found to be males, and did not respond satisfactorily to the electric light.

Only rarely was attraction between the sexes in this species noted, and as mentioned in a previous paper, it is very rarely that pairs in couple are seen or taken. On account of the great numbers of the insects, and their habit of flying quite high, it is very difficult to follow closely any particular individual or pair. On one occasion a male and female were confined in a tube for some time, hoping that mating would take place; the male flashed irregularly, in single flashes, and the female appeared to answer him, but although she ceased to light and became quiet whenever the male touched her or ran over her back, he appeared to pay no attention whatever to her, and no mating was observed.

Mr. Barber informs the writer that he has frequently noticed dim, fixed points of light in the woods at night, which on investigation, proved to come from the luminous organ of a small adult *Photinus* that was being devoured by an adult *Photuris*, the latter in each case appearing to be a female. In several cases where a male and female of *Photuris* were confined together to secure eggs, the male was found to have been devoured during the night. These appear to be natural habits of the insect, both of which the writer has been able to conform. Mr. Barber also states that he has been informed by Mr. Harry L. Parker, of Hagerstown, Md., who has observed the pupa of this species, that in addition to the anal lights, there is a constant light emitted from the pupal prothorax, which persists through the teneral adult stage, but disappears as the beetle hardens.

3. *Pyractomena lucifera* Melscheimer. Experiments on the evening of May 15, on the attraction of the males of this species to a flashed electric light, were entirely negative. A lamp shielded with a leaf was not used at this time, but was tried later, still with negative results.

4. *Pyractomena angulata* Say. A male of this species was captured at the writer's residence on the evening of June 13; when in flight it gave a series of short, dim flashes, not unlike those described for the pregnant or hungry female *Photuris*, but fainter and of a decidedly orange colour. (See fig. 6). No attraction to the flashed electric light was noted. A female of this species

was taken in flight in mid-day near the same locality on May 30; in fact all females of this species which the writer has taken, have been caught flying in daylight: This flash does not agree with that of the insect which the writer supposed to be a male of *P. angulata* in 1912.

5. *Photinus consanguineus* Lec. This species was observed at Plummer's Island, Md., on June 3, and along the Canal on June 17. The interval between the two flashes constituting the light-emission of the male, was found to be variable, sometimes as much as two seconds. No attraction of the male to the electric bulb could be secured.

6. *Photinus scintillans* Say. The previous observations on this species were plentifully confirmed, but no new facts brought forth.

During this season a flash was observed on two separate occasions, but in the same locality, which does not correspond with that of any known Lampyrids of this vicinity. It consisted of a series of quite rapid flashes, somewhat like that of the male of *Pyractomena lucifera*, but of a distinctly orange tone. Both observations were made long after the normal period of prevalence of the *lucifera*. It was found impossible to capture the insect at this time, and the flash was not seen again, on later visits.

NEW NEARCTIC CRANE-FLIES (TIPULIDÆ DIPTERA). PART II.

BY CHARLES P. ALEXANDER, ITHACA, N. Y.

(Continued from page 31.)

The following records also undoubtedly pertain to this species, but in the absence of the material are not included in the type series:

Fort Kent, Aroostook Co., Maine, August 19 (Johnson); White Cap Mt., Maine, August 17, 1905 (Jones); Dedham, Mass., Sept. 4, 1906 (Johnson); Brookline, Mass., Sept. 6, 1906 (Johnson); Cohasset, Mass., Oct. 1, (Bryant); Mt. Marcy, Essex Co., N. Y., July 30, 1913 (Young); Elm Lake, Hamilton Co., N. Y., August 2, 1912 (Young); Hazleton, Luzerne Co., Pa., August 20, 1909 (Dietz).

This interesting late-summer and early-autumn species is similar to *T. calcar* O. S., which, in the male sex, has the stigma of the wings almost indistinct, and the hypopygium very small and provided with short hairs; in *autumnalis* the stigma is brown and the elongate male hypopygium is densely provided with long, dark hairs. In the female sex, the reduced wings of the new species are very curious, (*autumnalis*, length of body 20 mm.; wings 9.5 mm.; *calcar*, length of body 17 mm.; wings 14 mm.), and the ovipositor has the tergal valves strong, powerful, almost straight and rather blunt at their tips; in *calcar*, the tergal valves are shorter, strongly up-curved and more pointed at their tips.

Tricyphona cervina, sp. n.

Allied to *T. septentrionalis* Bergr.; colour light fawn-yellow; antennæ brownish black throughout, the basal flagellar segments crowded, the apical ones attenuated; mesonotum with three stripes; ovipositor and hypopygium bright yellow.

Male.—Length 6 mm.; wing 7.8 mm.

Female.—Length 8 mm.; wing 8.5 mm.

Rostrum and palpi dark brown. Antennæ dark brownish black, the first segment a little grayish pruinose; first six segments of the flagellum large and closely approximated, the remaining segments elongate and attenuated (as in *T. septentrionalis*). Head brownish gray, clearer gray behind and on the genæ beneath.

