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NEW SPECIES OF JAPANESE CRANE-FLIES

PART III

(*Diptera, Tipulidae*)

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The species of Tipulidae described in this paper were collected by Dr. Kichizo Takeuchi in the vicinity of Gifu and on Mounts Ibuki and Minomo, Central Honshiu. I am very greatly indebted to Dr. Takeuchi for this series of Japanese crane-flies. The types are preserved in the writer's collection.

Geranomyia multipuncta, new species.

Male.—Length, excluding rostrum, about 6.2 mm.; wing, 8.1 mm.; rostrum, about 2.5 mm.

Female.—Length, excluding rostrum, about 7.5 mm.; wing, 9 mm.; rostrum about 2.6 mm.

Rostrum and palpi dark brown. Antennae dark brown throughout. Head dark gray with a narrow, longitudinal, light gray median line on vertex; vertex between eyes silvery white.

Mesonotal praescutum obscure yellow, the dorsum occupied by three completely confluent brownish gray stripes, leaving the humeral region and the lateral margins of the ground-color; scutum gray, the mesal margin of each lobe with a narrow blackish longitudinal line; scutellum light gray with a capillary black median line; postnotum brown, sparsely dusted with gray. Ventral pleurites obscure reddish yellow, the dorsal pleurites infuscated, pruinose. Halteres yellow, the knobs dark brown on the distal half. Legs with the coxae and trochanters yellow; femora and tibiae obscure brownish yellow, the terminal tarsal segments darkened. Wings with a faint brownish tinge, the base and costal region yellow; a conspicuous brown pattern, including seven larger costal areas, the first in the bases of cells Sc and R ; the second with a pale center in cell R ; third at origin of Rs , extending from C almost to M ; stigmal spot large, connected with a spot in the basal third of cell R_6 ; terminal spots at ends of veins R_2+3 and R_4+5 ; smaller spots in cell C ; a series of spots and blotches along vein Cu in cell M and caudad of the vein in cell Cu ; cord and outer end of cell $1st M_2$ seamed with brown; small brown spots at ends of anal veins, that on $2nd A$ larger; brown dots near base of cell $1st A$ and, in cases, in bases of cells R and $2nd A$; veins brown, bright yellow in the costal region except where they traverse dark areas. Venation: Sc long, Sc_1 ending opposite midlength of Rs , Sc_2 at tip of Sc_1 ; Rs angulated and spurred at origin; cell $1st M_2$ elongate, gently widened distally, longer than any of the veins beyond it; basal deflection of Cu_1 beyond the fork of M .

Abdominal tergites brown, the sternites yellow. Mesal face of pleurites of hypopygium produced into a long, very slender, curved spine.

Holotype, male, Gifu, May 1, 1921 (K. Takeuchi).

Allotopotype, female.

Dicranomyia (Euglochina) curtivena, new species.

Male.—Length, 7 mm.; wing, 6.8 mm.

Rostrum obscure yellow, the palpi dark brown. Antennae dark brown. Head dark brown, the anterior part of the vertex pale.

Thorax pale brown, the pleura indistinctly pruinose. Halteres very long, pale, the knobs brown. Legs with the coxae and trochanters concolorous with the pleura; femora and tibiae black; tarsi white. Wings faintly infuscated, especially the apex beyond the cord; stigma barely indicated, very pale; veins brown. Venation: Sc short, the distance between the tip of Sc_1 and the origin of Rs about one and one-half times the distance from the origin of Rs to the tip of the vein R_2+3 , Sc_2 close to the tip of Sc_1 ; Rs angulated and spurred just beyond midlength, r at tip of R_1 ; deflection of R_4+5 a little shorter than Rs ; cell $1st M_2$ a little longer than vein Cu_1 beyond it; basal deflection of Cu_1 from one-third to one-fourth its length beyond the fork of M ; origin of vein $2nd A$ in the anal angle immediately distad of the level of arculus.

Abdominal tergites dark brown; sternites obscure yellow.

Holotype, male, Gifu, September 3, 1921 (K. Takeuchi).

Dicranomyia (Euglochina) curtivena is very distinct from the type of the subgenus, *D. (E.) saltens* (Dol.) (syn., *D. cuneiformis* Meij.) in the details of venation. The specimen determined by Brunetti (Fauna British India, Diptera Nematocera, p. 373, 1912) as being this species is obviously not *saltens* and is undescribed. For this species with infuscated bases to the metatarsi (Dawna Hills, India, altitude 2,000–3,000 feet, March 2–3, 1908), I propose the name *D. (E.) fuscibasis*, new species.

Dicranomyia takeuchii, new species.

