The first addition to the general list of the Tipuloidea of New York State was published in this Bulletin (Vol. 17: 58–62, 1922). The following additions and corrections are the result of collections made chiefly in 1923, by Drs. Crampton and Leonard and the writer.

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

278 *Antocha opalizans* Osten Sacken. This species has long been considered as being a synonym of *A. saxicola* Osten Sacken, and was so held in the general list of 1919. There is no doubt, however, that the two species are entirely valid. The following records certainly pertain to true *opalizans*:

- Essex County: Keene Valley, August 13, 1920 (Howard Notman).

279 *Molophilus cramptoni* sp. n.

- Rensselaer County: Brookview, June 20–30, 1923 (C. P. Alexander).

280 *Molophilus quadrispinosus* sp. n.

- Tompkins County: Needham’s Glen, Ithaca, June 4, 1921 (C. P. Alexander).

(183) *Rhaphidolabis (Plectromyia) confusa* sp. n. This species was recorded as being *R. (P.) modesta* Osten Sacken in the general list of 1919. The latter is known only from the White Mts., N. H.
Albany County: Helderbergs, June 5, 1923 (C. P. Alexander).

Erie County: Holland, May 21 (M. C. VanDuzee).


281 Rhaphidolabis (Rhaphidolabis) forceps sp. n.

Albany County: Helderbergs, June 5, 1923 (C. P. Alexander).

Rensselaer County: Brookview, June 16, 1923 (C. P. Alexander).

282 Tipula centralis Loew.

Albany County: Helderbergs, June 18, 1923 (C. P. Alexander).

Essex County: Mt. McIntyre, at less than 4,000 feet, July 1, 1923 (M. D. Leonard).

Before describing the four new species mentioned above, the writer would like to discuss briefly two of the most interesting localities for Tipulidae in Eastern New York.

The Helderberg Mountains, Albany County.

The magnificent escarpment known as the Helderbergs is largely included within the 350 acres of the John Boyd Thacher State Park, the superintendent of which is the Entomologist, Mr. John H. Cook. This long and narrow park contains most of the cliffs of the Helderbergs, including the Indian Ladder. The park is easily reached by automobile from Albany, via the state road through Altamont. By train, one may take the D., and H. line from Albany to Rensselaer, whence a two mile walk and climb leads to the Indian Ladder. In the general list of 1919 several Helderberg records were included. During the season of 1923 the writer was twice able to visit this splendid collecting ground, the first time on June 5th, in company with Dr. G. C. Crampton, the second on June 18-19, when the writer climbed the cliffs and spent the night in the large cave near the Ladder. The results of these two trips may be briefly summarized:

On the 5th: Dicranomyia badia; D. pudica; D. liberta, one being the prey of an Empid; Geranomyia rostrata; Limonia cinctipes; Antocha opalizans; Erioptera (Empeda) Stigmatica; Molophilus hirtipennis; Gononmyia subcinerea; Epiphraegma fuscipennis; Dactylolabis montana, abundant on the cliffs; Limnophila subcostata, one the prey of an Empid; L. (Prionolabis) rufisbasis; L. areolata; Pilaria quadrata; Adelphomyia minuta; Tricypha inconstans; Rhaphidolabina flavicola; Rhaphidolabis (Plectromyia) confusa sp. n.; R. (R.) forceps sp. n.; Tipula trivittata; T. marginata: This rare species was hitherto known only from the unique type & taken in Tompkins County in June. A few of both sexes were found in the piney woods at the foot of the trail leading to the top of the cliffs, the first observed specimen being noted walking across the road by Dr. Crampton. All specimens taken, representing both sexes, were observed fluttering along, only a few inches above the ground. On the 18th, careful search was made for them but they had quite disappeared; T. submaculata; T. iroquios; T. angustipennis; T. senega; T. sera; T. tephrocephala; T. cayuga; Nephrotoma incurva.

By the 18th, the character of the Tipulid fauna of the Park had changed materially, as shown by the following list of captures: Dicranomyia badia; D. pudica; D. simulans; Limonia cinctipes; L. indicata; Helius flavipes; Molophilus pubipennis; M. hirtipennis; M. urusinus; Ornasia revoluta; Gononmyia subcinerea; Tricypha inconstans; Pedicia albicilla; Rhaphidolabina flavicola; Dolichopera americana; Oropeza venosa; Tipula abdominialis (larvae); T. oropezoides; T. cayuga; T. harrimania; T. centralis, the first record of this Northern fly for the State; T. senega; T. macrolabis; T. sera; T. trivittata; T. valida; T. fuliginosa, and T. submaculata.

