

- Legs with the femora dark brown at the tip with an indistinct sub-apical ring; a cross-vein in cell R_3 ; seam on cord pale brown, broad; antennæ pale.....*translucida*, sp. n.
(Panama)
5. Wings with an abundant pattern in the cells.....*gloriosa*, sp. n.
(Guatemala)
- Wings with the markings scanty and more or less confined to the neighbourhood of veins.....6.
6. Wing hyaline, with the markings brown; pleuræ with a brown band; tibiae and tarsi uniform dark.....*eiseni*, sp. n.
(Guatemala)
- Wing dusky, with the markings dark brown; no pleural band; tibiae at tip, and tarsi, orange brown.....*lutzi*, sp. n.
(Brit. Guiana)

Furcomyia reticulata, sp. n.

Antennæ brown; thorax yellow, with an irregular brown median stripe; legs yellow, darkening to brown apically; wings hyaline, reticulated with brown marks.

♀.—Length, 4.5–6 mm; wing, 5.3–5.4 mm.

♀.—Head: rostrum yellowish brown; palpi dark brownish black. Antennæ, basal segments pale, whitish; flagellum light brown, the segments rounded, becoming oval and then elongated toward the tip of the antennæ. Front, vertex and occiput dull yellow, the vertex and occiput prolonged caudad, with two brown stripes above and brown on the sides.

Thorax: pronotum brown, thickly yellow pollinose; a small brown median spot at the caudal margin of the scutum. Mesonotum, præscutum dull yellow sericeous, a broad, light brown median stripe, overlain by a dark brown stripe, whose margins are very irregular; two interrupted brown stripes on either side of the median mark, the outermost very pale on the margin of the sclerite; scutum dull brown, with four brown stripes, continuations of the lateral præscutal vittæ; the two stripes on each side unite at the caudal margin of the sclerite and run half across the scutellum; scutellum very pale, whitish yellow, sending a median prolongation cephalad onto the scutum; postnotum brown. Pleuræ light brown, thickly pale yellowish pollinose. Halteres very pale yellow, the knob brown. Legs: coxæ, trochanters and femora dull yellow, the femora darkening to brown apically; extreme base of the tibiae whitish, rest of tibiae and the tarsi dark brown. Wings, veins brown, except costa, which is light yellow and black alternated; membrane hyaline, costal cell with

small, equally-spaced brown marks; from the base to the tip of R_1 about 19, these marks a trifle narrower than the hyaline interspaces; five large brown blotches along the radial cells, the first at the base of vein M; second in middle of cell R; third just before the origin of Rs; fourth over the fork of Rs, and the last at the tip of R_{2+3} , irregular; all the cells with narrow brown marks across them producing a net-work. Venation (see fig. p): Sc short, Sc_1 ending before the origin of Rs, Sc_2 about opposite it; Sc_2 longer than Sc_1 ; Rs angular at base; basal deflection of M_{1+2} long, so that the inner end of cell 1st M_2 is almost on a level with cell R_3 ; basal deflection of Cu_1 before fork of M, sometimes far before; cross-vein m far out, so that the deflection of M_3 is much longer than m .

Abdomen, tergum, segments brown, darkest on caudal margin, paler on the sides; sternum dull yellow; a dark brown median spot on caudal margin of each sclerite.

Holotype, ♀.—Pinar del Rio, Cuba; 1900 (Palmer and Riley).

Paratype, ♀.—Type locality, March 27, 1900 (Palmer and Riley).

Types in U. S. Nat. Mus. coll. (No. 15,133).

Furcomyia osterhouti, sp. n.

Whitish; mesothoracic præscutum with a broad median stripe and two short lateral ones; femora black, with a postmedian reddish annulus; wings with brown spots, bands and seams.

♀.—Length, 6.5 mm (about); wing, 5.7 mm.

♀.—Head: rostrum and palpi dark brownish black. Antennæ, basal segments yellowish brown, flagellum very dark brown, almost black. Front, vertex and occiput pale, whitish, tinged with brown.