Male.—Length, 7 mm.; wing, 7.5 mm.

Rostrum and palpi dark brown. Antennal scape black; basal half of flagellum obscure yellow, the terminal flagellar segments passing into dark brown; flagellar segments oval. Head shiny black.

Thorax entirely shiny coal-black, the praescutum with vague metallic reflexions; a small silvery patch on the meospleura ventrad of the wing-root. Halteres yellow, the knobs conspicuously dark brown. Wings subhyaline with a very heavy brown pattern, the base and cells *C* and *Sc* yellow; conspicuous brown areas at base of cells *R* and *M*, reaching costa; at tip of *Sc* and origin of *Rs*, extending from *C* to *M*; mid-distance between the above two, extending from *R* to *M*; a very large stigmal area, connected with a circular area at end of *Rs* and a conspicuous seam along the cord; outer end of cell *1st M*₂ seamed with brown; wing-tip very broadly dark brown; cells *M*, *Cu*, *1st A* and *2nd A* more grayish; veins brown, yellow in the flavous areas. Venation: *Sc* short, *Sc*₁ ending just beyond origin of *Rs*, *Sc*₂ exactly opposite this origin which is angulated and spurred; *r* at extreme tip of *R*₁; deflection of *R*₄₊₅ very long, about equal to the first section of *R*₂₊₃; cell *1st M*₂ closed; basal deflection of *Cu*₁ about two-thirds its length before the fork of *M*.

Abdomen shiny black, including the hypopygium, the segments narrowly but conspicuously ringed caudally with silvery white.

Holotype, male, Mount Ibuki, June 4, 1921 (K. Takeuchi).

This exquisite crane-fly is named in honor of the collector, Dr. Kichizo Takeuchi.

Limnobia anthracina, new species.

Male.—Length, 8 mm.; wing, 8.6 mm.

Female.—Length, 8.8–9 mm.; wing, 8–9 mm.

Rostrum and palpi brownish black. Antennae with the scape obscure yellow, the flagellum dark brownish black. Head gray.

Thorax shiny black. Halteres yellow, the knobs faintly darkened. Legs with the coxae yellow, the bases of the fore and middle coxae infuscated basally; trochanters yellow; femora yellow, the tips broadly blackened; tibiae dark brown, the tips blackened; tarsi black. Wings with a yellow tinge, the base and costal region clearer yellow; stigma large, oval, brown; cord

and outer end of cell *1st M*₂ narrowly seamed with brown; *Cu* broadly seamed with brown; wing-tip indistinctly darkened; veins dark brown, those in the costal region clear yellow. Venation: *Sc* long, *Sc*₁ ending about opposite two-fifths the length of *Rs*, *Sc*₂ much longer than *Sc*₁ and at its tip; *Rs* long; *r* less than its own length from the tip of *R*₁; inner ends of cells *R*₃ and *1st M*₂ arcuated; basal deflection of *Cu*₁ close to the fork of *M*.

Abdomen brownish black. Ovipositor with the valves long and slender, tergal valves very slender.

Holotype, male Mount Minomo, May 4, 1921 (K. Takeuchi).

Allotopotype, female.

Paratopotypes, 1 male, 5 females.

Limnobia amatrix, new species.

Male.—Length about 7.5 mm.; wing, 10 mm.

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

Rostrum and palpi brownish black. Antennae with the basal segment of scape dark brown; remainder of antenna light yellow, the terminal segments scarcely darkened. Head obscure yellow, the center of the vertex darkened.

Pronotum greenish yellow. Mesonotal praescutum greenish yellow with four pale brown stripes, the lateral pair less distinct; scutal lobes conspicuously marked with brown, the median area greenish yellow; scutellum dark brown, the median portion obscure greenish yellow; median sclerite of postnotum dark brown, the sides paler. Pleura brownish yellow with a narrow, dorsal, longitudinal, brown stripe extending from the cervical sclerites to beneath the wing-root. Halteres yellow, the knobs dark brown. Legs with the coxae and trochanters yellow; remainder of the legs black, the tips of the femora narrowly but very conspicuously light yellow. Wings tinged with pale yellow, handsomely variegated with brown; costal cell brown; subcostal cell brown at base, over origin of *Rs* and at tip; a brown seam at base of cells *R* and *M*, continued as a conspicuous seam along vein *Cu* to the wing-margin, narrowly

