

# CRANE FLIES FROM THE MARITIME PROVINCE OF SIBERIA

[ON THE INSECT FAUNA OF THE MARITIME  
PROVINCE OF SIBERIA]

BY

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## CRANE FLIES FROM THE MARITIME PROVINCE OF SIBERIA

By CHARLES P. ALEXANDER

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The crane flies that were taken by Prof. T. D. A. and Mrs. Cockerell on their recent trip to Eastern Siberia have been submitted to me for determination. Because of the almost total lack of material and records from this region, the collection proved to be of exceptional interest and furnished several important additions to the incomplete list of the Tipuloidea of Eastern Siberia. In addition to the species recorded in the following pages, Professor Cockerell writes me that he saw, but was unable to capture, a specimen of *Ctenacroscelis mikado* (Westwood) at Tsuruga, Japan. My sincere thanks are extended to Professor and Mrs. Cockerell, and to the National Museum authorities, for the privilege of studying this series of Tipulidae. The types and specimens of all other included species are preserved in the National Collection.

In order that the known and probable components of the Tipulid fauna of Eastern Siberia may be more correctly understood, the following list of *Regional Species* is supplied. In addition, it may be well to indicate the occurrence of the European *Dictenidia bimaculata* (Linnaeus) in this coastal province of Siberia, an enormous extension of the range of the species, which, however, has never been taken in Japan.

### REGIONAL SPECIES

Almost the only Siberian Tipulidae that may be considered as being regional are the following: *Tipula breviceps* (Motschulsky)<sup>1</sup> from Amurland and few Tipuline crane flies belonging to the subtribe Ctenophoraria, described in 1873 and 1887 by Portschinsky (*Ctenophora parva* Portschinsky, *C. pictipennis* Portschinsky, *Tanyptera gracilis* (Portschinsky), *T. minuta* (Portschinsky), and *T. siberica* (Portschinsky), all from various parts of Siberia, some from the vicinity of Vladivostock.

<sup>1</sup> *Tipulina breviceps* Motschulsky, Bull. Soc. Imp. Nat. Moscou, vol. 32, p. 503, 1859.

The Tipulidae of the island of Saghalien, separated from the Coast Province of Eastern Siberia only by the narrow Gulf of Tary, show notable affinities with the mainland. The following Tipulidae taken in Siberia by Professor and Mrs. Cockerell on their trip are also known from Japanese Saghalien (Karafuto): *Limonia karafutonis* Alexander, *Dicranomyia immodestoides* Alexander, *D. spinicauda* Alexander, *Rhipidia maculata* Meigen, *R. pulchra septentrionis* Alexander, *Limnophila nemoralis* (Meigen), variety, *Helobia hybrida* (Meigen), *Tipula latemarginata* Alexander, and *T. bubo* Alexander. This constitutes nearly one-half of all the non-endemic species taken, but it should be noted that all of the species listed have a wide range, either southward through the Japanese islands, throughout the Palaearctic Region, or, in the cases of *Rhipidia maculata* and *Helobia*, occurring throughout the Holarctic Region. The following Tipulidae known from Karafuto occur in Eastern Siberia or are regional:

*Discobola margarita* Alexander.  
*D. argus* (Say).  
*Dicranomyia immodestoides* Alexander.  
*D. megacauda* Alexander.  
*D. mesosternata* Alexander.  
*D. sachalina* Alexander.  
*D. sparsa* Alexander.  
*D. spinicauda* Alexander.  
*Limonia episema* Alexander.  
*L. karafutonis* Alexander.  
*L. plutonis* Alexander.  
*L. subnubeculosa* Alexander.  
*Geranomyia avocetta* Alexander.  
*Rhipidia maculata* Meigen.  
*R. pulchra septentrionis* Alexander.  
*Dicranoptycha venosa* Alexander.  
*Limnophila japonica* Alexander.  
*L. nemoralis* (Meigen), variety.  
*L. sapporensis* Alexander.  
*L. subadusta* Alexander.  
*L. subpoetica* Alexander.  
*L. unicoloris* Alexander.  
*Pilaria dorsalis* Alexander.  
*Eriocera sachalinensis* Alexander.  
*Polyangæus gloriosus* Alexander.  
*Rhaphidolabis gibbera* Alexander.  
*Rhaphidolabis flavibasis* Alexander.  
*Neolmnophila ultima* Osten Sacken, variety.  
*Gnophomyia tristis* Alexander.  
*Gonomyia (Ptilostena) sachalinensis* Alexander.  
*Helobia hybrida* (Meigen).

*Cheilotrichia imbuta* (Meigen).  
*Ormosia subdeviata* Alexander.  
*Molophilus albibasis* Alexander.  
*Erioptera (Erioptera) horii* Alexander.  
*E. (E.) flavohumeralis* Alexander.  
*E. (E.) xanthoptera* Alexander.  
*E. (Acyphona) sachalina* Alexander.  
*E. (Hoplolabis) asiatica* Alexander.  
*Oropeza satsuma* Alexander.  
*Ctenophora biguttata* Matsumura.  
*Tanyptera jozana* Matsumura, variety.  
 (Probably includes *macra* Matsumura, not Loew.)  
*Tipula bubo* Alexander.  
*T. bipenicilleata* Alexander.  
*T. coquilletti* Enderlein.  
*T. coquillettiana* Alexander.  
*T. flavocostalis* Alexander.  
*T. insulicola fuscicauda* Alexander.  
*T. nipponensis* Alexander.  
*T. latemarginata* Alexander.  
*T. tantula* Alexander.  
*T. verecunda* Alexander.  
*T. variicornis* Schummel.  
*T. westwoodiana* Alexander.  
*Nephrotoma aculeata atricauda* Alexander.  
*N. dorsalis sachalina* Alexander.  
*N. hirsuticauda* Alexander.  
*N. lamellata* (Riedel), variety.  
*N. minuticornis* Alexander.  
*N. saghalienensis* Alexander.

The Ptychopterid, *Ptychoptera subscutellaris* Alexander, likewise occurs.

Matsumura<sup>2</sup> described two new species and a supposedly new genus from Sakhalin. His *Limnobia sachalinensis* would appear to be a species of *Limnophila*, or at least Hexatomine. The new genus *Meta-limnobia* (for *vittata*, new) is certainly close to *Limonia* in the venation and nature of the claws. Neither of the above species have been recognized since their original characterization.

The island of Hokkaido (Yezo), the most northerly of the four chief islands of Japan, is separated from Sakhalin only by the narrow La Perouse Strait and from the southern end of the Coast Province of Siberia by the relatively narrow northern portion of the Japan Sea. The Tipulid fauna shows a characteristic Holarctic facies. The following crane flies are now known from Hokkaido and several will certainly be found to occur also in Eastern Siberia.

*Discobola argus* (Say).  
*D. margarita* Alexander.  
*D. moiwana* Alexander.  
*Dicranomyia globulithorax* Alexander.  
*D. immodestoides* Alexander.  
*D. longipennis* (Schummel).  
*D. mesosternata* Alexander.  
*D. spinicauda* Alexander.  
*D. subtristis* Alexander.  
*Limonia amabilis* Alexander.  
*L. angustistria* Alexander.  
*L. annulus truncata* Alexander.  
*L. basispina* Alexander.  
*L. bifasciata avis* Alexander.  
*L. crinita* Alexander.  
*L. fusciceps* Alexander.  
*L. inelegans* Alexander.  
*L. machidai* (Alexander).  
*L. mendax* Alexander.  
*L. monacantha* Alexander.  
*L. neindigena* Alexander.  
*L. neonebulosa* Alexander.  
*L. nigronitida* Alexander.  
*L. quadrinotata* (Meigen).  
*Libnotes longistigma* Alexander.  
*L. nohirai* Alexander.  
*Rhipidia maculata* Meigen.  
*R. pulchra septentrionis* Alexander.  
*Elliptera zipanguensis* Alexander.  
*Helius tenuirostris* Alexander.  
*Dicranoptycha venosa* Alexander.