Thorax: pronotum dark brown above, abruptly pale, yellowish white on the sides. Mesonotum pale yellowish white, the median stripe broad, dark brown; the lateral stripes appear on the hind margin of the præscutum and run back across the scutum and scutellum; at the caudal end of the latter sclerite they unite and form a very broad median band, which occupies the dorsum of the postnotum. Pleuræ pale, whitish. Halteres, knob and most of the stem dark brown. Legs: coxæ and trochanters yellowish brown; femora black, with a distinct reddish annulus at about three-fourths the length; tibiae reddish at base, rest of tibiae and tarsi shiny black. Wing with a slight yellowish tinge, especially in the cephalic cells; a very narrow brown mark from $\frac{1}{2}$ caudad; a brown mark from the tip of Sc_1 down beyond Rs; a brown mark at tip of R_1 and on r ; a narrow seam along the cord; outer end of cell 1st M_2 seamed with brown; most

of the veins seamed with brown; apical portions of the radial cells suffused with brown. Venation: (See fig. q.) Sc ends beyond origin of Rs, Sc₂ at its tip; cross-vein *r* at tip of R₁; Rs arcuated at origin; basal deflection of Cu₁ before the fork of M.

Abdomen, tergum yellowish, the apex of each sclerite brown, with a narrow brown median band; sternum, markings less clearly defined.

Holotype, ♀.—Bocas d'Toro, Panama; Sept. 28, 1903. (P. Osterhout, coll.)

Type in U. S. Nat. Mus. coll. (No. 15,130.)

Furcomyia translucida, sp. n.

Whitish; mesothoracic præscutum with a narrow median brown stripe; femora darkened at the tip, pale subapically; wings with brown spots and bands; a supernumerary cross-vein in cell R₃.

♂.—Length, 5.8 mm.; wing, 6.9 mm.; middle leg, femur, 5.7 mm.; tibia, 5.2 mm.

♂.—Head: rostrum and palpi dark brown. Antennæ, basal segments brown, flagellum yellowish, the terminal three or four segments brown; segments of the flagellum short, globular, the apical segments more elongated. Front, vertex and occiput light yellow, the vertex with a large brown spot in the centre.

Thorax: pronotum dark brown, becoming paler, yellowish white on the sides; mesonotum, præscutum very pale, almost white, with a clearly-defined dark brown median stripe, rather narrow, ending at the suture; scutum and scutellum pale, whitish, with a dark brown stripe on each lobe, running backward and meeting on the caudal margin of the scutellum; postnotum with a very broad brown median mark resulting from the confluence of the scutellar stripes. Pleuræ very pale, whitish; a brownish mark on the propleuræ above the fore coxa. Halteres pale, knob dark brown. Legs: coxæ and trochanters whitish; femora yellowish brown; a clearer yellow subapical ring, tip broadly brown, the extreme apex again rather lightened; tibiæ and tarsi brown, gradually increasing to dark brown. Wings: subhyaline or very faintly yellowish; a brown mark at the humeral cross-vein extending down across the arculus; a second mark at tip of Sc₁ and down across Rs almost to M; a third, extending into a cross-band, from the stigma, where it is darkest, unbroken across the cord; a brown seam on the supernumerary cross-vein in cell R₃; outer end of cell 1st M₂ seamed with brown. Venation: (See fig. r.) Sc short, ending just beyond the origin of Rs; Sc₂ just opposite origin of Rs; R₁ extending beyond cross-vein *r-m*, *r* at its tip. Rs square at its origin and

spurred, in a line with R₂₊₃; a strong cross-vein in cell R₃ at about two-thirds of the length of the cell; cell 1st M₂ rather elongate; basal deflection of Cu₁ at the fork of M.

Abdomen: tergum pale yellowish white, apical fourth dark brown; apex sternum similar, but the dark apex not so clearly defined.

Holotype.—♂. Bocas d'Toro, Panama; Sept. 28, 1903. (P. Osterhout, coll.)

Type in U. S. Nat. Mus. coll. (No. 15,129.)

Furcomyia gloriosa sp. n.

Antennæ brown; thorax gray, dorsum striped with darker; legs, femora dark on apical half, with a subterminal yellow ring; wing spotted and suffused with brown.

♀.—Length about 6.5 mm.; wing, 8.4 mm.

♀.—Head: rostrum and palpi dark brown. Antennæ, basal segments very dark brown; basal five flagellar segments lighter brown, apical segments dark brown. Front, vertex and occiput dull gray, with a black mark on vertex along inner margin of the eye.

