

Undescribed species of Japanese crane-flies (Tipulidae, Diptera)

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UNDESCRIBED SPECIES OF JAPANESE CRANE-FLIES.
(TIPULIDÆ, DIPTERA)

By CHARLES P. ALEXANDER, Ph. D.

The species of crane-flies herein described as new were included in some extensive and highly interesting collections made in the vicinity of Tokio by Mr. Ryoichi Takahashi, during the years 1918 and 1919. The station "Saitama," refers to Chichibu, in the province of Saitama, a mountainous locality about fifty miles from Tokio. The types are preserved in the collection of the author. I am greatly indebted to Mr. Takahashi for this very valuable series of Japanese Tipulidæ.

Dicranomyia Stephens.

Dicranomyia immodestoides sp. n.

Resembles *D. immodesta* O. S. (Eastern North America); antennæ dark brown throughout; general coloration light gray; wings nearly hyaline, stigma pale; veins Sc_1 very long, abdomen dark brown, indistinctly ringed with yellow.

Male—Length, 5.8 mm.; wing, 6.6 mm.

Female—Length, 6.8 mm.; wing, 7.4–8.3 mm.

Rostrum reddish brown; palpi dark brown. Antennæ with the scape brownish black, the basal flagellar segments brown, the apical segments darker. Head light yellowish gray; the front and the vertex adjoining the inner margin of the eyes bright silvery.

Mesonotum dull gray, the praescutum with an indistinct median brown stripe; lateral stripes indistinct; humeral areas a little more reddish; scutum reddish gray, the lobes largely brown; scutellum reddish gray; postnotum gray. Pleura light gray, indistinctly marked with darker beneath the wing root. Halteres rather long, pale, the knobs dark brown, the base of the stem more yellowish. Legs with the coxæ and trochanters yellow, the former very sparsely gray pruinose, the fore coxæ dark basally; femora dull brownish yellow, somewhat darkened on the apical half; tibiæ and tarsi brown. Wings nearly hyaline, the stigma large, oval, very pale brown; veins slender, brown. Venation: Sc_1 ending opposite origin of R_s , Sc_2 far before the tip of Sc_1 , the latter being longer than the basal deflection of Cu_1 ; r arcuated, at the tip of R_1 ; cell 1st M_2 open by the atrophy of m ; basal deflection of Cu_1 at or before the fork of M .

Abdominal tergites dark brown, the segments laterally at the base and on the caudal margin dull yellow; sternites nearly similar, the bases of the segments likewise yellowish. In the female the bicolored

condition of the abdomen is not so evident as in the male. Male hypopygium with the ninth tergite deeply notched medially, the adjacent lobes evenly rounded, setigerous; dorsal pleural hook moderately long, at the tip suddenly narrowed into a slender point; ventral pleural appendage large, fleshy, the proximal basal portion produced into a fleshy lobe that bears two erect chitinized spines on its caudal face.

Habitat: Japan.

Holotype, ♂, Meguro, Tokio, April 1, 1919 (R. Takahashi).

Allotopotype, ♀, March 31, 1919.

Paratopotypes, 6 ♂ ♀'s, March 25–May 26, 1919.

Dicranomyia basifusca sp. n.

Antennæ black throughout; thorax gray, the praescutum with an indistinct median brown stripe; wings pale gray, the stigma and a rounded spot at the base, brown; *Sc* ending a little beyond the origin of *Rs*, cell *1st M*₂ closed.

Female—Length, 4.8 mm.; wing, 6.4 mm.

Rostrum and palpi dark brownish black. Antennæ black throughout, the basal flagellar segments short-oval, the terminal segments a little more elongated. Head gray, the front more tawny.

Mesonotum dull gray, the praescutum more brownish medially to form an indistinct dorsal stripe; scutellum and postnotum lighter gray. Pleura dark gray. Halteres yellow, the knobs dark brown. Legs with the coxæ brownish yellow, darker basally; trochanters dull yellow; femora dull brownish yellow, darkened toward the apices, the extreme tips pale; tibiæ yellowish brown, the tips narrowly darker brown; tarsi dark brown. Wings with a faint grayish tinge, the stigma short-oval, brown; a conspicuous rounded brown spot at the arculus; origin of *Rs* and the cord very indistinctly seamed with darker. Venation: *Sc*₁ ending slightly beyond, *Sc*₂ exactly opposite, the origin of *Rs*; *Rs* angulated to almost square at origin; cell *1st M*₂ long, closed, about equal in length to the veins issuing from it; basal deflection of *Cu*₁ at the fork of *M*.

Abdomen dark brown. Ovipositor reddish, the tergal valves very slender.

Habitat: Japan.

Holotype, ♀, Meguro, Tokio, April 10, 1919 (R. Takahashi).

Dicranomyia atripleura sp. n.

Head light grey; mesonotum brownish grey, the praescutum with three pale brown stripes; thoracic pleura with a dark brown longitudinal stripe; legs pale brown; wings greyish subhyaline, stigma rounded, brown; *Sc* short, cell *1st M*₂ closed, about twice as long as vein *Cu*₁ beyond it.

Female—Length about 6.3 mm.; wing, 6.5 mm.

Rostrum and palpi brown. Antennæ with the scapal segments pale brown; flagellum broken. Head light grey.

Pronotum brownish grey. Mesonotal praescutum pale brownish grey, with three pale brown stripes, the median stripe broad, the lateral stripes indistinct; scutum pale, the lobes darker; scutellum and pronotum heavily light grey pruinose, the latter with a darker median line. Pleura pale, yellowish grey pruinose; a broad, very conspicuous, dark brown stripe, extending from the propleura to the base of the abdomen, passing above the fore coxæ and beneath the halteres. Halteres pale yellow basally, the knobs dark brown. Legs with the coxæ and trochanters pale yellow; femora and tibiæ pale brown; tarsi darker brown. Wings greyish subhyaline; stigma rounded, brown; veins dark brown, *C*, *Sc* and the veins at the wing-base more yellowish. Venation: *Sc* short, *Sc*₁ ending a little beyond the origin of *Rs*, *Sc*₂ exactly at the origin; *Rs* less than twice the deflection of *R*₄₊₅; *r-m* about equal to *m*, a little shorter than *r*; cell 1st *M*₂ long, about twice the section of *Cu*₁ beyond it; basal deflection of *Cu*₁ immediately before the fork of *M*.

Abdomen dark brown, the sternites more yellowish brown. Ovipositor with the tergal valves slender, strongly upcurved; sternal valves straight, the tips subacute.

Habitat: Japan.

Holotype, ♀, Choshi, Chiba, October 17, 1919, (R. Takahashi).

***Dicranomyia mesosternata* sp. n.**

Antennæ dark brown; head dark; mesonotum brownish black, the pleura gray pruinose; wings pale gray with four brown costal marks and pale gray clouds along the cord and at the ends of the veins; *Sc*₂ apparently lacking.

Female—Length, 7.3–8 mm.; wing, 8–8.4 mm.

Rostrum and palpi dark brown. Antennæ dark brownish black throughout, the flagellar segments elongate-oval, with rather long verticils. Head dark brownish gray. Vertex very narrow between the large eyes.

