

XLVI.—*New or little-known Tipulidæ (Diptera).*—XXV.
Palaearctic Species. By CHARLES P. ALEXANDER, Ph.D.,
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THE present paper deals with species of the genus *Tipula* from various parts of Japan, chiefly from the mountains of Hokkaido and Honshiu. One species was collected by Mons. de Lezey and is contained in the collection of the Paris Museum. The other species were kindly sent to me by my friends, Messrs. Esaki, Kuwayama, and Machida, to whom I am vastly indebted for the privilege of retaining the types.

Tipula manca, sp. n.

General coloration yellow; antennæ yellow; head grey posteriorly; mesonotal præscutum with three pale brown stripes; pleura whitish-pruinose; wings grey with a subhyaline cross-band beyond the cord; tip of vein R_2 atrophied; abdomen yellow with a terminal black ring; male hypopygium with the ninth tergite notched; eighth sternite with a median pencil of long yellow setæ.

Male.—Length 14 mm.; wing 15.5 mm.

Frontal prolongation of the head obscure yellow; nasus elongate; palpi pale brownish yellow. Antennæ short, light yellow, only the terminal segments a little darker; verticils conspicuous, black. Vertical tubercle obscure yellow, the remainder of the vertex and occiput grey, the smooth median area with a narrow, light brown vitta.

Mesonotal præscutum yellow with three pale brown stripes, the broad median stripe split by a line of the ground-colour; remainder of the mesonotum obscure yellow, the scutal lobes a little darkened. Pleura whitish-pruinose, the dorso-pleural region slightly more yellowish. Halteres brown, the base of the stem yellow. Legs with the coxæ and trochanters light yellow; femora yellow, the tips faintly infuscated; remainder of the legs obscure yellow, the terminal tarsal segments darkened. Wings grey, the stigma dark brown; a seam at $r-m$ and the wing-apex in cells R_2 , R_3 , and R_5 paler brown; a conspicuous subhyaline cross-band beyond the stigma, occupying the basal two-fifths of cell R_2 and about the basal third of cells R_3 and R_5 ; cell 1st M_2 largely subhyaline; veins pale brown. Venation: R_2 almost perpendicular at origin, the distal section from

slightly beyond r completely atrophied; deflection of R_{4+5} and $r-m$ subequal; cell 1st M_2 rather small, pentagonal, narrowed distally; petiole of cell M_1 a little longer than m ; basal deflection of Cu_1 at about one-fourth the length of the cell.

Abdomen brownish yellow, the tergites with a very faint, darker brown, median stripe; segments 7 and 8 and tergite 9 black, the caudal margins of the segments conspicuously yellow. Male hypopygium compressed, the sclerites fused basally into a ring. Ninth tergite with a deep V-shaped notch. Eighth sternite with a dense nearly median pencil of long yellow bristles.

Hab. Japan (Honshiu).

Holotype, ♂, Kofu, Kai-no-kuni, 1906 (*L. Drouart de Lezey*).

Paratopotype, sex?

Type in the collection of the Paris Museum.

Tipula plagiotoma, sp. n.

General coloration buffy, the præscutum with four pale stripes, the intermediate pair reddish brown, the laterals darker brown; wings greyish yellow, the base and costal region clearer yellow; a conspicuous whitish obliterative band beyond the cord; tip of vein R_2 atrophied; male hypopygium with the eighth sternite densely tufted with long yellow setæ.

Male.—Length 16 mm.; wing 15.5 mm.

Frontal prolongation of head buffy, the nasus elongate; palpi pale brown, the terminal segments darker. Antennæ relatively short; basal segments obscure yellow, the terminal segments passing into darker; basal enlargements of the individual segments a very little darker. Head light grey, the vertical tubercle more ochreous; vertex with a conspicuous capillary dark brown median vitta.

Mesonotal præscutum buffy with four pale stripes, the intermediate pair barely separated from one another by a capillary pale line, reddish brown, lateral stripes conspicuously darker than the intermediate stripes; remainder of mesonotum yellowish buffy, the scutellum and postnotum with long erect setæ. Pleura buffy, more greyish on the sternopleurite. Halteres pale, the knobs infuscated. Legs with the coxæ pale buffy, with long erect setæ; trochanters yellow; femora yellow, the tips rather narrowly infuscated; tibiæ brownish yellow, the tips slightly darkened; tarsi brownish black. Wings greyish yellow, the base, cells C

and *Sc*, and a seam behind vein *Cu* conspicuously yellow; stigma conspicuous, brown; a seam on the anterior cord and the entire wing-apex paler brown; a broad whitish cross-band extending from the costal margin obliquely basad and caudad to cell 1st *M*₂, this including the broad bases of cells *R*₂, *R*₃, *R*₅, and about all of cell 1st *M*₂; a small obliterative area before the stigma and across the proximal end of cell 1st *M*₂; veins dark brown, more yellowish in the flavous areas. Venation: tip of vein *R*₂ atrophied shortly beyond *r*; petiole of cell *M*₁ about two-thirds longer than *m*; cell 1st *M*₂ relatively small, long, narrowed distally; cell 2nd *A* relatively narrow.

Abdominal tergites brownish yellow, the basal segments clearer yellow, especially on the glabrous basal annulet; segments 7 to 9 black, the caudal and lateral margins of the segments narrowly obscure yellow; lateral margins of the tergites indistinctly buffy grey, narrowly lined internally by a dusky line; sternites generally similar to the tergites. Male hypopygium relatively large. Ninth tergite with a narrow U-shaped median notch, the lateral lobes thus formed narrow, gently divergent, the apices flattened and gently obtuse. Basistyle distinct, more or less clearly delimited from the sternite, the outer margin produced caudad into a low tubercle, the ventral caudal angle with a tuft of yellow setæ. Ninth sternite with a profound V-shaped notch. Eighth sternite with a dense brush of long yellow setæ on the median line, these directed caudad.

Hab. Japan (Hokkaido).

Holotype, ♂, Sapporo, Ishikari-no-kuni, August 10, 1923 (*S. Kuwayama*).

Tipulis futilis, sp. n.