Thorax: pronotum dull greenish gray pollinose, with a broad black stripe on the side of the scutum. Mesonotum, præscutum dark brown, thickly grayish pollinose, with a black stripe on either side of the narrow median gray line, running from the anterior margin of the sclerite almost to the suture. Lateral stripes short, broad, beginning behind the pseudo-sutural fovea, running across the suture and covering most of the scutum; scutum in middle and along the caudal margin dark brown; scutellum and postnotum dark brown. Pleuræ black, greenish gray pollinose. Halteres, stem pale yellowish brown, knob dark brown. Legs, coxæ and trochanters dark brown, the former gray pollinose; femora light yellow, the apical quarter dark brown, with a subapical yellow ring. Wings hyaline or nearly so; costal cell with four brown marks, the last at Sc, the 3rd over the origin of Rs; a large square mark at the tip of R₁ (stigmal) extending down over the fork of Rs; cells 2nd R₁ and R₃ with large brown spots filling most of the cells; cells R₅ to Cu₁ suffused with lighter grayish brown and with hyaline spots; basal and anal cells with smaller brown spots; a series of about four in cell 1st A. Ends of veins Cu₂, 1st and 2nd A, with broad, grayish brown suffusions. Veins brown; Sc and R yellow, except where located in the brown markings, where they are black. Venation: (See fig. j.) Sc long, ending far beyond the origin of Rs, but slightly before its middle; Rs long; basal deflection of Cu₁ far before the fork of M.

Abdomen, tergum dark brown; sternum lighter brown, extreme caudal margins of the sclerites light yellow.

Holotype.—♀. Totonicipan, Guatemala, Cent. Am., 1902. (Dr. G. Eisen.)

Type in U. S. Nat. Mus. coll. (No. 15,132.)

This insect agrees superficially with *muscosa* End.* of Ecuador, but has *Sc* much longer, legs very different in colour, and is a much smaller species. *Muscosa* has a supernumerary cross-vein in cell R_3 , but this may not be normal, as it is not mentioned in the specific description.

Furcomyia eiseni, sp. n.

Antennæ black throughout; body yellow; legs, femora yellow, passing into brown on the tibiæ and tarsi; wings hyaline, with six brown spots along costa, the second, largest, at origin of R_s .

♂.—Length, from 4.5–5 mm.; wing, 6.3–7.5 mm.

♀.—Length, from 4.5–6 mm.; wing, 5.7–7 mm.

Head: rostrum and palpi black. Antennæ black throughout in the ♂, with conspicuous long hairs, not so noticeable in the ♀. Front, vertex and occiput blackish, grayish pollinose in front.

Thorax: pronotum dull yellow; mesonotum dull reddish yellow, with a very indistinct darker median stripe and darker lateral stripes which are brownish, these continued back on the scutum, where they cover the lobes; scutellum and postnotum brownish. Pleuræ yellow, with a more or less conspicuous dark brown stripe running from the cervical sclerites to the postnotum. Halteres yellow at base; apical half of the stem and the knob brown. Legs: coxæ and trochanters light yellow; femora yellow at base, passing into brown; tibiæ and tarsi darker brown. Wings hyaline; cells *C* and *Sc* slightly yellowish; six brown marks along the costal margin on the cross-veins, as follows: A brown mark at the wing base; a large brown rectangular mark at the origin of R_s ; a third at the tip of Sc , where it is continued down over the fork of R_s , here meeting the fourth blotch, located at the tip of R_1 ; the marks continuing across the cord; wing subapically largely dark; outer end of cell 1st M_2 seamed with brown; a brown mark in the end of cell 2nd R_1 and cell R_3 ; ends of veins Cu_1 , Cu_2 and 1st *A*, with small brown clouds; a large spot at end of 2nd *A*. Venation: (See fig. s.) *Sc* long, ending just before the fork of R_s , Sc_2 at its tip; Rs square at its origin; base of cell 1st M_2 arcuated, nearly on a level with the inner end of cell R_3 (as in *stulta* O. S.);

*1912. Zool. Jahrbuch.; pt. 1, pp. 75, 76; fig. W¹. (*Dicranomyia*.)

basal deflection of Cu_1 just beyond the fork of *M*; Cu_2 generally shorter than the deflection of Cu_1 .