Pronotum conspicuous, brown, narrowed anteriorly. Mesonotal praescutum shiny brownish black, the humeral regions with a paler brown pollen; remainder of the mesonotum brown, the scutal lobes brownish black. Pleura shiny dark brownish black, light gray pruinose, most heavily across the dorsal edge of the mesosternum, which is shiny blackish between the fore and middle coxæ. Halteres with the base of the stem pale, the knobs dark brown. Legs with the coxæ yellowish brown, darkest on the fore coxæ; trochanters dull yellow; femora brown, paler basally, the tips dark brown; tibiæ and tarsi dark brown. Wings pale gray, with a heavy dark brown and brownish gray pattern, as follows: four large brown areas along the costal margin, the first at

the arculus, the third at the tip of Sc_1 and the origin of Rs , the last being the stigmal blotch; wing-apex darkened; large, pale brownish gray clouds along the cord, outer end of cell $1st M_2$ and at the ends of the longitudinal veins; veins dark brown. Venation: Sc short, Sc_1 ending opposite or slightly beyond the origin of Rs , Sc_2 lacking; a supernumerary cross-vein at about midlength of cell Sc , located in the second anterior brown blotch; Rs about two and one-half times as long as the basal deflection of R_{4+5} ; cell $1st M_2$ closed; basal deflection of Cu_1 , before, at or slightly beyond the fork of M .

Abdominal tergites dark brown, the sternites paler brown. Male hypopygium with the ninth tergite broad, the caudal margin gently concave. Ninth pleurite short; ventral pleural appendage pale, the proximal face produced into a stout beak, set with two widely separated spines, one subapical, the other basal. Gonapophyses a little longer than half the length of the penis-guard, slender and gently curved.

Habitat: Japan.

Holotype, ♂, Meguro, Tokio, October 20, 1919, (R. Takahashi).

Allotopotype, ♀, July 9, 1919.

Paratopotypes, 4 ♂'s, October 20–21, 1919; 1 ♀, 1 sex uncertain, July 12, 1919.

One paratype bears the label, "This insect was flying about over a stream."

Antocha Osten Sacken.

Proantocha, subgen. n.

Antennæ short, the flagellar segments oval, the terminal segment nearly as long as the preceding two taken together. Head very small, broad, the small eyes protuberant, widely separated both above and below. Thorax very large, the mesonotum convex. Halteres short. Legs very stout, the fore and middle legs covered with conspicuous long erect hairs, the posterior tibiæ with numerous tiny black spines; the coxæ, especially the posterior ones, very large and globular, the hind trochanters being long, narrow, compressed; hind legs very long, especially the tibia, which is slightly curved before its tip; at the base on the ventral face a long, slender spine which meets a similar but stouter tubercle located near the apex of the femur; tarsi remarkably shortened, especially those of the hind legs where they are less than one-fourth the length of the tibia; claws long and straight, at about mid-length with a long straight tooth that is about two-fifths the length of the apex of the claw alone, an additional tiny basal tooth. Venation as in the subgenus *Antocha*. Abdomen short.

Type of the subgenus—*Antocha* (*Proantocha*) *spinifer* sp. n. (Japan).

The genus *Antocha* has, till now, been one of the most compact genera in the Tipulidæ. The discovery of *Antocha spinifer* renders it necessary to subdivide the group. This latter is a curious fly with long, stout, very hairy legs that suggests in its general appearance a *Trimicra* or an *Empedomorpha* rather than an *Antocha*. The venation alone is normal for this latter genus. The discovery of the immature stages of this isolated, generalized fly will possibly result in giving generic rank to the group here proposed.

***Antocha* (Proantocha) *spinifer* sp. n.**

Size very large (wing of male over 12 mm.); legs very long and stout, the fore and middle legs provided with long, dense hairs, the hind tibiæ set with numerous tiny spines and with a large spinous tubercle on the ventral side near the base.

Male—Length about 9 mm.; wing, 12.3 mm. Fore leg, tibia, 7.8 mm.; tarsus, 4.8 mm.; middle leg, tibia, 7.4 mm., tarsus, 3 mm.; hind leg, tibia, 13.8 mm., tarsus, 3 mm.

Rostrum short, dull yellow; palpi short, brownish yellow, the terminal segments more infuscated. Antennæ with the scape and basal three or four segments of the flagellum dull brownish yellow, the remainder of the antennæ brown. Head dull yellow, very sparsely light gray pruinose.

Mesonotum dull brownish yellow, the praescutum darker brown medially, the lateral margins pale. Pleura dull yellow. Halteres pale, the knobs slightly brownish. Legs with the coxæ and trochanters dull yellow; remainder of the legs dull brownish yellow, only the terminal tarsal segments brown; the long, dense hairs that cover the fore and middle legs are dark brown and obscure the ground color of the sclerites that bear them. The hind legs are covered with numerous blackened spinous setigerous tubercles. Claws very long, dark brown, longer than the fourth and nearly as long as the fifth tarsal segment. Wings milky white, stigma indistinct, faintly yellowish; veins brown, the costa beyond the point of insertion of *Sc* tawny and somewhat incrasated. Venation: *r* tending to be obliterated by atrophy; basal deflection of *Cu*₁ far before the fork of *M*.

Abdominal tergites brownish buff, with a distinct dark brown median stripe that is interrupted at the posterior margins of the segments; sternites reddish, on the terminal segments darker, brownish, the caudal margin of the segments broadly pale.

Habitat: Japan.

Holotype, ♂, Saitama, June 1, 1919 (R. Takahashi).

Antocha (*Antocha*) **satsuma** sp. n.

Head rusty brown; thorax gray, the praescutum with three brown stripes; wings milky gray, the stigma dark brown; veins *Sc*, *R*₁ and *C* beyond the stigma chestnut brown; basal deflection of *Cu*₁ before the fork of *M*.

Male—Length, 5.3–5.5 mm.; wing, 7.3–7.6 mm.

Female—Length, 6.8 mm.; wing, 8 mm.

Rostrum pale reddish brown; palpi dark brown. Antennæ brown, the flagellar segments a little paler basally; scapal segments large, tumid. Head pale rusty brown, with a faint bronzy tinge.

Pronotum grayish yellow, broadly dark brown medially. Mesonotal praescutum grayish yellow with three broad dark brown stripes, the median stripe broadest, not attaining the anterior margin of the sclerite; scutum gray, the lobes dark brown medially; scutellum and postnotum gray. Pleura yellowish gray. Halteres very pale yellow. Legs long and slender, the coxæ pale, sparsely gray pruinose; trochanters dull yellow; femora pale brown, more yellowish basally; tibiæ and tarsi pale brown. Wings milky gray, pale at the base, the stigma dark brown; slightly darker clouds along veins *Rs* and *2nd A* and at the wing apex; veins dark brownish black, *M* and *Rs* pale basally; *Sc*, *R*₁ and costa beyond *Sc*₁ light chestnut brown. Venation: *Rs* long and straight, the base rather indistinct; *r* opposite *r-m*; basal deflection of *Cu*₁ far before the fork of *M*, this distance variable; cell *1st M*₂ small.