*Antocha (Proantocha) serricauda* Alexander.  
*A. (Antocha) bifida* Alexander.  
*A. (A.) brevinervis* Alexander.  
*A. (A.) brevistyla* Alexander.  
*A. (A.) dilatata* Alexander.  
*A. (A.) satsuma* Alexander.  
*Ula perelegans* Alexander.  
*U. cincta* Alexander.  
*Epiphragma subfascipennis* Alexander.  
*E. subinsignis* Alexander.  
*Limnophila inconcussa* Alexander.  
*L. japonica* Alexander.  
*L. kuwayamai* Alexander.  
*L. melanommata* Alexander.  
*L. neomunda* Alexander.  
*L. unicoloris* Alexander.  
*Pilaria dorsalis* Alexander.  
*Eriocera fulvibasis* Alexander.  
*E. jozana* Alexander.  
*Elephantomyia hokkaidensis* Alexander.  
*Pedicia daimio* (Matsumura).  
*Dicranota yezoensis* Alexander.  
*Rhaphidolabis subconsors* Alexander.  
*Conosia irrorata* (Wiedemann).  
*Chionea*, sp.  
*Paratropesa esakii* Alexander.  
*Teucholabis yezoensis* Alexander.  
*Gonomyia (Ptilostena) subpruinosa* Alexander.  
*G. (Gonomyia) superba* Alexander.

<sup>2</sup>Erster Beitrag zur Insekten-Fauna von Sachalin, Journ. Coll. Agric. Tohoku Imper. Univ., vol. 4, pp. 1-45, 1911.



*G. (Lipophleps) flavocostalis* Alexander.  
*Rhabdomastix (Sacandaga) japonica* Alexander.  
*Helobia hybrida* (Meigen).  
*Molophilus sericatus* Alexander.  
*Erioptera (Erioptera) elegantula* Alexander.  
*E. (E.) horii* Alexander.  
*E. (E.) orbitalis* Alexander.  
*E. (Acyphona) asymmetrica* Alexander.  
*E. (A.) yezoana* Alexander.  
*E. (Hoplolabis) asiatica* Alexander.  
*Oropeza satsuma* Alexander.  
*Nesopeza geniculata* Alexander.  
*Ctenophora biguttata* Matsumura.  
*Cnemoncosis nohirae* (Matsumura).  
*C. uniplagiata* Alexander.  
*Pselliophora septentrionalis* Alexander  
*Dictenidia fasciata* Coquillett, variety.  
*Tanyptera angustistylus* Alexander.  
*T. jozana* (Matsumura).  
*Tipula bubo* Alexander.  
*T. coquilletti* Enderlein.  
*T. fumida* Alexander.  
*T. ishikii* Alexander.  
*T. kuwayamai* Alexander.

*T. latemarginata* Alexander.  
*T. matsumuriana* Alexander.  
*T. moiwana* (Matsumura).  
*T. nova* Walker.  
*T. nipponensis* Alexander.  
*T. saitamae* Alexander.  
*T. shogun* Alexander.  
*T. subcunctans* Alexander.  
*T. taikun* Alexander.  
*T. tateyamae* Alexander.  
*T. teshionis* Alexander.  
*T. trifida* Alexander.  
*T. verecunda* Alexander.  
*T. yamata* Alexander.  
*Nephrotoma angustistria* Alexander.  
*N. cornicina* (Linnaeus), variety.  
*N. dorsalis sachalina* Alexander.  
*N. esakii* Alexander.  
*N. hirsuticauda* Alexander.  
*N. hokkaidensis* Alexander.  
*N. microcera* Alexander.  
*N. minuticornis* Alexander.  
*N. neoprattensis* Alexander.  
*N. nigricauda* Alexander.  
*N. parvirostra* Alexander.  
*N. stygia* Alexander.

Two species of the related family Ptychopteridae are likewise found in Hokkaido: *Ptychoptera daimio* Alexander and *P. subscutellaris* Alexander.

### Family TIPULIDAE

#### Subfamily LIMONIINAE

#### Tribe LIMONIINI

#### Genus LIMONIA Meigen

1803. *Limonia* MEIGEN, Illiger's Mag., vol. 2, p. 262.  
 1818. *Limnobia* MEIGEN, Syst. Besch. Zweifl. Ins., vol. 1, p. 116.

#### LIMONIA KARAFUTONIS Alexander

1924. *Limonia karafutonis* ALEXANDER, Philippine Journ. Sci., vol. 24, pp. 550-551.

One female, Amagu Village, Siberia, July 1923 (T. D. A. Cockerell). This specimen closely resembles the type from Sakhalin, but has the lateral spots on the mesonotal praescutum, together with thoracic pleura, somewhat darker colored.

### Genus DICRANOMYIA Stephens

1829. *Dicranomyia* STEPHENS, Cat. Brit. Ins., vol. 2, p. 243.

#### DICRANOMYIA IMMODESTOIDES Alexander

1919. *Dicranomyia immodestoides* ALEXANDER, Ann. Ent. Soc. Amer., vol. 12, pp. 327-328.

Males from Vladivostock, Siberia, and Olga, Siberia, July 1923.  
 The species has an extensive range in Japan.

#### DICRANOMYIA SPINICAUDA Alexander

1924. *Dicranomyia spinicauda* ALEXANDER, Philippine Journ. Sci., vol. 24, pp. 545-546.

Specimens from Kudia River, Amagu, Siberia, July 1923 (T. D. A. Cockerell). The species had been recorded only from Sakhalin and Hokkaido, Japan.

#### DICRANOMYIA AMURENSIS, new species

General coloration dark gray; pleura yellow, the sternopleurite darkened; wings yellowish subhyaline, the stigma pale; *Sc* short; male hypopygium with the mesal lobe of the basistyle complex; dorsal dististyle bent in the form of a rectangle, the apex narrowed.

*Male*.—Length about 6.8 mm.; wing, 8.2 mm.

Rostrum obscure brownish yellow, the palpi brown. Antennae relatively short, dark brown throughout, the flagellar segments oval, the more distal segments passing into cylindrical. Head dark gray.

Pronotum dark brownish gray medially, yellowish laterally. Mesonotal praescutum brownish gray, a little darker medially, the lateral margins indistinctly paler; scutal lobes dark; scutellum yellow; postnotal mediotergite pale basally with a little more than the apical half infuscated. Pleura yellow, the anepisternum with a vague suggestion of dusky; sternopleurite with its ventral portion strongly infuscated. Halteres of moderate length, pale, the knobs infuscated. Legs with the coxae yellowish testaceous, the fore coxae a little darker; trochanters brownish testaceous; femora concolorous, the tips infuscated; tibiae pale brown, the tips weakly infuscated; tarsi dark brown. Wings yellowish subhyaline, the base clearer yellow; stigma only faintly indicated; veins brown. Venation: *Sc* short, *Sc*<sub>1</sub> ending opposite the origin of *Rs*, the tip of *R*<sub>1</sub> extending a distance beyond *r* but not reaching costa; *Rs* relatively long, more than twice the basal deflection of *R*<sub>4+5</sub>; basal deflection of *Cu*<sub>1</sub> at the fork of *M*.

