

**NEW OR INSUFFICIENTLY-KNOWN CRANE-FLIES
FROM THE NEARCTIC REGION (TIPULIDAE,
DIPTERA). PART V.**

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The preceding part under this title was published in 1938 (Bull. Brooklyn Ent. Soc. 33: 71-78). Except where indicated to the contrary, the types of the new species herein defined are preserved in my personal collection. I am greatly indebted to Messrs. Brower, Hanson, Ide, Macnab, Procter and Ting for the privilege of studying this material.

***Tipula (Lunatipula) macnabi* n. sp.**

General coloration yellow, the praescutum with four more orange-brown stripes; antennae long; pleura yellow with a sparse whitish bloom; femora black, with an obscure yellow subterminal ring, the tibiae and tarsi black; wings grayish brown, the costal border, with the stigma, darker brown; a conspicuous white oblitative area before and across cord; abdomen yellow, the tergite with three narrow brown stripes; male hypopygium with the tergite produced into two strongly divergent, submedian, black spines; inner dististyle with the beak very slender, the dorsal crest conspicuously serrate; eighth sternite elongate, projecting, the apex with a fringe of unusually long setae.

Male.—Length about 17-18 mm.; wing 16-17.5 mm.; antenna 6 mm.

Frontal prolongation of head obscure brownish yellow, sparsely pruinose above; nasus distinct; palpi dark. Antennae relatively long, as shown by the measurements; scape and pedicel light yellow, first flagellar segment brownish yellow, remainder of flagellum black; flagellar segments strongly incised; longest verticils subequal to the segments. Head gray, lighter on anterior portion and on the narrow orbits; a more or less distinct darker median vitta.

Praescutum grayish yellow, with four more orange brown stripes that are scarcely apparent against the ground; posterior sclerites of notum buffy-yellow; scutal lobes variegated by slightly darker areas. Pleura yellow, with a sparse whitish bloom. Halteres with stem yellow, knob weakly darkened. Legs with coxae yellow, sparsely pruinose; trochanters yellow; fem-

* Contribution from the Entomological Laboratory, Massachusetts State College.

ora narrowly yellow basally, the remainder black, with an obscure yellow subterminal ring; tibiae and tarsi black. Wings with the ground-color grayish brown; cells *C* and *Sc*, with the stigma darker brown; a small brown spot at origin of *Rs*; a conspicuous whitish obliterative area before stigma and cord, crossing cell *1st M*₂ into base of cell *M*₃; a less distinct post-stigmal brightening; veins dark. Venation: *Rs* about two and one-half times the length of *m-cu*; *R*₂ long, nearly one-half the short *R*₁; *m-cu* a short distance before fork of *M*₃₊₄.

Abdomen yellow, the tergites with a narrow brown median vitta that is slightly interrupted at the sutures; less distinct sublateral brown lines, beginning on the posterior portion of second tergite; hypopygium brown. Male hypopygium with the caudal margin of tergite produced into two black submedian spines that are strongly divergent, separated by a V-shaped notch; ventral surface of tergite on either side of midline with a small blackened point. Basistyle unproduced, but with a detached outer sclerite that is extended into a long sinuous spine. Outer dististyle at apex much enlarged into a head. Inner dististyle a compressed blade, the beak very long and slender, the high dorsal crest conspicuously serrate; base of style produced into two small sclerotized lobes, the narrower one glabrous. Eighth sternite elongate, narrowed outwardly, projecting, the slightly concave apex on either side bearing a fringe of unusually long setae, the submedian ones shorter; on ventral surface of sternite a deeply forked median sclerotized plate.

Habitat: Oregon.

Holotype: ♂, Boyer, September 25, 1937 (*Macnab*). *Paratopotypes*, 1 ♂, April 15, 1937; 1 ♂, July 30, 1936.

Tipula (Lunatipula) macnabi is named in honor of the collector, Professor James A. Macnab. The fly is very different from other similar yellow species, especially in the coloration of the legs and wings, and in the structure of the male hypopygium. It most resembles species such as *T. splendens* Doane and *T. lamellata* Doane, but is entirely distinct.