Abdomen, tergum dark brown, the bases of the sclerites somewhat paler; sternum light yellow, the caudal and lateral margins conspicuously dark brown.

Holotype.—♂. Aguna, Guatemala, Cent. Am. (2,000 ft.); Sept., 1902. (Dr. G. Eisen, coll.)

Allotype.—♀. With the type.

Paratypes.—5, ♂ ♀. With the type.

Types in U. S. Nat. Mus. coll. (No. 15,131), except one paratype in author's collection.

Iuncnyi lutzii, sp. n.

Antennæ black; body orange; abdomen brown; legs black, tip of tibiæ and the tarsi pale, orange yellow; wings dusky, with brown marks.

♀.—Length about 6 mm.; wing, 7.3 mm.; middle leg, femur, 5.4 mm.; tibia, 5.8 mm.

Head: rostrum and palpi dark brownish black. Antennæ dark brownish black. Front thickly gray pollinose; vertex and occiput dark orange brown, brighter orange on the occiput.

Thorax: pronotum and mesonotal præscutum and scutum deep orange; scutellum and postnotum much lighter coloured, yellowish orange. Pleuræ orange yellow, lighter coloured ventrally. Halteres, stem yellowish basally, darkening to the blackish knob. Legs: coxæ and trochanters orange yellow, extreme base of femora yellow; remainder of femora and most of the tibiæ dark brownish black; tibiæ with the apical eight pale orange brown; tarsi orange brown. Wings suffused with dark brown, costal and subcostal cells and the radial cells very dark; dark brown spots arranged as follows: a rounded mark at the origin of R_s ; one at fork of R_s , continued down the cord as a broken seam; a round spot at end of R_1 ; outer end of cell 1st M_2 seamed with dark brown. Venation: *Sc* long, ending nearer to the fork of R_s than to the origin, Sc_2 at tip of Sc_1 . Cross-vein *r* at the tip of R_s ; deflection of R_{4+5} long; basal deflection of Cu_1 far before the fork of *M*.

Abdomen, tergum, segments dark brown; sternum light yellow.

Holotype.—♀. Tukeit, British Guiana; July 19, 1911. (F. E. Lutz, coll.)

Type in American Museum of Natural History.

Furcomyia omissa, sp. n.

Small; dark brown; wings dark, stigma present; Sc₁ short, Sc₂ apparently lacking.

♀.—Length, 3.7–4 mm.; wing, 4–4.2 mm.

♀.—Head: rostrum and palpi dark brownish black. Antennæ brownish black. Front, vertex and occiput brown.

Thorax: mesonotum, præscutum with a thick brownish pollen, becoming grayish on the sides of the sclerite; a dark brown median stripe beginning near the anterior end of the sclerite, becoming narrower and finally obsolete before the suture; scutum, scutellum and postnotum dark brown. Pleuræ dark brown, with a sparse gray bloom on the middle of the thorax. Halteres dark brown; remainder of femora, tibiæ and tarsi dark brown. Wings somewhat suffused with darker; a small oval brown stigma. Venation: (See fig. o.) Sc short, ending far before the origin of Rs, Sc₂ not evident. Rs rather short, about one and one-half times the length of the deflection of R₄₊₅; cross-vein *m* present in the type, absent in the paratype.

Abdomen dark brown.

Holotype.—♀. Aguna, Guatemala, Cent. Am. (Dr. G. Eisen.)

Paratype.—♀. Same as the type.

Types in U. S. Nat. Mus. coll. (No. 15,139.)

Furcomyia knabi sp. n.

Like *liberta* O. S., but ventral lobe of ♂ hypopygium produced entrad in a long slender arm.

♂.—Length, 6.5–7 mm.; wing, 8.8–9 mm.

♀.—Length, 7 mm.; wing, 9 mm.

Head: rostrum and palpi dark brownish black; antennæ black. Front, vertex and occiput clear gray.

Thorax: dorsum of the mesonotal præscutum suffused with brown, general colour brownish gray, much browner than the clear gray of the head; stripes on thoracic dorsum ill-defined; scutum dull gray, the scutellum very light gray; postnotum gray. Pleuræ grayish. Halteres yellow, knob brown. Legs: coxæ and trochanters brown; femora, tibiæ and tarsi dark brown. Wings almost as in *liberta* O. S., not pallid at base; a faint stigma at the tip of R₁. Venation: (See fig. m.)

