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THE CRANE-FLIES OF NEW YORK: FOURTH SUPPLEMENTARY LIST.

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The third supplementary list of the crane-flies of New York was published in 1929 (Bulletin Brooklyn Ent. Soc., 24: 22–29). Since that date, a number of additional species have been added to the record. I wish here to list these species, to describe two novelties that are based partly on New York records, and to give a brief account of the Tipulid fauna of the Taconic State Park.

The additions to the list of New York crane-flies are as follows:

307 *Tipula mainensis* Alexander (Proc. Acad. Nat. Sci. Philadelphia, 1915: 475–476; 1915).
Hamilton County: Blue Mountain Lake, August 6, 1929 (G. C. Crampton).

308 *Limonia* (*Dicranomyia*) *iowensis* (Rogers) (Florida Entomologist, 9: 150–152; 1926).
Erie County: Hamburg, October 16, 1910 (M. C. Van Duzee).
Columbia County: Taconic State Park, dead in spider's webs, August, 1929 (C. P. Alexander).
Orange County: Tuxedo Park, August 27–28, 1928 (Curran and Edwards).

309 **Limonia (Dicranomyia) pudicoides** sp. n.
Hamilton County: Lake Piseco, altitude 1700 feet, September 2, 1929 (C. P. Alexander).

310 *Limonia* (*Geranomyia*) *distincta* Doane.
Fulton County: In a sphagnum bog, near Canada Lake, altitude 1700 feet, June 25, 1928 (C. P. Alexander).

311 **Pedicia margarita** sp. n.
Columbia County: Taconic State Park, August 12, 1929 (C. P. Alexander).

312 *Adelphomyia pleuralis* Dietz (Trans. American Ent. Soc., 47: 251–252; 1921).
Orange County: Tuxedo Park, June 30, 1928 (C. H. Curran).

313 *Dactylolabis supernumeraria* Alexander (Ent. News, 40: 46; 1929).
Essex County: Wilmington Notch, June 13, 1927 (C. P. Alexander).

314 *Limnophila* (*Dicranophragma*) *angustula* Alexander (Bull. Brooklyn Ent. Soc., 24: 190–191; 1929).
Columbia County: Taconic State Park, August 12, 1929 (C. P. Alexander).
Cortland County: Cincinnatus, July 20, 1916 (C. P. Alexander).
Fulton County: Woodworth's Lake, July 7, 1916 (C. P. Alexander).
Tompkins County: Ithaca, August 12, 1910 (C. P. Alexander).

315 *Limnophila* (*Ephelia*) *sabrina* Alexander (Bull. Brooklyn Ent. Soc., 24: 189–190; 1929).
Essex County: Keene Valley, May 26, 1920 (H. Notman).

316 *Limnophila* (*Prionolabis*) *walleyi* Alexander (Bull. Brooklyn Ent. Soc., 24: 187–188; 1929).
Rensselaer County: Brookview, June 15, 1923 (C. P. Alexander).

317 *Erioptera* (*Erioptera*) *viridula* Alexander. (Can. Ent., 41: 20; 1929).
Fulton County: Masten's Woods, Gloversville, altitude 900 feet, June 27, 1928 (C. P. Alexander).
Hamilton County: Ox-bow Lake, altitude 1700 feet, June 25, 1928 (C. P. Alexander).

318 *Molophilus laricicola* Alexander (Journ. New York Ent. Soc., 37: 55–56; 1929).
Fulton County: In a sphagnum bog, near Canada Lake, altitude 1700 feet, June 25, 1928 (C. P. Alexander).

Crane-flies taken at the Taconic State Park, Columbia County.

The Taconic Mountains undoubtedly support a very rich and varied crane-fly fauna. On September 12, 1928, Dr. Crampton, Mrs. Alexander and myself spent part of the day at the Park and at the beautiful Bashbish Falls just over the line in Massachusetts. At this time we decided to spend a longer period at the Park in 1929, a plan that was consummated in August, when Mrs. Alexander and I camped at the Park from August 9 to 24. The unprecedented droughts had made the entire country unnaturally dry and the number of crane-fly species was undoubtedly much reduced. I have included all records of species available and have added a few supplementary records of species secured by

Dr. Crampton on a two-day trip to the Park on May 25th and 26th, 1929.

