

NEW OR LITTLE-KNOWN TIPULIDÆ FROM EASTERN
ASIA (DIPTERA), XXXIV ¹

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ONE PLATE

The crane flies discussed at this time were collected by Mrs. M. E. Walsh in southeastern Sumatra and in various parts of Java. I am very much indebted to Mrs. Walsh for her appreciated interest in saving specimens of these flies when on collecting expeditions to remote parts of the Malayan islands. The types of the novelties are preserved in my collection of Tipulidæ.

The localities where the specimens were taken have been briefly discussed by Mrs. Walsh:

TANDJONG SAKTI, Benkoelen, southeastern Sumatra, altitude 1,650 to 2,000 feet, May 24 to June 30, July 16 to 19, 1935.

BOEKIT JTAM, Benkoelen, altitude 1,000 to 2,000 feet, June 11 to 15, June 18, June 24 to July 2, 1935.

MOEARA TENAM, Benkoelen, June 16 to 23, July 4 to 14, 1935.

POELOE PANAS, Benkoelen, altitude 2,500 feet, June 1 to 4, 1935.

TANGGAMOES, Lampangs, altitude 1,500 to 2,000 feet, July 22 to August 5, 1935.

TJOLO, northern Java, altitude about 2,100 feet, on the Goenoeng Moeria, where the Pasangrahan is located, December 1 to 8, 1935.

GOENOENG MOERIA, northern Java, a mountain with seven tops, quite isolated from the central chain of the island by an immense alluvial plain, altitude 3,000 to 4,000 feet, December, 1935.

NGLIRIP, central Java, a small village in the djati forests, between Rembang and Bodjanejoro, altitude about 300 feet, January 1 to 7, 1936.

SOEMBER BRANTAS, east Java, Mount Ardjano, on a pass between Ardjano and Audjarmora, altitude 6,000 feet, January 14 to 25, 1936.

¹ Contribution from the entomological laboratory, Massachusetts State College.

DJOENGGO, on Mount Ardjano, altitude 4,500 to 7,000 feet, January, 1936.

LANANG, a small township at the foot of Mount Ardjano, altitude 1,500 feet, February, 1936.

NONGKODJADJAR, in the Tengger Mountains, eastern Java, altitude 3,000 to 3,600 feet, February, 1936.

PETAPAU and ARDJARA, villages on Kangean, a small island northeast of Madura, eastern Java, February, March, 1936.

TIPULINÆ

DOLICHOPEZA (NESOPEZA) DIRA sp. nov. Plate 1, fig. 1.

Size relatively small (wing, female, 9.2 millimeters); general coloration of mesonotal præscutum and scutum chestnut-brown, the posterior sclerites of notum darker brown; pleura obscure yellow; legs dark brown, the tarsi snowy white, all basitarsi with central portion darkened; wings with a weak brown tinge, the stigma and a very narrow seam on cord darker brown; Sc₂ ending opposite fork of Rs; medial forks deep; cell 2d A long and narrow; abdominal segments bicolorous, yellow and brown.

Female.—Length, about 10 millimeters; wing, 9.2.

Frontal prolongation of head obscure yellow; palpi dark brown. Antennæ brownish black, the pedicel obscure yellow; flagellar segments subcylindrical, with short inconspicuous verticils. Head yellowish brown; anterior vertex relatively wide, exceeding three times the diameter of the scape.

Mesonotal præscutum and scutum chiefly chestnut-brown, the posterior sclerites of notum darker brown. Pleura obscure yellow, scarcely variegated by darker, the pleurotergite more infuscated. Halteres elongate, brownish black. Legs with the coxæ and trochanters yellow; femora dark brown; tibiæ brown, the tips narrowly blackened; tarsi snowy white, the central portions of the basitarsi more or less infuscated. Wings (Plate 1, fig. 1) with a weak brown tinge; stigma oval, darker brown; a narrow to scarcely evident brown seam on cord; veins brownish black. Venation: Sc relatively long, Sc₂ ending opposite fork of Rs, the latter strongly arcuated at origin; R₂₊₃ longer than Rs; medial forks deep; cell 2d A relatively narrow, yet markedly wider than in *cuneata* or *subcuneata*, the vein shorter.

Abdominal tergites weakly bicolorous, dark brown, the basal rings of the proximal and intermediate segments restrictedly yellow, the outer segments more uniformly darkened; sternites yellow, the caudal portions of the more basal segments narrowly darkened.

Habitat.—North Java.

Holotype, female, Goenoeng Moeria, altitude 3,000 to 4,000 feet, December, 1935 (*Walsh*).

The nearest regional ally is *Dolichopeza* (*Nesopeza*) *subcuneata* Alexander, which has the medial forks of the wing even deeper and cell 2d A longer and narrower, differing, furthermore, in the details of coloration of the body, halteres, and legs.

DOLICHOPEZA (NESOPEZA) PALLIDITHORAX de Meijere.

Dolichopeza pallidithorax DE MEIJERE, Tijds. voor Ent. 56 suppl. (1913) 4-5.

The type, a male, was from Nongkodjadjar, in the Tengger Mountains, east Java, collected in January by Jacobson.

Males and females, Goenoeng Moeria, north Java, altitude 3,000 to 4,000 feet, December, 1935; Mount Ardjano, east Java, altitude 6,000 to 7,000 feet, January, 1936 (*Walsh*).

De Meijere's type was somewhat broken and the following supplementary details are given: Legs black, the tarsi, except the basal half or somewhat less of the basitarsi, snowy white. Wings with a few scattered macrotrichia in outer end of cell R_5 , and in cases also in cells R_3 and M_1 , in most cases the latter very restricted in number, usually only one or two in either cell, but sometimes more. Medial forks very short.

SCAMBONEURA SUMATRENSIS sp. nov. Plate 1, fig. 2.

Antennal scape infuscated, pedicel light yellow; basal flagellar segments weakly bicolorous; præscutal stripes black, bordered by deeper black; mediotergite clear light gray, the posterior border with two dusky areas; wings with anterior cord moderately bowed; dark areas on abdominal tergites black, without bluish reflections.

Female.—Length, about 15 millimeters; wing, 13.

Frontal prolongation of head obscure yellow, the dorsal surface, together with the conspicuous nasus, darker; palpi chiefly obscure yellow, the intermediate segments vaguely darker. Antennæ with scape infuscated; pedicel clear light yellow; basal segments of flagellum very weakly bicolorous, black, with the apices restrictedly yellow, the amount decreasing on the outer segments; flagellar segments beyond the third or fourth uniformly blackened; longest verticils a trifle shorter than the segments; terminal flagellar segment partly fused with the penultimate. Front and anterior vertex orange, silvery pruinose, the latter color also involving the anterior orbits; posterior

portion of head brownish gray, the anterior vertex with a linear velvety black median line that extends high on to the simple vertical tubercle.

Pronotum dark brown, paler medially. Mesonotal præscutum with the interspaces brownish yellow, a little brighter in front, the lateral borders of the sclerite light gray pruinose; three subopaque blackish stripes that are narrowly bordered by deeper black, especially the median stripe; scutal lobes dull black, the median area restrictedly paler; scutellum obscure yellow; mediotergite pale in color, clear light gray pruinose, the posterior border with two dusky areas. Pleura weakly pruinose, vaguely marked with darker on anepisternum and ventral sternopleurite, the pteropleurite and pleurotergite light gray. Halteres with stem brownish yellow, brighter at extreme base, the knob infuscated. Legs with fore coxæ darkened on cephalic face, the remainder of coxæ paler, the surface heavily pruinose; trochanters yellow; femora obscure yellow, the tips scarcely darkened but tufted with a group of black setæ; tibiæ and tarsi passing through brown to black. Wings (Plate 1, fig. 2) subhyaline, cell Sc clear light yellow; stigma small, pale brownish yellow; veins dark brown, the prearcular area and veins Sc and R more yellowish. Venation: Anterior cord rather strongly bowed; medial forks deep.

Abdominal tergites obscure yellow, the intermediate and outer segments brighter yellow, narrowly bordered laterally with deep velvety black; central portion of each tergite occupied by a black quadrate area; sternites uniformly light yellow; genital shield intensely black; cerci horn-colored, straight, the apices obtuse.

Habitat.—Sumatra (Benkoelen).

Holotype, female, Boekit Jtam, altitude 1,000 to 2,000 feet, June 11 to 15, 1935 (*Walsh*).

The nearest ally seems to be *Scamboneura quadrata* de Meijere, from Kambangan Island, south of western Java. The latter species differs in numerous details of color, as the yellow antennal scape, uniformly blackish brown flagellum, the reddish brown median præscutal vitta, blackish brown mediotergite with broad lateral borders, and the blackish blue areas on the abdominal tergites. The present fly is the most westerly species as yet discovered.

NEPHROTOMA NIGRITHORAX (de Meijere).

Pachyrrhina nigrithorax DE MEIJERE, *Bijd. tot de Dierkunde* 21 (1919) 18.

The type, a female, was from Air Njuruk, Dempu, Palembang, Sumatra, altitude 4,550 feet, collected in August by Jacobson.

SUMATRA, Goenoeng Singgalang, altitude 5,200 feet, 1926 (*Jacobson*); Brastagi, May, 1918 (*J. B. Corporaal*). WEST JAVA, Tjibodas, Mount Gedeh, altitude 4,200 feet, April 2, 1934 (*Walsh*).

The Javan specimen is very similar to the Sumatran material, except that the femora are more extensively blackened, including the outer two-thirds or more of the segment.

TIPULA TJIBODENSIS Alexander.

Tipula tjibodensis ALEXANDER, *Proc. U. S. Nat. Mus.* 49 (1915) 188; *Philip. Journ. Sci.* 57 (1935) 86.

The types were from Tjibodas, Mount Gedeh, west Java.

Three females, Goenoeng Moeria, north Java, altitude 3,000 to 4,000 feet, December, 1935 (*Walsh*).

LIMONIINÆ

LIMONIINI

LIMONIA (LIBNOTES) LUTEITHORAX sp. nov. Plate 1, fig. 3.

Thorax entirely pale yellow, unmarked; head black, eyes holoptic; antennæ black, the flagellar verticils of unusual length; legs brown; wings whitish subhyaline, the prearcular and costal regions clear light yellow; stigma oval, brown, conspicuous; Rs about twice as long as the basal section of R_{4+5} ; cell 1st M_2 rectangular, relatively small, shorter than any of the veins beyond it; cell 2d A narrow.

Male.—Length, about 7.5 millimeters; wing, 9.

Rostrum brown; palpi brownish black. Antennæ with scape brown; pedicel and flagellum black; flagellar segments oval to cylindrical, the more basal segments with short glabrous apical pedicels; longest verticils of outer segments of unusual length, exceeding three times the length of the segments; terminal segment one-half longer than the segment. Head black, the surface subnitidous; eyes holoptic, eliminating the anterior vertex.

Thorax entirely pale yellow, immaculate. Halteres with stem pale yellow, the knob weakly darkened. Legs with the coxæ

and trochanters yellow; femora brown, the bases somewhat more brightened; tibiae and tarsi pale brown. Wings (Plate 1, fig. 3) whitish subhyaline, the prearcular and costal regions clear light yellow; stigma oval, brown, conspicuous; veins pale brownish yellow, brighter in the yellow areas. Venation: Sc relatively long, Sc₁ ending about opposite r-m, somewhat swollen at end; Sc₂ far from tip of Sc₁, before fork of Rs; Rs about twice the basal section of R₄₊₅; free tip of Sc₂ and R₂ in transverse alignment; cell 1st M₂ rectangular, relatively small, shorter than any of the veins beyond it, with m-cu shortly before midlength; anal veins divergent, cell 2d A narrow.