General coloration grey; antennæ dark brown, the basal three segments light yellow; wings brown, variegated with whitish subhyaline, this including an almost complete cross-band beyond the cord; tip of *R*₂ atrophied; abdomen obscure yellow, the terminal segments and a dorso-median vitta dark brown.

Male.—Length 13 mm.; wing 14.2 mm.

Frontal prolongation of the head grey; palpi with the basal segments grey, the terminal segments brown. Antennæ moderately elongate, the scape and first flagellar segment light yellow; remainder of the flagellum dark brown, the segments with a slight basal swelling. Head grey.

Mesonotal præscutum light grey, with three darker

brownish-grey stripes; scutum light grey, the lobes with darker grey centres; remainder of the mesonotum grey. Pleura light grey. Halteres light brown, the knobs a little darker. Legs with the coxæ light grey; trochanters obscure yellow; femora obscure yellow, passing into brown at the tips; remainder of the legs dark brown. Wings brown, variegated with whitish subhyaline; base and subcostal cell yellowish; stigma darker brown; the whitish areas are distributed as follows: in the bases of cells *R* and *M*; beyond the origin of *Rs* in cells *R* and 1st *R*₁; at two-thirds the length of cell *M*; near mid-length of cell 1st *A*; at the outer end of cell *Cu*, passing slightly into cell 1st *A*; a conspicuous, almost complete cross-baud beyond the stigma and cord, extending from the base of cell *R*₂ where it is narrow, across the bases of cells *R*₃ and *R*₅, including almost all of cell 1st *M*₂ and about the basal two-thirds of cell *M*₄. Venation: apex of vein *R*₂ entirely atrophied, there being two or three macrotrichia on the spur of the distal section; *m* a little shorter than the petiole of cell *M*₁; *m-cu* punctiform.

Abdomen with the basal tergite grey; remaining segments obscure yellow; a nearly continuous dorso-median brown stripe; hypopygium and segments 7 and 8 dark brown. Male hypopygium moderately incrassated, the tergite and basistyles entirely separated from the sternite. Ninth tergite with a large, circular, median notch. Outer dististyle broadened distally. Eighth sternite unarmed.

Hab. Japan (Honshiu).

Holotype, ♂, Nakano, Tokyo, April 30, 1922 (*T. Esaki*).

Paratype, ♂, Komaba, Tokyo, April 28, 1922 (*J. Machida*); ♂, Mt. Minomo, Settsu-no-kuni, May 1, 1923 (*T. Esaki*).

Tipula superciliosa, sp. n.

General coloration yellowish grey, the præscutum with four brown stripes; pleura ashy grey; halteres yellow; wings strongly tinged with brownish yellow, cell *Sc* entirely dark brown; tip of vein *R*₂ semi-atrophied; *m-cu* placed beyond mid-length of cell 1st *M*₂; base of abdomen yellow, the apex black.

Male.—Length about 11 mm.; wing 14 mm.

Frontal prolongation of head grey dorsally, brown ventrally, with a blackish lateral line; dorsal surface with yellow setæ; nasus short and stout; palpi black. Antennæ rather long, if bent backward extending to slightly beyond the base of abdomen; scape and base of first flagellar

segment yellowish brown; remainder of flagellum black, the segments moderately incised. Head yellowish grey with a barely indicated capillary median vitta.

Mesonotal præscutum yellowish grey with four brown stripes; intermediate pair long and narrow, vaguely divided anteriorly by a grey line, becoming more approximated behind and separated by a capillary line of the ground-colour; lateral stripes narrow and only faintly indicated; pseudosutural foveæ small and inconspicuous; scutum grey, the lobes more yellowish grey, with two ill-defined darker brown spots on each; scutellum grey with a vague capillary brown vitta; mediotergite of postnotum clear ashy grey, the caudal margin darker. Pleura clear ashy grey, the dorso-pleural membrane brownish yellow. Halteres yellow. Legs with the coxæ grey, their apices yellowish; trochanters obscure yellow; femora obscure yellow basally, passing into brown, the tips blackened; tibiæ brown, the tips blackened; tarsi black. Wings strongly tinged with brownish yellow; cell *Sc* entirely dark brown; stigma small, brown; a tiny brown spot at origin of *Rs*; pale brown seams along vein *Cu* and its branches and on the anterior cord; obliterative areas before and beyond stigma and across the inner end of cell 1st M_2 ; veins brownish black. Venation: Sc_2 ending before the fork of *Rs*; tip of vein R_2 subatrophyed or semiobsolete; R_3 straight; *m* about one-half the petiole of cell M_1 ; *m-cu* present, placed beyond mid-length of cell 1st M_2 .

Abdomen with the basal segment yellow, a little infuscated laterally; second segment conspicuously yellow; remaining segments gradually passing into brown, on the sixth tergite becoming black medially, this colour increasing in amount on the succeeding segments, the eighth segment and ninth tergite being entirely black. Male hypopygium moderately large, the tergite, sternite, and basistyle all distinct. Ninth tergite extensive, the caudal margin nearly straight across with a tiny median notch, each lateral angle produced into a small acute tooth. Outer dististyle cylindrical.

Hab. Japan (Hokkaido).

Holotype, ♂, Jozankei, Ishikari-no-kuni, altitude 1000 feet, August 16, 1923 (*T. Esaki*).

Tipula hylæa, sp. n.

General coloration light grey, the præscutum with four narrow brown stripes; halteres yellow, the knobs dark brown; wings whitish subhyaline, the base and cell *Sc*

yellow; cell *C* largely brown; brown cross-bands on the wing-disk.

Female.—Length, excluding ovipositor, about 8 mm.; wing 11.8 mm.

Frontal prolongation of head, including nasus, light grey; palpi dark brown. Antennæ relatively short, if bent backward not attaining the wing-root, brown throughout, the basal segment a little pruinose. Head light grey.