***Tipula (Lunatipula) tingi* n. sp.**

Mesonotal praescutum ochreous, with four grayish stripes that are margined with dark brown; nasus lacking; antennae with basal three segments yellow, the remainder dark; femora brownish yellow, restrictedly more darkened at tips; wings with a strong brown tinge, the stigma darker; a broad, very

conspicuous, white band before cord, extending from costa into base of cell M_3 ; abdominal tergites yellow, the outer segments more uniformly darkened, conspicuously trivittate with darker brown, the median vitta especially broad and conspicuous; ninth tergite with a very broad and deep V-shaped notch; eighth sternite with conspicuous lateral lobes that are tufted with setae, the median area with a brush of long setae.

Male.—Length about 16–17 mm.; wing 16–17 mm.; antenna about 5 mm.

Female.—Length about 24 mm.; wing 19 mm.

Frontal prolongation of head obscure yellow; nasus lacking; palpi with basal segments obscure yellow, the two outer segments passing into black. Antennae with basal three segments yellow; remaining segments weakly bicolored, the basal enlargements black, the apex of stem paling to reddish brown; outer segments more uniformly blackened; flagellar segments moderately incised; verticils conspicuous, subequal in length to the segments; terminal segment very reduced. Head with front obscure yellow, posterior sclerites brown, more grayish on posterior orbits; vertex with a linear dusky median vitta.

Mesonotal praescutum ochreous, with four gray stripes that are narrowly bordered by darker brown, somewhat more conspicuous along the mesal edges of the intermediate stripes, the anterior ends of the latter clearer gray; scutum with lobes gray, the median area yellow; scutellum yellow, sparsely pruinose, with a capillary brown median vitta, the parascutella more dusky; mediotergite yellowish gray medially, more ashy gray on posterior third, the basal lateral portions broadly infuscated. Pleura yellowish gray, the mesepisternum somewhat clearer gray. Halteres yellow, the knobs dark brown. Legs with the coxae and trochanters yellow; femora brownish yellow, restrictedly more darkened at tips; tibiae and basitarsi obscure yellow, the tips narrowly darkened; outer tarsal segments uniformly black. Wings with a strong brown tinge, the prearcular field and costal border clearer yellow; stigma and a spot at tip of Sc_2 darker brown; very restricted and less evident dark seams at origin of R_s and on posterior cord; a very conspicuous white obliterative band before cord, extending from vein C to the basal fourth of cell M_3 ; no distinct post-stigmal brightening; veins brown. Squama with five strong setae. Venation: R_{1+2} present; R_s about two and one-half times as long as $m-cu$; M_{3+4} nearly as long as the basal section of M_3 .

Abdominal tergites with the ground color yellow, clearer on the more basal segments, passing into brown on the fifth and succeeding tergites; three brown stripes, the median one broad and conspicuous; lateral stripes beginning on posterior half of second tergite, widened behind, the extreme lateral borders gray; sternites brownish yellow; hypopygium pale brown. In the female, the median tergal stripe is conspicuous and virtually continuous but the lateral pair is broken into spots on segments two to five, inclusive. Male hypopygium with the tergite transverse, with an unusually large V-shaped notch, the lateral lobes subacute at tips. Outer dististyle spatulate on distal two-thirds or more. Inner dististyle with apical beak darkened, obtusely rounded; a conspicuous lobe on outer margin at base; outer edge of style with unusually abundant, long, coarse setae. Each gonapophysis terminating in an acute point, before apex with a conspicuous lateral arm. Eighth sternite with conspicuous lateral lobes that are tufted with long yellow setae; median region notched, with a brush of long conspicuous setae.

Habitat: California.

Holotype: ♂, Marin County, bred from larvae in decaying wood and leaves, collected March 10, 1935, emerged April 11, 1935 (*Ting*). *Allotopotype*, ♀, *Paratopotype*, ♂, larva collected March 10, 1935, emerged April 8, 1935. Types in collection of the U. S. N. M.