Abdomen gray. Hypopygium: (See fig. w.) Dorsal aspect, 9th sternite very convex, ending in a small knob deeply bifid; pleuræ long, cylindrical, bearing two apical lobes; the dorsal lobe slender, chitinized, ending in an acute point; ventral lobe yellow, produced entrad

into a long arm chitinized, its apex blunt but slightly notched. Ventral aspect, 9th tergite almost straight on caudal margin; pleuræ short, the inner caudal angle produced into a long appendage, which is tufted with yellow hairs at its tip; guard of the penis long, enlarged basally, projecting slightly beyond the apices of the pleural appendage; ventrad of the pleural arm is a slender acicular appendage.

Holotype.—♂. Totonicipan, Guatemala, 1902. (Dr. G. Eisen.)

Allotype.—♀. Antigua, Guatemala. (Dr. G. Eisen.)

Paratypes.—♂ ♂. Totonicipan, Guatemala. (Dr. G. Eisen.)

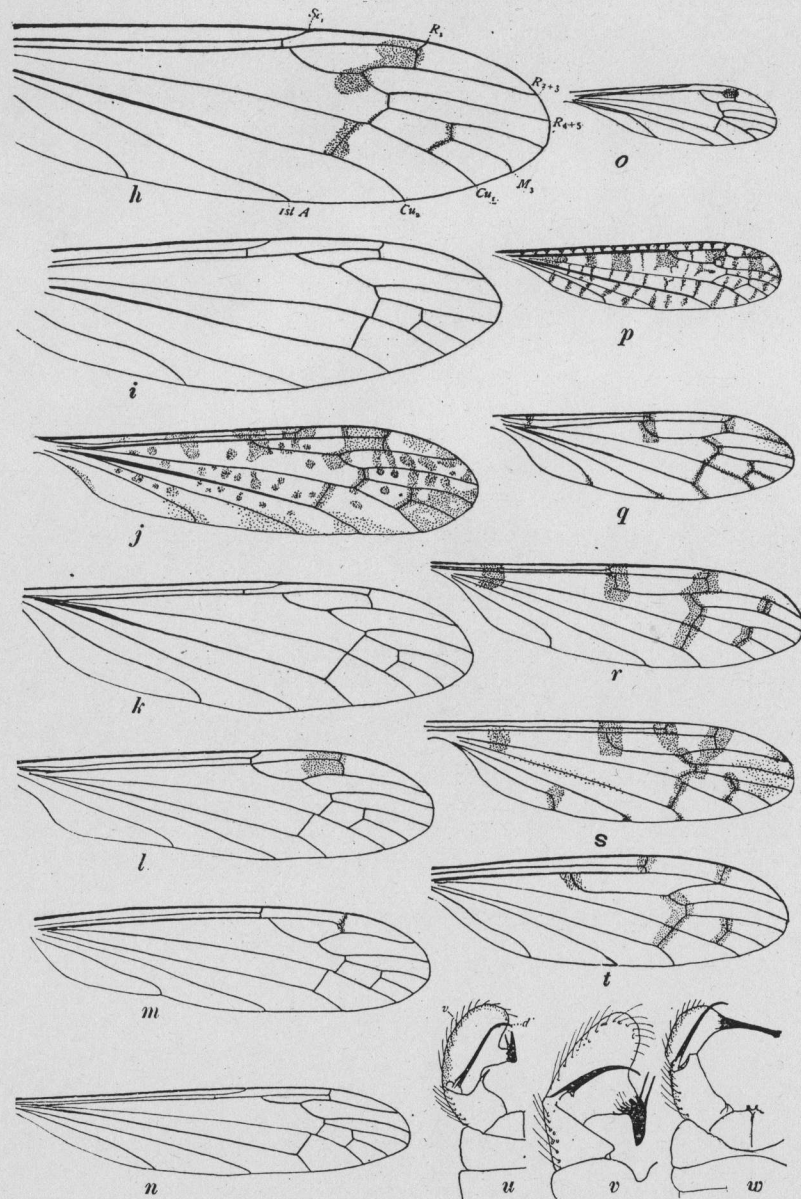
Types in U. S. Nat. Mus. coll. (No. 15,135). One paratype in author's collection.

