectangular blotch. *domestica angustifrons* subsp. n. (Ecuador).
- Thoracic dorsum with a narrow stripe on either side of the pale ground line. 14
14. Larger (wing of male 5.7-6.5 mm.); color darker; wings tinged with brown. *domestica amazonensis* subsp. n. (East Brazil).
- Smaller (wing of male 5.4 mm.); color lighter; wings almost hyaline. *domestica domestica* O-S.⁸ (Eastern U. S.; Central and Northern S. America).

The following species, known only from the females, could not be included in the above key: *R. bryanti* Johns.⁹ (Eastern U. S.), probably allied to *maculata*, but in its wing pattern suggesting members of the *domestica* group; deflection of Cu, unusually far distad. It is a large, vigorous species, quite distinct from any others that I have seen. *R. tabescens* End.¹⁰ (Western Brazil) has a wing pattern very much like *bryanti*. It is quite impossible to state with certainty the exact position of this insect.

Rhipidia calverti sp. n.

Antennae with first eleven flagellar segments long bipectinate; pedicels of segments pale, whitish; thoracic pleurae with a dark brown stripe; tip of hinder tarsi golden-yellow; wings subhyaline

⁶ Williston, l. c. 287, pl. 9, fig. 57, pl. 10, fig. 57a.

⁷ Osten-Sacken, l. c. 208; Monographs, 4, pl. 3 fig. 5.

⁸ Enderlein. Zool. Jahrb. (1912) 32: pt. 1, 80-81, fig. V 1.

⁹ Johnson. Proc. Bost. Soc. Nat. Hist. 35: no. 5, 123-124, pl. 16, fig. 20. April, 1909.

¹⁰ Enderlein, l. c. 81-82, fig. Z 1.

with five brown marks along costal margin.

Male: Length, 6.6 mm.; wing, 7.3 mm.; antennae, about 3 mm.; Middle leg, tibia, 6 mm.; tarsus, 6.1 mm.; Hind leg, femur 6.8 mm.; tibia 7.5 mm.; tarsus 5.2 mm.

Head: Rostrum brown; palpi very dark brown, the last segment very slender. Antennae (see fig. h), first segment long cylindrical, second short, oval, about equal in size to the swollen base of the first flagellar segment; segments 3-13 enlarged at base into an oval knob, the inner side of this knob produced into two long pectinations; on the third segment, the pectinations a trifle over twice the length of the pedicel of the segment; pectinations increasing in length to the 8th to 10th segments where the pectinations are about three and one-half times as long as the pedicel of the segment; from the 11th on gradually shortened to the 13th; 14th segment simple, enlarged medially; there are eleven pectinated segments, more than in *maculata*, *bipunctinata* or *costalis*; the pectinations are slender, tapering gradually to the tip, which is not enlarged. Segments at the base with two long hairs on the side opposite from the pectination, and the pectinate arm is densely clothed with delicate pale hairs. Pedicels to the flagellar segments rather long, subequal, conspicuously more slender than the enlarged base. Segments brown on the knot and pectinate arm, the pedicel conspicuously white. Front and vertex extremely narrow between the eyes, practically divided at the narrowest point; front, vertex and occiput dark blackish-gray.

Thorax: Cervical sclerites brownish-yellow. Pronotum brown on dorsum, more yellowish-brown on sides. Mesonotum, praescutum, brownish-yellow with a broad rich reddish-brown dorsal stripe on each side of the narrow ground middle line, these diverging towards the suture; scutum dull yellow, very pale, whitish, in the middle, most of the lobes reddish-brown, these large spots being the caudal ends of the praescutal stripes; scutellum very pale, whitish; postnotum yellowish. Pleurae light yellow, darkened on the ventral half; a broad, dark brown stripe from the pronotum across the pleurae ending above the metacoxae, where a less distinct band runs cephalad, traversing the sides of the sternum, including the outer faces of the coxae. Halteres, extreme base and most of the knob, light yellow, stem

and base of knob dark brown. Legs: fore legs gone; middle leg coxae and trochanters yellowish, outer face of coxa darkened; femora dull yellow, rather darkened apically; tibiae dull brownish yellow; tarsi brown; hind leg similar to middle, but tarsal segments 2 to 4 conspicuously light golden yellow, the 5th black. Wings hyaline, costal margin with five grayish-brown marks, the third over the origin of *Rs*, the fourth at tip of *Sc*, the last, stigmal darkish; the interspaces between these marks cream colored; veins brown, darkest in the brown marks, lightest, cream colored on subcosta in the interspaces. Cord, outer end of cell 1st *M*₂, and cell *R* in under the dark marks with scarcely visible darker clouds (see fig. d). Venation: *Sc* long, ending beyond the middle of *Rs*; *Sc*, at its tip; *Rs* long, basal deflection of *M*₁+₂, less than one-half as long as the second section of *M*₁+₂ (between *r-m* and *m*); basal deflection of *Cu*₁ just before the fork of *M*.