Abdomen dark brownish gray, the sternites paler medially, in the female the posterior half of the intermediate abdominal segments is slightly paler than the basal half. Male hypopygium yellowish, the pleurites rather stout; the two pleural appendages are slender, subequal in length, the dorsal hook chitinized, at the tip narrowed into a slender point; ventral pleural appendage fleshy with scattered setæ that are larger and stouter at the tip of the organ. Gonapophyses long, acicular, almost straight, the tips acute.

Habitat: Japan.

Holotype, ♂, Meguro, Tokio, April 21, 1919 (R. Takahashi).

Allotopotype, ♀, March 25, 1919.

Paratopotype, 2 ♂'s, March 26–April 23, 1919.

Dicranoptycha Osten Sacken.**Dicranoptycha yamata** sp. n.

Antennæ black, the scapal segments dull yellow; general coloration gray, the praescutum with three brownish stripes; legs black, the bases of the femora narrowly yellowish; abdomen dark brownish black.

Female—Length about 11 mm.; wing, 12.7 mm.

Rostrum and palpi black. Antennæ with the scapal segments dull brownish yellow, the second segment brightest; flagellum black, the base of the first segment paler. Head light gray.

Pronotum brownish gray. Mesonotal praescutum dull gray, clearer anteriorly, with three slightly darker brownish stripes; remainder of the mesonotum clear light gray, only the scutal lobes a little darker. Pleura gray. Halteres yellow. Legs with the coxæ grayish, the mesocoxæ more yellowish; trochanters yellow; femora dark brownish black, the bases narrowly yellow; remainder of the legs dark brownish black. Wings with a strong grayish yellow tinge, somewhat darker distally, the costal and subcostal cells clearer yellow; veins *C* and *Sc* yellow, the remaining veins dark brown. Venation: *Rs* strongly arcuated at its origin, a little longer than cell *1st M*₂.

Abdomen dark brownish black. Ovipositor with the tergal valves flattened, the outer faces with numerous erect yellow setæ.

Habitat: Japan.

Holotype, ♀, Meguro, Tokio, April 23, 1919 (R. Takahashi).

Paratopotypes, 2 ♀, April 24–May 5, 1919.

One specimen bears the label "in a pine forest."

Paratropeza Schiner.

Paratropeza flavitibia sp. n.

General coloration metallic blue; legs yellow, the femora clavate, with a broad black subterminal ring; tibiæ with the tips blackened, the posterior tibiæ with an apical fringe of erect black hairs; metatarsi yellow, darkened at the tips; wings with three broad dark brown cross-bands.

Female—Length, 6.3 mm.; wing, 4.7 mm. Fore leg, femur, 2.9 mm.; tibia, 2.6 mm.; hind leg, femur, 4 mm.; tibia, 3.3 mm.; tarsus, 2.4 mm.

Description from an alcoholic specimen.

Rostrum and palpi pale brown, the terminal segments of the latter about one-half longer than the third segment. Antennæ brown, the second scapal segment and the base of the first flagellar segment more yellowish; flagellar segments oval. Head dark metallic blue.

Thorax metallic blue, with only the dorso-pleural membranes whitish. Halteres dark brown, the knobs whitish. Legs with the coxæ metallic blue on their outer faces; trochanters yellowish brown; fore femora dark brown, more yellowish on the basal half, the extreme tip and a very indistinct band at about one-third the length dull yellowish; middle and posterior femora yellow with a broad dark brown subterminal ring; tibiæ yellow, more brownish basally, the tips broadly dark brownish black, broadest on the hind legs; metatarsi yellow, only the tips brown; remaining tarsal segments dark brown; on the posterior metatarsi the brown tips occupy one-third of the total length. The legs are provided with flattened scales; the femora are strongly clubbed, especially the posterior femora; the posterior tibiæ with a broad apical fringe of outspreading black hairs. Wings hyaline, with three broad brown cross bands, the first proximad of the origin of the sector, extending from the costal to the posterior margin; the second band occupies

the cord; the third the wing apex; costal and subcostal cells brownish yellow; a small brownish spot at the origin of the sector, sometimes confluent with the basal crossband. Venation: almost exactly as in *P. ornatipennis* (de Meij.); *Sc* short, *Sc*₁ extending to about two-fifths the length of *Rs*, *Sc*₂ being proximad of the origin of the latter.

Abdomen dark metallic blue; ovipositor yellowish corn color, the sternal valves darker; tergal valves strongly curved.

Habitat: Japan:

Holotype, ♀, Chichibu, Province Saitama, October, 1918 (R. Takahashi).

Edwards (Ann. Mag. Nat. Hist., ser. 8, vol. 17, p. 356; vol. 18, p. 249; 1916) records this new species from Idzu, Japan (June, 1910), but does not give it a name. *P. flavitibia* is closest to *P. ornatipennis* (de Meij.) but is sufficiently distinguished by the broad complete basal wing band and the different leg pattern. The brush of erect or nearly erect hairs at the tips of the posterior tibiae is very conspicuous and suggests the condition found in the recently described *P. pennipes* (Brunetti) of India (Records Indian Mus., vol. 15, p. 308, 1918; as *gymnastes*). This fly differs from *flavitibia* in the pattern of the legs and wings.

Ormosia Rondani.

Ormosia diversipes sp. n.

Belongs to the *nigripila* group; general coloration black, including the femora, the tibiae and tarsi abruptly light yellow; wings gray, the stigma brown, the costal margin with yellowish pubescence; anal veins divergent.

Male—Length, 4–4.3 mm.; wing, 5.1–5.5 mm.

Rostrum and palpi dark brownish black. Antennae with the basal four or five segments yellowish brown; remainder of the flagellum dark brown; flagellar segments (in the male sex) elongate-cylindrical, with abundant erect whitish pubescence that is little shorter than the length of the segment that bears it. Head dark.

Pronotal scutellum pale. Mesonotal praescutum blackish with a heavy reddish brown pollen, the dorso-median area darker, producing an indistinct stripe. Pleura shiny blackish; a brush of more than a score of long erect yellowish hairs on the pleura between the bases of the wings and halteres. Halteres light yellow. Legs with the coxae dark brownish black, sparsely pruinose; trochanters dull yellowish brown; femora black, a little lighter basally; tibiae and metatarsi abruptly light yellow, the tips narrowly darkened; remainder of the tarsi dark brown. Wings gray, the stigma more brownish, the costal region more yellowish; base of the wing and an indistinct area near the fork

of *M* pale; veins brown; wings broad, densely covered with hairs. Venation: Cell *1st M*₂ small, closed; basal deflection of *Cu*₁ slightly before the fork of *M*; anal veins strongly divergent.

Abdomen black. Hypopygium of the general structure of the *nigripila* group of the genus; pleurites stout, one pleural appendage much longer than the others, dusky in color, tapering gradually to the acute tip; the second appendage is shorter, flattened, subhyaline. The gonapophyses are flattened blades, deeply bifid apically with the proximal arm about twice the length of the outer arm.

Habitat: Japan.

Holotype, ♂, Meguro, Tokio, March 31, 1919 (R. Takahashi).