Like *liberta* O. S. (Proc. Acad. Nat. Sci. Phil., 1859, p. 209; Monograph Dipt. N. Am., Vol. 4, p. 69), of the Eastern U. S., but larger, the mesothoracic præscutum browner and the stripes indistinct. In *liberta* the ♂ genitalia (fig. u) consists of short pleuræ, the swollen ventral lobes produced entrad in a blunt knob, which bears two conspicuous caudad-projecting spines at its tip, the ventral one very stout, spine-like, the dorsal one more slender. In *knabi* the pleuræ are longer, the lobes short, the ventral one produced into a long arm, which is slightly notched apically.

EXPLANATION OF PLATE XI.

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| Fig. h. | Wing of <i>Furcomyia andicola</i> , sp. n. |
| " i. | " <i>F. insignifica</i> , sp. n. |
| " j. | " <i>F. gloriosa</i> , sp. n. |
| " k. | " <i>F. argentina</i> , sp. n. |
| " l. | " <i>F. liberoides</i> , sp. n. |
| " m. | " <i>F. knabi</i> , sp. n. |
| " n. | " <i>F. simillima</i> , sp. n. |
| " o. | " <i>F. omissa</i> , sp. n. |
| " p. | " <i>F. reticulata</i> , sp. n. |
| " q. | " <i>F. osterhouti</i> , sp. n. |
| " r. | " <i>F. translucida</i> , sp. n. |
| " s. | " <i>F. eiseni</i> , sp. n. |
| " t. | " ? <i>F. fumosa</i> , sp. n. |
| " u. | Hypopygium of <i>F. liberta</i> Osten Sacken.
v = ventral apical appendage.
d = dorsal apical appendage. |
| " v. | Hypopygium of <i>F. liberoides</i> , sp. n. |
| " w. | " <i>F. knabi</i> , sp. n. |

(To be continued.)



FURCOMYIA (TIPULIDAE, DIPT.).

THE INTERNATIONAL CONGRESS OF ENTOMOLOGY.

The Second International Congress of Entomology was held at Oxford (England), from August 5th to 15th, the first Congress having been held at Brussels in 1910. It was attended by representative entomologists from Australia, Belgium, Canada, Borneo, British East Africa, Chili, Egypt, France, Germany, Holland, Hungary, Luxembourg, Sandwich Islands, Spain, Sweden, Switzerland, Turkey and the United States, besides a large number from Great Britain and Ireland.

As representative of the Canadian Government and a delegate from the Entomological Society of Ontario, I sailed from Quebec on July 26th, but an unfortunate collision at sea necessitated my return and re-embarkation from New York, and on this account I missed the proceedings of the first day, during which the President, Prof. E. B. Poulton, F.R.S., delivered his presidential address.

In welcoming the entomologists of all nations, the President alluded to the suitability of Oxford as the meeting place of such a gathering, and referred to the celebrated meeting of the British Association in 1860 in the same place, when Huxley made his celebrated and crushing retort to Wilberforce's attempt to throw ridicule on the evolutionary doctrines recently set forth by Darwin and valiantly championed by Huxley. Prof. Poulton traced the history of the Hope Department of Entomology at Oxford, of which he has charge, and referred to the great work of Prof. Westwood, his predecessor and former teacher. He described a splendid exhibit of the polymorphic African *Papilio dardanus*. Tracing its geographical variations and illustrating the gradual development of mimicry by the female, the polymorphism of the same sex and the proportions of the different mimetic forms hatching out from the eggs of a single female.

The meetings of the Congress were general and sectional. At the various sectional meetings, which were usually held at the same time, economic and medical entomology, evolution and bionomics, mimicry and distribution, systematic entomology and nomenclature and morphology were discussed. It was naturally impossible for one to attend all the sections or to hear all the papers which one would have wished to hear. On this account, therefore, I shall refer only to certain of the papers which I was able to hear. In any case, space would forbid the writing of a more lengthy account, which will be given in the official reports of the Congress.

Mr. G. T. Bethune-Baker and Rev. G. Wheeler brought forward and discussed a proposal from the Entomological Society of London for the formation of the International and National Committees to deal with the