Abdomen: Tergum brown; sternum lighter, yellowish-brown.

Holotype, male, Rio Surubres, Costa Rica. Bonnefil F'm. 800 ft. altitude, October 20, 1909. By sweeping, coll. Dr. P. P. Calvert. Type, coll. Am. Ent. Soc. Phila. Named in honor of the distinguished student of Odonata, Dr. P. P. Calvert, who collected the type in Costa Rica while securing material for the *Biologia Centrali-Americana*. It is a magnificent insect, nearest allied, perhaps, to *bipunctinata* Will.

***Rhipidia cramptoni* sp. n.**

Antennae with ten flagellar segments long bipectinated; antennae brownish; thoracic pleurae dark on the metapleurae and caudal portions of the mesopleurae; wings light yellow with numerous dots in almost all the cells; conspicuous costal blotches lacking.

Male: Length 5.3 mm.; wing, 7.1 mm.

Head: Rostrum light brown; palpi yellow. Antennae (see fig. i), first segment elongate-cylindrical; 2nd globular, its diameter greater than the first; 3rd segment subglobular basally with a very short pedicel, less than one-half the length of the swollen portion; 4th segment, base small, globular, produced into two pectinations on the under side, pectinations short, only a little longer than the segment itself, the dorsal pectination rather shorter, pedicel of the segment longer than the enlarged base; 5th segment, base subglobose, with the pectinations more elongate and slender, pedicel a little longer than that of the 4th segment; 6th

segment, base only a little enlarged, ovate, pectinations long, at least twice as long as the entire segment, pedicel longer than that of the 5th segment; segments 7 to 11 with the bases oval, pectinations very long, pedicels long and slender; 12th segment, with the swollen base elongate-ovate, pectinations and pedicel shorter than in the 11th segment; 13th segment, base elongate, pectinations short, about as long as those of segment 4 but more slender, pedicel short; 14th segment slender, more enlarged basally. Segments 1-2 dark brown; segment 3 and bases of succeeding segments light brown; pectinations dark brown with numerous pale hairs; pedicels very pale, almost white; two long hairs on side of each basal swelling, opposite to the pectinations. Front with a conspicuous tubercle in the middle; vertex between the eyes very narrow. Front, vertex and occiput very dark brown, sparsely gray pruinose.

Thorax: cervical sclerites dark brownish-black. Pronotum very dark brown. Mesonotum, præscutum rich reddish-brown, darker brown dorsally, in front and on the caudal half; scutum, lobes dark brown with a large yellow spot in the center of each; scutellum yellowish-brown; postnotum dull yellow. Pleurae, propleurae dark brown on dorsal half, light yellow pollinose on ventral half; cephalic two-thirds of the mesopleurae light yellow; remainder of pleurae very dark brown. Halteres light yellow. Legs broken; fore coxa and trochanter light yellow; middle and hind coxae very dark brown basally; apically, and the trochanters, pale, whitish. Wing: light yellow, the cells *C* and *Sc* rather brighter; no large brown blotches along costa, as in *maculata*, *costalis* and *calverti*; a small brown spot at end of *Sc*, another on cross-vein *r*; a larger brown spot at origin of *Rs*; a large spot at tip of 2nd *A*. Faint narrow seams along the cross-veins and deflections of veins, especially on *Cu*, just above the fork of *Cu*. Numerous pale grayish-brown dots sprinkled in most of the cells (cells *Sc* and 1st *M*. excepted). (See fig. c). Venation: *Sc* rather long, ending before the middle of *Rs*; cell 1st *M*. small; basal, deflection of *Cu*, far before the fork of *M*.

Abdomen: Tergum dull yellow; segments 2 and 3 mostly dark brown; 4 to 7 dark brown apically; sternum dull yellow.

Holotype, male, North Brazil, August 17, 1911 (coll. H. E. Crampton). Type in coll. Amer. Mus. Nat. Hist. I take pleasure

in naming this fine insect after Professor H. E. Crampton, who collected the type on his recent trip with Dr. Lutz in British Guiana and Northern Brazil.