interrupted near three-fourths the length of vein Cu ; a conspicuous seam along the whole length of Rs ; a brown cloud extending from the tip of Sc across cells $1st R_1$ and R_3 into cell R_5 ; narrow seams along cord and outer end of cell $1st M_2$; stigma large, U-shaped; rows of circular brown spots on the veins beyond the cord; wing-tip in cells $2nd R_1$, $2nd M_2$ and M_3 darkened; conspicuous seams on outer ends of anal veins; narrow but conspicuous marginal seams in ends of all the posterior and anal cells; veins pale, dark brown in the infuscated areas. Venation: Sc very long, ending far beyond the end of Rs , Sc_2 at tip of Sc_1 ; Rs extremely arcuated; r more than twice its length from the tip of R_1 which is arcuated at this point as in *Teucholabis*; cell $1st M_2$ very long, widened distally; basal deflection of Cu_1 about two-fifths its length beyond the fork of M .

Abdomen pale brownish yellow. In the female, the base of the abdomen is tinted with green. Ovipositor with the tergal valves bidentate at tips.

Holotype, male, Mount Ibuki, June 4, 1921 (K. Takeuchi).

Allotopotype, female.

Limnobia amatrix is a beautiful fly that is very isolated in its relationships.

Ormosia confluenta, new species.

Female.—Length about 3–3.3 mm.; wing, 3.6–4.3 mm.

Rostrum obscure yellow, the palpi brown. Antennae with the scapal segments brownish yellow, the flagellar segments pale brownish testaceous to brown. Head obscure brownish yellow, the center of the vertex sometimes infuscated.

Pronotal scutum light brown, the dorso-lateral angles sometimes darkened; scutellum yellow. Mesonotum shiny fulvous brown, unmarked. Pleura yellow. Halteres yellow, the knobs faintly darkened. Legs with the coxae pale, sparsely pruinose; trochanters and femora obscure yellow; tibiae yellowish brown; tarsi dark brown. Wings yellowish fulvous, veins a little darker. Venation: Sc_1 ending beyond the fork of Rs , Sc_2 atrophied;

r on R_2 about its own length beyond the fork; cell $1st M_2$ open by the atrophy of m ; basal deflection of Cu_1 a short distance beyond the fork of M ; anal veins divergent.

Abdominal tergites brown, the lateral margins of the segments paler; sternites brownish yellow. Ovipositor with very long valves.

Holotype, female, Mount Minomo, May 4, 1921 (K. Takeuchi).

Paratopotype, female.

Ormosia confluenta is allied to the Alaskan *O. flaveola* (Coquillett).

Dactylolabis diluta, new species.

Male.—Length about 6 mm.; wing, 9 mm.

Rostrum and palpi dark brown. Antennae dark brown. Head dark gray.

Pronotum large, brownish gray, the lateral angles of the scutellum obscure yellow. Mesonotum shiny black with a rather sparse microscopic yellowish pubescence that appears like a pollen. Pleura and sternum light gray. Halteres yellow. Legs with the coxae black, microscopically pubescent; trochanters yellow; remainder of the legs dark brown, the femoral bases somewhat paler. Wings with a strong brownish yellow tinge, the base clear yellow; very diffuse brown clouds, distributed as follows: Origin of Rs , tip of Sc_1 continued caudad along the cord; outer end of cell $1st M_2$; at r ; fork of M_{1+2} ; less distinct clouds at the ends of veins R_2 , Cu_1 , Cu_2 and in cell $2nd A$; veins dark brown, more yellowish at the wing-base. Venation: Sc_1 ending just before the fork of Rs , Sc_2 about twice its length from the tip of Sc_1 ; Rs long; R_2+3 one-half longer than the deflection of R_4+5 ; petiole of cell M_1 about one-half longer than the cell; basal deflection of Cu_1 before the fork of M , the distance about equal to the basal deflection of R_4+5 .

Abdominal tergites dark brown, the basal sternites obscure brownish yellow.

Holotype, male, Gifu, April 20, 1921 (K. Takeuchi).

Dactylolabis flavidipennis, new species.

Female.—Length, 6.3 mm.; wing, 7.2 mm.

Rostrum and palpi dark brown. Antennae with the first scapal segment gray; remainder of antenna black. Head clear gray pruinose.

Pronotum light gray. Mesonotal praescutum gray with four conspicuous dark brown stripes; remainder of mesonotum dark gray, the scutal lobes a little infuscated. Pleura light gray. Halteres yellow. Legs with the coxae yellow, the outer faces pruinose; trochanters yellow; femora and tibiae light brown, the tarsi dark brown. Wings light yellow; very indistinct brown clouds at *r*, along the cord and outer end of cell 1st M_2 ; veins yellow, darker beyond the cord. Venation: Sc_1 ending opposite the fork of Rs , Sc_2 not far from the tip of Sc_1 ; R_2+3 about twice the length of *r-m*; Rs gently arcuated; petiole of cell M_1 short, about three-fifths the cell; basal deflection of Cu_1 at the fork of M .