Becker's Woods, Brookview, Rensselaer County.

This interesting bit of woodland lies along the Moordenerkill, a stream of moderate size that eventually finds its way into the Hudson a few miles below Albany. The ends of the woods are high and dry but midlength of the area lies a triangular portion that is swampy, traversed by several small, clear trout streams. This latter portion of the woods was found to be especially rich in Tipulidae. In June it is covered with great numbers of skunk cabbage, seedlings of Impatiens, and, in fewer numbers, golden ragwort. Towards the uplands, considerable yew enters in and on the higher and dryer portions becomes dominant, though skunk cabbage is found scattered about almost throughout the woods. By the end of June the Impatiens has virtually overtopped the skunk cabbage.

The forest cover of this swampy area includes the dominant hemlock and yellow birch, and in fewer numbers, white pine, but-
ternut, basswood, red and sugar maples and white ash. Among
the shrubs and low trees, yew, as described above, is dominant,
with lesser numbers of blue-beech, witch hazel and spice-bush en-
tering in. The ground-cover, besides the dominant skunk cub-
cage and Impatiens, includes an abundance of Chrysosplenium in
the hollows, sensitive and cinnamon ferns, the latter on dryer
spots, and as lianas, poison ivy and woodbine. The Tipuloidae
occurred in great abundance in this swampy portion, being espe-
cially abundant in the tension zone where the skunk cabbage is
replaced by yew. The crane-flies noted in this area of Becker's
woods, June 7–21, 1923, are as follows:

Dicranomyia immodesta; D. pubipennis; D. liberta; Limonia
solitaria; Antocha opalisans; Erioptera venusta, dominant; E.
caloptera; E. stagnatica; E. septentrionis; E. megaphthalma;
Gonomyia florens; G. cognatella; G. blanda; G. subcinerea; Molop-
philus pubipennis; M. cramptoni sp. n.; M. ursinus; Ornasia
pygmaea; O. nigripila; Epiphragma fasicennisi; Limnophila al-
eni: Only a few scattered indi
ciduals of this magnificent fly,
taken on the 7th, 9th and 21st.

On the edges of the woods, where the Moordenerkill flows
along it, occurred: Dicranomyia simulans; Gonomyia mathesoni;
Cryptolabis parodoxa; Eriocera spinosa; Opepeza albipes.

On June 11th, in the higher and dryer parts of the woods, the
following additional species occurred: Limonia triocellata; L. in-
digena; Gonomyia manca; Erioptera armata; Ornasia deviata;
Elephantomyia westwoodi; Tipula fuliginosa; T. longiventris;
Nephrotoma polymera; N. incurva.

On August 26–30, 1922, the following crane-flies were taken
in the swampy parts of the woods: Dicranomyia gladiator; D.
pubipennis; D. liberta; D. immodesta; Rhigapia maculata; Gonomyia
sulphurella; G. florens; G. subcinerea; Gnotrophomyia trisixsina;
Molophilus pubipennis; Ornasia nigripila; O. deviata; O. notica-
cola; Erioptera venusta; E. caloptera; E. armata; Pseudolimono-
philus luteipennis; P. nigripuleura; Limnophila fuscoaria; L.
lena; Piliaria tenuipes; Adelphomyia cayuga; Pedicia albivitta;
Tricyphona inconstans; Rhiphidolabina flavoeloa; Penthoptera al-
bitaris; Eriocera spinosa; Pronocera fusciennis; Tipula bella;
T. tricolor; T. sayi; Nephrotoma ferruginea; Bittacomorpha jonesi;
Bittacomorpha clavipes.

Molophilus cramptoni sp. n.

General coloration dark brown; antennae of male mod-
erately elongate, if bent backward extending approximately
to the wing-root; male hypopygium with the basal dististyle a
powerful chitinized rod, on the mesal face before midlength
bearing a long slender spine.

Male.—Length about 3.5 mm.; wing, 4.8 mm.
Female.—Length, 4.5–5 mm.; wing, 4.8–5.4 mm.

Rostrum and palpi dark brown. Antennae of moderate
length, in the male if bent backward extending approxi-
mately to the wing-root; antennae dark brown throughout,
the elongate-oval flagellar segments with long white setae.

In the female, the antennae are shorter and would not reach
the wing-root if bent backwards. Head dark gray.