The Bashbish stream is a densely shaded, rushing torrent of considerable size, plunging over tumbled rocks and boulders. The dominant forest cover is hemlock and yellow birch, with much mountain maple and striped maple. The steep mountain sides are densely covered with yew, from which many of the species listed were swept. The stream flows between Cedar and Bashbish Mountains, between altitudes of 700 and 900 feet. Most of the crane-flies recorded were swept from the steep springy slopes of Bashbish Mountain, at or close to the footpath to the Falls.

Tipula (*Cinctotipula*) *algonquin* Alexander. Aug. 9; a few on lower slopes of mountains.
Tipula bella Loew. Aug. 17, along stream.
Tipula cincticornis Doane. Sunset Rock, altitude 1200–1600 feet, Aug. 15.
Tipula fragilis Loew. Sept. 12, 1928.
Tipula hermannia Alexander. Common, August 10–20; Sunset Rock, altitude 1000 feet, Aug. 15.
Tipula hebes Loew. Common, August 12; Sunset Rock, altitude 1000 feet, Aug. 15.
Tipula trivittata Say. Aug. 13.
Tipula umbrosa Loew. Aug. 12.
Nephrotoma brevioricornis Doane. Aug. 13.
Nephrotoma ferruginea Fabricius. August 10–20.
Nephrotoma incurva Loew. Aug. 15.
Oropeza albipes Johnson. In crannies of cliffs, Aug. 9–20.
Oropeza obscura polita Johnson. In crannies, August 10–20.
Limonia (*Limonia*) *cinctipes* (Say). Aug. 12.
Limonia (*Limonia*) *globithorax* (Osten Sacken). May 25–26, 1929.
Limonia (*Limonia*) *pubipennis* (Osten Sacken). Aug. 12–20; Sept. 12, 1928.
Limonia (*Limonia*) *simulans* (Walker). Aug. 14.
Limonia (*Limonia*) *solitaria* (Osten Sacken). Aug. 10.
Limonia (*Discobola*) *argus* (Say). Sunset Rock, altitude 1000 feet, Aug. 15.
Limonia (*Rhipidia*) *maculata* (Meigen). Aug. 17.
Limonia (*Dicranomyia*) *humidicola* (Osten Sacken). (*badia* of authors, not Walker). Aug. 15–20; Sept. 12, 1928.

Limonia (*Dicranomyia*) *iowensis* (Rogers). Dead in spiders webs, Aug.
Limonia (*Dicranomyia*) *spinigera* Alexander. Sept. 12, 1928.
Limonia (*Geranomyia*) *diversa* (Osten Sacken). Aug. 12; Sept. 12, 1928.
Helius flavipes (Macquart). Aug. 9–12.
Dicranoptycha septentrionalis Alexander. Sunset Rock, altitude 1500 feet, Aug. 15.
Pedicia margarita sp. n. Aug. 12; the conditions under which this beautiful new species were taken have been discussed under its description.
Tricyphona auripennis (Osten Sacken). May 25; one male, resting on wet face of cliff (Crampton); the left wing of this specimen has cell M_2 open by the atrophy of *m*, the right wing being normal.
Tricyphona inconstans (Osten Sacken). Aug. 20.
Amalopina flaveola (Osten Sacken). Aug. 10–15.
Rhaphidolabis cayuga Alexander. May 25–26, 1929 (Crampton).
Rhaphidolabis rubescens Alexander. September 12, 1928.
Rhaphidolabis tenuipes Osten Sacken. Very abundant along streams, Aug. 9–20; Sept. 12, 1928.
Adelphomyia americana Alexander. Sept. 12, 1928.
Ula elegans Osten Sacken. Sunset Rock, altitude 1500 feet, Aug. 15; May 25–26, 1929 (Crampton).
Ula paupera Osten Sacken. Aug. 9–12.
Pseudolimnophila contempta (Osten Sacken). Aug. 10.
Limnophila (*Dicranophragma*) *angustula* Osten Sacken. Aug. 12.
Limnophila (*Limnophila*) *brevifurca* Osten Sacken. May 25–26.
Pilaria tenuipes (Say). Aug. 13.
Penthoptera albitarsis Osten Sacken. Common, Aug. 13–20.
Eriocera brachycera Osten Sacken. Along stream, both sexes, Aug. 17.
Eriocera spinosa Osten Sacken. Aug. 12.
Elephantomyia westwoodi Osten Sacken. Alander Mt., altitude 1000 feet, Aug. 16.
Cladura flavoferruginea Osten Sacken. Aug.; dead in spider's webs.
Lipsothrix sylvia (Alexander). May 25–26, 1929 (Crampton).