Abdominal tergites dark brown, the segments obscure yellow laterally; sternites and hypopygium obscure yellow.

Habitat.—Central and east Java.

Holotype, male, Mount Ardjano, east Java, altitude 6,000 to 7,000 feet, January, 1936 (*Walsh*). Paratype, 1 male, Nglirip, central Java, altitude 300 feet, January 1 to 7, 1936 (*Walsh*).

By Edwards's key to the species of the subgenus *Libnotes*² the present fly runs to couplet 61, disagreeing with all species beyond this point by the coloration of the thorax. It is most nearly allied to species such as *subfamiliaris* Alexander, yet differs in the pattern of the thorax and wings.

LIMONIA (LIBNOTES) CLAUDA sp. nov. Plate 1, fig. 4.

Mesonotal præscutum almost covered by a polished black discal shield; halteres and legs blackened; wings with a strong dusky tinge, especially on outer part of wing; cells C and Sc, together with the stigma, more blackened; r-m unusually oblique; Rs about two and one-half times the basal section of R₄₊₅; cell 1st M₂ small, m about twice the basal section of M₃; m-cu beyond midlength of cell 1st M₂; cell 2d A narrow; abdominal tergites uniformly dark brown.

Female.—Length, about 8 millimeters; wing, 9.

Head broken.

Pronotum brownish black medially, obscure yellow on sides. Mesonotal præscutum chiefly covered by a polished black discal shield comprised of the three entirely confluent stripes, the obscure yellow ground color restricted to the humeral and lateral portions; scutal lobes black, the median area paler; scutellum and mediotergite dark brown. Pleura obscure yellow, the ventral sternopleurite a little infuscated. Halteres black-

² Journ. Fed. Malay States Mus. 14 (1928) 74-80.

ened, the base of stem restrictedly pale. Legs with the coxæ and trochanters yellow; remainder of legs brownish black, the femoral bases scarcely brightened. Wings (Plate 1, fig. 4) with a strong dusky tinge, cells C and Sc, together with the stigma, more blackened; cells beyond the cord slightly more infumed than those of basal portion of wing; veins black. Venation: Sc relatively long, Sc₁ ending nearly opposite the outer end of the unusually oblique r-m; Sc₂ opposite fork of Rs, the latter about two and one-half times the basal section of R₄₊₅; free tip of Sc₂ and R₂ in transverse alignment, both pale; cell 1st M₂ small, m about twice the basal section of M₃; m-cu beyond midlength of cell 1st M₂ and longer than the distal section of Cu₁; cell 2d A narrow.

Abdominal tergites uniformly dark brown; sternites obscure yellow, the outer segments a little darker.

Habitat.—East Java.

Holotype, female, Mount Ardjano, altitude 6,000 to 7,000 feet, January, 1936 (*Walsh*).

The nearest ally of the present fly seems to be *Limonia* (*Libnotes*) *luteithorax* sp. nov., both species having cell 2d A of the wings unusually narrow, much more so than in related species. The present fly differs further in the blackened præscutal disk, the strongly infuscated wings, and in the venational details, as the unusually oblique r-m and the relative proportions of veins m and the basal section of M₃. By Edwards's key to the species of *Libnotes*³ the fly runs to couplet 63, disagreeing with all species beyond this point in the characters diagnosed above.

LIMONIA (PSEUDOGLOCHINA) QUERULA sp. nov. Plate 1, fig. 5.

Mesonotum dark brown; antennæ relatively long, the flagellar segments with conspicuous apical pedicels; pleura chiefly covered by a very broad, pale, longitudinal stripe; halteres black; tibiæ with a single narrow dark ring; wings with a faint dusky tinge, the wing tip and cord faintly seamed with darker; Sc₁ ending beyond the fork of Rs, Sc₂ about opposite the origin of this vein; m-cu close to fork of M; vein 2d A relatively long and extended.

Male.—Length, about 6.5 millimeters; wing, 5.8.

Rostrum brown; palpi black. Antennæ relatively long, black throughout; flagellar segments subcylindrical, with conspicuous

³ Loc. cit.

apical pedicels; segments with a dense erect pubescence and long, unilaterally arranged verticils. Head brown.

Pronotum yellow. Mesonotum dark brown, the præscutum paler medially before suture; posterior sclerites of notum slightly pruinose. Pleura chiefly occupied by a very broad, pale, longitudinal stripe, extending from the prothorax to the base of abdomen, the stripe slightly narrowed behind, the posterior portion a little pruinose; pleurotergite and ventral sternopleurite black. Halteres black. Legs with the coxæ and trochanters black, the fore coxæ a little brightened at base; fore femora yellow, the tips narrowly brownish black; mid-femora black, with a narrow, obscure yellow, subterminal ring; posterior femora uniformly black; tibiæ and tarsi snowy white, the former with a single narrow blackened ring at near mid-length. Wings (Plate 1, fig. 5) with a very faint dusky tinge; stigma subcircular, dark brown; wing tip and narrow seams along cord pale brown; veins brownish black to black. Trichia of veins long and coarse. Venation: Sc relatively long, Sc₁ ending beyond fork of Rs, Sc₂ opposite to just before origin of Rs; basal section of R₄₊₅ arcuated; R₂₊₃ about two-thirds the length of vein R₃ alone; medial forks relatively deep; m-cu close to fork of M; vein 2d A relatively long and extended.

Abdominal tergites bicolorous, dark brown, the segments brownish yellow before apices; sternites more clearly bicolorous, the caudal margin broadly yellow; hypopygium dark.

Habitat.—East Java.

Holotype, male, Nongkodjadjar, Tengger Mountains, altitude 3,600 feet, February, 1936 (*Walsh*).

Limonia (Pseudoglochina) querula is most nearly related to *L. (P.) angustapicalis* Alexander (Luzon). The latter has the halteres and the posterior femora differently colored and with the venational details distinct, as the shorter petiole of cell 2d M₂ and the less-extended vein 2d A. The pale but evident dark seam along the wing cord of the present fly is not found in *angustapicalis*.

LIMONIA (PSEUDOGLOCHINA) UNICINCTIPES Alexander.

Limonia (Pseudoglochina) unicinctipes ALEXANDER, Philip. Journ. Sci. 40 (1929) 336-337.

Recorded from the Philippines and Borneo.

One female, Soekaboemi, west Java, altitude 1,800 feet, February, 1934 (*Walsh*).

LIMONIA (PSEUDOGLOCHINA) KOBUSI (de Meijere).

Dicranomyia kobusi DE MEIJERE, *Bijd. tot de Dierkunde* 18 (1904)
91-92.

EAST JAVA, Nglirip, altitude 300 feet, January, 1936 (*Walsh*).

HEXATOMINI

PSEUDOLIMNOPHILA NYCTERIS sp. nov. Plate 1, fig. 6.

Thorax intensely black; antennæ black throughout, the flagellar verticils very long; halteres dusky; legs dark brown to brownish black, the femoral bases obscure yellow; wings strongly tinged with yellowish brown, stigma very small, darker brown; costal fringe relatively long and very dense; Sc_1 ending just beyond fork of Rs; R_{1+2} about twice R_2 alone; cell M_1 present, shorter than its petiole; m-cu at near one-third the length of the rectangular cell 1st M_2 ; abdominal tergites black.

Male.—Length, about 8 millimeters; wing, 7.

Rostrum and palpi dark brown. Antennæ black throughout; basal flagellar segments long-oval, the outer segments more cylindrical; verticils of outer flagellar segments very long and conspicuous, the longest about two and one-half times the length of the segments. Head dark brown; anterior vertex wide, slightly exceeding twice the diameter of the scape.

Pronotum and mesonotum black, the mediotergite slightly pruinose. Pleura, including the pleurotergite and dorsopleural membrane, black. Halteres dusky. Legs with the coxæ black, the middle coxæ somewhat paler; trochanters obscure yellow; femora brownish black, the bases obscure yellow; tibiæ and tarsi dark brown. Wings (Plate 1, fig. 6) with a strong yellowish brown tinge, more saturated in outer radial field; costal region slightly more yellowish; stigma very small, darker brown; veins brown. Costal fringe (male) relatively long and very dense. Venation: Sc_1 ending just beyond fork of Rs, Sc_2 near its tip; R_{1+2} about twice R_2 alone; cell M_1 present, shorter than its petiole; cell 1st M_2 rectangular, with m-cu at near one-third its length; cell 2d A wide; anterior arcus preserved.

Abdominal tergites black, the sternites obscure brownish yellow; hypopygium dark.

Habitat.—Sumatra (Benkoelen).

Holotype, male Tandjong Sakti, altitude 1,650 to 2,000 feet, May 24 to 31, 1935 (*Walsh*).

Pseudolimnophila nycteris is readily told from other regional species by the intense black color of the entire thoracic region.

Genus HEXATOMA Latreille

Hexatoma Latreille, Gen. Crust. et Ins. 4 (1809) 210.

Subgenus ERIOCERA Macquart

Eriocera MACQUART, Dipt. exot. 1 1 (1838) 74.

The very extensive group *Eriocera* is well represented in the Oriental Region. At this time I am describing several new species from Java and southeastern Sumatra, and further take the opportunity to provide additional data concerning the distribution of several other members of the subgenus from the same area.

HEXATOMA (ERIOCERA) SUBAURANTIA sp. nov. Plate 1, fig. 7.

Belongs to the *rubescens* group; body almost uniformly orange; a circular dark brown spot on extreme dorsal anepisternum immediately before wing root; legs chiefly dark brown; wings fulvous brown; stigma small, darker brown; veins beyond cord with abundant macrotrichia; veins R_{1+2} and R_2 subequal; cell M_1 about twice as long as its petiole; cell 1st M_2 long-rectangular, twice as long as wide, with m-cu at near mid-length.

Female.—Length, about 12 millimeters; wing, 11.

Rostrum yellow, palpi black. Antennæ 8-segmented (female); scape yellow, pedicel and flagellum brownish black; flagellar segments gradually decreasing in length to the end. Head entirely orange; vertical tubercle broad and low, virtually simple; a few scattered black setæ on vertex.

Mesonotum uniformly orange, immaculate; præscutal setæ very sparse, tiny, and pale. Pleura orange-yellow, with a circular dark brown spot on extreme dorsal anepisternum, immediately before wing root. Halteres dark brown throughout. Legs with the coxæ and trochanters orange; femora obscure yellow basally, passing into dark brown; tibiæ dark brown; outer tarsal segments a little paler. Wings (Plate 1, fig. 7) with a strong fulvous-brown suffusion, cell Sc clearer yellow; stigma very small, long-oval, darker brown; veins yellowish brown to brown. Abundant macrotrichia on veins beyond cord, excepting R_{1+2} and distal section of Cu_1 . Venation: Sc_1 ending nearly opposite fork of R_{2+3+4} ; veins R_{1+2} and R_2 subequal, either less than one-half R_{2+3} ; R_{2+3+4} and R_{3+4} subequal; basal section of vein R_5 shorter than r-m; cell M_1 present, nearly twice as long as its petiole; cell 1st M_2 long-rectangular, twice as long as wide,

exceeding vein M_3 beyond it; m-cu at near midlength of cell, longer than distal section of Cu_1 .

Abdomen orange, without markings or differentiated basal rings; valves of ovipositor elongate.

Habitat.—Sumatra (Benkoelen).

Holotype, female, Tandjong Sakti, altitude 1,650 to 2,000 feet, June 11 to 20, 1935 (*Walsh*).

By Edwards's key to the Old World species of *Eriocera*⁴ the present fly runs to couplet 31, where it agrees most nearly with *Hexatoma (Eriocera) aurantia* (Brunetti) of the eastern Himalayas. The latter species differs conspicuously in several details of body-coloration, but especially in the coloration and venation of the wings, as the lack of a stigma and the short and broad cell 1st M_2 which is only a little longer than wide. It should be noted that in *aurantia* R_{1+2} is nearly twice as long as vein R_2 , disagreeing with couplet 27 of Edwards's key.