Paratopotypes, 1 ♂, March 26; 2 ♂'s, April 16, 1919.

***Ormosia atripes* sp. n.**

Belongs to the *nigripila* group; general coloration black, including the legs; wings grayish brown; anal veins divergent.

Female—Length 5–5.3 mm.; wing, 5.8–5.9 mm.

Rostrum and palpi dark brownish black. Antennæ with the first scapal segment brown, second segment large, broadly pyriform, light yellow; flagellum dark brownish black, the segments oval (in the female sex). Head dark.

Sides of the pronotal scutellum yellowish white. Mesothorax blackish with a sparse dull yellowish brown pollen; scutellum with long coarse yellow bristles. Pleura black, a sparse group of from six to eight long erect yellowish hairs between the bases of the wings and halteres. Halteres light yellow. Legs with the coxæ brownish black; trochanters yellowish brown, brighter basally; femora dark brownish black, paler basally; remainder of the legs brownish black. Wings with a dark grayish brown suffusion, brighter basally and in the costal region; stigma indistinct, brown; a faint whitish spot beyond the stigma and a larger, somewhat more distinct, one at the fork of *M*; veins dark brown, *R* and *Cu* yellowish; wings broad with a dense delicate pubescence. Venation: *r* just beyond the fork of *R*₂₊₃ on *R*₂; cell *1st M*₂ small, closed, the inner end narrowed, the outer deflection of *M*₃ a little longer than *m*; basal deflection of *Cu*₁ at or slightly before the fork of *M*; anal veins strongly divergent.

Abdomen black; tergal valves of the ovipositor strongly curved, black basally, dark horn yellow apically; sternal valves dark, the tips acute.

Habitat: Japan.

Holotype, ♀, Meguro, Tokio, April 10, 1919 (R. Takahashi).

Paratopotypes, 7 ♀'s, April 9–25, 1919.

Ormosia tokionis sp. n.

Belongs to the *fascipennis* group; general coloration gray; femora yellowish at the base; wings pale gray with a narrow pale brown seam along the cord.

Male—Length, about 3.8 mm.; wing, 5.2 mm.

Female—Length, about 4.5 mm.; wing, 6.1 mm.

Rostrum dark with a gray pollen. Palpi dark brown. Antennæ dark brown, short in both sexes, the flagellar segments oval in the male, clothed with a dense white pubescence. Head grayish brown, a little clearer brown along the margin of the eyes.

Mesonotal praescutum yellowish gray with four indistinct reddish brown stripes; tuberculate pits a little anterior to the level of the pseudosutural foveæ, separated from one another by a distance equal to, or a little less than, the diameter of one; scutellum and median area of the scutum lighter; postnotum gray. Pleura gray. Halteres rather long, dark brown, the base of the stem yellowish. Legs with the coxæ dark, covered with a yellowish gray pollen; trochanters dull brownish yellow; femora brown, the bases more yellowish, darker brown at the tips; tibiæ and tarsi brownish black. Wings pale gray, the veins narrowly and indistinctly seamed with brownish, more distinct along the cord; stigma large, brown; costal and subcostal cells a little more yellowish; veins dark brown. Venation: *r* on R_2 , about its own length beyond the fork of R_{2+3} ; deflection of R_{4+5} longer than *r-m*; cell 1st M_2 closed; basal deflection of Cu_1 beyond the fork of *M*; anal veins divergent.

Abdomen dark brown. Male hypopygium small, the pleurites rather slender, nearly cylindrical; a single pleural appendage that is narrowed to the blunt, blackened apex, the surface with abundant setigerous punctures. Penis-guard a narrow, triangular chitinous plate, which has a narrow median apical point.

Habitat: Japan.

Holotype, ♂, Meguro, Tokio, March 23, 1919 (R. Takahashi).

Allotopotype, ♀, March 23, 1919.

Paratopotype, ♂, March 25, 1919.

Ormosia cinctifer sp. n.

Belongs to the *fascipennis* group; general coloration black, the body sparsely dusted with gray; wings nearly hyaline, a narrow brown seam along the cord.

Male—Length, 4.5–4.7 mm.; wing, 6.4–6.5 mm.

Female—Length, 5.6–5.8 mm.; wing, 6.3–7 mm.

Rostrum and palpi black. Antennæ black, short in both sexes, in the male the intermediate segments rounded oval, the apical segments long-oval. Head dark gray with a sparse brownish yellow pollen.

Mesonotal praescutum black, sparsely dusted with gray, with three blackish stripes, the median one shiny, the lateral stripes less distinct;

scutum similar, each lobe with a long-oval blackish area; scutellum and postnotum black, sparsely gray pruinose. Pleura black, gray pruinose. Halteres light yellow, the base of the stem dusky. Legs black. Wings nearly hyaline; stigma dark brown, conspicuous, sending a narrow brown seam along the cord; outer end of cell *1st M*₂ and vein *Cu* less distinctly seamed with brown; veins dark brown; the base of the wing more yellowish; wings with the pubescence rather short and sparse, almost lacking in the basal cells, including most of cell *M*. Venation: *Sc*₁ ending just beyond *r*; *r* on *R*₂ near its base; cell *1st M*₂ closed; *m* shorter than the deflection of *M*₃; basal deflection of *Cu*₁ slightly before the fork of *M*; *2nd anal* vein slightly sinuous, but cell *1st A* broadest at the wing margin.

Abdomen black, including the male genitalia. Male hypopygium with the pleurites stout; pleural appendage oval, tumid, with long yellowish hairs, on the dorsal face with a chitinized plate, each side of which is heavily toothed, the outer margin with from five to six teeth and the inner margin with about three teeth; gonapophyses flattened, slender, tapering to the subacute tips. Ovipositor with the tergal valves horn color, darker basally.

Habitat: Japan.

Holotype, ♂, Meguro, Tokio, April 2, 1919 (R. Takahashi).

Allotopotype, ♀, April 2, 1919.

Paratopotypes, 2 ♂'s, 1 ♀, March 25–April 10, 1919.

***Ormosia takahashii* sp. n.**

Belongs to the *varia* group; general coloration black, gray pruinose; wings grayish with the stigma brown; cell *1st M*₂ open; anal veins convergent; male hypopygium with eight chitinized points surrounding the penis-guard.

Male—Length, 3.8–4.2 mm.; wing, 5.4–5.5 mm.

Female—Length, 4.6 mm.; wing, 6.2 mm.

Rostrum and palpi dark brown. Antennæ brown, the flagellar segments long-oval, covered with a dense white pubescence, the flagellum with a single very long verticil before midlength of each segment to give the organ a second appearance. Head dull gray.

Mesonotum dull brownish gray, the praescutum with indistinct, somewhat darker brown stripes, the interspaces with a row of coarse yellowish hairs; tuberculate pits very close together. Scutum dull gray, the lobes darker. Pleura black, sparsely gray pruinose; a few very long yellow hairs ventrad and caudad of the wing-base. Halteres yellow. Legs with the coxæ dark, sparsely gray pruinose; trochanters dull yellow; femora dark brown, the bases yellow; tibiæ and tarsi dark brown, clothed with a golden-yellow pubescence that is especially distinct in the female. Wings gray, the stigma darker brown, lying beyond *r*; veins dark brown, the base of the wing slightly brighter. Venation: Cell *1st M*₂ open by the atrophy of the outer deflection of *M*₃; basal

deflection of Cu_1 just before the fork of M ; 2nd anal vein sinuous, at its tip bent rather strongly toward the first anal.