Abdominal tergites dark brown, the caudal margins of the segments narrowly pale; sternites infuscated, the lateral margins



narrowly yellowish; hypopygium with the tergite and basistyles infuscated. Male hypopygium (fig. 1) with the ninth tergite nearly transverse, the median area very slightly produced into a low, dark tubercle. Basistyles small, the mesal lobe very large, the apex blackened and set with numerous setigerous tubercles. Ventral dististyle moderately fleshy with a long slender rostrum (fig. 1B) that bears at its tip a slender spinous seta and a few more delicate bristles; two relatively short spines, placed less than their own length apart and not far from the base of the rostrum. Dorsal dististyle a very strongly curved chitinized rod, the base stout, the apex beyond the approximately rectangular curve narrowed, feebly dilated before the acute straight apex. Gonapophyses with the mesal apical angle of each produced caudad into a dusky nearly straight lobe. Aedeagus stout.

Described from a single male, collected at Amagu Village, Siberia, July 1923 (T. D. A. Cockerell).

*Type*.—Male, Cat. No. 28358, U.S.N.M.

**DICRANOMYIA**, species, near **PSEUDOMORIO** Alexander

1920. *Dicranomyia pseudomorio* ALEXANDER, Trans. Amer. Ent. Soc., vol. 46, pp. 3-4.

One badly damaged specimen that probably belongs here, Kudia River, Amagu, Siberia, July 1923 (T. D. A. Cockerell).

**Genus RHIPIDIA** Meigen

1818. *Rhipidia* MEIGEN, Syst. Besch. Zweifl. Ins., vol. 1, p. 153.

**RHIPIDIA (RHIPIDIA) MACULATA** Meigen

1818. *Rhipidia maculata* MEIGEN, Syst. Besch. Zweifl. Ins., vol. 1, p. 153, pl. 5, fig. 11.

One male, Kongaus, Siberia, August 1923 (T. D. A. Cockerell). This fly is distributed throughout the Holarctic region.

**RHIPIDIA (MONORHIPIDIA) SIBIRICA**, new species

General coloration dark; fore legs dark brown, the basal quarter paler; wings with a grayish tinge, the costal cell darker; brown spots and seams at origin of *Rs*, tip of *Sc*, along the cord and outer end of cell *1st M*<sub>2</sub>; *Sc* long, ending beyond midlength of *Rs*.

*Female*.—Length, 7 mm.; wing, 7.8 mm.

Rostrum and palpi black. Antennae black throughout, the flagellar segments with distinct basal petioles, the inner face of each segment slightly produced. Head dark, discolored.

Thorax entirely dark-colored, any bloom or pattern that might be normally present destroyed by moisture. Halteres pale, the knobs slightly darkened. Legs with the coxae dark brown, discolored, the

tips brightened; trochanters obscure yellow; femora obscure yellow basally, dark brown towards the tips; on the forelegs the femora are dark brown with the exception of the basal fourth; middle and hind femora with the extreme tips a little paler than the subterminal darkened portions; tibiae and tarsi dark brown. Wings with a grayish tinge, the costal cell strongly infuscated; conspicuous brown spots at origin of *Rs* and tip of *Sc*; stigma brown, sending seams caudad onto *r* and to the fork of *Rs*; posterior cord and outer end of cell *1st M*<sub>2</sub> more narrowly seamed with brown; wing-tip in cells *2nd R*<sub>1</sub>, *R*<sub>3</sub>, *R*<sub>5</sub>, and *2nd M*<sub>2</sub> more weakly infuscated, especially in the centers of the cells; veins pale brown, the prearcular veins and *Cu* more yellowish. Venation: *Sc*<sub>1</sub> ending beyond mid-length of *Rs*, *Sc*<sub>2</sub> only a trifle shorter than *Sc*<sub>1</sub>; *Rs* long, arcuated at origin; *r* at tip of *R*<sub>1</sub>; inner end of cell *R*<sub>3</sub> lying a little proximad of that of cell *1st M*<sub>2</sub>; cell *1st M*<sub>2</sub> gently widened distally, *m* about equal to the outer deflection of *M*<sub>3</sub>; basal deflection of *Cu*<sub>1</sub> at the fork of *M*.

Abdominal tergites dark brown, the sternites a little paler, yellowish brown, especially the intermediate segments. Ovipositor with the tergal valves slender, gently upcurved, the tips acute; sternal valves stout, relatively straight, the base abruptly blackened.

Described from a single female, collected at Okeanskaja, Siberia, August 1923 (T. D. A. Cockerell).

*Type*.—Female, Cat. No. 28359, U.S.N.M.

*Rhipidia (Monorhipidia) sibirica* is allied to *R. (M.) uniseriata* Schiner (Western Palaearctic) and *R. (M.) fidelis* Osten Sacken (Eastern Nearctic), differing in the venation and coloration of the legs.

**RHIPIDIA (ARHIPIDIA) PULCHRA SEPTENTRIONIS** Alexander

1913. *Rhipidia pulchra septentrionis* ALEXANDER, Can. Ent., vol. 45, pp. 206-207, pl. 3, fig. 1 (wing).

Specimens from Vladivostok and Kudia River, Amagu, Siberia, July 1923 (T. D. A. Cockerell). The northern form of the Oriental *pulchra* is widely distributed throughout the Japanese Empire but had not previously been recorded from Siberia.

**Tribe HEXATOMINI**

**Genus PSEUDOLIMNOPHILA** Alexander

1919. *Pseudolimnophila* ALEXANDER, Cornell Univ. Agr. Expt. Sta., Mem. 25, p. 917.

**PSEUDOLIMNOPHILA OCHRACEA ASIATICA**, new subspecies

*Female*.—Length about 9 mm.; wing, 9 mm., its width, 2.8 mm.

Generally similar to typical *ochracea* (Meigen) of the Western Palaearctic Region, differing as follows:

Basal segment of the flagellum largely yellow, the tip darkened. Legs yellow, the tips of the tibiae and the tarsi infuscated. Wings with  $R_s$  short and strongly arcuated at origin;  $R_{2+3}$  longer; cell  $R_2$  correspondingly shorter, the distal section of vein  $R_2$  sinuous; cell  $M_1$  nearly sessile; basal deflection of  $Cu_1$  at two-fifths the length of the cell 1st  $M_2$  and less than its length beyond the fork of  $M$ ; cell 2nd  $A$  broader. Wings conspicuously broader than in the typical form.

Described from a female, collected at Okeanskaja, Siberia, July 1923 (T. D. A. Cockerell).

Type.—Female, Cat. No. 28360, U.S.N.M.

#### Genus LIMNOPHILA Macquart

1834. *Limnophila* MACQUART, Suit. a Buff., vol. 1, Hist. Nat. Ins., Dipt. p. 95.

LIMNOPHILA (LIMNOPHILA), species, near PICTIPENNIS (Meigen)

1818. *Limnobia pictipennis* MEIGEN, Syst. Besch. Zweifl. Ins., vol. 1, p. 119.