Rhipidia unipectinata Williston.

A female from the United States National Museum, determined by Coquillett as *unipectinata*, agrees well in most respects; however, the stem and knob of the halteres is deep black, not brown; wings with distinct costal blotches, etc. The coloration of the posterior tarsi is very similar to that of *R. calverti*, which has long, bipectinated male antennae, not long unipectinate antennae as described for *unipectinata*. The specimen is labelled "Patalue, Guatemala. 700 ft. (Dr. G. Eisen.) Received Jan. 6, 1903."

Rhipidia subpectinata pleuralis subsp. n.

Resembles *subpectinata* Will., of the Lesser Antilles, but is larger, the antennae dark brownish-black excepting the light yellow 12th and 13th segments; head brownish, gray pruinose, not "ochraceous yellow." Thorax: mesonotum, præscutum as described for *subpectinata* but with a broad median grayish stripe overlying the brownish dorsum; scutum and scutellum broadly whitish medially, brownish on the sides, a dark brown stripe on either side of the pale median stripe. Pleurae not "with a narrow black stripe" but with a broad black band, clearly defined on the dorsal margin, below suffusing the ventral pleural sclerites; an indistinct narrow stripe over the base of the coxae, almost confluent with the broad dorsal band. Halteres light yellow, knob a little darker. Legs: femora with an indistinct subapical brown band; wings as in *subpectinata*. Abdomen dark brown, tergites 8 and 9 light yellow; sternites yellowish.

Male: Length 4.8 mm.; wing, 5.7 mm. Female: length 4.9 mm.; wing, 5.8 mm.

Holotype, male, Trece Aguas, Cacao, Alta Vera Paz, Guatemala, March 28 (coll. Schwarz and Barber). Allotype, female, Bocas de Toro, Panama, 1905 (coll. McKenney). Types in coll. U. S. Nat. Mus.

It is probable that comparison with *subpectinata* will give this form specific rank. The description of *subpectinata* agrees closely with *annulicornis* End., except in the finely spotted wings of the latter. The pale antennae of these two forms is quite different from that of *pleuralis*, which agrees in this respect with *schwarzi*

or *domestica*. Whether the specimen listed from Mexico (Teapa in Tabasco) by Professor Williston (Biol. Cent. Amer. Diptera 1, Suppl. 226, Dec. 1900) refers to this variety or not is uncertain. *Rhipidia annulicornis* Enderlein.

I have four specimens that agree closely with Enderlein's description except in their smaller size. The female has never been described, and I make this the allotype.

Allotype, female, quite like the male in color; valves of the ovipositor are rather short, tergal valves very slender, arcuated; sternal valves bladeliike, almost straight.

Male: Length, 4.1 mm.; wing, 5.2-5.4 mm. Female: 4.3-4.4 mm.; wing, 5.4-5.5 mm.

Allotype, female, Trinidad, June (Aug. Busck); three specimens, 2♂ 1♀ with the allotype. Allotype and 1♂ 1♀ in Coll. U. S. Nat. Mus.; 1♂ in author's collection. Some of the specimens are very pale as though newly transformed.

***Rhipidia schwarzi* sp. n.**

Antennae subpectinate; mesothoracic præscutum with a broad pale margin; wings with numerous dots in the cells; antennae mostly black.

Male: Length about 5.5 mm.; wing, 5.4-6.3 mm. (type). femora, 4.3 mm.; tibia, 5.2 mm.

Male: Head: rostrum and palpi dark brownish-black. Antennae, first segment elongate-cylindrical; flagellar segments strongly subpectinated, less marked on the apical segments. Antennae dark brown, segments 12-13 white. Front, vertex and occiput dark brown, thickly gray-pollinose, clearer gray behind.