HEXATOMA (ERIOCERA) KARNYI (Edwards).

Eriocera karnyi EDWARDS, *Treubia* 6 (1925) 167.

WEST JAVA, Mount Djampang, Tengeh, altitude 1,500 to 2,000 feet, March, June, September, 1933; February, May, 1934 (*Walsh*). Soekaboemi, altitude 1,800 feet, February, April, 1934 (*Walsh*).

HEXATOMA (ERIOCERA) FERRUGINOSA (van der Wulp).

Eriocera ferruginosa VAN DER WULP, *Notes Leyden Mus.* 7 (1885) 13.

WEST JAVA, Mount Djampang, Bodjang Kalang, September, 1935 (*Walsh*). Soekaboemi, altitude 1,800 feet, March, 1933 (*Walsh*).

HEXATOMA (ERIOCERA) COMMODA sp. nov.

Belongs to the *dichroa* group; size large (wing, male, 20 millimeters or more); mesonotal præscutum with four reddish stripes that are narrowly bordered by black; legs black; wings brown, cells C and Sc conspicuously more yellowish; veins R_{1+2} and R_{2+3+4} subequal; cell 1st M_2 rectangular, nearly twice as long as wide, with m-cu at or beyond midlength; abdominal segments two to five deep orange to reddish brown, the subterminal segments blackened.

Male.—Length, about 19 to 23 millimeters; wing, 18 to 23.

Female.—Length, about 20 to 24 millimeters; wing, 15 to 19.

⁴ *Ann. & Mag. Nat. Hist.* IX 8 (1921) 70-78.

Rostrum black, pruinose; palpi black. Antennæ of male 7-segmented, of female 9-segmented; scape brownish black, sparsely pruinose; pedicel dark brown; basal segment of flagellum brownish yellow, the outer segments black. Head black, sparsely pruinose, especially on sides of posterior vertex; vertical tubercle (male) simple but very conspicuous; setæ of head sparse but conspicuous, black.

Mesonotum with the ground color obscure brownish gray, with four reddish stripes that are narrowly bordered by black; posterior interspaces with conspicuous appressed yellow setæ; posterior sclerites of mesonotum black, the centers of the scutal lobes reddish. Pleura deep reddish brown to liver brown; setæ sparse, restricted to mesepisternum. Halteres with stem dark brown, the knob blackened. Legs with the coxæ and trochanters dark brown; remainder of legs black. Wings long and relatively narrow, almost uniformly suffused with brown; cells C and Sc conspicuously more yellowish; no stigma; veins brown, more yellowish in the costal region. Trichia of veins beyond cord exceedingly sparse and scattered, but including veins R_{1+2} , R_3 , R_4 , R_5 , and M_1 . Venation: Sc_1 ending opposite R_2 , its tip strongly arcuated to angulated and weakly spurred, the latter condition in the female sex; Sc_2 just beyond fork of R_{2+3+4} ; veins R_{1+2} and R_{2+3+4} subequal or nearly so; cell M_1 from one and one-half to nearly two times its petiole; cell 1st M_2 rectangular, nearly twice as long as wide, with m-cu at or beyond midlength.

Basal abdominal tergite dark brown; tergites two to five, inclusive, deep orange to reddish brown; succeeding segments darker brown to brownish black; sternites more uniformly pale; no differentiated glabrous rings on segments; hypopygium brownish yellow.

Habitat.—Sumatra (Benkoelen).

Holotype, male, Moeara Tenam, June 16 to 23, 1935 (Walsh). Allotopotype, female, July 4 to 14, 1935 (Walsh). Paratopotypes, 6 males and females, with the holotype.

By Edwards's key to the Old World species of the subgenus⁵ the present fly runs to *Hexatoma (Eriocera) ferruginosa* (van der Wulp), which appears to be its closest ally. The present species differs most evidently in the uniformly black legs and distinct venation, as the much deeper forks beyond the cord, longer petiole of cell M_1 , distal position of m-cu, and other

⁵ Loc. cit.

characters. In *ferruginosa* the trichia of the outer radial veins are very numerous.

HEXATOMA (ERIOCERA) PÆNULATA (Enderlein).

Eriocera pænulata ENDERLEIN, Zool. Jahrb. Syst. 32 (1912) 43-44.

SUMATRA, Moeara Tenam, Benkoelen, July 4 to 14, 1935 (*Walsh*).

JAVA, Goenoeng Moeria, north Java, altitude 3,000 to 4,000 feet, December, 1935 (*Walsh*). Sindaglaija, altitude 4,000 to 5,000 feet (*Frederick Muir*).

HEXATOMA (ERIOCERA) VERTICALIS (Wiedemann).

Megistocera verticalis WIEDEMANN, Aussereur. zweifl. Ins. 1 (1828) 56.

WEST JAVA, Mount Djampang, altitude 1,500 to 2,000 feet, March, May, 1933; April, 1934 (*Walsh*).

HEXATOMA (ERIOCERA) PLUTONIS sp. nov. Plate 1, fig. 8.

Size small (wing, 8.5 millimeters); general coloration velvety black, the præscutum with three polished black stripes; halteres and legs black; wings narrow, strongly tinged with blackish; outer veins of wing with abundant macrotrichia; veins R and R_3 subequal; R_{2+3+4} subequal to R_{1+2} ; cell M_1 present; m-cu at or close to fork of M_{3+4} ; abdomen black, the segments with nacreous or slightly pruinose basal rings.

Male.—Length, about 9 millimeters; wing, 8.5.

Female.—Length, about 9.5 millimeters; wing, 8.5.

Rostrum and palpi black. Antennæ of male 8-segmented, black throughout; flagellar segments gradually decreasing in length, the last about two-thirds the penultimate. Head velvety black.

Pronotum black. Mesonotal præscutum velvety black, with three more polished black stripes, without pruinosity; scutum velvety black, the centers of the lobes similarly polished black; posterior sclerites of notum black. Pleura polished black. Halteres relatively elongate, black throughout. Legs slender; coxæ black; trochanters dark brown; remainder of legs black, the femoral bases somewhat brightened. Wings (Plate 1, fig. 8) relatively narrow, with a strong blackish tinge, the axillary region a little brightened; veins darker than the ground color. Abundant macrotrichia on veins beyond cord. Venation: Sc_1 ending a short distance beyond r-m; Rs of moderate length, subequal to R, arcuated at origin; R_{2+3+4} subequal to R_{1+2} and a

little longer than R_{2+3} ; cell M_1 present, subequal to its petiole; m-cu at fork of M_{3+4} (male) or some distance before this fork, at near three-fourths the length of cell 1st M_2 (female).

Abdomen black, the basal portions of the more proximal tergites more nacreous and pruinose; sternites with the pruinose bases more extensive, only a little less in degree than the velvety black apical portions; hypopygium brownish black. Genital shield of female brown; valves of ovipositor horn yellow.

Habitat.—Sumatra (Benkoelen).

Holotype, male, Boekit Jtam, altitude 1,000 to 2,000 feet, June 11 to 15, 1935 (Walsh). Allotopotype, female. Paratopotype, female.

By Edwards's key to the species of *Eriocera*⁶ the present fly runs to *Hexatoma (Eriocera) lygropis* (Alexander) of Formosa, a large, powerfully built crane fly that is not closely allied to the present insect. This latter is one of the smallest and most delicate members of the subgenus in the Oriental fauna.

HEXATOMA (ERIOCERA) CANINOTA sp. nov. Plate 1, fig. 9.

Size small (wing, female, 9 millimeters); general coloration velvety black, the præscutum with three nearly confluent, silvery-gray stripes; scutal lobes similarly silvery pruinose; antennæ of female 8-segmented, black throughout; legs and halteres black, the femoral bases restrictedly brightened, especially the posterior pair; wings black; veins beyond cord with abundant macrotrichia; R_{2+3+4} shorter than R_{2+3} and subequal to R_{1+2} ; cell M_1 present, about as long as its petiole; m-cu at near midlength of the rectangular cell 1st M_2 ; abdomen velvety black, the basal rings of the segments more nacreous; genital shield fiery orange.

Female.—Length, about 11 millimeters; wing, 9.

Rostrum very short, black; palpi black. Antennæ (female) 8-segmented, black throughout; flagellar segments gradually decreasing in length outwardly, the last a little more than one-half the length of the penultimate; longest verticils of the intermediate segments subequal in length to the segment itself. Head velvety black; vertical tubercle slightly notched at summit.

Pronotum black. Mesonotal præscutum black, with three pruinose, silvery-gray stripes that are virtually confluent behind, the median one insensibly split by a capillary dark vitta; scutum dull black, the centers of the lobes silvery pruinose; scutellum and postnotum black, more sparsely pruinose. Pleura

* Loc. cit.

black. Halteres black. Legs relatively slender, black, the femoral bases somewhat brighter, especially the lower surface of the posterior femora where more than the basal half is involved. Wings (Plate 1, fig. 9) with a strong blackish tinge; stigma indicated by a narrow darker area lying in cell Sc_1 above vein R_2 ; a pale streak in cell 1st A adjoining the basal half of the vein; veins dark brown. Veins beyond cord with abundant macrotrichia. Venation: Sc_1 ending about opposite the fork of R_{2+3+4} , Sc_2 about opposite the fork of Rs; Rs angulated and sometimes weakly spurred at origin; R_{2+3+4} subequal to R_{1+2} and much shorter than R_{2+3} ; cell M_1 subequal in length to its petiole; cell 1st M_2 rectangular, with m-cu at midlength; cell 2d A of moderate width.

Abdomen velvety black, the proximal tergites with narrow, more nacreous, basal rings, the subterminal segments uniformly black; sternites with the basal rings more extensive, obscure brownish yellow, the surface sparsely pruinose. Genital segment fiery orange; valves of ovipositor long and slender, somewhat more yellowish horn color.

Habitat.—Sumatra (Benkoelen).

Holotype, female, Boekit Jtam, altitude 1,000 to 2,000 feet, June 11 to 15, 1935 (*Walsh*).

Hexatoma (Eriocera) caninota is most nearly allied to *H. (E.) plutonis* sp. nov., differing especially in the silvery thoracic markings and in the venation, as the short R_{2+3+4} and the position of m-cu at near midlength of cell 1st M_2 .

HEXATOMA (ERIOCERA) INDECORA sp. nov. Plate 1, fig. 10.

Head and thorax dark gray, the præscutum with four dull black stripes that are narrowly bordered with deeper black; femora brownish yellow, the tips narrowly blackened; wings suffused with rich fulvous-brown, the prearcular and costal areas even brighter, R_{1+2} longer than R_{2+3+4} ; cell M_1 present but small and tending to become evanescent; abdominal segments one to four orange-yellow, unmarked except for the dark pleural membrane; outer segments, including hypopygium, black.

Male.—Length, about 14 to 17 millimeters; wing, 11.5 to 15.

Rostrum black, pruinose; palpi black. Antennæ (male) 8-segmented; scape and pedicel black; flagellum yellowish brown to brown, the outer segments darker; flagellar segments cylindrical, gradually decreasing in length outwardly; terminal segment a little longer than the penultimate. Head dark brown,

the anterior vertex and orbits light gray; vertex with numerous long black and yellow setæ; vertical tubercle relatively high, simple.