Abdomen dark brownish black. Male hypopygium with the pleurites rather stout, covered with sparse prominent tubercles that bear coarse yellow setæ, which are longest at the tips of the pleurites; pleural appendages two, the outer appendage fleshy, the outer face with an abundant short brownish, appressed pubescence, arranged in transverse rows; inner appendage narrowed and chitinized at the tip, the inner face with about nine or ten stout setæ. Penis-guard terminating in two subparallel slender black spines; two pairs of gonapophyses, the inner pair simple and ending in an acute blackened point; outer gonapophyses bifid, the lateral arm much longer and more slender than the proximal arm. Eighth sternite with a short, flattened, subspatulate median lobe.

Habitat: Japan.

Holotype, ♂, Meguro, Tokio, April 2, 1919 (R. Takahashi).

Allotopotype, ♀, April 7, 1919.

Paratopotypes, 19 ♂ ♀, March 25–April 25, 1919; paratype, ♀, May 29, 1919; 6 ♂ ♀, October 2–21, 1919.

The autumnal specimens are much smaller than the vernal material, but show no other differences.

It is with great pleasure that this interesting fly is dedicated to its discoverer, Mr. Ryoichi Takahashi.

Erioptera Meigen.

Erioptera bifurcata sp. n.

General coloration gray, the mesonotum with three brown stripes; legs black with whitish scale-like hairs; wings yellowish, vein Sc yellow; cell 1st M_2 open; anal veins divergent.

Male—Length, 5–5.5 mm.; wing, 6.1–7.1 mm.

Rostrum black, densely gray pruinose; palpi dark brown. Antennæ black, the segments oval, covered with a dense white pubescence, the verticils short, barely projecting beyond the pubescence. Head broad, light gray, the eyes widely separated above, the ventro-caudal angles almost contiguous beneath.

Pronotum light gray. Mesonotal praescutum gray with three brown stripes, the median stripe broad, slightly restricted by the conspicuous, elongate pseudosutural foveæ, indistinctly bisected by a pale median line; tuberculate pits small, very widely separated, lying slightly anterior to the level of the pseudosutural foveæ. Scutum gray, the lobes indistinctly marked with brown; remainder of the mesonotum gray. Pleura clear light gray. Halteres light yellow, the extreme base dark. Legs with the coxæ and trochanters black, gray pruinose; remainder of the legs black, densely covered with flattened whitish, scale-like hairs. Wings with a faint yellow tinge, the base of the wing

more yellowish; stigma very narrow and indistinct, brown, confined to vein R_1 ; veins dark brown, Sc yellow. Venation: Sc long, ending opposite r ; r on R_2 about its own length beyond the fork of R_{2+3} ; cell 1st M_2 open by the atrophy of m ; basal deflection of Cu_1 beyond the fork of M ; anal veins divergent.

Abdominal tergites gray, the sixth and seventh segments with a transverse median brown blotch; the basal segments on either side with blackish impressed rectangular areas; pleural appendages of the hypopygium yellowish with the tips blackened. Male hypopygium with the ninth tergite deeply notched medially; pleurites rather slender, at the apex with two pleural appendages; dorsal appendage long, slender, the tips blackened; ventral pleural appendage short, deeply bifid, the cephalic or proximal arm more slender, at its tip with a single long bristle; the caudal or lateral arm broader, its flattened apex densely set with roughened tubercles. Gonapophyses very long, almost straight, tapering to the acute tips.

Habitat: Japan.

Holotype, ♂, Meguro, Tokio, April 4, 1919 (R. Takahashi).

Paratopotypes, 4 ♂'s, April 4-9, 1919.

Limnophila Macquart.

Limnophila (*Lasiomastix*) **pilifer** sp. n.

Antennæ short in both sexes; wings yellowish at the base, the apical cells strongly pubescent.

Male—Length 6-7 mm.; wing, 8.6-8.7 mm.

Female—Length, 8.5-9.5 mm.; wing, 8.8 mm.

Rostrum and palpi dark brownish black. Antennæ short in both sexes; first scapal segment reddish brown, sparsely gray pruinose, second segment reddish; basal segments of the flagellum brown, paler basally, apical flagellar segments more elongate, dark brown; flagellar segments clothed with a pale pubescence. Head gray.

Pronotum large, dark colored, light gray pruinose. Mesonotum shiny jet black with an easily removed, but dense pollen, brownish yellow on the median area of the praescutum, clearer gray on the remainder of the thorax, including the pleura. Halteres light yellow. Legs with the fore coxæ black, grayish pruinose; middle coxæ dull brownish yellow, dark at the extreme base; hind coxæ largely brownish yellow; trochanters dull yellow; femora yellow, the tips broadly dark brown; tibiæ yellowish brown, the tips darkened; tarsi dark brownish black, the base of the metatarsi brown. Wings grayish, strongly yellow at the base; color including most of the costal and subcostal cells; stigma oval, grayish brown, almost evenly split by r ; narrow gray seams along the cord, outer end of cell 1st M_2 , origin of Rs , and the forks of R_{2+3} and M_{1+2} ; veins brown, those in the costal and basal regions yellowish; apical cells of the wings strongly pubescent, this extending from cell 2nd R_1 to cell Cu_1 . Venation: Sc_2 slightly removed from the

tip of Sc_1 ; R_s long, in alignment with R_{2+3} , this latter shorter than the basal deflection of Cu_1 ; r removed from the tip of R_1 ; inner ends of cells R_3 , R_5 , and $1st M_2$ in oblique alignment; petiole of cell M_1 about equal to or shorter than this cell; basal deflection of Cu_1 slightly before mid-length of cell $1st M_2$. Some of the specimens in this series show abnormal types of venation.

Abdomen dark brownish black, the hypopygium a little reddish. Male hypopygium with the outer appendage almost straight, split into two short points at the apex; the inner appendage deeply bifid, the outer arm flattened, subspatulate, the blade setigerous, the inner arm much smaller and narrowed to the blunt apex; gonapophyses slender, acicular, much twisted. Valves of the ovipositor rusty horn color, very long and slender, the tergal valves almost straight, slightly upcurved at the tips.

Habitat: Japan.

Holotype, ♂, Meguro, Tokio, April 8, 1919 (R. Takahashi).

Allotopotype, ♀, April 19, 1919.

Paratopotypes, 18 ♂ ♀, April 7–25, 1919.

***Limnophila* (Ephelia) *subaprilina* sp. n.**

Mesonotal praescutum yellowish gray, the lateral brown stripes connected with the intermediate pair by a subtransverse brown line; wings with a heavy brown pattern; abdominal segments bicolorous.

Male—Length, 5.6 mm.; wing, 7.3–7.4 mm.

Female—Length, 8.7 mm.; wing, 8.4 mm.