Thorax: Pronotum above almost white, especially the scutellum. Mesonotum, præscutum, lateral and cephalic margin broadly pale yellow, very conspicuous, narrowest just before the wing root, broadest in front; remainder of the sclerite rich chestnut-brown, darkest brown just inside the pale lateral band; scutum, lobes dull chestnut, pale, grayish, medially and on sides. Pleurae brown, dorsal edge light yellow, continued back from the præscutal margin, becoming almost white behind the wing root, a dark brown stripe extending from the cervical sclerites caudad, running above the fore coxa, beneath the root of the halteres, fusing with the dark abdominal pleural stripe; ventral portions of pleurae and the sternum pale, grayish-pollinose. Halteres light yellow, knob a little

darker brown. Legs, coxae dark externally, pale on the inner face; trochanters and base of femora pale yellow; femora darker brownish apically, especially in the fore legs; tibiae and tarsi yellowish-brown. Wings hyaline or nearly so, brown spots at tip of Sc_1 , on cross-vein r , at origin of Rs ; cross-veins and deflections of veins seamed with pale brown; cells with large, pale brown spots scattered over their area (see fig. e). Venation: Sc rather long, ending about over the middle of Rs ; basal deflection of Cu_1 far before the fork of M .

Abdomen: Tergum light brown, extreme lateral edge dark brownish-black; sternum lighter colored, the lateral margins broadly brown.

Holotype, male, St. Domingo (F. E. Campbell). Paratype, male, Cayamas, Cuba, February 22 (E. A. Schwarz). Types in coll. U. S. Nat. Mus. (No. 15, 138). I take pleasure in naming this fine member of the *subpectinata* group after Dr. Eugene A. Schwarz, the distinguished coleopterist, who collected the Cuban specimen.

***Rhipidia multiguttata*, sp. n.**

Antennae subpectinate; mesothoracic præscutum not margined with pale and without conspicuous brown stripes; wings with numerous dots in the cells.

Male: Length, about 5.5 mm.; wing, 7.4-7.6 mm. Fore leg, femur, 4.85 mm.; tibia, 5.4 mm. Hind leg, femur, 6.1 mm.; tibia, 6.5 mm.; tarsus, 5.8 mm. Female: Length, about 5.8 mm.; wing, 7.9 mm.

Male: Head: rostrum and palpi dark brown. Antennae, first segment elongate-cylindrical; 2nd oval, large, flagellar segments subpectinated, the distal ones less strongly. Antennae dark brown, the apical flagellar segments lighter brown, with dense whitish hairs. Front dark brown with a short blunt tubercle in the middle; vertex between the eyes rather broad (for males of this genus), light brownish-gray, pollinose; extreme hind margin of occiput brown.

Thorax: Pronotum, scutum dark brown; scutellum light yellow, raised above the level of the præscutum. Mesonotum, præscutum brown, more yellowish behind, medially light chestnut-brown, darkening to a deeper brown just before the suture; sides of the sclerite just before the suture so that the caudal half of the

præscutum appears trivittate; scutum yellowish-gray, clearest medially, a brown spot in the middle of each lobe; scutellum and postnotum brownish-gray pruinose, a narrow brown median stripe on the latter. Pleurae brownish-gray with two narrow dark brown stripes traversing the pleural sclerites, the most dorsal beginning over the fore coxa, the ventral one behind the fore coxa. Halteres light yellow, knob a little browner. Legs: coxae yellowish-brown; trochanters and femora light yellow, the latter with an indistinct brown subapical ring; tibiae and tarsi dull yellow, the last tarsal segments brown. Wings hyaline or nearly so; veins yellowish; a brown spot at origin of *Rs*, at tip of *Sc*, in cell *Sc* at about two-thirds its length; brown seam to cross-vein *r*, fork of *Rs*, cross-veins and deflections of veins; a series of larger pale brown spots in cell *M* along vein *Cu*; all cells thickly sprinkled with very pale brown dots (see fig. a). Venation: *Sc* rather short, ending before the middle of *Rs*; basal deflection of *Cu*, sometimes far before fork of *M*, sometimes closer to fork as in the paratype figured.

Abdomen: Tergites dull yellow, narrowly brown on the sides and on the caudal margin, indistinctly darker medially; sternites dull yellow, brownish on lateral edges.

Female: Quite as in male, in the allotype the brown marks on the caudal part of the præscutum not evident.

Holotype, male, Totonicipan, Guatemala, 1902 (Dr. G. Eisen). Allotype, female, with the type.

Paratype, female, Guatemala, July, 1902 (Dr. G. Eisen). Types in coll. U. S. Nat. Mus. (No. 15, 137).

RHIPIDIA DOMESTICA Osten-Sacken.

Head: Rostrum and palpi brown. Antennae dark brownish-black; segments 12-13 almost white. Front, vertex and occiput light gray.