Pronotum black, pruinose. Mesonotal præscutum dark gray, with four dull black stripes that are narrowly bordered with deeper black; vestiture restricted to the interspaces, long and conspicuous, chiefly pale; scutal lobes dark brown, the median area gray; scutellum dull blackish gray, with abundant long yellow setæ; mediotergite black. Pleura black, sparsely pruinose; mesepisternum with long setæ. Halteres black. Legs with the coxæ and trochanters black, sparsely pruinose; femora brownish yellow to yellowish brown, the bases clearer yellow, the tips rather narrowly (1.5 millimeters) blackened, the amount subequal on all legs; tibiæ and tarsi black. Wings (Plate 1, fig. 10) almost uniformly suffused with rich fulvous-brown, the prearcular and costal regions even brighter; veins pale yellowish brown. Macrotrichia present on veins R_3 , R_4 , and distal section of R_5 , restricted to virtually lacking on outer medial branches. Venation: Sc_1 ending opposite the slightly oblique R_2 , Sc_2 about opposite the fork of R_{2+3+4} ; R_{1+2} longer than R_{2+3+4} ; R_{2+3} a little longer than R_2 ; cell M_1 usually present but tending to become evanescent, lacking in one paratype specimen; when best developed, shorter than its petiole; m-cu from one-third to one-half its length beyond the fork of M.

Abdomen with segments one to four orange-yellow, unmarked except for a narrow pleural darkening; outer segments, including hypopygium, black; no differentiated basal pattern or polishing on any of the segments.

Habitat.—Sumatra (Benkoelen).

Holotype, male, Tandjong Sakti, altitude 1,650 to 2,000 feet, June 1 to 10, 1935 (Walsh). Paratopotypes, 2 males, May 26 to June 10, 1935 (Walsh).

By Edwards's key to the species of *Eriocera*⁷ the present fly runs to couplet 45, where it disagrees with all species beyond this point. It agrees fairly well with *Hexatoma* (*Eriocera*) *umbripennis* (Edwards) of Penang, but is amply distinct in all details of structure and coloration. The figure of the type of *umbripennis*⁸ shows cell M_1 lacking or very evanescent, but in the original definition of the species it is described as being present and a little longer than its petiole.

⁷ Loc. cit.

⁸ Tom. cit. pl. 10, fig. 2.

HEXATOMA (ERIOCERA) MESOPYRRHA (Wiedemann).

Limnobia mesopyrrha WIEDEMANN, *Aussereur. zweifl. Ins. I* (1828)
26.

JAVA, Mount Djampang, altitude 2,000 feet, September, 1933,
April, 1934 (*Walsh*). Wynkoope Bay, April, 1933 (*Walsh*).

HEXATOMA (ERIOCERA) FLAVOHIRTA sp. nov. Plate 1, fig. 11.

Belongs to the *mesopyrrha* group; general coloration black, the præscutum, scutum, and scutellum with conspicuous yellow setæ; halteres and legs black, the femoral bases restrictedly paler; wings dark brown, the broad prearcular region and a band before cord yellow, the latter not reaching the costal border; abdomen velvety black, segments two to four clear orange-yellow with black lateral borders; hypopygium brown; genital segment of female orange.

Male.—Length, about 16 to 17 millimeters; wing, 15 to 15.5.

Female.—Length, about 23 to 24 millimeters; wing, 18 to 18.5.

Rostrum and palpi black. Antennæ with scape and pedicel black; flagellum with basal segment obscure yellow, the succeeding segments passing through brownish yellow to black; antennæ 7-segmented (male); flagellar segments gradually decreasing in length outwardly. In the holotype the second flagellar segment abnormally swollen at base on both antennæ. Head dull black, the surface gray pruinose, leaving areas of the ground color on either side of the posterior vertex; vertical tubercle simple, relatively low; setæ of head black.

Mesonotum opaque black, the præscutal stripes only a little more grayish black than the deep black interspaces, the lateral and humeral portions more grayish; præscutum, scutum, and scutellum with long conspicuous appressed yellow setæ, on the præscutum involving not only the interspaces but the surface of the stripes themselves, only the anterior ends of the intermediate stripes being destitute of them; mediotergite glabrous. Pleura dull black or brownish black, the surface weakly pruinose; yellow setæ on dorsal sternopleurite in male and on both sternopleurite and anepisternum in female. Halteres black. Legs with the coxæ black, pruinose; trochanters black; femora black, the bases narrowly yellowish on foreleg, somewhat more extensively infuscated on middle and hind legs; tibiæ and tarsi black to brownish black. Wings (Plate 1, fig. 11) dark brown, in the male with cell C more reddish brown, cell Sc more yellowish; extreme wing base dark; prearcular region broadly pale

yellow; an incomplete light yellow crossband before cord, relatively narrow but widened in radial field, extending from vein R_1 to the posterior margin of wing on either side of vein Cu_1 ; veins brown, more yellowish in the brightened areas. Costal fringe greatly reduced (male) to abundant (female), as in the group. Venation: Sc_1 ending opposite the transverse R_2 ; R_{1+2} a little longer than R_{2+3+4} ; cell M_1 present; m-cu at near mid-length of cell 1st M_2 , longer than the distal section of Cu_1 .

Abdomen velvety black; segments two to four clear orange-yellow, the segments narrowly bordered laterally with black; segments without leaden or scoriaceous basal rings; hypopygium brown to brownish black. In the female, the extreme caudal borders of tergites two to four are insensibly darkened; genital segment deep orange; cerci very long and slender, black, with pale tips.

Habitat.—Sumatra (Benkoelen).

Holotype, male, Boekit Jtam, altitude 1,000 to 2,000 feet, June 11 to 15, 1935 (*Walsh*). Allotype, female, Moeara Tenam, July 4 to 14, 1935 (*Walsh*). Paratopotype, male. Paratype, female, with the allotype.

By Edwards's key to the Old World species of *Eriocera*⁹ the present fly runs to couplet 86, disagreeing widely with both included species, *bicolor* Macquart (*bengalensis* Alexander) and *cingulata* (de Meijere). It is more closely related to *mesopyrrha* (Wiedemann), differing in the black coloration, more distinctly yellow wing pattern, and the abdominal coloration. It should be noted that there is a slight error in Edwards's key, where *cingulata* runs to that group of species having black legs (couplet 84). In reality, the species has the femora yellow with the tips rather narrowly but conspicuously blackened.

HEXATOMA (ERIOCERA) MULTICOLOR sp. nov. Plate 1, fig. 12.

Mesonotal præscutum and scutum velvety black, without markings; antennæ with scape and pedicel black, flagellum yellow; scutellum obscure orange, mediotergite yellow; legs with the femora yellow, the tips narrowly black, tibiæ and tarsi darkened; wings brown, the anal cells paler; a triangular whitish discal area; prearcular and costal regions restrictedly yellowish; wing tip narrowly yellow; cell M_1 present; abdominal tergites polished nacreous, with the caudal margins narrowly ringed with velvety black, the outer segments more uniformly polished black; hypopygium yellow.

⁹ Tom. cit. 70-78.

Male.—Length, about 14 millimeters; wing, 13.

Rostrum black, sparsely pruinose; palpi black. Antennæ (male) 7-segmented, short; scape black, pruinose; pedicel brownish black; flagellum yellow, the end of the outer segment a little darkened. Head black, more pruinose adjoining the eyes; vertical tubercle bifid at apex.

Mesonotal præscutum and scutum velvety black, without markings; scutellum obscure orange, parascutella black; mediotergite uniformly yellow, the pleurotergite black; vestiture of mesonotum relatively short and sparse but erect. Pleura, including the dorsopleural membrane, black. Halteres short, stem brown, knob blackened. Legs with the coxæ and trochanters brownish black; femora yellow, the tips narrowly blackened, the amount subequal on all legs; tibiæ brown, with black vestiture; tarsi black. Wings (Plate 1, fig. 12) with the ground color brown, the anal cells more grayish brown; prearcular region clear light yellow; costal border, including cells C and Sc to beyond the stigma, more brownish yellow; a triangular or sagittate white area near center of the wing, the point directed basad, the area occupying cells R₁, R, and M; wing tip light yellow, involving cells R₃, R₅, and M₁; veins dark, more luteous in the yellow areas. Costal fringe long and dense; macrotrichia on R₃, most of R₄, and distal section of R₅; scattered trichia on outer ends of outer medial veins. Venation: Rs about one-third longer than R; R₂₊₃₊₄ and R₂₊₃ subequal; cell M₁ subequal to its petiole; m-cu at near three-fourths to four-fifths the length of cell 1st M₂.

Abdominal tergites chiefly polished nacreous, glabrous, and more or less opalescent, the caudal margins narrowly ringed with velvety black, becoming narrower and more restricted outwardly, lacking on the subterminal segments which are more uniformly polished black; basal sternites brown, the succeeding segments more yellowish; subterminal sternites four to eight more blackened; hypopygium yellow.

Habitat.—Sumatra (Benkoelen).

Holotype, male, Boekit Jtam, altitude 1,000 to 2,000 feet, June 11 to 15, 1935 (*Walsh*).

By Edwards's key to the Old World species of the subgenus¹⁰ the present fly runs to *Hexatoma (Eriocera) plumbolutea* (Edwards) of Assam, differing in the nature of the vestiture and in numerous details of coloration of the thorax, wings, and abdomen.

¹⁰ Loc. cit.

None of the numerous species of *Eriocera* subsequently described by Edwards and the writer is more closely allied.

HEXATOMA (ERIOCERA) NOVELLA sp. nov. Plate 1, fig. 13.

Belongs to the *nepalensis* group; general coloration velvety black; antennal flagellum yellow; legs yellow, the tips of the femora and tibiæ narrowly blackened; wings brown, the base light yellow; a broad white crossband before the cord, entirely traversing the wing; outer branches of R with macrotrichia; R_2 oblique; cell M_1 lacking; m-cu close to fork of M_{3+4} ; abdomen black, tergites two to five very heavily light gray pruinose, especially segments two and five, segments three and four more dotted with gray; genital shield of female and the male hypopygium black.

Male.—Length, about 12 millimeters; wing, 10.

Female.—Length, about 15 millimeters; wing, 11.

Rostrum brownish black; palpi black. Antennæ of male 8-segmented, of female apparently 10-segmented; scape and pedicel brownish black, pruinose; flagellum yellow, the terminal segment (male) or segments (female) darkened; flagellar segments cylindrical, gradually decreasing in length outwardly. Head brownish black, with long erect setæ.

Thorax velvety black, without a distinct pattern; præscutal interspaces with relatively sparse erect setæ that are shorter than those of the head. Halteres dusky. Legs with the coxæ black; trochanters brown; femora yellow, the tips rather narrowly but conspicuously blackened, the amount subequal on all legs and involving about the distal sixth or seventh; tibiæ and basitarsi brownish yellow, the tips narrowly blackened; remainder of tarsi black. Wings (Plate 1, fig. 13) dark brown, variegated only by conspicuous light yellow coloration at the base, extending to just beyond the arculus, and a complete white crossband before the cord, extending from C before the outer end of Sc_1 to the posterior border in outer end of cell 1st A; bases of anal cells narrowly whitened; veins brown, yellow in the pale areas. Costal fringe dense; macrotrichia on all radial veins beyond cord; outer branches of M with only a few scattered trichia. Venation: Sc_1 ending nearly opposite r-m; Rs subequal to or a little longer than R, in cases weakly angulated at origin; R_2 oblique, at or beyond fork of R_{2+3+4} ; tip of R_3 rather strongly upcurved; cell M_1 lacking; m-cu close to fork of M_{3+4} .

Abdomen black, with tergites two to five very heavily light gray pruinose, not at all polished, leaving the extreme caudal borders of the segments black; segments three and four with the ground color interrupted to produce a dotted effect adjoining the setæ; remainder of abdomen, including the hypopygium and genital shield of female, velvety black; ovipositor long and slender, horn-colored.

Habitat.—Sumatra (Benkoelen).