Gonomyia (*Gonomyia*) *bidentata* Alexander. Aug. 12.
Gonomyia (*Gonomyia*) *subcinerea* (Osten Sacken). May 25–26, 1929.
Erioptera (*Hoplolabis*) *armata* Osten Sacken. Aug. 14–16.
Erioptera (*Mesocyphona*) *caloptera* (Say). Aug. 20.
Erioptera (*Ilisia*) *venusta* Osten Sacken. Aug.; dead in spider's webs.
Erioptera (*Erioptera*) *septemtrionis* Osten Sacken. Aug. 9–20.
Erioptera (*Empeda*) *stigmatica* (Osten Sacken). Aug. 9–15; May 25–26.
Ormosia bilineata Dietz. May 25–26, 1929.
Ormosia meigenii (Osten Sacken). May 25–26, 1929.
Ormosia monticola (Osten Sacken). Aug. 12–20.
Ormosia nimbipennis Alexander. Aug. 9–20; Sept. 12, 1928.
Ormosia notmani Alexander. May 25–26, 1929.
Ormosia rubella (Osten Sacken). Sunset Rock, altitude 1000 feet, Aug. 15.
Molophilus hirtipennis (Osten Sacken). Aug. 17.
Molophilus pubipennis (Osten Sacken). Aug. 9–15.
Molophilus quadrispinosus Alexander. May 25, 1929 (Crampton).

Limonia (Dicranomyia) pudicoides sp. n.

General coloration pale yellow, including the scapal segments of antennae; wings pale yellow, the stigma lacking; male hypopygium with the rostral prolongation of the ventral dististyle a short blunt lobe that is entirely pale, shorter than the rostral spines.

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

Rostrum pale, the palpi only a little darker. Antennae with the scape obscure brownish yellow, the flagellum a little darker. Head yellow, the anterior vertex narrow, more or less infuscated.

Thorax uniform reddish yellow, the pleura slightly clearer yellow. Halteres pale. Legs yellow, the outer segments only slightly darkened. Wings pale yellow, without stigma; veins darker yellow. Venation: Sc_1 ending opposite the origin of *Rs*, Sc_2 obsolete; cell *1st* M_2 closed; *m* and the basal deflection of M_3 pale, without macrotrichia.

Abdominal tergites brownish yellow, the hypopygium and sternites clearer yellow. Male hypopygium with the rostral prolongation of the ventral dististyle very short and blunt,

entirely pale, bearing two relatively long spines that are placed close together at the summit of the prolongation; rostral spines exceeding the prolongation in length. Dorsal dististyle very strongly curved, the extreme apex a small hook. Gonapophyses with the mesal apical angle produced into a slender rod, terminating in an acute point, separated from the main body of the apophysis by a deep and narrow U-shaped notch.

Habitat: Eastern North America.

Holotype, ♂, Allardt, Fentress Co., Tennessee, altitude 1650 feet, August 9, 1924 (J. S. Rogers); Coll. No. 122.

Paratopotypes, ♂ ♀, July 21—August 9, 1924; paratypes, ♂, Clear Fork, near Burrville, Morgan Co., Tennessee, altitude 1200 feet, June 19, 1924 (J. S. Rogers); Coll. No. 5; 1 ♂, Lake Piseco, Hamilton Co., New York, altitude 1700 feet, September 2, 1929 (C. P. Alexander); 1 ♂, Lepreau Harbor, New Brunswick, September 21, 1929 (Donald Galbraith). Type returned to Professor Rogers.

This new species bears a conspicuous superficial resemblance to the species that has been passing in collections as *L. (L.) pudica* (Osten Sacken), differing very conspicuously in the details of structure of the male hypopygium.

Pedicia margarita sp. n.

Related to *albivitta* Walker; size small; dark markings on the wing narrow, the seam along vein *Cu* ending at near midlength of the distal section of Cu_1.

Male.—Length about 20–22 mm.; wing, 20–22 mm.

Female.—Length about 24 mm.; wing, 21.5–22 mm.

Rostrum gray; palpi black. Antennae 16-segmented, brown throughout; flagellar segments gradually decreasing in size outwardly; verticils longer than the segments, unilaterally arranged. Head gray, the vertical tubercle small.