Thorax: Pronotum light brown with a dark brown median stripe. Mesonotum, præscutum golden-sericeous on sides and behind; a broad, clear median stripe with darker lines as follows: a conspicuous dark brown line on either side of the very narrow ground line, occupying the caudal two-fifths of the sclerite; two small dark brown spots in front of the anterior ends of these marks and two still smaller dots on the humeri; a narrow median brown line on the front of the sclerite, broadest in front; a broad lateral

stripe shorter than the caudal median stripe, running to the suture and overspreading the lobes of the scutum, making the sclerite bivittate; scutellum similar in color to the scutum; postnotum grayish. Pleurae light yellowish-brown with two narrow brown stripes. Halteres light yellow, knob not distinctly darker. Legs: coxae traversed by the ventral pleural band; trochanters light yellow; femora yellow darkened toward the tip; tibiae and tarsi yellowish-brown. Wings almost hyaline; dark brown clouds at base of cell *Sc*, at three-fifths of the length of *Sc*, at origin of *Rs*; a pale, circular hyaline-centered cloud at the stigma; in center of cell 2nd *R*, along cord, in centers of radial cells, at tips of the veins, etc. Venation see fig. g.

Abdomen: Tergum brown, apices of the sclerites broadly darker brown; genitalia yellow; sternum yellowish-brown.

Male: Length, 5.3 mm.; wing, 5.4 mm. Female: 4.5-5.8 mm.; 6.1-7 mm.

The specimens that I have before me are as follows: (1) Baracoa, Cuba, September, 1901 (Aug. Busck), ♂, wing figured. (2) Balacava, Jamaica (T. D. A. Cockerell), ♀. (3) Vera Cruz, Mexico, December 14, 1907 (Frederick Knab), ♀. (4) Cordoba, Mexico, December 25, 1907 (Frederick Knab), ♀. (5) Trinidad, June (Aug. Busck), ♂. (6) With the last, ♀.

All of the specimens are in coll. U. S. Nat. Mus., except No. 4, which I have retained for my cabinet.

Rhipidia domestica angustifrons subsp. n.

Like *domestica* Osten-Sacken, but coloration different. Eyes large, in dried specimens light gray, not black, possibly not normal; vertex between the eyes long and narrow; vertex with a large brown spot in the center. Thorax with the median stripes confluent forming a rectangular mark on the caudal portion of the sclerite; lateral præscutal stripes very broad, triangular, the usual dots in front of the median blotch are, as a rule, produced into long, narrow streaks, with a third one between them in the middle, making the cephalic half of the præscutum appear trivittate; lobes of the scutum mostly brown; scutellum very pale. Pleural stripes broader but ill-delimited. Wing, fig. f.

Male: Length, about 5 mm.; wing, 6 mm. Female: Length about 6.8 mm.; wing, 6.8 mm.

Holotype, male, Guayaquil, Ecuador (Francisco Campos).

Allotype, female, with the type. Paratypes, male and female, with the type. Types in coll. U. S. Nat. Mus. (No. 15136); one male paratype in author's collection.

***Rhipidia domestica amazonensis* subsp. n.**

Like *domestica* Osten-Sacken but much larger and darker in color, the thorax much browner, the lateral præscutal stripes curve distad at their ends, suffusing the lateral edge of the scutum with dark brown; postnotum not conspicuously gray-pollinose; fore femora very dark brown; wings distinctly tinged with brown, markings darker, better defined. Wing, fig. b.

Male: Length, about 5.7-5.8 mm.; wing, 5.7-6.5 mm.

Female: Length, about 6.1-7.1 mm.; wing, 6-7.8 mm.

Holotype, male, Igarape-Assú, Para, Brazil, February 3, 1912 (H. S. Parish). Allotype, female, with the type, February 1, 1912. Paratypes, 9 ♂, 1 ♀, with the type, January 23rd to February 4, 1912. Types in coll. Cornell University; paratypes in coll. U. S. Nat. Mus. and in author's collection.

Explanation of Plate I.

(N. B. The wings are all drawn to scale by means of the Cornell projection lantern and show the relative size of the species.)

- a—Wing of *Rhipidia multiguttata*, sp. n. ♂.
- b— " " *domestica amazonensis*, subsp. n. ♀
- c— " " *cramptoni*, sp. n. ♂.
- d— " " *calverti*, sp. n. ♂.
- e— " " *schwarzi*, sp. n. ♂.
- f— " " *domestica angustifrons*, subsp. n. ♂
- g— " " *domestica domestica* O. S.
- h—Antenna of " *calverti*, sp. n. ♂.
- i— " " *cramptoni*, sp. n. ♂.