Pronotum grey, a little darker medially. Mesonotal præscutum light grey with four narrow brown stripes, the intermediate pair strongly narrowed behind, separated by a stripe of the ground-colour that is still further split by a capillary dark vitta; scutum grey, each lobe with two brown spots, the posterior mesal one larger, triangular in outline; scutellum and postnotum grey. Pleura clear grey, the dorso-pleural membrane yellow. Halteres yellow, the knobs dark brown. Legs with the coxæ light grey; trochanters obscure yellow; remainder of legs black, the femoral bases rather narrowly obscure yellow. Wings whitish subhyaline, the base and cell *Sc* light yellow; cell *C* brown except a narrow area near the humeral cross-vein; stigma oval, dark brown; a small brown area at origin of *Rs*; another along the cord, completely traversing the wing; wing-apex broadly suffused, including all of cell *M*₁; paler grey clouds in apex of cell 1st *A*; another including all of cell 2nd *A* except the base, passing into the base of cell 1st *A*; a conspicuous cloud crosses cells *R* and *M* before the origin of *Rs*; a brown seam behind vein *Cu*; veins dark brown, yellow in the flavous areas. Venation: *Rs* long, about one-third longer than *R*₂₊₃; *r* joining *R*₂ some distance beyond its base; tip of vein *R*₂ semi-atrophied; petiole of cell *M*₁ at least three times *m*; *m-cu* elongate, placed before mid-length of cell 1st *M*₂.

Abdomen dark brown, the basal tergite grey-pruinose, the second segment a little reddish laterally at base; ovipositor broken.

Hab. Japan (Honshiu).

Holotype, ♀, Hinoemata, Iwashiro-no-kuni, altitude 3280–6235 feet, July 24, 1923 (*T. Esaki*).

The wing-pattern of this species suggests *Tipula shomio*, Alexander, and *T. taikun*, Alexander.

Tipula phæopasta, sp. n.

Closely allied to *Tipula autumnna*, Alexander; antennæ longer, the flagellum black; femoral tips darkened; wings

with cell 1st M_2 very small; $m-cu$ longer than m ; ninth tergite of male hypopygium having the apices of the lobes terminating in short black spines.

Male.—Length about 11 mm.; wing 13 mm.

Frontal prolongation of head dark brown, including the nasus; palpi dark brown. Antennæ longer than in *T. autumnæ*, the scapal segments obscure brownish yellow; flagellum uniformly black, the terminal pedicel of each segment fully twice as long as the basal enlargement. Head dull grey, the vertex with a capillary dark line.

Mesonotal præscutum dull grey with three brown stripes, the median stripe cuneiform, almost obliterated in front, the margins and a capillary median vitta dark brown; lateral stripes very narrow and subobsolete, grey; interspaces with conspicuous brown setigerous punctures as in this group of species; scutum grey, each lobe with two brown marks, the mesal one elongate-triangular; a median brown stripe extending the length of the scutum, scutellum, and postnotum, broadest on the scutellum, narrowed and becoming obsolete at mid-length of the postnotum. Pleura dark grey, the sternopleurite still darker grey; dorso-pleural membrane obscure yellow. Halteres obscure yellow, the knobs dark brown. Legs with the coxæ pale, sparsely pruinose; trochanters yellow; femora brown, the bases paler, the colour darkening to the tips; tibiæ brown, the tips dark brown; tarsi brownish black. Wings with a greyish tinge, the base more yellow; cells *C* and *Sc* brownish yellow; stigma elongate, pale brown; outer margins of cells R_2 and R_3 slightly darkened; vein *Cu* margined with brown in cell *M*; veins dark brown, very indistinctly seamed with darker; obliterative areas before the stigma and crossing cell 1st M_2 . Venation: *Sc* ending beyond mid-length of R_3 ; tip of R_2 obsolete; cell R_2 small, as in this group of species; cell 1st M_2 very small, pentagonal; m shorter than $m-cu$; petiole of cell M_1 a little longer than m and less than one-fourth the length of the cell; $m-cu$ elongate, before mid-length of cell 1st M_2 .

Abdomen yellow, the tergites narrowly trivittate with dark brown; hypopygium pale. Ninth tergite of male hypopygium large, with a broad V-shaped notch, the caudal margin narrowly chitinized; base of the notch with an acute chitinized tooth, the apices of the lobes terminating in subequal black spines.

Hab. Japan (Honshiu).

Holotype, ♂, Osaka, June 27, 1922 (*T. Esaki*).

Tipula holoteles, sp. n.

Vertex orange, with a dark brown median line; mesonotal præscutum brown with four dark brown stripes; scutellum and postnotum with a median dark vitta; apices of halteres yellow; wings narrow, subhyaline, conspicuously variegated with brown and yellow; abdomen yellow to orange, trivittate with brown.

Male.—Length about 15 mm.; wing 23·5 mm.

Female.—Length about 16 mm.; wing 25·5 mm.

Frontal prolongation of head, including the nasus and palpi, dark brown. Antennæ short, if bent backward not attaining the wing-root; basal segment of scape yellow; second segment brown; flagellum black. Front and anterior part of vertex pale yellow; remainder of vertex orange, with a conspicuous longitudinal dark brown median stripe.

Pronotum pale brown. Mesonotal præscutum rich brown, the lateral margins more greenish grey, with four conspicuous dark brown stripes; pseudosutural foveæ small, dark brown; scutum brown, each lobe with two conspicuous dark brown areas; scutellum and postnotum testaceous, each with a conspicuous median brown vitta. Mesonotal interspaces with conspicuous erect pale setæ. Pleura yellow, the anepisternum, sternopleurite, and meron variegated with greyish. Halteres pale brown, the knobs with conspicuous yellow apices and darker bases. Legs with the coxæ and trochanters yellow, darker in the female; femora brownish yellow, the tips conspicuously blackened; tibiæ light brown, gradually passing into darker brown; tarsi dark brown. Wings long and narrow, with a conspicuous petiole, subhyaline, the costal region more yellowish; stigma brown; wing-membrane with conspicuous pale brown clouds, including the bases of cells *R* and *M*, origin of *Rs*, along the anterior cord and outer end of cell 1st *M*₂; paler brown clouds in cells *R*₂ and *R*₃, near mid-length and before the end of vein *M* and in the cubital and anal cells; veins brown. The female has the wing even more brilliantly variegated, the apical margin and veins beyond the cord seamed with brown. Venation: *Rs* long, about two and one-half times *R*₂₊₃; *R*₃ arcuated, bent toward *R*₄₊₅; petiole of cell *M*₁ shorter than *m*; *m-cu* punctiform.