Holotype, male, Tandjong Sakti, altitude 1,650 to 2,000 feet, July 16 to 19, 1935 (*Walsh*). Allotype, female, Moeara Tenam, June 16 to 23, 1935 (*Walsh*).

By Edwards's key to the Old World species of *Eriocera*¹¹ the present fly runs to *assamensis* (Edwards) of Assam, which still seems to be its closest ally. It differs conspicuously in the small size, coloration of the antennal pedicel, and the complete white crossband of the wing, this involving cells C and Sc, which are darkened in *assamensis*.

HEXATOMA (ERIOCERA) ACROSTACTA (Wiedemann).

Limnobia acrostacta WIEDEMANN, Dipt. exot. 1 (1821) 14.

SUMATRA, Tanggamoës, Lampangs, altitude 1,500 to 2,000 feet, July 22 to August 5, 1935 (*Walsh*).

WEST JAVA, Mount Djampang, altitude 1,500 to 2,000 feet, June, 1933 (*Walsh*).

The species shows a somewhat unusual range in size (male, length, 20 to 27 millimeters; wing, 13 to 18). In some specimens the middorsal abdominal stripe is less clearly defined than in others, the median darkened portion being paler at the anterior end of the individual segment than on its caudal portion, partially interrupting the stripe.

HEXATOMA (ERIOCERA) MALEVOLENS sp. nov. Plate 1, fig. 14.

Allied to *acrostacta*; thorax deep velvety black; antennæ 8-segmented in both sexes, flagellum of male black, of female yellowish brown to obscure yellow; head pruinose above; femora yellow, the tips narrowly blackened; wings dark brown or brownish black, the anal cells paler; a vague brightening on vein M shortly before level of origin of Rs; extreme wing tip white; m-cu at from one-half to three-fourths the length of cell 1st M₂; abdomen (male) elongate, velvety black; segments two to

¹¹ Loc. cit.

five, inclusive, yellow, with the caudal margins blackened, not forming a median stripe; genital shield of female dark, heavily pruinose.

Male.—Length, 20 to 23 millimeters; wing, 12 to 15.

Female.—Length, about 18 to 20 millimeters; wing, 12.5 to 14.

Rostrum and palpi black. Antennæ 8-segmented in both sexes, in cases with the terminal segment indistinctly divided; scape and pedicel black, pruinose; flagellum of male black, of female much paler, yellowish brown to obscure yellow. Head black, heavily pruinose.

Thorax deep velvety black, almost destitute of setæ. Halteres black. Legs with the coxæ and trochanters black; femora yellow, the tips rather narrowly but conspicuously blackened, the amount subequal on all legs; tibiæ obscure yellow, the tips very narrowly and vaguely darkened; tarsi black. Wings (Plate 1, fig. 14) strongly suffused with dark brown or black, the anal cells paler; a vague brightening on vein M shortly before the level of origin of Rs; extreme wing tip white, including the outer end of cell R_4 and adjoining portion of cell R_3 ; veins dark. Venation: Sc_2 in alignment with the slightly oblique R_2 ; R_{2+3+4} subequal to or a little shorter than the basal section of R_5 and less than one-half R_{1+2} ; cell M_1 lacking; m-cu at from one-half to three-fourths the length of cell 1st M_2 .

Abdomen of male elongate, as in *acrostacta* and allies; basal segment velvety black, segments two to five yellow, with the caudal margins black, the color continued a short distance cephalad on the individual segments but not forming an uninterrupted or scarcely broken middorsal stripe, as in *acrostacta*; succeeding tergites and hypopygium black; in cases the lateral basal portions of tergite six slightly brightened; segments without differentiated basal rings. In the female, abdomen shorter, the caudal margins of the brightened tergites a little more extensively darkened, but still not forming a continuous stripe; ovipositor with genital shield dark, heavily pruinose.

Habitat.—East Java.

Holotype, male, Nongkodjadjar, Tengger Mountains, altitude 3,600 feet, February, 1936 (*Walsh*). Allotopotype, female, pinned with type. Paratopotypes, 6 of both sexes.

The nearest ally of the present fly is *Hexatoma* (*Eriocera*) *acrostacta* (Wiedemann), which has the abdomen similarly elongated in the male sex, differing in the deep reddish thorax, conspicuous whitened band before cord of wings, and the usually

unbroken middorsal stripe on abdomen. The reduction in the amount of white on the wings makes the present fly somewhat like *H. (E.) albipunctata* (van der Wulp). I am indebted to Doctor de Meijere for an authentic specimen of the latter species, which agrees in all details with van der Wulp's description. This fly has R_2 nearly transverse, subequal to R_{1+2} ; cell 1st M_2 subquadrate, with m-cu at midlength; pale apical wing spot restricted to cell R_4 ; no other pale areas on wing.

HEXATOMA (ERIOCERA) BASILARIS (Wiedemann).

Limnobia basilaris WIEDEMANN, Dipt. exot., 1 (1821) 15.

JAVA, Mount Djampang, altitude 1,500 to 2,000 feet, July, 1933; February, April, 1934 (*Walsh*).

Radjornandala, Preanger, altitude 1,200 feet, December, 1935 (*Walsh*).

HEXATOMA (ERIOCERA) INTERSTITIALIS sp. nov. Plate 1, fig. 15.

General coloration velvety black; head heavily pruinose; femora yellow, the tips blackened; wings brownish black, the prearcular region black; an incomplete white crossband before cord, together with two small, clearly delimited white marks basad of this band; wing tip pale, bicolorous, the extreme margin yellow, bordered internally by white; veins Sc_2 and R_2 in approximate or actual transverse alignment; cell M_1 lacking; cell 1st M_2 short, with m-cu lying far distad; abdominal segments velvety black, with dark-colored glabrous basal rings; genital shield of ovipositor black, pruinose.

Female.—Length, about 12 to 13 millimeters; wing, 9 to 10.

Rostrum black, sparsely pruinose; palpi black. Antennæ (female) 10-segmented; scape and pedicel black, the former sparsely pruinose; flagellum black or with the basal two segments brownish yellow, the outer segments passing into black; antepenultimate and penultimate segments subequal, the terminal a little longer. Head black, heavily silver-gray pruinose, especially on the front and broad anterior vertex, the color continued onto the posterior vertex as a triangular area; vertical tubercle low.

Thorax deep velvety black, without evident stripes or markings; thorax virtually destitute of setæ. Halteres black. Legs with the coxæ and trochanters black; femora yellow, the tips rather narrowly (1 to 1.2 millimeters) and abruptly blackened, the amount subequal on all legs; tibiæ brown, the tips narrowly more blackened; tarsi black. Wings (Plate 1, fig. 15) with the

ground color brownish black, anal cells somewhat paler; prearcular region dark; cells C and Sc more yellowish brown; a complicated white pattern, including an incomplete narrow crossband before cord, extending from veins R_1 to 1st A, and two small, clearly defined dashes before this band, one crossing cells R and M before the origin of Rs, the other transverse, crossing Rs at near one-third the length; wing tip bicolorous, the extreme margin pale yellow, the remainder white, extending from tip of vein R_{1+2} almost to vein M_{1+2} ; veins brown, paler in the white areas. Rather sparse scattered trichia on radial veins beyond cord, lacking in medial field. Venation: Sc_1 ending just beyond R_2 , Sc_2 only a short distance from its tip and in alignment with R_2 or virtually so; R_{1+2} very long, approximately twice R_{2+3+4} ; R_{2+3} shorter than R_2 , subperpendicular; cell M_1 lacking; cell 1st M_2 short, with m-cu lying at or beyond four-fifths the length.

Abdominal tergites velvety black, the basal rings of the segments broadly glabrous, nacreous brown, without yellow tones; genital shield black, pruinose; cerci elongate, horn yellow, blackened basally.

Habitat.—Sumatra (Benkoelen).

Holotype, female, Moeara Tenam, June 16 to 23, 1935 (Walsh).

Paratopotype, female, July 4 to 14, 1935 (Walsh).

The present fly is most nearly allied to *Hexatoma* (*Eriocera*) *basilaris* (Wiedemann) and *H. (E.) pannosa* (Enderlein), differing in the diagnostic features listed, as the intensely black, nearly glabrous thorax, darkened wing base, and darkened nacreous bases of the abdominal segments. The fact that there are only two basal white areas on the wing disc should be noted.

HEXATOMA (ERIOCERA) ARGYROCEPHALA sp. nov. Plate 1, fig. 16.

General coloration of thorax velvety black; head above silver gray; antennal flagellum pale basally; thorax almost glabrous; knobs of halteres obscure yellow; femora yellow, the tips narrowly blackened; wings dark, the prearcular region light yellow; a narrow white crossband before cord, extending from vein R_1 to 1st A; two small white spots in cells R_1 and M; wing tip narrowly white; R_2 oblique; cell M_1 lacking; abdomen black, segments two to four (male) or two and three (female) yellow, narrowly darkened basally; male hypopygium black; ovipositor with genital shield heavily pruinose above.

Male.—Length, about 14 to 17 millimeters; wing, 9 to 12.

Female.—Length, about 16 to 18 millimeters; wing, 11.

Rostrum and palpi black. Antennæ of male 8-segmented, of female 10-segmented; scape and pedicel black, heavily pruinose; basal one or two flagellar segments obscure yellow, the outer segments passing through light to dark brown; flagellar segments gradually decreasing in length outwardly. Head above silvery gray, including the front, anterior vertex and cephalic portion of posterior vertex, the remainder of head dark brown; vertical tubercle not or scarcely developed; anterior vertex wide.

Thorax uniformly velvet black, almost glabrous. Halteres with stem dark brown, knob obscure yellow, weakly tipped with dusky. Legs with the coxæ velvety black; trochanters light brown; femora yellow, the tips narrowly black, the amount subequal on all legs and including about the distal sixth to eighth of the segment; tibiæ yellow, more obscure beyond base, the tip narrowly blackened; tarsi black. Wings (Plate 1, fig. 16) dark brown, the anal cells paler, especially at base; a handsome pattern of yellow and white; extreme wing base darkened; prearcular region and usually cell Sc yellow; cell C infuscated; an incomplete white crossband before cord, extending from vein R_1 to 1st A, just before the outer end of the latter; two small whitish spots in cells R_1 and M, respectively, the former crossing Rs into cell R; wing tip conspicuously white, involving cells R_3 to R_5 , inclusive; veins dark, yellow in the pale areas. Costal fringe dense and abundant in both sexes; outer radial branches with relatively numerous trichia over most of their length; a few scattered trichia on outer section of vein M_{1+2} ; other veins beyond cord glabrous. Venation: R_2 oblique, almost in transverse alignment with the unusually erect R_{2+3} ; in the paratype female longer and even more oblique, at the fork of R_{2+3+4} ; vein R_3 upcurved at tip; cell M_1 lacking; m-cu at near two-thirds to three-fourths the length of cell 1st M_2 .

Abdomen with basal segment velvety black; tergites two to four pale yellow, with scarcely differentiated basal rings, these narrowly darkened in some individuals; tergites five and six velvety black, with broad, more-polished black basal rings; seventh tergite polished black; hypopygium black; sternites yellow, the incisures weakly darkened. In the female, segments two and three yellow, the remainder velvety black, with narrow glabrous basal rings on tergites four to six; genital shield heavily pruinose above, more reddish on ventral surface; cerci blackened basally, the remainder of the long valves dark horn-colored.

Habitat.—Sumatra (Benkoelen).

Holotype, male, Tandjong Sakti, altitude 1,650 to 2,000 feet, June 1 to 10, 1935 (*Walsh*). Allotype, female, Boekit Jtam, altitude 1,000 to 2,000 feet, June 11 to 15, 1935 (*Walsh*). Paratopotypes, 4 males, May 26 to July 19, 1935. Paratypes, 1 female, with the allotype; 1 male, Moeara Tenam, July 4 to 14, 1935 (*Walsh*).