A female, Okeanskaja, Siberia, August 1923 (T. D. A. Cockerell). The Palaearctic species of this subgenus have not yet been satisfactorily differentiated.

#### LIMNOPHILA INCONCUSSA Alexander

1913. *Limnophila inconcussa* ALEXANDER, Can. Ent., vol. 45, pp. 313–314, pl. 4, fig. 2 (wing); pl. 10, fig. 12 (male hypopygium).

Two specimens taken at Tsuruga, Japan, August 1923, by Professor and Mrs. Cockerell. This is the commonest and most widely distributed member of the genus in Japan, extending southward into Taiwan.

#### LIMNOPHILA NEMORALIS (Meigen), variety

1818. *Limnobia nemoralis* MEIGEN, Syst. Besch. Zweifl. Ins., vol. 1, p. 126. One male specimen, Olga, Siberia, July 1923 (T. D. A. Cockerell).

#### Genus PILARIA Sintenis

1888. *Pilaria* SINTENIS, Sitzber. Nat.-Ges. Dorpat, vol. 8, p. 398.

#### PILARIA FUSCIPENNIS (Meigen), variety

1818. *Limnobia fuscipennis* MEIGEN, Syst. Besch. Zweifl. Ins., vol. 1, p. 125.

Specimens from Amagu Village, Siberia, July 1923 (T. D. A. Cockerell).

### Tribe PEDICIINI

#### Genus PEDICIA Latreille

1809. *Pedicia* LATREILLE, Hist. Nat. Crust. et Ins., vol. 4, p. 255.

1916. *Daimiotipula* MATSUMURA, Thous. Ins. Japan, add. 2, p. 463.

#### PEDICIA COCKERELLI, new species

General coloration gray and yellow; wings with the costal margin pale brown, the remaining markings dark brown but restricted in extent; basistyle of male hypopygium produced into a slender acute horn.

*Male*.—Length, 20 mm.; wing, 19.5 mm.

Rostrum and palpi dark brown. Antennae brown, the basal segments of the flagellum short and crowded, the terminal segments elongate and with conspicuous verticils. Head dark gray; vertical tubercle distinct.

Pronotum obscure yellow, the sides of the anterior notum with a brown spot. Mesonotal praescutum yellow with four distinct brown spots, the intermediate pair only vaguely separated from one another by a capillary pale line; lateral stripes crossing the suture onto the scutal lobes; scutellum yellow; postnotal mediotergite testaceous, darkened behind. Pleura yellowish testaceous, the sternopleurite darkened ventrally; postnotal pleurotergite with a dark spot at the base of the halter. Halteres pale, the knobs obscure yellow. Legs with the coxae and trochanters light brown; femora yellow, the tips conspicuously blackened; tibiae brownish yellow, the bases narrowly and indistinctly, the tips more broadly and conspicuously, infuscated; tarsi brown. Wings of the usual *Pedicia* pattern, the costal margin much paler brown than the remaining dark markings, the humeral region almost yellow; brown seam along vein  $Cu_2$  continued to the margin but becoming less defined outwardly; brown markings less extensive than in *daimio* (Matsumura); a pale spot in cell  $R_1$  opposite the level of the cord, as in *daimio*.

Venation: Cell 1st  $M_2$  relatively small; petiole of cell  $M_1$  nearly twice  $m$ ; basal deflection of  $Cu_1$  a short distance beyond the fork of  $M$ .

Abdominal segments nearly uniform rusty brown, without distinct darker markings in the rubbed unique type; hypopygium passing into brown. Male hypopygium with the ventral apical angle of each basistyle (fig. 2) produced into a shiny, acutely pointed horn that is gently curved, these horns directed dorsad and slightly mesad, the apex of each horn deeply grooved on ventral mesal face, the apex microscopically bifid; dorsal apical angle of basistyle with rather numerous yellow setae. Dististyles elongate, darkened, the apex shiny, obtuse.



Described from a single male, collected at Olga, Siberia, July 1923 (T. D. A. Cockerell).

*Type*.—Male, Cat. No. 28361, U.S.N.M.

This interesting new species is named in honor of the collector, Prof. T. D. A. Cockerell.

#### Genus RHAPHIDOLABINA Alexander

1916. *Rhaphidolabina* ALEXANDER, Proc. Acad. Nat. Sci. Phila., pp. 540-541.

#### RHAPHIDOLABINA SIBIRICA, new species

General coloration pale whitish yellow; legs yellow, only the terminal tarsal segments infuscated; wings whitish subhyaline with a relatively heavy pale brown pattern, the costal region infuscated basally; *r* present; abdominal tergites indistinctly bicolorous.

*Male*.—Length about 5 mm.; wing, 6.5 mm.

Rostrum reddish flesh-color, the palpi pale yellow. Antennae short, the scapal segments reddish; flagellum yellow, the terminal segments a little infuscated. Head yellowish brown.

Pronotum and mesonotum very pale whitish yellow, without distinct markings. Pleura whitish yellow. Halteres pale, the knobs a little more yellowish. Legs whitish yellow, only the terminal tarsal segments infuscated. Wings whitish subhyaline, with a relatively heavy pale brown pattern; cell *1st C* and basal half of cell *2nd C* infuscated; interrupted areas in cells *Sc* and *Sc*<sub>1</sub>, including a large basal area and spots at *Sc*<sub>2</sub>, above the origin of *Rs* and at the tip of *Sc*<sub>1</sub>; these dark areas in cell *Sc* extend caudad into cell *R* but do not quite reach vein *M*; narrow brown seams along the cord and outer end of cell *1st M*<sub>2</sub> and on the outer deflection of vein *R*<sub>2</sub>; a circular brown cloud at tip of vein *R*<sub>3</sub> and a smaller one at tip of vein *R*<sub>4</sub>; brown spots and dots at ends of veins *M*<sub>2</sub>, *M*<sub>3</sub>, *Cu*<sub>1</sub>, *Cu*<sub>2</sub>, and *2nd A*; smaller spots at fork of *M*<sub>1+2</sub> and along the bases of veins *Cu*, *1st A*, and *2nd A*; prearcular cells largely dark. Venation: *Rs* strongly angulated at origin; *r* present, as in *R. dicranotoides* Alexander (Japan); fusion of *R*<sub>1</sub> and tip of *R*<sub>2</sub> very short to punctiform; *R*<sub>3</sub> gently arcuated; cell *M*<sub>1</sub> a little longer than its petiole; cell *1st M*<sub>2</sub> with the inner end pointed, *r-m* close to this point; *m* about two-thirds the outer deflection of *M*<sub>3</sub>; basal deflection of *Cu*<sub>1</sub> about two-fifths its length beyond the fork of *M*. Wings relatively broad, widest opposite the origin of *Rs*.

Abdomen with the tergites indistinctly bicolorous, the caudal margins darker brown than the bases; basal sternites pale yellow; hypopygium dark brown.

Described from a single male, collected at Amagu, Kudia River, Siberia, July 1923 (T. D. A. Cockerell).

*Type*.—Male, Cat. No. 28362, U.S.N.M.

#### Tribe ERIOPTERINI

#### Genus MOLOPHILUS Curtis

1833. *Molophilus* CURTIS, Brit. Ent., p. 444.

#### MOLOPHILUS LOBIFERUS, new species

General coloration brown, including the thoracic pleura; halteres pale, the knobs yellowish; male hypopygium with each basistyle produced mesad and caudad into a fleshy setiferous lobe; apex of basistyle and dististyles totalling four chitinized arms.