Abdomen light yellow, the tergites with a conspicuous median dark brown stripe, on the fifth and succeeding segments including the entire sclerite except caudally; narrow and somewhat less distinct dark brown lateral stripes; styli

and apex of eighth sternal lobe yellow. Male hypopygium large, the sclerites fused into a ring; tergites 6 to 8 very narrow and telescoped. Ninth tergite transverse, obscure fulvous, with a large blackened area on either side at base; median area of tergite produced caudad into a slender deflexed median lobe, the apex of which terminates in two blackened lobules. Eighth sternite produced caudad into a long concave median lobe that is directed caudad, the apex dorsad, this boat-shaped structure clothed with yellow setæ. In the female the basal four tergites are bright orange, with conspicuous black median and sublateral stripes, the latter oblique, the lateral margins conspicuously silvery white; tergites 5 to 7 black with white lateral margins that become obsolete on the outer segments; sternites black, only the basal two segments obscure yellow, the lateral margins conspicuously whitened. Ovipositor with the ninth tergite fulvous, the sternite pruinose, the short fleshy tergal valves of the ovipositor brownish fulvous.

Hab. Japan (Honshiu).

Holotype, ♂, Mt. Akagi, Kotsuke-no-kuni, altitude 5580 feet, July 29, 1923 (*T. Esaki*).

Allotype, ♀, Lake Chuzenji, Shimotsuke-no-kuni, altitude 4170 feet, July 22, 1923 (*T. Esaki*).

This beautiful *Tipula*, together with *T. naviculifer*, Alexander, and *T. shogun*, Alexander, form a peculiar group of the genus.

Tipula patagiata, sp. n.

Belongs to the *tricolor* group; allied to *T. marginata*, Meigen; size very large (wing, ♂, over 23 mm.); costal margin of wing and the stigma dark brown; petiole of cell M_1 short; male hypopygium with the region of the tergite produced into a short, roughened median lobe that is subtended on either side by a more depressed wing.

Male.—Length 18 mm.; wing 23.5 mm.

Frontal prolongation of head brown, dark grey dorsally; nasus long and slender, brown, tufted apically with yellow setæ; palpi dark brown. Antennæ of moderate length, if bent backward extending a little beyond the wing-root; basal three segments brown, the first a trifle pruinose, the third darker at tip; remainder of flagellum black, the segments moderately incised. Head light grey with a capillary brown median stripe that becomes narrow and finally obliterated in front, the vertical tubercle with an impressed line.

Pronotum and anterior mesonotum dark grey, the præscutum with three yellowish-brown stripes that are margined with dark brown, the median stripe further divided by a capillary dark brown median vitta; remainder of mesonotum lighter grey, the scutal lobes each with two subconfluent darker markings. Pleura with a clear silvery-grey pruinosity, the postnotal pleurotergite more yellowish. Halteres pale brown, the base of the stem brighter, the knobs somewhat darker. Legs with the coxæ clear light grey; trochanters brownish yellow; femora yellowish brown, their bases clearer yellow, the tips passing into black; tibiæ brown, soon deepening into black; tarsi long and slender, black. Wings tinged with brown, cells *C* and *Sc* conspicuously dark brown; costal prearcular region likewise dark, but the posterior prearcular cells more yellowish; a conspicuous yellow spot at proximal end of stigma; stigma dark brown, sending a seam over the anterior cord; conspicuous oblitative areas before the stigma and across the proximal end of cell 1st M_2 ; veins dark brown, more yellowish behind vein *Cu*. Venation: petiole of cell M_1 very short, less than one-half *m*.

Abdominal tergites buffy yellow, with a conspicuous dark brown stripe on either side of the conspicuous dorso-median line, these dark markings narrowly connected across the caudal margins of tergites 2 to 4, the fifth and succeeding segments nearly uniformly darkened; extreme caudal margins of the tergites pale; basal and intermediate sternites pale, the terminal segments dark grey with indistinct paler caudal margins. Male hypopygium with the tergite firmly fused with the sternite, the caudal margin of the former produced caudad into a relatively short, roughened, black median lobe that is subtended on either side by a more flattened wing.

Hab. Japan (Hokkaido).

Holotype, ♂, Mt. Moiwa, Ishikari-no-kuni, June 15, 1923 (S. Kuwayama).

Tipula patagiata is very different from the other described Japanese species of the *tricolor* group.

Tipula mendax, sp. n.

Allied to *T. yamata*, Alexander; wings with the base and costal region strongly yellowish; male hypopygium with the eighth sternite with a dense tuft of long yellow setæ that are directed ventrad,

Male.—Length about 12 mm.; wing 14.5 mm.

Frontal prolongation of head buffy-yellow, the nasus concolorous, elongate, tufted with long yellow setæ; palpi pale brown. Antennæ of moderate length; scapal segments yellow; basal segment of flagellum cylindrical, brown, the ends paler, especially the base; remaining segments of flagellum dark brown, the incisures indistinctly paler. Head brownish grey, a little brighter grey adjoining the margins of the eyes; vertex with a very narrow but conspicuous black median line.

Pronotum more or less infuscated. Mesonotum bright fulvous-yellow, on the posterior sclerites fading into testaceous, the usual præscutal stripes obliterated or nearly so; lateral margins of the thoracic sclerites paler. Pleura pale buffy, the sternopleurite and meron conspicuously grey. Halteres pale brown, the extreme base of the stem light yellow, the knobs a little darker. Legs with the coxæ pale, the posterior coxæ more greyish; trochanters pale yellow; femora obscure yellow, the tips rather narrowly dark brown; tibæ brownish yellow, the tips a little darkened; tarsi brownish black. Wings tinged with greyish yellow, the base and costal region strongly yellowish; stigma relatively pale, brownish yellow; space behind vein *Cu* strongly flavous; obliterative areas before the stigma and across the proximal end of cell 1st M_2 ; veins dark brown, more yellowish in the flavous areas. Venation: basal section of vein M_{3+4} shorter than the second section; cell 2nd *A* a little wider than in *T. yamata*.