Tipula (*Lunatipula*) *tingi* is named in honor of the collector, Mr. P. C. Ting. The species is allied to several others in the western United States, apparently being closest to *T. (L.) lygropis* Alexander, of Santa Cruz Island. The structure of the male hypopygium is distinctive.

***Limonia* (*Limonia*) *pemetica* n. sp.**

Allied to *simulans*; general coloration gray, the praescutum with three conspicuous, dark brown stripes; femora obscure yellow, the tips blackened, preceded by a clearer yellow ring; wings subhyaline, spotted and dotted with brown, including a series of about seven spots along vein *Cu*; a single dark area involving the tip of *Sc* and origin of *Rs*; *Sc* short, *Sc*₁ ending about opposite one-fifth the length of *Rs*; *m-cu* a short distance before fork of *M*; male hypopygium with the rostral spines blackened, conspicuous, widely separated; just caudad of the rostral prolongation on face of ventral style a small

blackened lobe covered with appressed spines; mesal apical lobe of gonapophysis long and slender.

Male.—Length about 7 mm.; wing 8 mm.

Rostrum light brown; palpi darker. Antennae brown, the flagellar incisures a little paler. Head gray.

Pronotum brown, pruinose. Mesonotal praescutum gray pruinose, with three conspicuous dark brown stripes, the median one becoming obsolete before suture; scutal lobes darkened, the median area gray; posterior sclerites of notum brownish testaceous. Pleura pale, the surface gray pruinose. Halteres pale, the knobs dark brown. Legs with the coxae and trochanters pale; femora obscure yellow, the tips blackened, preceded by a clearer yellow ring; tibiae obscure yellow, the tips narrowly and weakly darkened; tarsi pale brown, the outer segments darker. Wings relatively narrow, subhyaline, spotted and dotted with brown, including a series of four costal areas, the third involving both the fork of *Sc* and the origin of *Rs*; stigmal area confluent with a cloud at fork of *Rs*; a series of about seven spots along vein *Cu*; cord and outer end of cell *1st M*₂ narrowly seamed with brown; abundant brown dots in cells of wing; veins pale brown, darker in the clouded areas. Venation: *Sc* relatively short, *Sc*₁ ending about opposite one-fifth the length of *Rs*, *Sc*₂ beyond this origin; a supernumerary crossvein in cell *Sc* at near two-thirds the length; *m-cu* a short distance before fork of *M*; cell *1st M*₂ about as long as vein *M*₁₊₂ beyond it, its inner end arcuated.

Abdominal tergites dark brown, the basal sternites more yellowish; hypopygium pale. Male hypopygium with the caudal margin of tergite emarginate, the lateral lobes broadly obtuse. Basistyle with ventromesal lobe rounded. Ventral dististyle larger than the basistyle, the rostral prolongation relatively slender, with two black spines that are widely separated, the outer shortly before tip of prolongation, the inner oblique, subbasal in position; on face of style, caudad of base of prolongation, with a small curved darkened lobe covered with microscopic appressed spines; vestiture of mesal face of style consisting of abundant delicate setae. Dorsal dististyle a gently curved pale rod, the tip subobtuse. Gonapophyses with mesal-apical lobe long and slender, gently curved.

Habitat: Maine.

Holotype: ♂, Hunter's Beach, Mount Desert, September 24, 1935 (*Brower*).

Limonia (*Limonia*) *pemetica* is generally similar to *L.* (*L.*) *simulans* (Walker), yet very different in the structure of the male hypopygium. It may well have been confused in collections with *simulans*. It is similarly related to the Rocky Mountain *L.* (*L.*) *nelliana* (Alexander), which has *Sc* even shorter, *Sc*₁ ending opposite the origin of *Rs*. The specific name, *pemetica*, is derived from the Indian name of Mount Desert Island.