Mesonotal præscutum light brown with a golden pollen, with three dark brown stripes; the middle stripe is longest, narrowed behind, broadened anteriorly, indistinctly bisected behind by a vitta of the ground-colour; lateral stripes short; scutum and postnotum grayish yellow; scutellum more yellowish. Pleura reddish brown with a sparse gray or grayish-white bloom. Halteres pale yellow, the knobs very slightly darkened. Legs with the coxæ yellow, sparsely gray pruinose on the outer face; trochanters dull yellow; femora dull yellow, passing into brown at the tips; tibiæ yellowish brown, a little darkened apically; tarsi brown. Wings nearly hyaline; stigma pale brown; veins brown. Venation: petiole of cell R_4 moderate, about equal to or shorter than cell *1st* M_2; cell *1st* M_1 pointed at inner end (as in *septentrionalis*); petiole of cell M_1 long, much longer than either cell M_1 or *1st* M_2; basal

deflection of Cu_1 at or just beyond the fork of M, about in a line with cross-vein *r-m*; cross-vein *m* rather indistinct.

Abdominal segments dark brown, the caudal and lateral margins narrowly paler, hypopygium with the pleurites bright yellow.

The female is similar to the ♂ but slightly larger, full-winged; ovipositor powerful, yellow, strongly upturned.

Habitat.—Colorado.

Holotype, ♂, Platte Cañon, Colorado, July 17, 1915, (Oslar.)

Allotype, ♀, with the type.

This little species differs from both *debilis* Will. and *vitripennis* Doane, in the considerably smaller size; it differs from *debilis* in the paler fawn colour of the body, the long petiole of cell M_1, the structure of the antennæ,and in numerous other details; from *vitripennis* in the gray head, dark antennæ, differences in the thoracic pattern and colour of the abdomen and its appendages. It differs from the more closely related *septentrionalis* Bergr. in the unmarked wings and fawn-coloured body.

Tricyphona glacialis, sp. n.

Allied to *T. debilis* Will.; colour dark brown; antennæ dark brown throughout, the flagellar segments oval to rounded-oval, not attenuated; wings with a pale brown suffusion; cell *1st* M_2 and and M_1 very long; abdomen dark brown, the basal sternites more yellowish.

Male.—Length 9.6 mm.; wing 10.6 mm.

Rostrum and palpi dark brown. Antennæ dark brown, the segments of the flagellum oval, the basal ones not crowded, the apical ones shortened, almost rounded. Head broad, black, very sparsely grayish pruinose; frontal tubercle distinct, high.

Mesonotum dark brown, very sparsely gray pruinose on the postnotum, the scutellum paler, more yellowish. Pleura dark brown, gray pruinose. Halteres very long and slender, brown, brightened at the extreme base. Legs with the coxæ brownish yellow; femora dull yellow, passing into brown on the apical third; tibiæ brownish yellow, a little brighter basally; tarsi dark brown. Wings with a pale brown tinge; stigma indistinct; veins brown. Venation: petiole of cell R_4 moderate, a little shorter than the elongated cell *1st* M_2; petiole of cell M_1 about one-third the length

of the cell and of cell *1st* M_2; cross-vein *m* connects M_{1+2} with M_3, weak and tending to atrophy; Cu_1 leaves M_3 before mid-length of the long cell *1st* M_2.

Abdomen elongated, tergites dark brown, the caudal margins of the segments narrowly paler; basal sternites more yellowish than the terminal segments; hypopygium brown.

Habitat.—Alaska.

Holotype, ♂, Sitka, Alaska; June 16, 1899 (Kincaid).

Allotype, ♀, Saldovia, Alaska; July 21, 1899 (Kincaid).

Paratypes, ♂ ♀, Yakutat, Alaska; June 21, 1899 (Kincaid); ♂, Virgin's Bay, Alaska, June 26, 1899 (Kincaid); ♂, Saldovia, Alaska, July 21, 1899 (Kincaid).

The type is in the collection of the United States National Museum; the species is based on material taken on the Harriman Expedition, and was determined by Coquillett as being *T. debilis* Will.

The species agrees with *debilis* in many respects, but the general coloration is dark brown, not yellow; the basal segments of the antennæ are not reddish and the venation is different, the cells *1st* M_2 and M_1 being greatly elongated. The abdomen and halteres are longer than is usual in this group of the genus.

GEOMETRID NOTES.

THE GENUS DYSSTROMA HÜBNER.

BY L. W. SWETT, WEST SOMERVILLE, MASS.

The genus *Dysstroma* Hüb. (Verz. p. 333, 1825) with its type *truncata* Hufn. seems to be a natural group by itself. Hulst (Trans. Am. Ent. Soc., vol. XXIII, p. 283, 1896) under *Hydriomena*, cites *truncata* Hufn. as the type of *Dysstroma*. Warren and Hampson both refer the *truncata* group to *Polyphasia* Stephens, but treat it as a separate genus (Proc. Zool. Soc., p. 373, 1893, and Ind. Moths, III, p. 378). Mr. L. B. Prout points out in Trans. London Ent. Soc., part XVIII, p. 33, 1908, that *Polyphasia* cannot hold, as Hübner's name *Dysstroma* has priority. According to Mr. Prout's and my own views, what we have been calling *truncata* in North America is really *citrata* Linné ("Fauna Suecica," ed. II, p. 332, 1761).

February, 1917