Mesonotal praescutum gray, with four very pale reddish brown stripes, the intermediate pair more confluent behind; a dusky point immediately behind the transverse suture; scutum similar, the lobes with scarcely indicated reddish brown areas; scutellum pale yellow; postnotum gray with two contiguous oval reddish brown areas that occupy the posterior third. Pleura gray, the dorso-pleural region narrowly dark brown. Halteres pale, the knobs dusky. Legs with the coxae light gray, the outer ends and trochanters more or less infuscated; femora yellow, the tips conspicuously blackened, the amount subequal on all the legs; tibiae obscure yellow, the bases very narrowly, the tips more broadly blackened; tarsi passing into brown. Wings relatively narrow, whitish subhyaline, with the usual dark pattern of the genus; costal margin brownish yellow, much paler than the remainder of the dark pattern; seams along *Cu* and the cord unusually narrow, the former ending at about midlength of the distal section of Cu_1, not attaining the wing-margin.

Abdominal tergites gray, paler gray laterally, darker brownish gray medially, the segments variegated with light orange castaneous near posterior margin; median dark stripe narrowed outwardly, becoming blackened and obsolete on tergite seven; sternites chiefly orange, gray laterally, the outer segments becoming more pruinose. Male hypopygium with the dististyle elongate, a little dilated at outer end, at the widest portion with a small group of black setae on inner face. Basistyle produced dorsad into a flattened black blade, the apex truncate.

Habitat: Northeastern North America.

Holotype, ♂, Orient Springs, Hampshire Co., Massachusetts, altitude 375 feet, July 29, 1929 (C. P. Alexander).

Allotopotype, ♀.

Paratopotypes, 2 ♂ ♂; additional material in the British Museum, collected in early August, 1928, by Edwards and Rogers; paratypes, 1 ♂, Bashbish Falls, Berkshire Co., Massachusetts, altitude about 900 feet, August 20, 1929 (M. M. Alexander); 1 ♂, Taconic Park, Columbia Co., New York, altitude about 750 feet, August 12, 1929 (C. P. Alexander). Type in the author's collection.

Pedicia margarita is named in honor of my wife, who collected one of the type specimens. The species is quite distinct from *albivitta,* being smaller in both sexes, with the dark wing-pattern more restricted and with an incomplete darkened spur along vein *Cu* that does not reach the wing-margin. The details of structure of the male hypopygium are similarly distinct. The three species of *Pedicia* inhabiting Northeastern North America may be separated by means of the following key, based on the pattern of the wing:

1. Dark seam along vein *Cu* not extending distad beyond the approximate level of the cord.....*contermina* Walker
   Dark seam along vein *Cu* extended distad onto the outer section of vein Cu_1.....2

2. Dark seams along *Cu* and the cord broad, the former extending the entire length of the vein, attaining the wing-margin. *albivitta* Walker

Dark seams along *Cu* and the cord narrow, the former ending at about midlength of the outer section of vein Cu_1, not attaining the wing-margin.....**margarita** sp. n.

The material upon which this species is based was first recognized as being an undescribed species by Mr. Fred W. Edwards, of the British Museum of Natural History, who collected specimens at the Orient Springs, in company with Professor J. Speed Rogers and the author. Mr. Edwards suspicions at the time that this smaller, more delicate *Pedicia* was a distinct species from *albivitta* were confirmed upon comparison with the type-specimen of the latter in the British Museum. At the Orient Springs, the types of *margarita* occurred on a springy hillside, shaded by hemlock and yellow birch. This particular restricted station supports all three of the regional species of *Pedicia, contermina* being the earliest, flying in May and June. In July and August, *albivitta* and the present species are on the wing, sometimes being found flying together. On July 29, 1929, I made a special trip to this station in order to secure further material of *margarita* and hard collecting during the entire afternoon produced four individuals of the new species but no *albivitta.* At Taconic Park, along the Bashbish stream, the additional specimens of *margarita* here recorded were found under conditions that were very like those obtaining at Orient Springs, the stream being shaded chiefly by hemlock and yellow birch and fed by abundant springs from the adjoining mountain side. The specimen taken by Mrs. Alexander was at the great pool at the foot of Bashbish Falls, the specimen being observed to fly lazily across the pool from a nearby wet cliff.