Abdomen with the basal segments obscure yellow, soon passing into brown, the hypopygium dark brown; caudal margins of the segments narrowly, the lateral margins more broadly, pale, the latter indistinctly margined sublaterally with darker brown; sternites dark, especially the subterminal ones. Male hypopygium with the ninth tergite tumid, the caudal margin produced into two blackened triangular knobs, separated from one another by a relatively narrow V-shaped notch; these knobs are broad at base, the tips narrowed, the surface relatively smooth. Ventral surface of eighth sternite bearing a dense tuft of long yellow setæ that are directed ventrad.

Hab. Japan (Hokkaido).

Holotype, ♂, Sapporo, Ishikari-no-kuni, June 1923 (*S. Kuwayama*).

Tipula otiosa, sp. n.

General coloration light grey, the præscutum with three brown stripes; antennæ moderately elongated, the scape

yellow, the flagellum black; wings pale brown, the base and costal region yellowish, the disk variegated with subhyaline; abdominal tergites obscure yellow, trivittate with dark brown.

Male.—Length about 14.5 mm.; wing 16.5 mm.

Frontal prolongation of head light grey, moderately elongate, the nasus long and slender; palpi dark brown. Antennæ with scape yellow, the flagellum black; antennæ of moderate length, if bent backwards extending about to the base of the abdomen, the flagellar segments with relatively conspicuous basal swellings. Head light grey, the sides of the vertex behind a little infuscated; a capillary median brown vitta, extending in a delicate point on to the very low vertical tubercle.

Pronotum light grey. Mesonotal præscutum light grey with three brown stripes that are confluent in front, indistinctly separated behind; median stripe greyish brown, margined laterally with dark brown and with an indistinct capillary median vitta; lateral stripes solid, dark brown; pseudosutural foveæ linear, almost obsolete, their mesal ends punctiform; scutum dark grey, each lobe with two brown marks, the median area with a capillary brown vitta; scutellum with the median lobe light grey with a capillary brown vitta that becomes subobsolete on the postnotal mediotergite. Pleura light grey, the dorso-pleural membrane ochreous. Halteres obscure yellow, the knobs brown. Legs long and slender, the coxæ light brown; trochanters yellow; femora obscure yellow basally, soon passing into brown, the tip dark brown; remainder of legs dark brown. Wings with a pale brown tinge, more evident in the cells beyond the cord; wing-base, cell *Sc*, and, less distinctly, cell *C* bright yellow; indistinct brown seams along the anterior cord and basal deflection of *Cu*₁; stigma small, dark brown; whitish subhyaline areas in the base of cell *R*₂; a conspicuous band before the cord, including cell 1st *R*₁, the tip of *R*, and the bases of 1st *M*₂, *M*₄, and *Cu*₁; less distinct white areas across the bases of the anal cells and in cell 1st *A* at the end of vein 2nd *A*. Venation: *R*₂ persistent; *m* a little shorter than the petiole of cell *M*₁.

Abdomen with the basal tergite light grey; subbasal tergites yellow, trilineate with dark brown, on the subterminal segments the brown colour becoming more extensive and finally obliterating the ground-colour except for the ochreous lateral margins; sternites yellow, the basal and terminal sternites infuscated. Male hypopygium with the tergite black, the caudal margin with a U-shaped median

notch, the small lateral lobes obtusely rounded. Basistyle virtually fused with the sternite; outer dististyle an obscure yellow ear-shaped lobe, broadest just beyond the base, thence tapering gradually to the subacute apex. Ninth sternite extensive. Eighth sternite unarmed.

Hab. Japan (Honsiu).

Holotype, ♂, Mt. Takao, Musashi-no-kuni, altitude 1000-2000 feet, April 13, 1923 (*T. Esaki*).

Paratopotype, ♂.

Tipula pendula, sp. n.

General coloration grey, the præscutal stripes very indistinct; antennal flagellum black; wings with a pale grey tinge, the base and costal region yellow; wing-apex broadly darkened; a broad, conspicuous, whitish cross-band beyond the cord, nearly traversing the wing; male hypopygium with the caudal margin of the eighth sternite produced ventrad into a small tongue-like yellow lobe.

Male.—Length 16.5 mm.; wing 15.5 mm.

Frontal prolongation of head obscure yellow, the nasus relatively short with moderately elongate yellow setæ; palpi pale at base, the terminal segments passing into brown, the extreme apex of the last segment paler. Antennæ moderately elongate, if bent backward extending about to the base of the abdomen; basal segments obscure yellow; flagellum black, the base of the first segment narrowly paler. Head grey, the vertical tubercle a little brighter; centre of vertex with a very delicate brown vitta.

Pronotum dusky. Mesonotal præscutum dusted with yellowish grey, the lateral margins passing into grey, the usual stripes being rendered indistinct; scutum dark grey, the centre of each lobe with two blackish dashes; scutellum brown, dusted with grey; postnotal mediotergite light grey. Pleura light grey, the dorso-pleural membrane light yellow. Halteres light brown, the knobs infuscated. Legs with the coxæ pale, sparsely dusted with whitish; trochanters obscure yellow; femora obscure yellow, the tips broadly blackened, more extensively so on the fore femora where nearly the apical half is included; tibiæ and tarsi brownish black, the tarsi only a little longer than the tibiæ. Wings with a pale greyish tinge, the base and cells *C* and *Sc* yellow; stigma dark brown; wing-apex conspicuously brownish, extending basad to the fork of M_{1+2} ; a broad, conspicuous, white band beyond the cord, this only a little narrower than the dark apex, including the broad bases of cells R_2 , R_3 , R_5 , 2nd M_2 , M_3 , and Cu_1 , and about all of cell 1st M_2 ; a smaller paler

area before the stigma; obliterative areas across the end of *Rs* and proximal end of cell 1st *M*₂; veins dark brown, paler in the flavous areas. Venation: tip of *R*₂ preserved but without macrotrichiaë on distal half; petiole of cell *M*₁ short, approximately one-half *m*; cell 1st *M*₂ narrowed distally.