Rostrum and palpi dark brown. Antennæ with the scapal segments dark brown, the basal flagellar segments pale brown, the apical segments darker. Head brownish gray, more yellowish along the inner margin of the eyes and on the front.

Mesonotal praescutum yellowish gray with broken dark brown stripes; the intermediate stripes are separated from one another by a distance that is nearly equal to the width of one, indistinct in front, not reaching the suture behind; lateral stripes short, their cephalic ends with a transverse bar to form a T-shaped mark that connects more or less completely with the intermediate stripes and with the lateral margin of the praescutum; scutum yellowish gray; scutellum and postnotum clearer gray. Pleura yellowish gray with conspicuous dark brown blotches. Halteres yellow, the knobs dark brown. Legs with the coxæ dark brown; trochanters brown, with a black spot on the posterior face; femora dull yellow, the tips broadly dark brown; tibiae brownish yellow, the tips narrowly and indistinctly darkened; tarsi dark brown, the first and second segment yellowish brown with only the tips darkened. Wings grayish subhyaline, the costal and subcostal cells more yellowish; a heavy dark brown pattern along the costal margin and large grayish brown blotches on the cross veins, deflections of veins, and along the margin at the ends of the longitudinal veins; there are seven costal blotches, the basal one broken, subocellate; the

third at the origin of *Rs* extending from costa almost to *M*; the fifth, largest, at the stigma; the last two at the ends of *R*₁ and *R*₂ respectively; a narrow cloud in the anal angle of the wing; the seam along the supernumerary cross vein sends a very black line along vein *Cu* to form an inverted T; veins *C* and *Sc* yellow, the other veins brown. Venation: *Rs* strongly arcuated at origin; *R*₂₊₃ and *M*₁₊₂ nearly equal in length.

Abdominal segments bicolorous, the basal half of each segment dull reddish, the apical half blackish. Male hypopygium with the outer pleural appendage stout, on the outer face before the tip with one conspicuous spine in addition to the apical, slightly curved, tooth.

Habitat: Japan.

Holotype, ♂, Meguro, Tokio, April 20, 1919 (R. Takahashi).

Allotopotype, ♀, April 19, 1919.

Paratopotype, ♂, April 19, 1919; paratype, ♂, Tokio, May, 1919.

***Limnophila* (Prionolabis) *rufipennis* sp. n.**

General coloration blackish, femora a little paler basally; wings brownish yellow with sparse brown seams along the cord; cell *1st M*₂ subquadrate, basal deflection of *Cu*₁ beyond the middle of its length.

Male—Length about 14 mm.; wing, 16.4 mm., its greatest width, 5.5 mm.

Description from an alcoholic specimen.

Rostrum, palpi and antennæ black. Head black, very possibly grayish pruinose in dried specimens.

Thorax black throughout in alcoholic material. Halteres long, light yellow, the knobs a little darker. Legs with the coxæ black; trochanters dark brown; femora dark brown, only a little paler basally, especially on the hind femora; tibiæ and tarsi dark brownish black. Wings very broad and ample, deeply suffused with pale brownish yellow, clearer yellow in the costal and subcostal cells; stigma oval, dusky brown; very narrow dusky brown seams along the cord, at the outer end of cell *1st M*₂, at the origin of *Rs* and at the fork of *M*₁₊₂. Venation generally similar to *L. (P.) rufibasis* O. S. (Northeastern North America), but cell *1st M*₂ much shorter, subquadrate; *R*₂₊₃ a little longer than *r-m*; basal deflection of *Cu*₁ beyond mid-length of cell *1st M*₂; petiole of cell *M*₁ a little shorter than this cell.

Abdomen dark brownish black. Male hypopygium with the ventral pleural appendage irregularly pectinated, one tooth being considerably larger than the others; dorsal pleural appendage with the apex simple, blackened.

Habitat: Japan.

Holotype, ♂, Chichibu, Province Saitama, October, 1918, (R. Takahashi).

Polyangæus Doane.**Polyangæus japonicus** sp. n.

Thorax yellow, the praescutum with an indistinct darker median stripe; wings with a heavy brown banded pattern; crossvein *r* lacking, *m* present; supernumerary crossveins in cells R_3 , R_5 , M_1 and M ; tibiae and tarsi largely white.

Male—Length, 6.6 mm.; wing, 8 mm.

Head small, closely applied to the thorax. Rostrum and palpi dark brown. Antennæ short, the flagellar segments crowded, the scape dark brown, the flagellum light brownish yellow, the last segment infuscated. Head dark brownish gray.

Mesonotum light yellow, the praescutum with a broad pale brown median stripe that is broadest and most distinct in front, becoming obliterated behind; postnotum brownish. Pleura yellow. Halteres very long and slender, dark brown, the base of the stem yellow. Legs with the coxæ and trochanters dull yellow; femora dull yellow, the tips broadly dark brown; tibiae china-white, the tips broadly dark brown; tarsi white, the apical segments more infuscated. Wings subhyaline with a heavy banded pattern of dull yellowish, margined with brownish gray; the costal cell is entirely dark; interrupted crossbands occur at the origin of the sector, along the cord and very diffusely between the cord and the wing-tip; dark spots at the ends of all the longitudinal veins, large and blotch-like at the ends of the anal veins; a row of small dots in cell *Cu*, behind the abortive anal vein in that cell; two spots in the base of cell *1st A*; the apical pattern consists of yellowish seams to the crossveins, these markings broadly margined with brownish gray to produce a somewhat ocellate appearance. Venation: R_s square and spurred at its origin; *r* lacking but a strong spur at the angle of R_{2+3} at the point where *r* is located in the genotype, *P. maculatus*; R_{2+3+4} longer than *r-m*; cell *1st M*₂ closed, *m* being located between M_2 and M_3 ; supernumerary crossveins in cells R_3 near the tip, R_5 at about two-thirds its length, at about midlength of M_1 and in cell *M* about in alignment with the angulated base of the sector.

Abdomen brown, the segments margined posteriorly with darker brown.

Habitat: Japan.

Holotype, ♂, Saitama, May 31, 1919 (R. Takahashi).

Polyangæus japonicus agrees with the genotype, *P. maculatus* Doane (Western United States) in most features of its organization. It differs in the lack of the radial crossvein, the closed cell *1st M*₂ and the presence of an additional supernumerary crossvein in cell M_1 .

Rhaphidolabis Osten Sacken.**Rhaphidolabis flavibasis** sp. n.

Antennæ with fourteen segments, the last segment enlarged; mesonotal praescutum light gray, with three dark brown stripes; base of the wings strongly yellowish; male hypopygium with the outer angle not produced into a lobe, the appendages borne at the narrow apex.

Male—Length, 7 mm.; wing, 8.7–8.9 mm.

Female—Length, 7.5–8 mm.; wing, 9.4–9.8 mm.

Rostrum and palpi dark brown. Antennæ dark brownish black, the first scapal segment gray pruinose, the second scapal segment a little brighter apically; there are twelve flagellar segments which gradually decrease in size to the end of the terminal, one much larger than the penultimate and seemingly produced by the union of two small segments. Head light brownish gray, clearest along the inner margin of the eye; an indistinct dark median line; vertical tubercle low.