Mesonotum and pleura dark brown with a very sparse
grayish bloom; humeral region of praescutum scarcely
brightened. Halteres pale yellow, the knobs more or less in-
fuscated. Legs with the coxae and trochanters obscure
brownish yellow; remainder of legs brown, the femoral bases
obscure yellow. Wings strongly tinged with brown, the
veins and macrotrichiae still darker. Venation: Vein 2nd A
ending near midlength of the petiole of cell M.

Abdomen dark brown. Male hypopygium with the basi-
styles terminating in a blackened, slightly curved spine.
Basal dististyle a powerful, entirely chitinized rod, before
midlength on the mesal face with a long, slender spine that is
a little more than one-third the length of the apex beyond it, the latter dilated before the apex and with the margins delicately and regularly toothed, the teeth becoming smaller toward the apical spine. Outer dististyle with the mesal arm slender and extending a little beyond the broadly dilated lateral blade.

_Habitat:_ New York.
_Holotype, 6, Brookview, Rensselaer County, June 25, 1923 (C. P. Alexander).
_Alloptotype, 6, June 30, 1923.
_Paratopotypes, 2 6 6, 16 6 6, June 20–30, 1923._

This interesting crane-fly is named in honor of Dr. G. C. Crampton, to whom Dipterologists are indebted for invaluable critical studies on the morphology of the order.

**Molophilus quadrispinosus** sp. n.

_Male._—Length about 3.5 mm.; wing, 4.8 mm.

Generally similar to _M. cramptoni_ sp. n., in the elongate antennae and general coloration, differing conspicuously in the structure of the male hypopygium.

Head dark gray. Mesonotum uniformly dark grayish brown, the humeral angles obscure brownish yellow. Pleura dark brown. Legs brown, the femoral bases extensively paler. Wings with a faint brown tinge, the veins and macrotrichiae slightly darker brown. Venation: _Petiole of cell M₂ short, about one-fourth longer than the basal deflection of Cu₁; vein and A ending about opposite midlength of this petiole. Male hypopygium with each basal dististyyle a powerful, entirely chitinized black rod that terminates in a powerful, acute outer spine that is about one-half as long as the enlarged base of the style; at the base of this apical spine, a roughened, slightly smaller spine from an enlarged base, directed mesad and slightly caudad; at the base, lying in the axil between this and the outer terminal spine a shorter and more slender, straight spine, directed caudad and slightly mesad; in addition, a fourth small spine on mesal face of the stem of the style near two-thirds its length, making a total of four conspicuous spines borne by this appendage.

_Habitat:_ New York.
_Holotype, 6, Needham's Glen, Ithaca, Tompkins County, June 4, 1911 (C. P. Alexander)._
Female.—Length, 5.5–6 mm.; wing, 7–7.5 mm.
Rostrum and palpi black. Antennae black throughout. Head blackish, pruinose on orbits and in front.
Mesonotal praescutum light gray with three conspicuous blackish stripes, the lateral stripes crossing the suture and covering the scutal lobes; scutellum brownish testaceous; postnotal medietergite blackened, especially posteriorly. Pleura pruinose, the dorsal portions of the pleuro-tergite paler. Halteres pale, the knobs infuscated. Legs with the coxae infuscated basally, the tips paler; trochanters yellowish testaceous; remainder of legs dark brown, the femoral bases paler. Wings with a faint brownish tinge, the ill-defined stigma darker; veins dark brown. Venation: Rs arced, in alignment or nearly so with Rs, the basal deflection of which is very short or lacking; petirole of cell R3 subequal to r–m; outer deflection of R2 close to the tip of R1; cell M present.
Abdominal tergites dark brown, the sternites and hypopygium paler. Male hypopygium with the median lobe of the tergite very slender. Basistyle with the ventral face produced ventrad and mesad into a stout, conspicuous lobe that terminates in numerous setae; fleshy dististyle shorter than the chitinized dististyle, the latter with the slender apex obtuse. Dorsal interbase a powerful sickle-shaped hook, more oval in shape than in R. tenuipes, the apex acute; ventral interbase profoundly bifid, appearing as two slender arms that suggest a pair of ice-tongs, the tips acute, the stem of the interbase with from five to seven setae.

Holotype, ♂, Helderbergs, Albany County, New York, June 5, 1923 (C. P. Alexander).
Alloptotype, ♀.
Paratopotypes, 7 ♂ ♀; paratypes, ♂, Brookview, Rensselaer County, New York, June 16, 1923 (C. P. Alexander); 2 ♂ ♂, Crampton’s Camp, near Sunderland, Franklin County, Massachusetts, May 30, 1923 (C. P. Alexander).
The types of the new species described above are preserved in the collection of the writer.