Abdomen with the basal segments obscure yellow, beyond the second segment gradually becoming infuscated; on the sixth and succeeding segments becoming almost black; caudal margins of segments 6 to 8 narrowly obscure yellow. Male hypopygium relatively small. Ninth tergite with the apex much narrower than the base, the caudal margin with a very narrow median split, the lateral lobes thus formed relatively slender, subacute, lying almost parallel to one another, these lobes paler than the remainder of the tergite; dorso-median line of tergite narrowly pale. Basistyle nearly complete, produced caudad into a relatively long acute point. Eighth sternite with caudal margin produced ventrad into a small, flattened, nearly glabrous, tongue-like yellow lobe that hangs pendulously.

Hab. Japan (Hokkaido).

Holotype, ♂, Maruyama, near Sapporo, Ishikari-no-kuni, June 10, 1923 (*S. Kuyama*); collector's number 35.

Tipula turbida, sp. n.

General coloration of head and thorax grey, the præscutum with three plumbeous stripes; wings tinged with brown, conspicuously variegated with whitish subhyaline; radial cells all dark; male hypopygium with the eighth sternite unarmed.

Male.—Length 15–16 mm.; wing 17·4–18 mm.

Female.—Length about 17 mm.; wing 17·8 mm.

Frontal prolongation of the head and the nasus dark brown; palpi concolorous. Antennæ of moderate length, if bent backward scarcely attaining the root of the halteres; scape yellow; flagellar segments brown with blackish basal enlargements. Head dark brownish grey.

Mesonotum dark grey, the præscutum with three plumbeous grey stripes that are little evident against the ground-colour, the median stripe faintly divided by a pale line; scutum grey, the lobes plumbeous grey; scutellum and postnotum brown, grey-pruinose. Pleura obscure ochreous, the anepisternum and pteropleurite grey, the ventral half of the sternopleurite and ventral margin of meron of the same colour. Halteres brown, the base of the stem and apex of

knobs paler. Legs with the coxæ and trochanters yellow; femora obscure yellow, the tips narrowly dark brown; tibiæ and tarsi brownish yellow, the tips scarcely darkened, the terminal tarsal segments infuscated. Wings strongly tipped with brown, the base and costal region more brownish yellow; conspicuous whitish subhyaline areas as follows: a conspicuous band before the cord extending from before the stigma across the outer ends of cells *R* and *M*, the basal half of cell 1st *M*₂ to the wing-margin in *Cu*, including also the bases of cells *M*₁, 2nd *M*₂, and *M*₃; a whitish area just beyond mid-length of cell *M*, followed by a brown cloud; a brown cloud at mid-length of cell *Cu*, preceded and followed by conspicuous whitish areas; radial cells entirely dark; veins dark brown, paler in the obliterative areas. Venation: *m* varying in length, from shorter than to a little longer than the petiole of cell *M*₁.

Abdomen yellow basally; on the second tergite a blackish sublateral stripe commences; on the third segment a median stripe of the same colour; on the intermediate segments these stripes widen, reducing the pale brown ground-colour, the lateral margins of the segments becoming broadly pale; segments 7 to 9 black except for very narrow lateral and caudal pale margins on segments 7 and 8 and the styli of the hypopygium. Male hypopygium with the tergite and sternite distinct, the basistyle fused with the latter except ventrally. Ninth tergite entirely black, with a median lobe as in the group. Outer dististyle flattened, irregularly rectangular, pale. Eighth sternite unarmed. The female is similar, the basal abdominal segments pale reddish brown, with narrow greyish caudal margins; on the fifth and succeeding segments this colour passes into black, the segments with narrow pale margins. Ovipositor with the bases shiny black, all the valves straight.

Hab. Japan (Honshiu).

Holotype, ♂, Lake Ozenuma, on boundary between Iwashiro-no-kuni and Kotsuke-no-kuni, altitude 5460 feet, July 26, 1923 (*T. Esaki*).

Allotype, ♀, Yumoto, Shimotsuke-no-kuni, altitude 4830 feet, July 23, 1923 (*T. Esaki*).

Paratopotype, ♂.

Tipula turbida belongs to the group of the genus including the following additional Japanese species:—*T. bipenicillata*, Alexander; *T. bubo*, Alexander; *T. kuzuensis*, Alexander; *T. saitamae*, Alexander; and *T. tokionis*, Alexander.

Tipula nigrosignata, sp. n.

General coloration shiny yellow, the head, mesonotal præscutum and scutum, and apex of abdomen shiny black; wings tinged with pale brown; stigma largely yellow; male hypopygium with the caudal margin of the eighth sternite produced and tufted ventrally with yellow setæ.

Male.—Length about 15 mm.; wing 19 mm.; antenna 11.5 mm.

Frontal prolongation of head, with the nasus, black; palpi dark brown. Antennæ elongate, if bent backward extending to the base of the sixth abdominal segment; scape and basal segment of flagellum yellow; remainder of flagellum dark brown, the basal segments with the basal swelling a little darker. Head shiny black.

Pronotum yellow, shiny black medially. Mesonotal præscutum shiny black, the region of the pseudosutural foveæ paler, the postero-lateral portions slightly pruinose; scutal lobes brownish black; remainder of mesonotum obscure shiny yellow. Pleura shiny yellow, the sternopleurite a little darker. Halteres brownish yellow, the knobs dark brown. Legs with the coxæ and trochanters shiny yellow; femora brownish yellow, the tips conspicuously but rather narrowly blackened; tibiæ brownish yellow, the tips narrowly blackened; tarsi light brown, gradually passing into dark brown, the tips of the individual segments narrowly darker. Wings tinged with pale brown, the base and cells *C* and *Sc* more yellowish; stigma largely bright yellow, the distal end narrowly brown; anterior cord and longitudinal veins beyond the cord faintly seamed with darker brown; small isolated obliterative areas before the stigma and across the proximal end of cell 1st M_2 ; veins dark brown. Venation: R_{2+3} long, straight, a little shorter than the arcuated sector; R_2 entire; petiole of cell M_1 a little longer than *m*; *m-cu* distinct.