The mesonotal praescutum light gray with three dark brown stripes, the intermediate stripe entire; remainder of the mesonotum plumbeous, gray pruinose. Pleura light gray. Halteres dark brown, the basal third of the stem bright yellow. Legs with the coxæ gray; trochanters brown; femora dark brown, brighter on the basal third; tibiæ and tarsi dark brownish black. Wings grayish subhyaline, the costal and subcostal cells a little more yellowish; base of the wings bright yellow, including the veins; stigma distinct, brown; veins dark brown. Venation: R_s short, slightly arcuated to feebly angulate near midlength; R_2 oblique, its fusion with R_1 at the wing tip slight; R_{2+3+4} rather short, usually a little longer than $r-m$; cell M_1 present; cell 1st M_2 open.

Abdomen dark brown, sparsely gray pruinose. Male hypopygium with the pleurites short and stout, at the apex with the two small pleural appendages, an outer subcircular fleshy lobe whose inner face is densely set with short black spinous setæ; inner pleural appendage more chitinized, slightly curved, along the inner margin with about a dozen spinous setæ that are stouter and more crowded near the tip; lateral gonapophyses slender, bent at a right angle near midlength. Ovipositor rusty in color.

Habitat: Japan.

Holotype, ♂, Meguro, Tokio, March 27, 1919 (R. Takahashi).

Allotopotype, ♀, April 4, 1919.

Paratopotypes, 8 ♂ ♀, March 20–April 9, 1919.

One teneral female that may represent still another undescribed species has cell R_3 sessile, the petiole being entirely lacking. The praescutal stripes are less distinct than in the specimens above described.

Dicranota Zetterstedt.**Dicranota nipponica** sp. n.

Antennæ with twelve segments, the terminal segment small; mesonotal praescutum grayish buff, with three dark brown stripes, the median one of which is split by a capillary line of the ground color; male hypopygium at the outer angle produced caudad into a lobe.

Male—Length, 7.5 mm.; wing, 8.7 mm.

Rostrum and palpi brown. Antennæ dark brownish black, the flagellar segments with a conspicuous erect white pubescence in addition to the verticils; but ten flagellar segments are evident, the last much smaller than the penultimate; first flagellar segment long clavate, much longer than those following. Head brownish gray, very narrowly clearer gray along the inner margins of the eyes.

Thorax light grayish buff, the praescutum with three dark brown stripes of which the intermediate one is distinctly split by a capillary vitta of the ground color; scutal lobes gray marked with pale brown; scutellum, postnotum and pleura light gray. Halteres pale brown, brighter at the base. Legs with the coxæ light gray, more yellowish apically; trochanters dull yellow, the outer margins blackened; femora brownish yellow, brighter at the base, the tips dark brown; tibiæ dark brown, the tips black; tarsi dark brownish black. Wings with a pale gray tinge; stigma elongate, brown, extending from *r* to the tip of R_{1+2} ; veins dark brownish black, the veins at the wing base a little paler. Venation: *Rs* very short, strongly angulated to almost square at its origin, slightly spurred; R_{2+3+4} short, about equal to *r-m*; apical fusion of R_2 with R_1 slight; cell 1st M_2 open, cell M_1 present.

Abdomen dark brownish gray, the tergites very narrowly margined caudally with paler gray; sternites similarly margined with yellowish gray and with an indistinct broken median yellowish stripe. Male hypopygium with the outer angle of the pleurites extended caudad into a blunt hairy lobe; two pleural appendages, the inner one of which is curved, flattened and expanded distally, not conspicuously armed with setæ and spines.

Habitat: Japan.

Holotype, ♂, Meguro, Tokio, March 30, 1919 (R. Takahashi).

Cylindrotoma Meigen.**Cylindrotoma japonica** sp. n.

Antennæ rather short, dark brownish black; front and a broad margin around the eyes yellow; praescutal stripes entirely confluent, the interspaces with a deep grooved impression.

Male—Length about 13–14 mm.; wing, 10.8–11.5 mm.

Female—Length, 13.5 mm.; wing, 13 mm.

Rostrum and palpi dark brown. Antennæ rather short for this genus of flies, dark brownish black, the flagellar segments with the posterior face straight, the anterior or inner face gently convex. Front and a broad margin around the eyes yellow, remainder of the head shiny black, microscopically punctured.

Pronotal scutum dark, the scutellum yellow, darker medially. Mesonotal praescutum with the disk black, subopaque, with deep, impressed longitudinal grooves in the usual interspaces; scutal lobes and the posterior half of the postnotum black, remainder of the mesonotum yellow. Pleura pale whitish yellow, the sternopleura and mesopleura, as well as an oval spot cephalad of the base of the halteres shiny black. Halteres pale yellow, the knobs scarcely darker. Legs with the coxæ light brown, the outer face marked with darker brown; trochanters dull yellow; femora yellow, the tips broadly black; tibiæ brownish yellow, tipped with black; tarsi black, the base of the metatarsi a little paler. Wings broad, grayish yellow, the basal and costal areas brighter; stigma dark brown, oval; veins dark brown. Venation: cell *1st M*₂ not greatly elongated; cell *M*₁ short-petiolate.

Abdominal tergites reddish brown, the segments margined laterally and caudally with black; in some specimens these markings completely cover the dorsum; sternites reddish, indistinctly margined laterally and caudally with dark brown; male hypopygium greatly enlarged, black; ovipositor black.

Habitat: Japan.

Holotype, ♂, Saitama, May 29, 1919 (R. Takahashi).

Allotopotype, ♀, May 31, 1919.

Paratopotypes, 2 ♂s.

Liogma Osten Sacken.

Liogma serraticornis sp. n.

General coloration deep shiny black; flagellar segments in the male deeply serrated; wings with the stigma yellow or brownish yellow.

Male—Length about 15 mm.; wing, 12–12.1 mm.

Female—Length about 14 mm.; wing, 12 mm.

Rostrum dark brown; palpi yellowish brown. Antennæ with the scape brownish yellow, the flagellum dark brownish black, the flagellar serrations in the male sex very long, considerably more so than in *L. kuwanai*; there are seventeen segments, the last two of which are slender and not serrate. Head shiny black.

Thoracic dorsum shiny black, the postnotum sculptured. Pleura shiny black, the dorso-pleural membranes pale. Halteres yellow. Legs with the coxæ largely black on their outer faces; trochanters dull yellow; femora pale yellow, the tips broadly black; tibiæ yellowish brown, the tips blackened; tarsi black. Wings with a strong yellowish gray tinge, the costal region, the stigma and the space between *Cu* and the abortive anal vein behind it yellowish; veins dark brown, excepting

Sc and *R*, which are yellowish. Venation: *r-m* sometimes present, but short, at other times obliterated by the punctiform contact or short fusion of *R*₄₊₅ on *M*₁₊₂; basal deflection of *Cu*₁ before or slightly beyond the fork of *M*.

Abdomen shiny black throughout.

In the female sex, the antennæ are much shorter and less distinctly serrated; only the second scapal segment is pale; the stigma and costal region of the wing brownish yellow; the valves of the ovipositor short and flattened, black, their tips rusty brown.