***Pedicia* (*Pedicia*) *procteriana* n. sp.**

General coloration gray, the praescutum with four brown stripes, the intermediate pair darker than the laterals; halteres pale throughout; femora brown, the tips somewhat darker; wings yellowish subhyaline, with the usual dark pattern of the subgenus; dark seam along vein *Cu* variable, in the type reaching wing-margin, in the paratype ending at level of cord; two isolated brown spots beyond cord at outer end of cell *1st M*₂; cord very oblique; cell *M*₁ short, subequal to its petiole; cell *1st M*₂ relatively long, its length about twice the maximum breadth; cell *M*₄ deep, its length nearly three times the width at base; abdominal tergites gray, with a conspicuous, darker gray area that is narrowly margined with brown, these areas only moderately narrowed behind; male hypopygium with ventromesal lobe of basistyle relatively short; ninth tergite without modified groups of setae on basal-lateral portions of dorsal face; lobe of mesal face of basistyle fringed with long setae.

Male.—Length about 24 mm.; wing 22 mm.

Rostrum dark, pruinose; palpi black. Antennae with the scape and pedicel black; flagellum broken. Head light gray; vertical tubercle small but distinct.

Mesonotal praescutum gray, with four brown stripes, the intermediate pair separated by a capillary ground vitta, darker than the laterals; scutum gray, each lobe with two dark areas; median region of the transverse suture darker brown; scutellum more reddish gray; mediotergite gray, the posterior half more reddish. Pleura pale, sparsely pruinose; dorsopleural region dark brown. Halteres pale throughout. Legs with the coxae light gray; trochanters brown; femora brown, the tips somewhat darker; tibiae brown, the bases narrowly, the tips more broadly, blackened; tarsi black. Wings yellowish subhyaline, with the usual pattern of the subgenus; costal border pale, especially the basal half of costal cell; dark seam along vein *Cu* reaching margin as a narrow seam along distal

section of Cu_1 ; two isolated dark spots beyond the seam at cord, one at m , the other at fork of M_{3+4} ; veins brownish yellow, darker in the clouded areas. Trichia of veins of moderate length. In the paratype, the dark seam along Cu ends opposite $m-cu$ or nearly so. Venation: Cord very oblique; cell M_1 short, subequal to its petiole; cell 1st M_2 relatively long, its length about twice the maximum breadth; cell M_4 deep, its length nearly three times the width at base.

Abdominal tergites light gray, each segment with a conspicuous, darker gray, brown margined area, narrowed behind, the width at apex about one-half the greatest diameter of the area; incisures narrowly pale; sternites gray laterally, with a nearly continuous median brown stripe; hypopygium dark. Male hypopygium having ninth tergite without modified brushes of setae on basal-lateral portions of dorsal surface, as in *contermina*; median area of tergite produced into a depressed lobe, the caudal margin gently emarginate, subtended on either side by a flattened plate, the apex truncate. Basistyle with ventro-mesal lobe of moderate length, when viewed from beneath not extending caudad beyond the level of the dististyles, broad-based, stout, the apex with abundant spinous setae; viewed from above, the apex of this lobe is visible opposite the inner arm of dististyle; outer apical region of basistyle with a brush of long, dark-colored setae. Interbasal rod relatively small, with a broader flattened lobe immediately caudad, the apex of latter fringed with long pale setae. Dististyle trifid, the outer blade more expanded, more or less cultriform; central lobe more slender, pointed at apex and without blackened spines, as in *contermina*; innermost lobe very low and obtuse, densely set with short blackened spines.

Habitat: Ontario, Maine.

Holotype: ♂, Corfield, Mount Desert, Maine, July, 1937 (*Procter*).

Paratype, a broken specimen, probably a female, Horning's Mills, Ontario, June 12, 1928 (*F. P. Ide*). It is presumed that the adult of the holotype flew from one of the rocky mountain streams above Corfield, as perhaps Duck Brook.

I take unusual pleasure in naming this striking crane-fly in honor of my friend, Dr. William Procter, whose recently published list of the insects of Mount Desert must long remain our chief source of information concerning this fascinating region. The species is most similar to *Pedicia* (*Pedicia*) *contermina* Walker, yet is amply

distinct. The reduced ventro-mesal lobe of the basistyle of the male hypopygium is more as in *P. (P.) albivitta* Walker, which in other regards is entirely different. In *contermina*, besides the characters above mentioned, the median lobe of the tergite is shorter and broader, with the margin more deeply emarginate, the subtending plates reduced. Ventro-mesal lobe of basistyle very large and greatly produced, extending caudad beyond the level of the dististyle in both dorsal and ventral views, the mesal edge with a brush of blackened setae, additional to more normal yellow ones. Body of basistyle short and stout, with a rounded lobe on dorsal-mesal aspect; mesal lobe caudad of interbase more flattened, not conspicuously tufted with setae.