*Male*.—Length about 3.6 mm.; wing, 4.5 mm.

*Female*.—Length about 4 mm.; wing, 5 mm.

Rostrum and palpi brown. Antennae of moderate length in the female, broken in the unique male, pale brown, the basal segments a little brighter. Head dark gray.

Mesonotum dark brown, the lateral margins of the praescutum a little paler. Pleura dark brown. Halteres pale, the knobs yellowish. Legs with the coxae and trochanters yellowish testaceous; remainder of legs obscure yellow, the tarsi passing into brown. Wings with a pale yellowish tinge, the veins pale brown. Venation: *R*<sub>4+5</sub> about twice the basal section of vein *R*<sub>5</sub> alone; basal deflection of *Cu*<sub>1</sub> less than its length beyond the fork *M*; vein *2nd A* ending about opposite one-fourth the petiole of cell *M*<sub>3</sub>.

Abdomen brown, the sternites and hypopygium a little paler. Male hypopygium (fig. 4) with the basistyles stout, approximated on the ventral face, each here produced caudad and slightly mesad into a slender fleshy lobe that is provided with stout setae. Apex of basistyle produced into two long, powerful arms, the outer or lateral one directed caudad, before midlength bent strongly mesad into a long, nearly straight black spine; inner or mesal arm connected basally with the outer, shorter, heavily blackened, feebly sinuous. A third chitinized arm is longer than any of the others, weakly expanded on the distal half and here provided with small subappressed teeth, the apex acute. Another dististyle is present and chitinized, but in the unique type has been broken beyond the base which is dilated, thence narrowed and blackened; this appendage is not shown in the figure. Aedeagus long and slender, pale.

Described from a pair taken at Olga, Siberia, July 1923 (T. D. A. Cockerell).

*Type*.—Male, Cat. No. 28363, U.S.N.M.

#### Genus ERIOPTERA Meigen

1803. *Erioptera* MEIGEN, Illiger's Mag., vol. 2, p. 262.

#### ERIOPTERA (ERIOPTERA) FUSCOHALTERATA, new species

General coloration pale reddish and yellow; halteres pale, the knobs conspicuously brownish black; legs yellow, the terminal tarsal



segments infuscated; wings pale yellow, the veins darker yellow; male hypopygium with the gonapophyses terminating in acute blackened horns.

*Male*.—Length about 4 mm.; wing, 5.4 mm.

Rostrum and palpi brown. Antennae pale reddish brown, the terminal segments more infuscated. Eyes large, contiguous beneath. Head yellow.

Mesonotum reddish, more or less discolored, the lateral margins of the praescutum and scutum light yellow, this color extending back to the wing-root; scutellum and lateral margins of the post-notal mediotergite similarly yellow. In normal specimens it is possible that this yellow color is much more extensive. Pleura reddish yellow. Halteres pale, the knobs conspicuously brownish black. Legs yellow, only the terminal tarsal segments infuscated. Wings pale yellow, the veins darker yellow. Venation: As in the subgenus;  $R_{2+3}$  about one-half longer than the basal section of  $R_2$ ; vein *2nd A* very strongly sinuous.

Abdomen brownish yellow. Male hypopygium with the basistyles relatively stout. Outer dististyle apparently broken off at base. Inner dististyle (fig. 3) a strongly curved arm, pale except at the suddenly pointed apex which is blackened. Gonapophyses appearing as slender, nearly straight horns, the apical third blackened, the tips acute. Aedeagus lyriform, each half provided with a long, curved branch that is directed caudo-laterad, thence mesad and finally strongly cephalad.

Described from a single male taken at Amagu Village, Siberia, July 1923 (T. D. A. Cockerell).

*Type*.—Male, Cat. No. 28364, U.S.N.M.

#### Genus HELOBIA St. Fargeau et Serville

1825. *Helobia* ST. FARGEAU et SERVILLE, Encyclop. Method. Ins., vol. 10, p. 585.

1830. *Symplecta* MEIGEN, Syst. Besch. Zweifl. Ins., vol. 6, p. 282.

#### HELOBIA HYBRIDA (Meigen)

1804. *Limonia hybrida* MEIGEN, Klass., vol. 1, p. 57, pl. 3, fig. 17.

One specimen, Vladivostock, Siberia, 1923 (T. D. A. Cockerell). This common crane fly is very widely distributed throughout the Holarctic Region.

#### Genus TRIMICRA Osten Sacken

1861. *Trimicra* OSTEN SACKEN, Proc. Acad. Nat. Sci. Phila., p. 290.

#### TRIMICRA PILIPES (Fabricius)

1787. *Tipula pilipes* FABRICIUS, Mantissa Ins., vol 2, p. 324.

One male, Kongaus, Siberia, August 1923 (T. D. A. Cockerell). If most of the numerous described species of *Trimicra* are synonyms

of *pilipes*, as would now appear to be the case, the present fly has the most extended range of any Tipulid, being found in virtually all parts of the world, including many of the most remote oceanic islands.

#### Genus GONOMYIA Meigen

1818. *Gonomyia* MEIGEN, Syst. Besch. Zweifl. Ins., vol. 1, p. 146.

#### GONOMYIA (GONOMYIA), species, near SUPERBA Alexander

1913. *Gonomyia (Gonomyia) superba* ALEXANDER, Can. Ent., vol. 45, pp. 285–286, pl. 3, fig. 14 (wing); pl. 10, figs. 1–2 (hypopygium).

A single badly damaged specimen, Amagu Village, Siberia, July 1923 (T. D. A. Cockerell), that appears to belong here. The species is the most widely distributed Japanese member of the genus.

#### Genus RHABDOMASTIX Skuse

1889. *Rhabdomastix* SKUSE, Proc. Linn. Soc. N. S. Wales, ser. 2, vol. 4, pp. 828–829.

#### RHABDOMASTIX (SACANDAGA) USURIENSIS, new species

General coloration black, light gray pruinose; knobs of halteres conspicuously light yellow; wings with a strong brown tinge; veins  $R_1$  and  $R_2$  widely separated at wing-margin;  $R_3$  longer than  $R_{2+3}$ .

*Male*.—Length about 3.5–3.6 mm.; wing, 4.5–4.6 mm.

Rostrum and palpi black. Antennae short, black, the flagellar segments oval. Head black, heavily light gray pruinose.

Pronotum and mesonotum black, light gray pruinose; pseudosutural foveae black. Pleura gray pruinose. Halteres dark brown, the knobs conspicuously pale yellow. Legs with the coxae and trochanters black, gray pruinose; femora and tibiae dark brown, the bases of the former vaguely paler; tarsi black. Wings with a strong brown tinge, the veins still darker brown. Venation:  $Sc_1$  ending between one-third to two-fifths the length of the long, nearly straight  $Rs$ ,  $Sc_2$  close to its extreme tip but relatively indistinct;  $R_2$  oblique, at the wing-margin separated from the tip of  $R_1$  by a distance greater than its own length;  $R_3$  longer than  $R_{2+3}$ , cell  $R_2$  thus being relatively large;  $r$  lacking. Anal angle of wing moderately developed. No macrotrichiae on veins  $Rs$ ,  $R_{2+3}$ ,  $R_2$  or  $R_3$ ; numerous trichiae on  $R_{4+5}$  for its entire length.

Abdomen black, gray pruinose; hypopygium black.