Abdominal tergites light brown, sternites obscure yellow, with a capillary sublateral black line. Ovipositor very peculiar in structure, the valves very high and compressed, notched at tips.

Holotype, female, Gifu, May 5, 1921 (K. Takeuchi).

Dactylolabis longicauda, new species.

Male.—Length about 6–6.5 mm.; wing, 6.5–7.5 mm.

Rostrum and palpi black. Antennae with the basal segment dusted with gray; remainder of the antenna black. Head gray.

Pronotum light gray with a narrow brown median line. Mesonotal praescutum light brown with four dark brown stripes, the extreme cephalic margin of the sclerite narrowly grayish; scutum grayish brown, the lobes conspicuously dark brown; scutellum and postnotum brownish gray. Pleura gray. Halteres yellow. Legs with the coxae dusted with gray; trochanters obscure yellow; remainder of the legs dark brownish black, the femoral bases narrowly paler. Wings with a uniform brown suffusion, the base indistinctly yellowish; stigma barely indicated; veins dark brown. Venation: Sc_1 ending before the fork of Rs , Sc_2 at its tip; *r* near the extreme

tip of R_1 ; petiole of cell M_1 elongate, varying from a little less than the cell to one-half longer than the cell; in the paratype cell M_1 is narrowed at the wing-margin; basal deflection of Cu_1 at or before the fork of M .

Abdominal tergites dark brown, the sternites and hypopygium paler brown. Male hypopygium with the pleurites very long, the pleural appendage appearing as a continuation of the pleurite, fleshy, on the mesal face at base bearing a conspicuous, curved, semi-chitinized spine.

Holotype, male, Mount Minomo, May 4, 1921 (K. Takeuchi).

Paratopotype, male.

Dactylolabis longicauda differs from the related *D. flavidipennis* chiefly in the coloration of the wings. The two species form a very peculiar group of the genus.

Pilaria melanota, new species.

Male.—Length, 5 mm.; wing, 5.8 mm.

Rostrum brown, the palpi black. Antennae elongate, if bent backward extending to just before midlength of the abdomen; dark brown throughout. Head shiny black.

Mesonotum shiny black, the median area of the scutum and the postnotum obscure yellow. Pleura obscure yellow. Halteres pale, the knobs dark brown. Legs with the coxae and trochanters yellow; remainder of the legs dark brown, the femoral bases narrowly obscure yellow. Wings tinged with brown; stigma not evident; veins darker brown. Venation: Sc_1 almost lacking, ending just beyond two-thirds the length of Rs , Sc_2 at its extreme tip; Rs long, angulated at origin; *r* practically atrophied, on R_2 shortly beyond its origin; cell M_1 present, a little longer than its petiole; basal deflection of Cu_1 just beyond midlength of cell 1st M_2 .

Abdominal tergites dark brown, sternites yellow.

Holotype, male, Gifu, September 15, 1921 (K. Takeuchi).

Hexatoma japonica, new species.

Male.—Length about 5 mm.; wing, 6.2 mm.

Female.—Length, 4.8 mm.; wing, 6 mm.

Rostrum and palpi brown. Antennae short, pale brown. Head dark brown, sparsely dusted with gray, more conspicuous adjoining the margins of the eyes; vertical tubercle low.

Mesonotum black, very sparsely pollinose, the scutellum and postnotum with an appressed microscopic pubescence. Pleura dark brown with a sparse microscopic pubescence. Halteres brown, the knobs darker. Legs with the coxae concolorous with the pleura; remainder of the legs dark brown, the femora slightly paler at base. Wings with a strong blackish suffusion; veins dark brown. Venation: *Sc* long, *Sc*₁ ending opposite the fork of *Rs*, *Sc*₂ a little more than its length from the tip of *Sc*₁; *r* on *R*₂ at or just beyond the base, sometimes atrophied; *R*₂+₃ about two-thirds the length of *R*₂; basal deflection of *Cu*₁ at the fork of *M*.

Abdomen brownish black.

Holotype, male, Gifu, September 5, 1921 (K. Takeuchi).

Allotopotype, female.

Paratopotype, male.

Tricyphona confluens, new species.

Female.—Length, 19 mm.; wing, 16.5 mm.

Rostrum and palpi dark brown. Antennae with the scape and first flagellar segment obscure yellow, the remainder of the flagellum brown; fourteen flagellar segments, the basal ones crowded. Head black, dusted with gray.