By Edwards's key to the Old World species of the subgenus¹² the present fly runs to *Hexatoma (Eriocera) javensis* (Dole-schall), which differs conspicuously in the pattern of the wings and abdomen. The silvery head of the present insect, while very conspicuous and distinctive, is likewise found in other allied forms.

HEXATOMA (ERIOCERA) VIDUA sp. nov. Plate 1, fig. 17.

Male.—Length, about 13 to 15 millimeters; wing, 8.5 to 10.

Very similar to *H. (E.) interstitialis* sp. nov., differing in the following regards: Antennæ of male 8-segmented; black throughout; third flagellar segment longer than the second, the others gradually decreasing in length outwardly. Entire vertex heavily light gray pruinose. Wings (Plate 1, fig. 17) with the white markings basad of the medial crossband larger but with very diffuse margins, the more basal involving cell M only; a distinct pale area in cell R₂ at near midlength; white apex very restricted, without yellow outer border, involving outer ends of cells R₃ and R₄. A few scattered macrotrichia on outer section of M₁₊₂. Venation: Sc₁ very short, extending only a short distance beyond R₂; m-cu at or shortly before outer end of cell 1st M₂. Abdomen more elongate, this probably a sexual character only; basal segment black; segments two to five, inclusive, bright yellow, with relatively narrow, black, caudal borders; succeeding segments and hypopygium black; no differentiated glabrous basal rings on segments.

Habitat.—Sumatra (Benkoelen).

Holotype, male, Moeara Tenam, June 16 to 23, 1935 (*Walsh*).

Paratopotype, male, July 4 to 14, 1935 (*Walsh*).

HEXATOMA (ERIOCERA) ATRISOMA sp. nov. Plate 1, fig. 18.

Body, together with antennæ, halteres and legs, black; wings strongly suffused with black, the anal cells more grayish; an incomplete white band before cord, together with two small, dirty white spots basad of the band; a narrow, nearly terminal

¹² Loc. cit.

white area; outer radial veins with numerous macrotrichia; Sc_2 in alignment with the slightly oblique R_2 ; R_{1+2} more than twice R_{2+3+4} ; m-cu near outer end of cell 1st M_2 .

Male.—Length, about 16 millimeters; wing, 12.

Rostrum and palpi black. Antennæ of male 8-segmented, black throughout; terminal segment a little longer than the penultimate. Head velvety black; vertical tubercle low and inconspicuous; a pale spot near center of posterior vertex, this possibly an abnormality of the type specimen; head with sparse black setæ.

Thorax uniformly deep velvety black; præscutal interspaces with sparse erect black setæ. Halteres black. Legs black, the tibiæ and tarsi a little less intensely so than the femora. Wings (Plate 1, fig. 18) strongly suffused with black, the anal cells conspicuously more grayish; a white pattern, arranged as follows: A narrow incomplete crossband before cord, extending from vein R_1 to midwidth of cell Cu; two small, obscure whitish spots basad of this band, one on R_s at near one-third the length, the other on vein M just before one-fourth the length; a white lunule, nearly apical, extending from vein R_3 to M_{1+2} , narrowly bordered outwardly by slightly paler brown; veins pale brown, a trifle lighter colored where traversing the white discal band. Macrotrichia on outer radial veins, more sparse and scattered on M_{1+2} . Venation: Sc_2 in alignment with the slightly oblique R_2 ; R_{1+2} more than twice R_{2+3+4} ; cell M_1 lacking; m-cu near outer end of the short-rectangular cell 1st M_2 .

Abdomen velvety black, the basal rings more glabrous but not differentiated in color; hypopygium deep black.

Habitat.—North Java.

Holotype, male, Tjolo, Goenoeng Moeria, altitude 2,100 feet, December 1 to 8, 1935 (*Walsh*).

By Edwards's key to the Old World species of the subgenus¹³ the present form runs to couplet 105, where it disagrees conspicuously with both included forms by the intense black coloration of the body and appendages. If the pale lunule at wing tip is interpreted as being subapical, the fly runs to the common *Hexatoma (Eriocera) basilaris* (Wiedemann), which has the wing base broadly yellow, the white pattern of the wings more extensive and differently distributed, and the femoral bases broadly yellow. From other allied Sumatran species described at this time (*interstitialis*, *argyrocephala*, and *vidua*), the present

¹³ Loc. cit.

fly differs in the uniform black coloration of the body and appendages and in the distinctive wing pattern.

HEXATOMA (ERIOCERA) SELENE (Osten Sacken).

Eriocera selene OSTEN SACKEN, Annali Mus. Civ. Genova 16 (1881) 406-407.

Eriocera selene EDWARDS, Bull. Raffles Mus. 7 (1932) 78-79.

Osten Sacken's type, a unique female, was from Goenoeng Singgalang, Sumatra, collected in July, 1878, by Beccari. Edwards recorded two additional males from Siberut Island, Mentawi Islands, west of Sumatra.

Several males and females from different stations in Benkoelen, southeastern Sumatra. Tandjong Sakti, altitude 1,650 to 2,000 feet, July 19, 1935. Moeara Tenam, June 16 to July 14, 1935 (Walsh).

The above specimens may be redefined as follows:

Male.—Length, 15 to 17 millimeters; wing, 13 to 15.5.

Female.—Length, 15 millimeters; wing, 12.

The coloration of the thorax varies in different specimens from reddish orange to deep cherry red. Vestiture of head and præscutum relatively sparse but long and conspicuous. Vertical tubercle simple. Antennæ of male 8-segmented, of female 10-segmented; basal flagellar segments yellow, the terminal two (male) to four (female) darkened.

Legs brownish black, the femoral bases restrictedly yellow; tarsi black. Wings dark brown, with two white areas, one before the cord, extending from vein R_1 nearly to Cu, nearly straight to weakly crescentic in outline; second spot at wing tip, involving the outer ends of cells R_3 and R_4 ; in all specimens before me this latter area is apical in position. A pale streak in cell 1st A, adjoining the basal half of the vein. As stated by Edwards, R_s is unusually short, not exceeding twice the length of R_{2+3+4} , and only a little longer than R_{1+2} ; Sc_1 ends before, opposite, or even shortly beyond the transverse R_2 ; m-cu at from one-third to one-fourth its length before the fork of M_{3+4} . One specimen shows an abnormal venation in having an adventitious crossvein in cell R_3 of one wing and with m obliterated or nearly so by the shortening and approximation of veins M_{1+2} and M_3 , the point of union being surrounded by a pale spot.

Abdomen polished black, the caudal margins of the tergites very narrowly velvet black, the amount of the latter decreasing on the outer segments, tergites one, seven, and eight entirely

black. Sternites beyond the basal two velvety black, with narrow glabrous basal rings; hypopygium and genital shield of female black. Osten Sacken's unique type had the latter area reddish.

HEXATOMA (ERIOCERA) SEMILUNATA sp. nov. Plate 1, fig. 19.

General coloration black; antennæ (male) 8-segmented; legs dark brown, the terminal tarsal segments blackened; wings with a strong brown suffusion; prearcular field broadly light yellow; a narrow whitish crossband before cord; wing tip narrowly paler brown than the ground, bordered internally by a very narrow whitish lunule; relatively numerous macrotrichia on outer radial veins; Sc_2 some distance before tip of Sc_1 and before inner end of the oblique R_2 ; abdomen black, the basal rings broadly glabrous and slightly nacreous.

Male.—Length, about 14 millimeters; wing, 12.5.

Rostrum and palpi black. Antennæ of male 8-segmented; scape black, pruinose; remainder of organ black; terminal segment longer than the penultimate. Head black, silvery pruinose, especially on front and anterior vertex, the color extended into a triangular point behind; vertical tubercle scarcely developed; setæ black, conspicuous.

Thorax velvety black, almost glabrous. Halteres black. Legs with the coxæ and trochanters black; remainder of legs dark brown, the terminal tarsal segments blackened. Wings (Plate 1, fig. 19) with a strong brown suffusion; prearcular field broadly light yellow but the extreme base darkened; a narrow, parallel-sided whitish crossband before cord, extending from vein R almost to 1st A; wing tip narrowly paler brown than the ground, with an extremely narrow, internal, whitish lunule; veins pale brown, lighter colored in the pale areas. Relatively numerous macrotrichia on outer radial veins, these fewer and more scattered on the outer medial branches. Venation: Sc_2 some distance before tip of Sc_1 and before the inner end of the oblique R_2 ; R_{1+2} nearly twice R_{2+3+4} ; m-cu near outer end of cell 1st M_2 .

Abdomen black, the basal rings very broadly polished to weakly nacreous, on tergites two and three the apical ring subequal in width to the basal; on outer segments, the velvety apices of the tergites becoming progressively narrower, greatly narrowed on the seventh segment; basal rings of more proximal segments glabrous, segments six and seven with numerous scattered setæ; hypopygium black.

Habitat.—East Java.

Holotype, male, Djoenggo, Mount Ardjano, altitude 4,500 feet, January, 1936 (*Walsh*).

In its general appearance, the present fly somewhat resembles *Hexatoma (Eriocera) malangensis* Alexander and *H. (E.) salakensis* (Edwards), differing especially in the nearly apical white lunule of the wings. Both of the species mentioned have the trichia of the wing veins much more restricted and scattered, being actually or nearly lacking on vein R_3 and on the outer medial branches.

HEXATOMA (ERIOCERA) ATRICORNIS Alexander.

Hexatoma (Eriocera) atricornis ALEXANDER, Philip. Journ. Sci. 54 (1934) 457-458.

One female, Soekaboemi, West Java, altitude 1,800 feet, February 1934 (*Walsh*).

HEXATOMA (ERIOCERA) TOXOPEI sp. nov. Plate 1, fig. 20.

General coloration black; legs brownish black, the femoral bases obscure yellow; wings brownish black, the base conspicuously light yellow; a relatively narrow white crossband before cord; scattered trichia on outer ends of veins R_4 , R_5 , and M_{1+2} ; R_s about four times the basal section of R_5 ; cell 1st M_2 relatively small, vein M_{1+2} being more than twice the length of the cell; m-cu at midlength of cell 1st M_2 ; abdominal tergites black, glabrous on basal portions.

Male.—Length, about 14 millimeters; wing, 11.5.

Rostrum and palpi black. Antennæ of male 8-segmented; scape and pedicel brownish black; flagellum brown. Front and anterior vertex heavily pruinose; posterior portion of head black, with relatively conspicuous black setæ.

Thorax black, nearly glabrous. Halteres black. Legs with the coxæ and trochanters black; femora black, the bases broadly obscure yellow, including about the basal third on forelegs and nearly the outer half on the posterior pair, the yellow gradually passing into the dark color; tibiæ and tarsi brownish black. Wings (Plate 1, fig. 20) brownish black, the base conspicuously light yellow to the level of the arculus; a relatively narrow white crossband before cord, extending from vein R_1 across cells R_1 , R , and M , barely invading cell Cu behind; veins dark brown, paler in the brightened areas. Trichia present on veins R_4 , R_5 , and M_{1+2} , scattered and restricted to the outer ends of veins; veins R_3 , M_3 , and M_4 without trichia. Venation: Sc_1

ending just beyond R_2 , Sc_2 a short distance from its tip; R_2 only moderately oblique; R_{2+3+4} about one-half R_{1+2} ; R_s about four times the basal section of R_5 ; cell 1st M_2 relatively small, the veins beyond it long, M_{1+2} being more than twice the length of the cell; m-cu at near midlength of cell 1st M_2 .

Abdomen, including hypopygium, black, the bases of all but the eighth tergite glabrous, but not at all pruinose or whitened, the amount of glabrosity greatest on the more basal segments, becoming less on the outer segments, reaching a minimum on segments seven and eight.