Abdomen shiny obscure yellow; a blackish spot on either side at the base of second tergite; an indistinct sublateral stripe; segment 6 and succeeding segments black with faintly indicated pale margins on segments 6 and 7. Male hypopygium with the tergite and sternite distinct, the very extensive basistyle fused with the sternite except ventrally. Ninth tergite subquadrate, with a deep, linear, median notch, each lobe thus formed being obliquely truncated, the mesal apical angle produced caudad into a small black spine. Outer dististyle stout, black. Eighth sternite with the caudal margin produced caudad into a conspicuous lobe,

the apex of which bears a ventral tuft of conspicuous yellow setæ.

Hab. Japan (Honshiu).

Holotype, ♂, Lake Chuzenji, Shimotsuke-no-kuni, altitude 4170 feet, July 22, 1923 (*T. Esaki*).

Tipula querula, sp. n.

Allied to *T. nipponensis*, Alexander; antennal flagellum black; posterior vertex and occiput brown; median præscutal stripe bisected by a dark median vitta; pleura with a narrow oblique brown stripe; inner dististyle of male hypopygium without a caudal extension.

Male.—Length about 12 mm.; wing 14 mm.

Frontal prolongation of head yellow; palpi dark brown. Antennæ relatively short for a member of this group, the elongate basal segment of the scape yellow basally, the distal two-thirds brown; antennal flagellum black, the segments relatively short. Head yellow, the vertex and occiput brown, this including the median area.

Pronotum yellow. Mesonotal præscutum yellow with three broad brown stripes, the broad median stripe paler medially but split by a darker median vitta; anterior ends of lateral stripes confluent with the median stripe; scutum brown, the median area restrictedly yellow; scutellum with the median lobe yellow, the caudal margin infuscated; postnotum with the mediotergite yellow, the lateral portions, except behind, with a large brown cloud. Pleura yellow; an oblique line extends from the anterior spiracle across the anepisternum on to the dorsal portions of the sternopleurite; dorsal half of each postnotal pleurotergite infuscated, the ventral half yellow. Halteres brown, the extreme base of the stem and each knob yellow. Legs with the coxæ yellow; trochanters yellowish testaceous; femora obscure yellow, the tips conspicuously blackened; tibiæ pale brown, the tips narrowly infuscated; tarsi passing into black. Wings subhyaline; stigma dark brown; cell *Sc* and space behind vein *Cu* infuscated; brown washes on the branches of *Cu*; obliterative areas before and beyond the stigma and across cell 1st *M*₂; pale washes near outer end of cell *M* and in base of cell 1st *A*. Distal section of vein *R*₂ with macrotrichia on basal half. Venation: *m* about equal to petiole of 1st *M*₂.

Abdomen obscure yellow, the segments variegated with dark brown, more evident on the lateral and caudal portions of the sclerites. Male hypopygium with the ninth tergite

transverse, the caudal margin with a broad U-shaped median notch, the base of which is not toothed, the lateral lobes formed very obtusely rounded; dorsal surface and caudal margin of tergite with abundant setæ. Outer dististyle longer than in *T. ecaudata*, sp. n., the setæ of the lateral face longer and coarser than those of the mesal face; inner style a flattened, roughly quadrate blade, most nearly as in *T. ecaudata*, the cephalo-dorsal angle produced into a blackened tooth-like spine.

Hab. Japan (Honshiu).

Holotype, ♂, Hinoemata, Iwashiro-no-kuni, altitude 3280-6235 feet, July 24, 1923 (*T. Esaki*).

Tipula ecaudata, sp. n.

Allied to *T. nipponensis*, Alexander; thoracic pleura with sparse dark markings; coxæ uniformly pale; inner dististyle of male hypopygium without a caudal extension.

Male.—Length about 8 mm.; wing 11.2 mm.

Female.—Length 11 mm.; wing 12.5 mm.

Frontal prolongation of head above light yellow, the sides and the palpi dark brown. Antennæ elongate, if bent backward extending at least to the root of the halteres; scape yellow; flagellar segments yellow, the basal enlargement of each segment black, the terminal segments more uniformly infuscated. Head yellow; a dark brown spot on the inner margin of the eye at narrowest part of vertex; lateral margins of posterior vertex and genæ brown.

Pronotum sulphur-yellow. Mesonotal præscutum light sulphur-yellow with three dark brown stripes that are confluent anteriorly, indistinctly separated behind; scutum yellow, the lobes dark brown; scutellum testaceous; postnotal mediotergite yellow, the lateral margins brown. Pleura light yellow, the propleura largely brown; a small brown spot behind the anterior spiracle and others on the cephalic margin of each of the anepisternum and sternopleurite; a small spot on the antero-dorsal angle of the pteropleurite. Halteres pale, the bases of the knobs darker. Legs with coxæ and trochanters yellow; femora brownish testaceous, the tips infuscated; tibiæ brown, the tips narrowly darker; tarsi passing into black. Wings pale grey, the stigma elongate-oval, dark brown; cell *Sc* and seams along vein *Cu* and its branches dark brown; pale areas beyond the stigma; a band extending from before the stigma across cell 1st M_2 and a large spot crossing vein *Cu* before its fork; veins dark brown. Venation: vein R_2 entire; Rs one-half longer than R_{2+3} , nearly straight; cell 1st M_2 small.

Abdominal tergites pale brown, variegated with darker on the incisures, basal sternites more uniformly pale. Caudal margin of ninth tergite with a broad U-shaped notch, the margin chitinized, the base of the notch with a small blunt median tooth, the lateral lobes obtuse; dorsal surface of tergite with numerous trichiæ. Outer dististyle short-cylindrical, setiferous; inner dististyle relatively small, appearing as a flattened blade jutting into the notch of the tergite, without the caudal lobe of *T. nipponensis*.

Hab. Japan (Saghalien and Honshiu).

Holotype, ♂, Lake Ozenuma, on boundary between Iwashiro-no-kuni and Kotsuke-no-kuni, altitude 5460 feet, July 25, 1923 (*T. Esaki*).

Allotopotype, ♀.

Paratypes, Hinoëmata, Iwashiro-no-kuni, July 24, 1923 (*T. Esaki*); ♂, Toyohara, Saghalien, July 21, 1922, at honey-bait trap (*T. Esaki*); ♂, Takinosawa, Saghalien, July 26, 1922 (*T. Esaki*).