Mesonotal praescutum obscure yellow with a very broad and conspicuous median brown stripe and much less conspicuous lateral stripes; scutum yellow, the lobes conspicuously darkened; median area of scutum at suture and posteriorly with narrow, darker brown marks; scutellum and postnotum pale brown, sparsely dusted. Pleura pale tawny, the sternites slightly infuscated. Halteres elongate, yellow. Legs with the coxae and trochanters yellow; femora dark brown, the bases narrowly but conspicuously yellow; tibiae pale brown, the tips darkened; tarsi dark brown. Wings with a strong yellowish tinge, cells *C* and *Sc* more saturated; stigma large, yellow, faintly outlined with brown; narrow brown seams at *Sc*₂, origin of *Rs*

and along the cord; veins dark brown, paler in the costal region. Venation: *Sc*₂ far before the origin of *Rs*, *Rs* strongly arcuated at origin; *r-m* connecting directly with *Rs* about one-half its length before the distal end of the sector; *R*₂ connecting with *R*₁ almost at the extreme tip of the latter; *R*₄+₅ about twice *r-m*; cell 1st *M*₂ open by the atrophy of *m*; cell *M*₃ only a little shorter than cell *M*₁; basal deflection of *Cu*₁ about two-thirds its length beyond the fork of *M*, the fusion extensive.

Abdomen obscure yellow, the tergites with a continuous, relatively narrow, dark brown median line.

Holotype, female, Gifu, May 10, 1921 (K. Takeuchi).

Nesopeza albitibia, new species.

Male.—Length about 9 mm.; wing, 9.3 mm.

Rostrum yellow, the palpi brown. Antennae relatively elongate, if bent backward extending beyond the base of the abdomen; scape light yellow; first flagellar segment obscure yellow; remainder of flagellum dark brown. Head brown, the anterior part of vertex yellow.

Thorax brown without distinct markings, the pleural region crushed. Halteres yellow, the knobs conspicuously dark brown. Legs with the coxae brownish yellow; trochanters yellowish testaceous, the tips narrowly dark brown; tibiae white, the tips of the posterior tibiae narrowly black; anterior tibiae slightly infuscated, the extreme base and a broad subterminal area white, the tips narrowly black; tarsi white. Wings with a strong brown tinge, the stigma dark brown; a conspicuous white spot before and beyond the stigma; veins dark brown. Venation: Generally as in *N. taiwanica* Alex.; *Sc* longer; petiole of cell *M*₁ only about one-half the length of the petiole of cell *M*₂; fusion of *M* and *Cu* slight; cell 2nd *A* narrow.

Abdomen dark brown, the tergites indistinctly ringed with pale; sternites more distinctly bicolorous, the apical half of the segments distinctly obscure yellow, the basal half dark brown. Hypopygium chestnut-brown.

Holotype, male, Mount Ibuki, June 4, 1921 (K. Takeuchi).

Tipula annulicornuta, new species.

Male.—Length, 15 mm.; wing, 18 mm.

Frontal prolongation of the head brownish yellow; palpi pale brown. Antennae of moderate length, obscure yellow, basal flagellar segments a little darker basally, the terminal segments more uniformly dusky. Head brownish yellow.

Mesonotal praescutum obscure yellow with three brownish yellow stripes, the median stripe slightly darker anteriorly; remainder of mesonotum yellow. Pleura whitish yellow. Halteres pale, the knobs brown with yellow apices. Legs with the coxae concolorous with the pleura; trochanters yellow; femora and tibiae yellowish brown, the tarsal segments dark brown; legs long, metatarsi only a little shorter than the tibiae. Wings tinged with grayish yellow, the base and cells *C* and *Sc* more saturated, yellow; stigma bicolorous, the base yellow, the distal third brown; a very conspicuous oblitative area before the stigma, extending from *Sc*₂ into the base of cell *M*₃, almost filling cell *1st M*₂; veins brown. Venation: *R*₂ preserved; cell *1st M*₂ small, pentagonal.

Abdomen brownish yellow. Male hypopygium with the ninth tergite small, the caudal margin with two long, widely separated spines. Outer pleural appendage very small, cylindrical. Dorsomesal angle of ninth sternite with a dense brush of short yellow setae, immediately basad of which arises a powerful chitinized arm, bent laterad for a short distance and thence caudad and dorsad. Eighth sternite with a median brush of setae, on either side of which arises a chitinized spine that bears numerous, parallel, ridges for its whole length, the whole appearing like the horns of certain antelopes, these spines decussate.

Holotype, male, Gifu, May 10, 1921 (K. Takeuchi).