Habitat.—Central Java.

Holotype, male, Goenoeng Soembing, near Kledong, altitude 5,850 feet, May 21, 1933 (*Toxopeus*); through Mrs. M. E. Walsh.

I am pleased to name this species in honor of the collector, Mr. L. J. Toxopeus. In its general appearance and wing pattern, the fly is somewhat similar to *Hexatoma (Eriocera) malangensis* Alexander and *H. (E.) salakensis* (Edwards), both of Java, especially to the former. This has the pattern of the legs and wings distinct and the venational details quite different, as the even more oblique R_2 , relatively short R_s , which is not more than three times the basal section of R_5 , and the different arrangement of veins in the outer medial field. *Hexatoma salakensis* has the abdomen chiefly yellow and the venational details very distinct, having R_2 exceedingly oblique and R_s unusually short, less than two times the length of the basal section of R_2 , in this respect being exceeded only by *H. (E.) selene* (Osten Sacken) among the local species. The wing venation of the present fly is much as in *H. (E.) diengensis* Alexander, but the coloration of the body, especially of the abdomen, is different. It seems probable that *diengensis* will prove to be the closest ally of the present fly.

HEXATOMA (ERIOCERA) CINGULATA (de Meijere).

Eriocera cingulata DE MEIJERE, Tijds. voor Ent. 54 (1911) 58–59.

Eriocera fasciata DE MEIJERE, Tijds. voor Ent. 54 (1911) 59 (name preoccupied by Guérin and Williston).

SOUTH SUMATRA, Boekit Jtam, Benkoelen, altitude 1,000 to 2,000 feet, June 11 to 15, 1935 (*Walsh*). Moeara Tenam, Benkoelen, June 16 to 23, 1935 (*Walsh*).

WEST JAVA, Goenoeng Malang, Djampang, altitude 3,000 feet, July 10, 1933 (*Walsh*). Soekaboemi, altitude 1,800 feet, April 15, 1933 (*Walsh*).

HEXATOMA (ERIOCERA) CONSTRICTA Alexander.

Hexatoma (Eriocera) bengalensis constricta ALEXANDER, Philip. Journ. Sci. 54 (1934) 459-460.

Further material and the study of rather numerous specimens have convinced me that the East Indian species commonly identified as being *Hexatoma (Eriocera) bicolor* (Macquart) cannot be the same as the last-named species, the type specimen of which was from Bengal. The synonymy of *bicolor (bengalensis)* is given in the paper cited above, and I consider that this species as now restricted is known only from British India.

The second species, widely distributed in Sumatra, Java, and Borneo, may be considered to be a variety of *constricta* Alexander, the typical form of which I have seen only from West Java. To the more widespread form of the species, having the costal border of the wings broadly yellow, connecting the yellow discal fascia with the prearcular area, I give the name *Hexatoma constricta sunda* subsp. nov.

HEXATOMA CONSTRICTA SUNDA subsp. nov.

Holotype, male, Moeara Tenam, Benkoelen, Sumatra, June 16 to 23, 1935 (*Walsh*). Allotype, female, Tandjong Sakti, Benkoelen, Sumatra, altitude 1,650 to 2,000 feet, July 16 to 19, 1935 (*Walsh*). Paratypes, female, Harau Kloof, West Sumatra, altitude 1,790 feet, June, 1926 (*Jacobson*); male, Borneo, 1891 (*Chaper*).

HEXATOMA (ERIOCERA) LUNIGERA (Walker).

Pterocosmus lunigera WALKER, Proc. Linn. Soc. London 1 (1857) 107.

WEST JAVA, Djampang, Tengah, altitude 1,500 to 2,000 feet, March, June, 1933 (*Walsh*). Selabintanah, Mount Gedeh, altitude 3,000 feet, December, 1932 (*Walsh*).

HEXATOMA (ERIOCERA) SUBLUNIGERA sp. nov. Plate 1, fig. 21.

Allied to *lunigera*; coloration deep velvety black, the præscutum with three highly polished black stripes; legs and halteres black, the femoral bases more brightened, especially the fore pair; wings dark brown, with a narrow broken whitish band before cord and a tiny yellow spot at extreme outer end of cell R₄; abdomen, including genital shield of female, intense black.

Male.—Length, about 13 millimeters; wing 10.

Female.—Length, about 18 millimeters; wing, 13.

Rostrum and palpi black. Antennæ 8-segmented in both sexes; scape black; pedicel brownish black; flagellum dark

brown; terminal segment longer than the penultimate. Head deep velvety black, the anterior vertex very vaguely pruinose; vertical tubercle low and inconspicuous; setæ of head black, sparse but conspicuous.

Pronotum velvety black. Mesonotal præscutum velvety black, with three highly polished black stripes; setæ of interspaces black, sparse and erect; posterior sclerites of mesonotum velvety black. Pleura velvety black, almost glabrous. Halteres black. Legs black, the bases of the fore femora obscure yellow, involving about the proximal third, the bases of the middle and hind femora dark brown. Wings (Plate 1, fig. 21) almost uniformly dark brown, the anal cells more grayish, except at apex of cell 1st A and along vein 2d A; a very restricted broken dirty-white band before cord, occurring in outer ends of cells R and M just before fork of M and as an isolated spot in cell R₁, immediately beneath Sc₂; extreme wing tip in apex of cell R₄ very restrictedly yellow; veins dark brown. In the female an additional pale spot near center of cell M₄. Abundant macrotrichia on all outer radial veins, more scattered on distal sections of outer medial veins; vein 1st A with scattered trichia for almost its entire length; veins Cu and 2d A glabrous. Venation: Sc₁ ending opposite or just beyond the fork of R₂₊₃₊₄, far before R₂; R₁₊₂ shorter than R₂₊₃₊₄; cell 1st M₂ approximately as long as the longest veins issuing from it, with m-cu at or beyond three-fourths the length of the cell.

Abdomen deep velvety black, the segments with the basal rings more glabrous but only feebly differentiated from the remainder, concolorous; hypopygium black. Genital segment of female deep velvety black; cerci black at bases, the outer ends passing into brown.

Habitat.—East Java.

Holotype, male, Nongkodjadjar, Tengger Mountains, altitude 3,600 feet, February, 1936 (*Walsh*). Allotopotype, female.

The nearest ally of the present fly is *Hexatoma (Eriocera) lunigera* (Walker), which has similar highly polished præscutal stripes. The species here described is readily told by the restricted broken white band before the cord of wing, and the reduction of the yellow apical lunule to a tiny brightening at extreme outer end of cell R₄. The black, instead of orange, genital shield of the female, is very conspicuous. In addition, the præscutal stripes of this fly are black instead of blue-black, as is the case in *lunigera*.

ERIOPTERINI

TRENTEPOHLIA (PLESIOMONGOMA) SUBCANDIDIPES sp. nov. Plate 1, fig. 22.

Allied to *candidipes*; size large (wing, male, 9 millimeters); mesonotal præscutum and the pleura uniformly orange-yellow, unmarked; femora yellow, passing into dark brown towards outer ends, the tips abruptly white; tibiæ and tarsi white; wings relatively narrow, subhyaline, the tip narrowly but distinctly infumed; cord and vein R_5 very narrowly seamed with dusky; abdomen yellow, the tergite with an entire black median stripe, the outer two segments entirely black.

Male.—Length, about 12 millimeters; wing, 9.

Rostrum dark brown; palpi brownish black. Antennæ pale brown, relatively elongate, if bent backward ending a short distance before the wing root; flagellar segments cylindrical, with the incisures poorly evident; verticils shorter than the segments. Head light gray, the posterior vertex darker on either side of the median line; anterior vertex narrow, carinate.

Cervical sclerites brownish black. Pronotum and mesonotal præscutum entirely orange-yellow, unmarked; scutal lobes darkened, the remainder of scutum pale; scutellum and postnotum chiefly darkened. Pleura and pleurotergite uniformly orange-yellow. Halteres black, the base of stem restrictedly pale yellow. Legs elongate; coxæ and trochanters yellow; femora yellow basally, passing into dark brown on the outer fourth or fifth, the tips abruptly and rather broadly (2 millimeters) snowy white, the amount subequal on all legs; tibiæ and tarsi white, the fore and middle tarsi slightly more darkened on sub-basal portion to produce a dirty white appearance; all femora with scattered erect setæ distributed throughout their length. Wings (Plate 1, fig. 22) relatively narrow, subhyaline; pre-arcular region and cells C and Sc very slightly more yellowish; stigma small, triangular, dark brown; wing tip narrowly and weakly infumed; origin of R_s , R_2 , cord, and vein R_5 very narrowly seamed with dusky; veins black, paler in the brightened costal portion. Venation: R_s subequal to R_{2+3+4} .

Abdomen elongate; tergites yellow, with a relatively broad, continuous, black, median stripe; sternites uniformly yellow; eighth and ninth segments uniformly black.

Habitat.—North Java.

Holotype, male, Tjolo, Goenoeng Moeria, altitude 2,100 feet, December 8, 1935 (*Walsh*).

The only allied described species is *Trentepohlia* (*Plesiomonogoma*) *candidipes* Edwards (Malay Peninsula: Selangor), which differs especially in the small size, heavily patterned mesonotal præscutum, undarkened wing tip, and distinct abdominal coloration.

Genus GONOMYIA Meigen

Gonomyia MEIGEN, Syst. Besch. zweifl. Ins. 1 (1818) 146.

Considerable confusion has arisen in the subgeneric classification of certain of the more generalized species of the vast genus *Gonomyia*. Until recently, all such groups had been placed in *Progonomyia* Alexander, but it now seems advisable to recognize three subgeneric groups within this particular complex of forms. These subgenera may be separated as follows:

1. Vein R₂ preserved *Progonomyia* Alexander.
Vein R₂ atrophied 2.
2. Ovipositor with elongate sclerotized valves..... *Ellipteroides* Becker.
Ovipositor with short fleshy valves..... *Protogonomyia* Alexander.

Subgenus PROGONOMYIA Alexander

Gonomyella ALEXANDER, Ann. South African Mus. 17 (1917) 152, preoccupied.

Progonomyia ALEXANDER, Cornell Univ. Mem. 38 (1920) 938, renaming of last.

Type of subgenus: *Gonomyia* (*Progonomyia*) *slossonæ* Alexander (southern Nearctic; Neotropical).

There are more than a score of described species in the Neotropics, together with the following species restricted to South Africa: *Gonomyia* (*Progonomyia*) *brevifurca* Alexander; *G.* (*P.*) *flaveola* Alexander; *G.* (*P.*) *natalensis* Alexander; *G.* (*P.*) *nigrobimbo* Alexander; *G.* (*P.*) *pulchrissima* Alexander.

Subgenus ELLIPTEROIDES Becker

Ellipteroides BECKER, Zeitschr. für. Syst. Hym. und Dipt. 7 (1907) 239.

Type of subgenus: *Gonomyia* (*Ellipteroides*) *picea* (Becker) (southern Palæarctic: Tunis).

All included species are Palæarctic and Oriental in distribution. Besides the subgenotype, the following are included.

Western Palæarctic: *Gonomyia* (*Ellipteroides*) *alboscuteolata* (Röser), synonyms *limbata* Röser, *scutellata* Egger; *G.* (*E.*) *lateralis* (Macquart), synonyms *cincta* Egger, *manifesta* Walker. It seems somewhat questionable to me whether *picea* can be

maintained as distinct from *lateralis*. On the other hand, the often overlooked *G. (E.) atra* Huguenin¹⁴ appears to be distinct from *alboscuteolata*.

Oriental: *Gonomyia (Ellipteroides) atropolita* sp. nov.; *G. (E.) tenebrosa* Edwards; *G. (E.) terebrella* Alexander.