Described from three males collected at Okeanskaja, Siberia, August 1923 (T. D. A. Cockerell).

*Type*.—Male, Cat. No. 28365, U.S.N.M.

## Subfamily TIPULINAE

## Tribe TIPULINI

## Genus DICTENIDIA Brullé

1833. *Dictenidia* BRULLÉ, Ann. Soc. Ent. France, vol. 2, pp. 401-402.

## DICTENIDIA BIMACULATA (Linnaeus)

1761. *Tipula bimaculata* LINNAEUS, Fauna Suec., ed. 2, p. 433.

One male, Kongaus, Siberia, August 1923 (T. D. A. Cockerell); a pair, Kudia River, Amagu, Siberia, July 1923 (T. D. A. Cockerell). A critical comparison with European specimens reveals no differences between these flies.

## Genus TIPULA Linnaeus

1758. *Tipula* LINNAEUS, Syst. Natur., ed. 10, p. 585.

## TIPULA COCKERELLIANA, new species

Allied to *T. fulvipennis* de Geer, *T. shirakii* Edwards, and similar species; general coloration grayish yellow, the praescutum with four brown stripes; wings with a strong yellowish brown suffusion, the obliterative band before the cord very broad and conspicuous, cream-colored.

*Female*.—Length, 28 mm.; wing, 23 mm.

Frontal prolongation of head relatively elongate, brown; nasus conspicuous; palpi dark brown. Antennae with the scapal segments brownish yellow; flagellar segments feebly bicolorous, the basal enlargement darker brown than the ground-color; verticils long and conspicuous. Head dark brown, gray pruinose.

Mesonotal praescutum grayish yellow with four brown stripes, the intermediate pair narrowly separated from one another by a gray line; scutal lobes dark brown, each with two dark gray markings; scutellum brownish yellow, the center of the disk grayish brown; postnotum dark but heavily yellowish pollinose to virtually obliterate the ground-color. Pleura yellowish testaceous, the posterior margins of the postnotal pleurotergite weakly infuscated. Halteres brown, the bases of the stems and the apices of the knobs paler. Legs with the coxae and the trochanters yellow; femora yellow, the tips broadly and conspicuously dark brown, the tibial apices more narrowly infuscated; tarsal segments one to three brownish yellow, the tips of the individual segments narrowly darkened, the terminal tarsal segments uniformly infuscated. Wings with a strong yellowish brown suffusion, the stigma darker; cells beyond the cord somewhat darker than the basal cells; a brown cloud near mid-length of cell *Cu*, preceded by a clearer yellow area, the latter continued into cell *M*; a very broad and conspicuous creamy obliterative mark

crosses the wing before the cord, narrowest in cell *C* at the tip of vein *Sc*, and at the posterior margin of the wing on both sides of vein *Cu*<sub>1</sub>; this area includes more than the basal half of cell *1st M*<sub>2</sub>; additional pale blotches in outer half of cell *R*<sub>5</sub>, in base of cell *M*<sub>1</sub> and restrictedly in cell *2nd M*<sub>2</sub>; veins brown, paler in the costal region and radial field. Venation: *R*<sub>2</sub> persistent; *m* longer than the petiole of cell *M*<sub>1</sub>; *m-cu* punctiform; cell *2nd A* broad.

Abdominal tergites brownish yellow, the base of the abdomen brighter, the segments with ill-defined sublateral brown stripes; posterior segments with indications of a median vitta; sternites more uniformly yellowish. Ovipositor with the valves long and straight, especially the slender tergal valves.

Described from a single female, taken at Okeanskaja, Siberia, August 1923 (T. D. A. Cockerell).

*Type*.—Female, Cat. No. 28366, U.S.N.M.

## TIPULA LIGULIFERA, new species

Antennae of male moderately elongate; flagellum black, the basal enlargement of each segment conspicuously light yellow; wings brownish yellow; cell *M*<sub>1</sub> short-petiolate to sessile; male hypopygium with the eighth sternite produced caudad into a conspicuous liguliform blade.

*Male*.—Length, 12-13 mm.; wing, 11.2-11.5 mm.

Frontal prolongation of head relatively short, brownish yellow; nasus long but relatively stout, concolorous. Antennae moderately elongate, if bent backward, extending about to the base of the abdomen; scapal segments light brown; flagellar segments black, the basal enlargements of the individual segments conspicuously light yellow, this greater in amount on the basal segments, becoming more restricted in extent on the outer segments; verticils relatively short but stout. Head light brown, the orbits indistinctly paler.

Pronotum testaceous brown. Mesonotal praescutum obscure brownish yellow with four slightly darker, ill-defined brownish stripes; centers of scutal lobes darkened; remainder of the mesonotum brownish testaceous. Pleura whitish testaceous, the pleurotergite brighter. Halteres pale brown, the base of the stem paler. Legs with the coxae whitish testaceous; trochanters pale yellow; femora and tibiae light brown, the tarsi passing into dark brown. Wings with a strong brownish yellow tinge, the base and costal region more yellowish; stigma small, oval, pale brown; a conspicuous obliterative area before the stigma, extending from vein *R*<sub>1</sub> before and including the cord, crossing the proximal end of cell *1st M*<sub>2</sub> into the base of cell *M*<sub>3</sub>; veins brown. Venation: *R*s moderately elongate, arcuated, about one-half longer than *R*<sub>2+3</sub>; *R*<sub>2</sub> preserved throughout its length; cell *1st M*<sub>2</sub> long



and narrow, its outer end more or less pointed, *m* being longer than the petiole of cell  $M_1$ ; in some specimens, the latter vein is very short to obliterated, in the latter case cell  $M_1$  being sessile; *m-cu* elongate; cell *2nd A* moderately broad.

Abdomen pale brown, the basal segments paler, the surface of the sclerites with appressed yellow setae; dorso-median line of the tergites darker. Male hypopygium relatively small; caudal margin of the tergite (fig. 7) with a V-shaped notch, the margin of which is provided with microscopic black spinulae. Outer dististyle elongate, fleshy. Inner dististyle terminating in a conspicuous black spine, directed dorsad. Region of ninth sternite deeply and narrowly incised. Eighth sternite bearing a very conspicuous, thin, liguliform blade, median in position and light yellow in color.

Described from three males, collected at Okeanskaja, Siberia, August 1923 (T. D. A. Cockerell).

*Type*.—Male, Cat. No. 28367, U.S.N.M.

*TIPULA AMURENSIS*, new species

Belongs to the *hebes* group; antennae elongate, the flagellum uniformly dark brown; general coloration light gray, the lateral praescutal stripes ill-defined; male hypopygium with the eighth sternite densely short-hairy.

*Male*.—Length, 13 mm.; wing, 14 mm.

Frontal prolongation of head dark yellow, with an indistinct darker lateral line; nasus distinct; palpi brownish yellow, the terminal segments a little darker. Antennae elongate, the terminal segments broken, if entire and bent backward, extending to beyond the base of the abdomen; scapal segments dark yellow; first segment of flagellum brownish yellow on basal half, passing into dark brown; remaining segments of flagellum dark brown, the basal enlargement of the proximal segments a very little brighter. Head with the anterior part of the vertex surrounding the antennal bases buffy, the remainder of the vertex dark gray with an indistinct brown median line.