Tipula sparsiseta, sp. n.

Allied to *T. insulicola*, Alexander; general coloration pale brown, the præscutal stripes little evident; antennæ elongate, bicolorous; knobs of halteres infuscated; wings yellowish brown, the stigma dark brown; sparse macrotrichiæ in distal fifth of cell R_5 .

Male.—Length about 8 mm.; wing 10.6 mm.

Frontal prolongation of head obscure brownish yellow; palpi pale brown. Antennæ elongate, if bent backward extending approximately to the base of the third abdominal segment; base and basal segment of the flagellum yellow; second flagellar segment with the basal enlargement black, the remainder brownish yellow; on the following segments the distal portions of the segments become darker, so the apical six or seven segments are almost uniformly blackened. Head pale brownish grey, the posterior orbits narrowly pale, the vertical tubercle a little darkened.

Pronotum brown. Mesonotal præscutum brown with three reddish-brown stripes that are little evident against the ground-colour; scutum brown, the lobes darker brown; scutellum and postnotum brown. Pleura pale yellow, including the ventral angle of the postnotal pleurotergite. Halteres pale brown, the knobs dark brown. Legs with the coxæ and trochanters pale yellow; femora obscure yellow, brighter at base, the tips scarcely infuscated; tibiæ brown; tarsi black. Wings with a uniform yellowish-brown

tinge, the stigma dark brown; base and cells *C* and *Sc* a trifle more yellowish; oblitative areas before the stigma and across cell 1st *M*₂; veins dark brown, those basad of the cord paler. A sparse line of about sixteen macrotrichia occupies the middle of the distal fifth of cell *R*₅. Venation: *Sc*₂ joining *R* just beyond mid-length of the arcuated sector, the latter only a little longer than *R*₂₊₃; distal section *R*₂ complete, with numerous macrotrichia; petiole of cell *M*₁ about one-fourth the cell; *m* very short; *m-cu* obliterated by punctiform contact of adjoining veins.

Abdomen with the basal tergites pale brown, the intermediate segments obscure yellow with the incisures infuscated. Ninth tergite of the male hypopygium with a median compressed blade, as in *T. insulicola* and related species.

Hab. Japan (Honshiu).

Holotype, ♂, Okai, Kotsuke-no-kuni, altitude 2150 feet, July 27, 1923 (*T. Esaki*).

Tipula mystica, sp. n.

Belongs to the *pribilofensis* group; antennæ elongate; wings with a strong though pale brown tinge, the oblitative areas small; ninth tergite of male hypopygium heavily chitinized throughout, the caudal margin with a V-shaped notch, the lateral lobes terminating in slender apical points that are directed ventrad.

Male.—Length about 17 mm.; wing 16.5 mm.

Frontal prolongation of head brownish yellow, the dorsum dusted with grey; nasus distinct; palpi with the basal segment pale brown, the terminal segments passing into brownish black. Antennæ elongate, if bent backward extending to beyond one-third the length of the long abdomen; scapal segments brownish yellow; first segment of flagellum black, paler at base; flagellar segments black, very deeply constricted near the middle, the apical enlargement being only a little smaller than the base. Head light grey, clearer adjoining the eyes, with a capillary median brown vitta.

Mesonotal præscutum yellowish grey with four light brown stripes, the narrow intermediate pair connected at their anterior ends and approximated posteriorly, a little darker in colour than the lateral pair; scutum grey, each lobe with two pale brown spots, the posterior one fainter; scutellum brown, darker medially at base, sparsely pruinose; postnotal mediotergite grey. Pleura light grey, the postnotal pleurotergite fading into greyish white. Halteres brownish yellow, the knobs infuscated. Legs with the coxæ dusted with grey, paler apically; trochanters obscure yellow; femora brownish

yellow, clearer basally, the tips broadly blackened; tibiae brown, the tips still darker; tarsi black. Wings with a strong pale brown suffusion, the base and costal region more yellowish; stigma small, pale brown; small obliterative areas before the stigma and across the proximal end of cell 1st M_2 ; veins dark brown. Venation: *m-cu* present, very close to the fork of *M*; petiole of cell M_1 a trifle longer than *m*.

Abdomen yellow, the tergites with a conspicuous dorso-median brownish-black stripe that is narrowly interrupted at the posterior margins of the segments; on segments 7 to 9 including most of the tergites; hypopygium blackened; sternites obscure yellow, basal sternites with a narrow transverse impressed line on the basal half of each. Male hypopygium of the type of *T. pribilofensis*; ninth tergite entirely blackened and chitinized, with a deep V-shaped caudal notch, the apices of the lobes thus formed somewhat rounded but produced beneath into more slender black points that are directed ventrad. Outer dististyle long and slender; base of the inner dististyle produced caudad in a flattened sharply pointed blade that is about one-half the length of the outer style. Eighth sternite produced caudad in a flattened shovel-shaped lobe as in the group.

Hab. Japan (Hokkaido).

Holotype, ♂, Sapporo, Ishikari-no-kuni, June 15, 1923 (*S. Kuwayama*).

The *pribilofensis* group (or subgroup of the *arctica* complex) includes the following previously described species:—*T. kamchatkensis*, Alexander (Eastern Siberia), *T. optiva*, Alexander (North-western United States), *T. pribilofensis*, Alexander (Pribilof Islands, Alaska), *T. subarctica*, Alexander (Alaska), and *T. tanigaster*, Alexander (Alaska).

XLVII.—Notes sur les *Cercopides* de l'Amérique Centrale et Méridionale de la Collection de M. C. B. Williams et de la mienne. Par le Dr. V. LALLEMAND (Uccle, Belgique).

Sous-famille des *CERCOPINÆ*.

Tribu *ISCHNORHINI*.

Laccogrypota partita.

Jacobi, p. 40, Arch. für Naturg. xxxvii. (1921) (*Ischnorhina*).

Equateur, province de Tungurahua, R. Lligua Banos, 5000 pieds, xii. 1917, 3 ♀ ♀ (*J. B. Rorer*).