Rhabdomastix (Sacandaga) hansonii n. sp.

General coloration of thorax almost uniformly dark brown, sparsely pruinose; halteres pale yellow; legs brownish yellow; wings subhyaline, sparsely patterned with brown, including the stigma and seams on anterior cord and along vein *Cu*; prearcular field more whitened; numerous macrotrichia on veins beyond cord; *Sc* relatively short, *Sc*₁ ending shortly beyond midlength of *Rs*; *R*₃ slightly oblique; abdomen black.

Female.—Length about 8 mm.; wing 6.5 mm.

Rostrum dark brown, pruinose; palpi black. Antennae with the scape and pedicel brown, flagellum obscure yellow; flagellar segments with long verticils, the longest ones secund. Head brownish gray.

Mesonotum almost uniformly dark brown, the surface sparsely dusted with gray, thinner on median region of praescutum, leaving the surface subnitidous; anterior lateral pretergites pale yellow; pseudosutural foveae dark; median area of scutum a little paler. Pleura dark brownish gray. Halteres pale yellow. Legs with the coxae pale, sparsely pruinose; trochanters yellow; remainder of legs pale brownish yellow. Wings subhyaline, sparsely patterned with brown, including the stigma and seams on anterior cord and along vein *Cu*; prearcular field more whitish; veins brown. Macrotrichia abundant on veins beyond cord. Venation: *Sc* relatively short, *Sc*₁ ending just beyond midlength of *Rs*, *Sc*₂ close to its tip, about opposite midlength; *R*₃ slightly oblique, about equal to the distance on costa between tips of veins *R*₁₊₂ and *R*₃; *R*₄ longer than *R*₂₊₃₊₄; cell *1st M*₂ small.

Abdomen black, including the genital shield and valves of ovipositor.

Habitat: Massachusetts.

Holotype: ♀, Paradise Trail, Mount Toby, Franklin Co., altitude 600 feet, July 19, 1938 (*Hanson*).

Rhabdomastix (Sacandaga) hansonii is named in honor of the collector, Mr. John Francis Hanson, student of the Plecoptera. The species is very different from all those previously described from northeastern North America, especially in the body coloration and sparsely patterned wings. It is closest to *R. (S.) subfasciger* Alexander, of Alberta, differing in details of coloration and venation, as the shorter *Sc* and more oblique *R*₃.

***Ormosia broweri* n. sp.**

Related to *arcuata*, differing especially in the structure of the male hypopygium.

Male.—Length about 5.2–5.5 mm.; wing 6–6.5 mm.

General coloration of body gray pruinose. Antennae black throughout. Legs dark brown. Wings with a strong brown suffusion, cell *C* and the stigma darker brown. Venation: Veins *R*₃ and *R*₄ slightly upturned at tips; vein *2nd A* strongly sinuous.

Male hypopygium with the lateral apophyses of the phallosome entirely different from *arcuata*, appearing as relatively straight, broad-based rods, the distal fourth narrowed and deflected laterad into acute points. In *arcuata*, these horns subtend the central plates of the phallosome, each appearing as a slender spine, strongly arcuated at midlength, the long straight apical point directed caudad and slightly mesad. The paratypes differ very slightly in having the lateral apophyses appearing as straight, long-triangular points that are gradually narrowed to the acute tips.

Habitat: Maine.

Holotype: ♂, Mount Desert, near Entomological Laboratory, May 15, 1935 (*Brower*). *Paratypes*, 3 ♂♂, April 28, 1936; May 16, 1937.

I take great pleasure in naming this interesting *Ormosia* in honor of Dr. A. E. Brower, whose intensive efforts have added vastly to our knowledge of the insect fauna of Mount Desert.