Pronotum buffy yellow, a trifle darker medially. Mesonotum clear gray, the praescutum with a pair of ill-marked brown stripes, intermediate in position, narrowly separated from one another and further divided by a capillary dark vitta on the anterior half of the sclerite; lateral stripes of a brighter gray than the ground-color, their anterior ends bordered by brown; scutum light gray with an antero-lateral brown spot and a postero-mesal brown circle enclosing a gray center; scutellum and postnotum dirty gray with indications of a capillary darker median vitta. Pleura with the anepisternum and sternopleurite light gray, the posterior pleurites and postnotal pleurotergite more whitish. Halteres slender, brownish yellow, the tips

of the knobs obscure yellow, the base of the stem narrowly paler. Legs with the coxae pale, sparsely pruinose; trochanters yellow; femora brownish yellow, the tips conspicuously blackened; tibiae light brown, the tips narrowly dark brown; tarsi dark brown. Wings with a grayish brown tinge, the base and costal region yellow; stigma brown; wing-apex darker brown; conspicuous subhyaline areas beyond the cord and stigma, appearing as an oblique band from the costa through cell *1st M*<sub>2</sub> into the base of cell  $M_4$ ; a smaller pale area before the stigma in cell *1st R*<sub>1</sub>; a large pale spot before the end of cell *M*, crossing vein *Cu* into cell *Cu*; a small pale spot on vein *1st A* near one-third its length, the space between these two latter subhyaline areas a trifle more infuscated than the ground-color; anterior cord and origin of *Rs* slightly infuscated; veins brown, dark yellow in the flavous areas. Venation:  $R_2$  preserved, widely divergent from  $R_3$ ; petiole of cell  $M_1$  shorter than *m*; cell *1st M*<sub>2</sub> elongate, its principal faces parallel.

Abdomen with the basal two tergites yellow, the remaining tergites brown, each with gray lateral and caudal margins and a median and sublateral dark brown longitudinal stripes; on the subterminal segments, the pale lateral margins are very broad and conspicuous, more yellowish; sternites generally similar with pale caudal margins. Male hypopygium (fig. 6) as in the *hebes* group; tergite dark brown, narrowed posteriorly, the caudal margin nearly truncate, with a very low, blunt, median lobe that is light yellow (fig. 5). Outer dististyle flattened, irregularly oval, pale. Ventral mesal portions of the basistyle produced mesad into a pale, submembranous blade that is irregularly bifid at apex on median line, the dorsal arm with the margin narrowly blackened, overlying its mate of the opposite side; posterior lobes directed ventrad as an apron-like structure that lies in the notch of the eighth sternite. Gonapophyses projecting ventrad from this notch, chitinized, narrowed to the tips which are weakly toothed. Eighth sternite deeply incised, the incision densely filled with relatively short, golden-yellow setae.

Described from a single male, collected at Amagu, Kudia River, Siberia, July 1923 (T. D. A. Cockerell).

*Type*.—Male, Cat. No. 28368, U.S.N.M.

*TIPULA LATEMARGINATA* Alexander

1921. *Tipula latemarginata* ALEXANDER, Ann. Ent. Soc. Amer., vol. 14, pp. 128-129.

One male, Amagu, Kudia River, Siberia, July 1923 (T. D. A. Cockerell). The species has an extensive distribution in Japan.



## TIPULA BUBO Alexander

1918. *Tipula bubo* ALEXANDER, Journ. N. Y. Ent. Soc., vol. 26, pp. 69-70.

One male, Okeanskaja, Siberia, August 1923 (T. D. A. Cockerell). The fly had hitherto been known from Saghalien, Hokkaido and Honshiu, Japan.

## TIPULA USURIENSIS, new species

General coloration gray; wings pale yellowish brown, the stigma pale brown; abdominal tergites bilineate with dark brown; male hypopygium with the sclerites fused into a continuous ring; emargination of the ninth sternite with two fleshy flattened lobes, margined with long yellow setae.

*Male*.—Length about 12 mm.; wing, 13.5 mm.

Frontal prolongation of head brownish yellow above, paler laterally; palpi dark brown. Antennae moderately elongate, if bent backward, extending about to the base of the abdomen; black, the second scapal segment and the base of the first flagellar segment brownish yellow. Head dark-colored, gray pruinose, the anterior part of the vertex obscure yellow.

Thorax of the unique type badly discolored; gray, the praescutum with four darker stripes; scutellum largely pale. Pleura pale, with sparse brownish markings; postnotal pleurotergite likewise pale. Halteres pale brownish yellow, the base of the stem brighter. Legs with the coxae dark, paler apically; trochanters yellow; femora brownish yellow, the tips extensively brownish black; tibiae brown, the tips gradually deepening into black; tarsi long and slender, dark brown. Wings with a pale yellowish brown tinge, the base and costal region somewhat brighter colored; stigma relatively small, oval, pale brown; oblitative areas before the cord relatively indistinct, more evident before the stigma at the end of  $R_s$  and across the proximal end of cell  $1st M_2$ ; veins dark brown, those in the flavous areas brownish yellow. Venation:  $R_s$  very long and almost straight, in alignment with  $R_{2+3}$ ; tip of  $R_1$  atrophied, the subterminal section of the vein being in alignment with  $r$  which bears macrotrichiae throughout its length; distal section of vein  $R_2$  entirely preserved; cell  $M_1$  nearly twice its petiole; cell  $1st M_2$  long and narrow;  $m-cu$  distinct, about twice its length beyond the fork of  $M$ ; cell  $2nd A$  relatively narrow.

Abdominal tergites buffy yellow, with a sublateral brown longitudinal stripe on either side; hypopygium darker. Male hypopygium with the tergite and sternite fused in a continuous ring (fig. 11). Ninth tergite (fig. 10) relatively small, the caudal margin with a small lobe on either side of the median line, the apex of each lobe blackened and densely set with black spines; caudo-lateral angles of the tergite subacute. Outer dististyle cylindrical but very short,

bearing conspicuous long black setae. Inner dististyle a long flattened blade, gradually narrowed to the slender black apex. Median area of ninth sternite membranous, on either side of the median line with a fleshy flattened lobe, directed caudad, the outer margin fringed with long yellow setae. Eighth sternite unarmed.

Described from a single male, collected at Amagu, Kudia River, Siberia, July 1923 (T. D. A. Cockerell).

*Type*.—Male, Cat. No. 28369, U.S.N.M.

## TIPULA SIBIRIENSIS, new species

General coloration gray; wings with a faint yellowish tinge, the base and costal region strongly yellow, the disk clouded with pale brown; a broad band of the ground-color beyond the cord completely traverses the wing; tip of vein  $R_2$  atrophied.

*Male*.—Length about 13 mm.; wing, 17 mm.

Frontal prolongation of head yellowish gray; nasus distinct; palpi elongate, dark brown. Antennae of moderate length, if bent backward extending beyond the wing-root; scapal segments and first flagellar segment yellow; remaining flagellar segments yellow, the basal enlargements of the individual segments black; on the subterminal and outer segments, the ground-color becomes more infuscated. Head dark gray, the anterior part of the vertex more yellowish; vertex with a vaguely indicated brown median line.