Gonomyia (E.) brunnescens Edwards (Borneo), still known only from the male sex, probably belongs here but may fall in the subgenus *Protogonomyia*.

Subgenus PROTOGONOMYIA Alexander

Protogonomyia ALEXANDER, Philip. Journ. Sci. 55 (1934) 52-53.

Type of subgenus: *Gonomyia (Protogonomyia) confluenta* Alexander (Oriental: Formosa).

All included species are eastern Palæarctic and Oriental. Besides the subgenotype, these are: *Gonomyia (Protogonomyia) clitellata* Alexander; *G. (P.) lenis* sp. nov.; *G. (P.) nigripes* (Brunetti), synonyms *gracilis* Brunetti, *incompleta* Brunetti, *nigra* Brunetti; *G. (P.) perturbata* Alexander; *G. (P.) scutellum-album* Alexander.

GONOMYIA (ELLIPTEROIDES) ATROPOLITA sp. nov. Plate 1, fig. 23.

General coloration black, the three præscutal stripes and centers of scutal lobes intensely polished, the remainder of thorax chiefly with a sparse pruinosity; scutellum with posterior border narrowly brownish yellow; head brown, the center of vertex brownish black; halteres blackened; femora brownish yellow, the apex on outer face narrowly blackened; wings subhyaline; stigma long-oval, darker brown; veins dark brown, heavy and conspicuous.

Female.—Length, about 6 millimeters; wing, 6.5.

Rostrum and palpi black. Antennæ with scape and pedicel yellow, flagellum black; flagellar segments oval, with verticils that exceed the segments in length. Head brown, the center of vertex brownish black, the surface dull.

Pronotum black laterally, obscure yellow medially; anterior lateral pretergites yellow. Mesonotal præscutum intense black, the three usual stripes polished, the interspaces sparsely and vaguely pruinose; humeral region of præscutum very restrictedly brightened; scutum black, the centers of the lobes more polished, the median area more pruinose; scutellum blackened, the posterior margin narrowly and obscurely brownish yellow, the surface sparsely pruinose; mediotergite black, the surface with

¹⁴ Dipt. Helvetiæ (1880) 50, couplet 5.

a sparse pruinosity. Pleura dull black, vaguely marked with paler on the pteropleurite; dorsopleural membrane light yellow. Halteres blackened. Legs with the coxæ brown, more darkened basally; trochanters obscure yellow; femora brownish yellow, the apex on outer face restrictedly darkened; tibiæ and tarsi yellowish brown to brown, the outer tarsal segments passing into brownish black; legs conspicuously hairy. Wings (Plate 1, fig. 23) subhyaline or with a barely indicated brownish tinge; stigma distinct, long-oval, darker brown; a scarcely evident darkening on anterior cord; veins dark brown, heavy and conspicuous. Venation: Sc_1 ending about opposite two-thirds the length of R_s , Sc_2 at near one-fifth this length; cell R_2 relatively wide at margin, subequal to R_5 ; cell 2d M_2 slightly exceeding twice its petiole; m-cu at fork of M.

Abdomen black, the surface weakly pruinose; cerci elongate, horn-yellow.

Habitat.—West Java.

Holotype, female, Tjibōrōm, altitude 4,000 feet, September 20, 1935 (*Walsh*).

The nearest ally of the present fly is *Gonomyia (Ellipteroides) tenebrosa* Edwards, of peninsular Siam, which has the legs dark brown, the wings brownish tinged and without a stigmal darkening. In the present fly vein R_{2+3+4} is less than one-half R_3 and m-cu is at the exact fork of M.

GONOMYIA (PROTOGONOMYIA) LENIS sp. nov. Plate 1, fig. 24.

Size small (wing, female, 5 millimeters); general coloration of mesonotum brown, without clearly defined darker markings; legs, including tarsi, pale brown; wings very slightly tinged with brown, the prearcular and costal portions a little more yellowish; Sc long, Sc_1 ending shortly before the fork of R_s ; anterior branch of R_s lying close to vein R_{1+2} , cell R_2 narrow at margin; abdominal tergites dark brown, the sternites obscure yellow.

Female.—Length, about 5 millimeters; wing, 5.

Rostrum yellow; palpi long and conspicuous, brownish black. Antennæ with scape and pedicel yellow, flagellum black; organ relatively long, if bent backward nearly attaining the wing root; flagellar segments long-oval, the verticils about as long as the segments. Head dark brown.

Cervical region brown, relatively long. Pronotum pale medially, more blackened on sides. Mesonotal præscutum brown, without clearly defined darker markings; scutellum obscure yel-

low. Pleura infuscated on dorsal portions, more yellowish ventrally. Halteres dark brown, the basal portion of stem obscure yellow. Legs with the coxæ and trochanters yellow; remainder of legs pale brown, including all tarsal segments. Wings (Plate 1, fig. 24) with a very slight brown tinge, the prearcular and costal portions a little more yellowish; veins delicate, pale brown, more yellowish in the costal and basal portions. Venation: Sc long, Sc₁ ending shortly before fork of Rs, Sc₂ far from its tip, just before one-third the length of Rs; anterior branch of Rs lying close to R₁₊₂, cell R₂ at margin narrow; cell 2d M₂ deep, its petiole subequal to m-cu, the latter at or just before fork of M.

Abdominal tergites dark brown, sternites and pleural membrane obscure yellow. Ovipositor with very short fleshy valves, as in the subgenus; hypovalvæ obtusely rounded at tips.

Habitat.—West Java.

Holotype, female, Bodjang Kalang, Djampang, September, 1935 (*Walsh*).

The most similar species is *Gonomyia* (*Protogonomyia*) *clitellata* Alexander, of Formosa, which differs in all details of coloration and venation, as the short Sc, nearly straight unbowed Rs, and the short cell 2d M₂. The present fly differs from all described members of the subgenus in the more-arched anterior branch of Rs, which thus lies unusually close to vein R₁₊₂, so that cell R₂ at margin is unusually narrow.

ILLUSTRATIONS

PLATE 1. VENATION

- FIG. 1. *Dolichopeza* (*Nesopeza*) *dira* sp. nov.
2. *Scamboneura sumatrensis* sp. nov.
3. *Limonia* (*Libnotes*) *luteithorax* sp. nov.
4. *Limonia* (*Libnotes*) *clauda* sp. nov.
5. *Limonia* (*Pseudoglochina*) *querula* sp. nov.
6. *Pseudolimnophila nycteris* sp. nov.
7. *Hexatoma* (*Eriocera*) *subaurantia* sp. nov.
8. *Hexatoma* (*Eriocera*) *plutonis* sp. nov.
9. *Hexatoma* (*Eriocera*) *caninota* sp. nov.
10. *Hexatoma* (*Eriocera*) *indecora* sp. nov.
11. *Hexatoma* (*Eriocera*) *flavohirta* sp. nov.
12. *Hexatoma* (*Eriocera*) *multicolor* sp. nov.
13. *Hexatoma* (*Eriocera*) *novella* sp. nov.
14. *Hexatoma* (*Eriocera*) *malevolens* sp. nov.
15. *Hexatoma* (*Eriocera*) *interstitialis* sp. nov.
16. *Hexatoma* (*Eriocera*) *argyrocephala* sp. nov.
17. *Hexatoma* (*Eriocera*) *vidua* sp. nov.
18. *Hexatoma* (*Eriocera*) *atrisoma* sp. nov.
19. *Hexatoma* (*Eriocera*) *semilunata* sp. nov.
20. *Hexatoma* (*Eriocera*) *toxopei* sp. nov.
21. *Hexatoma* (*Eriocera*) *sublunigera* sp. nov.
22. *Trentepohlia* (*Plesiomongoma*) *subcandidipes* sp. nov.
23. *Gonomyia* (*Ellipteroides*) *atropolita* sp. nov.
24. *Gonomyia* (*Protogonomyia*) *lenis* sp. nov.

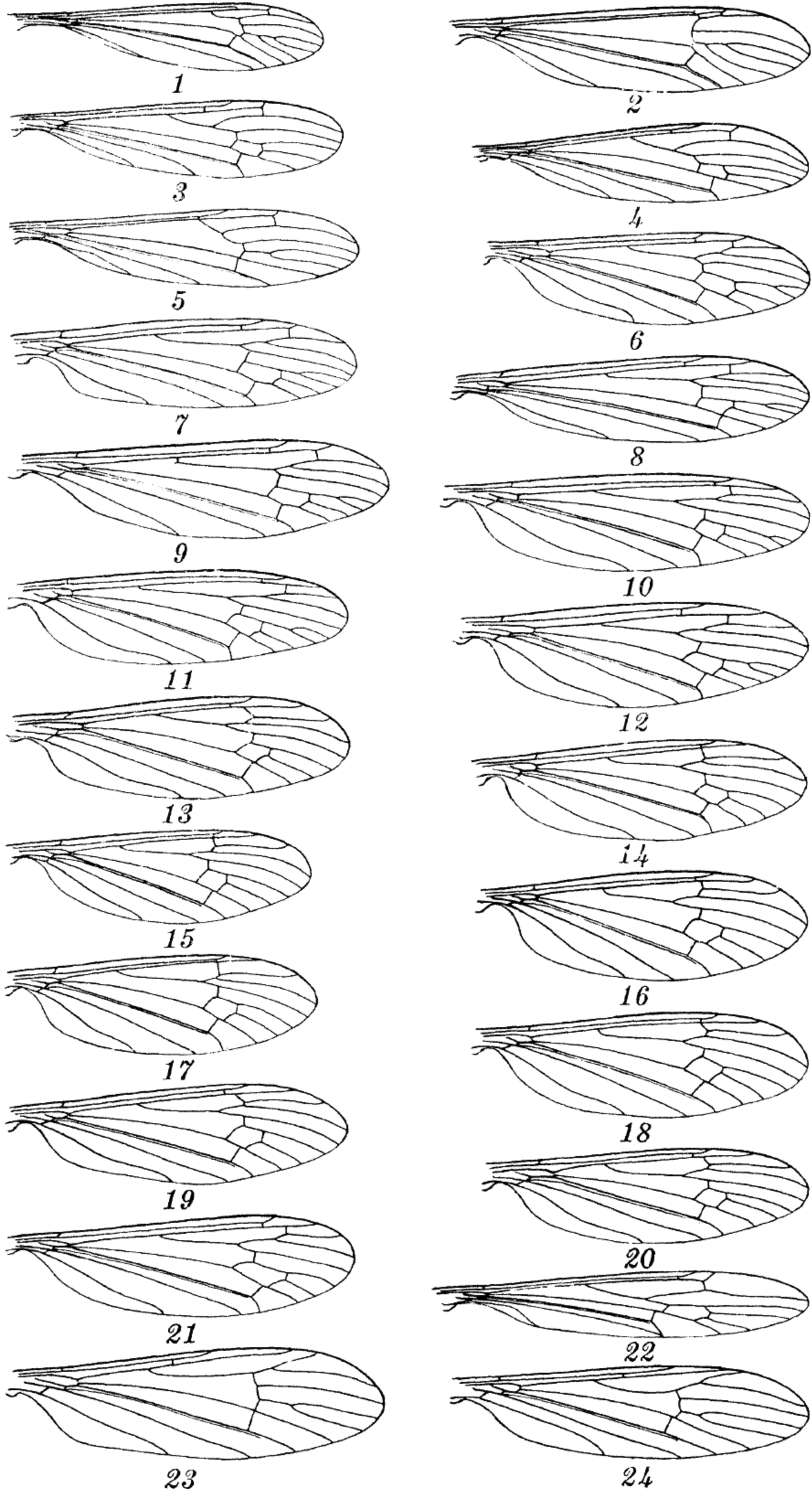


PLATE 1.