Habitat: Japan.

Holotype, ♂, Saitama, May 30, 1919 (R. Takahashi).

Allotopotype, ♀, May 29, 1919.

Paratopotypes, 2 ♂'s, 2 ♀'s, May 29, 1919.

Liogma kuwanai is a gray fly with the stigma dark brown and the femora brown with only the bases yellow.

Phalacrocera Schiner.

Phalacrocera mikado sp. n.

Antennæ simple; mesonotum shiny black, the lateral margins of the praescutum, the scutellum and the anterior half of the postnotum pale; abdomen shiny black.

Male—Length about 11 mm.; wing, 12.2 mm.

Female—Length about 12 mm.; wing, 11.5–11.8 mm.

Rostrum and palpi dark brown. Antennæ with sixteen segments, simple in both sexes; in the male elongate-cylindrical, clothed with an abundant white pubescence; antennæ dark brown, the bases of the first two flagellar segments more yellowish. Head with the vertex between the eyes pale brown, the remainder shiny brownish black. Head strongly narrowed behind.

Mesonotal praescutum shiny black, the lateral margins and the humeral regions pale; scutal lobes black; remainder of the dorsum pale except the posterior portion of the postnotum, which is darkened. Pleura pale, the mesopleura and sternopleura shiny black. Halteres pale brown, the base of the stem paler. Legs with the coxæ pale, the outer faces more or less darkened, especially on the mesocoxæ; trochanters pale; femora pale, the tips dark brown; tibiæ pale brownish white, the tips dark; tarsi dark brown. Wings pale grayish, the stigma oval, pale yellowish brown; veins brown. Venation: *m* and *r-m* present, long; in the allotype the tip of vein *R*₂ is indistinctly persistent in both wings, but in the other specimens there is no trace of this vein.

Abdomen shiny black; hypopygium small.

Habitat: Japan.

Holotype, ♂, Tokio, April, 1919, (R. Takahashi).

Allotopotype, ♀.

Paratype, ♀, Saitama, May 29, 1919, (R. Takahashi).

Nesopeza Alexander**Nesopeza tarsalis** sp. n.

Mesonotal praescutum with the stripes shiny brown, confluent; legs black, the tips of the tarsi white; wings with the stigma dark brown, with a pale area before and beyond it.

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

Female—Length about 13 mm.; wing, 12.3 mm.

Frontal prolongation of the head and the palpi dark brown. Antennæ of the male moderately elongated, if bent backward extending about to the base of the abdomen, the scape yellow, the flagellum dark brown. Head yellowish, passing into dark brown on the posterior portions of the vertex.

Mesonotal praescutum shiny brown, the stripes confluent, the humeral angles yellowish; scutal lobes dark; remainder of the mesonotum paler. Pleura yellowish with a shiny black streak or band extending from the sternum across the mesopleura to the praescutum; a black spot between the middle and hind legs. Halteres dark brown, the base of the stem paler. Legs with the coxæ and trochanters yellow; femora dark brown, paler at the base; tibiæ and tarsi dark brownish black, the tips of the latter pure white, these about equal in width on all the legs or a trifle broader on the hind legs where about the apical half is pale. Wings gray, the stigma dark brown; a whitish subhyaline area before and beyond the stigma; a narrow seam on the basal deflection of R_{4+5} and the tip of the wing faintly infuscated. Venation: *Rs* not so elongate as in *N. geniculata* and the medial forks deeper.

Abdomen shiny dark brown, the basal sternites and the sides of the second and third tergites more yellowish; hypopygium brownish black. In the female the abdominal tergites are uniformly dark.

In the living specimens the body is probably with decided greenish tints as traces of these persist in the pinned individuals.

Habitat: Japan.

Holotype, ♂, Saitama, May 29, 1919 (R. Takahashi).

Allotopotype, ♀.

Paratopotype, ♀.

Tipula Linnæus.**Tipula joana** sp. n.

Antennæ black, the scape orange-yellow; praescutum gray with three darker gray stripes, the median stripe split by a capillary black line; wings strongly petiolate, a seam along the cord and the apex brownish black; *2nd Anal* cell very narrow.

Male—Length, 18–20 mm.; wing, 17–18 mm. Fore leg, femur, 11 mm.; tibia, 13.6 mm.; hind leg, 13 mm.; tibia, 15.8 mm.

Frontal prolongation of the head reddish brown, the dorsal surface light gray pruinose; nasus distinct. Palpi pale brown, the last segment,

with the exception of the base, light yellow. Antennal scape orange-yellow, the flagellum black, the segments of the latter nearly cylindrical, with a dense, microscopic white pubescence. Head light gray, the sides of the vertex more brownish, set with abundant setæ.

Mesonotal praescutum light gray, with three darker gray stripes, the median stripe broadest, strongly narrowed behind, split by a capillary velvety-black line; scutum light gray, each lobe with two darker gray blotches; scutellum and postnotum darker gray. Pleura dark colored, with a dense blue-gray pollen, the dorso-pleural membrane conspicuously dull yellow. Halteres brown, the extreme base brownish yellow. Legs with the coxæ blue-gray; trochanters yellow; femora brownish-yellow, brightest at the base, the tips brownish black; tibiæ brownish black, darkest apically; the posterior tibiæ with a broad, indistinct, whitish, sub-basal band; tarsi black. Wings with a faint yellowish tinge, brightest at the wing-base; costal cell more saturated; subcostal cell dark; stigma dark brownish black; a broad dark brownish black seam along the cord; wing-apex blackish, this occupying the end of cell R_2 , nearly the apical half of cells R_3 and R_5 and part of M_1 . Venation: R_s short; R_2 persistent; *2nd Anal* vein running very close to the anal margin so the *2nd Anal* cell is very narrow. The wing is strongly petiolate.

Abdomen with the basal tergites yellowish, especially laterally, the fifth to ninth tergites black; sternites paler; abdominal segments margined laterally and ringed caudally with paler. Male hypopygium not conspicuous; ninth tergite rather small, the caudal margin almost straight across or but feebly notched. Outer pleural appendage rather small, flattened, greenish white in color, broadest at the base, tapering gradually to the apex. Inner pleural appendage pale greenish, terminating in two subequal blackened spines that are slightly divergent, claw-like; a broadly spatulate blade projects toward the ninth tergite. Ninth sternite with a small but deep V-shaped median notch. Eighth sternite projecting caudally, the margin unarmed.

Habitat: Japan.

Holotype, ♂, Meguro, Tokio, April 23, 1919 (R. Takahashi).

Paratopotype, ♂.

This exquisite species is dedicated to the memory of my mother, Mrs. Jane Parker Alexander. It shows numerous points of resemblance to *T. pedata* Wied. and allied forms and if the group *Tipulodina* Enderlein is to be recognized as a valid genus this species will probably have to be placed therein, although the hypopygium is strikingly different from that of the genotype of *Tipulodina (pedata)*. For a discussion of the status of the group *Tipulodina*, consult a paper by the writer, Proceedings of the United States National Museum, vol. 49, p. 184; 1915.