Pronotum gray, the anterior notum tumid dorso-medially and more tinged with brown. Mesonotal praescutum light gray with four vaguely defined brownish gray stripes that are better delimited near the suture; scutum light gray, the centers of the lobes marked with darker; scutellum gray, more or less infuscated basally; postnotum light gray. Pleura clear light gray, the dorso-pleural membrane buffy-yellow. Halteres pale yellow, the knobs infuscated. Legs with the coxae light gray; trochanters dark yellow; femora brownish yellow, near mid length passing into brown; tibiae brown, the tips becoming still darker brown; tarsi brownish black. Wings with a faint yellowish tinge, the base, costal region and the space behind vein  $Cu$  strongly yellowish; stigma oval, dark brown; a small brown spot at origin of  $R_s$  and conspicuous seams on the branches of  $Cu$ ; paler brown clouds in the cells, darker at the wing-apex, restricting the ground-color to a broad conspicuous cross-band beyond the cord, extending from the costal margin beyond the stigma, passing caudad through the bases of cells  $R_2$ ,  $R_3$ ,  $R_5$ , and all of cell  $1st M_2$ , through cell  $M_4$  to the wing-margin; cell  $M$  is largely pale with a brown cloud near mid-length and another at its outer end; cell  $1st A$  largely suffused with pale brown, interrupted by a pale area near the basal third; veins dark brown, paler in the flavous areas. Venation: Tip of vein  $R_2$

abruptly atrophied, the basal spur (about one-half the total length) provided with macrotrichiae; *m* and petiole of cell *M*<sub>1</sub> subequal; *m-cu* punctiform, near one-third the length of the cell.

Abdomen with the basal segments yellow, the tergites with a rather indistinct dorso-median stripe that is interrupted at the posterior margins of the segments; subterminal sternites darker. Male hypopygium (fig. 8) with the ninth tergite large, the lateral lobes produced caudad into flattened, obtuse blades, the mesal edge being produced slightly into flattened chitinized flanges; caudal notch of tergite broadly rounded, the dorso-median portion of the sclerite produced caudad for a slight distance into this indentation, which is thus feebly bifid at its base (fig. 9). Outer dististyle relatively large, pale, somewhat flattened. Ventral mesal margin of basistyle an oval, dark-colored fleshy lobe, the mesal edge provided with sparse erect yellow setae lying across the genital chamber. Eighth sternite with the caudal margin provided with an even fringe of conspicuous elongate yellow setae.

Described from a single male, collected at Okeanskaja, Siberia, August 1923 (T. D. A. Cockerell).

*Type*—Male, Cat. No. 28370, U.S.N.M.

#### Genus NEPHROTOMA Meigen

1803. *Nephrotoma* MEIGEN, Illiger's Mag., vol. 2, p. 262.

1834. *Pachyrrhina* MACQUART, Hist. Nat. Ins., Dipt. vol. 1, p. 88.

#### NEPHROTOMA VIRGATA (Coquillett)

1898. *Pachyrrhina virgata* COQUILLET, Proc. U. S. Nat. Mus., vol. 21, p. 306.

Several specimens from various Siberian localities apparently belong here. Vladivostock, 1923. Okeanskaja, August 1923. Kudia River, Amagu, July 1923 (T. D. A. Cockerell). The species is common and widely distributed throughout the Japanese Empire.

#### NEPHROTOMA CORNICINA (Linnaeus), variety

1758. *Tipula cornicina* LINNAEUS, Syst. Natur., ed. 10, p. 586.

Three males from Okeanskaja, Siberia, August 1923 (T. D. A. Cockerell).

#### NEPHROTOMA ACULEATA (Loew), variety

1871. *Pachyrrhina aculeata* LOEW, Beschr. Eur. Dipt., vol. 2, p. 20.

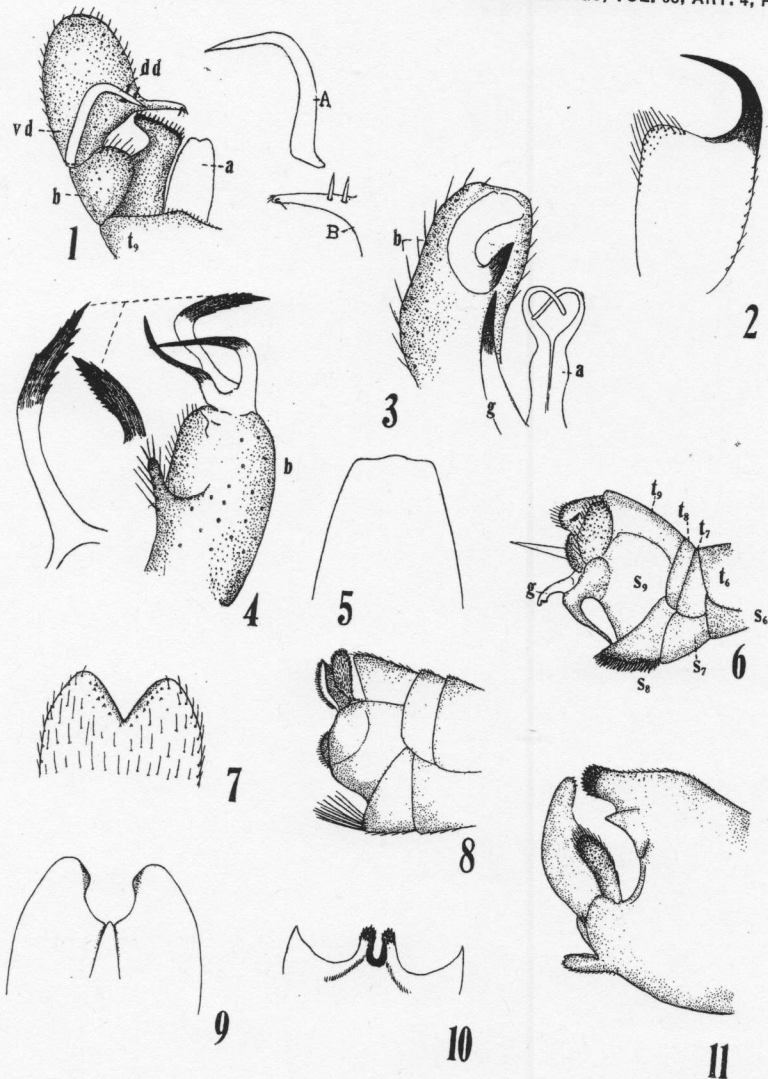
A male, Amagu Village, Siberia, July 1923 (T. D. A. Cockerell). The typical form is from the Western Palearctic Region.

#### EXPLANATION OF PLATE

*a*=aedeagus; *b*=basistyle; *d*. *d*=dorsal dististyle; *g*=gonapophyse; *s*=sternite; *t*=tergite; *v. d.*=ventral dististyle.

- FIG. 1. *Dicranomyia amurensis*, new species; male hypopygium. *A*=Dorsal dististyle, enlarged; *B*=Tip of rostral appendage, enlarged.  
 2. *Pedicia cockerelli*, new species; male hypopygium. Basistyle.  
 3. *Erioptera fuscohalterata*, new species; male hypopygium.  
 4. *Molophilus lobiferus*, new species; male hypopygium. Enlarged figures show different aspects of dististyle.  
 5. *Tipula amurensis*, new species; male hypopygium. Ninth tergite.  
 6. *T. amurensis*; male hypopygium. Lateral aspect.  
 7. *T. ligulifera*, new species; male hypopygium. Ninth tergite.  
 8. *T. sibiriensis*, new species; male hypopygium. Lateral aspect.  
 9. *T. sibiriensis*; male hypopygium. Ninth tergite.  
 10. *T. usuriensis*, new species; male hypopygium. Ninth tergite.  
 11. *T. usuriensis*; male hypopygium. Lateral aspect.





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