

RECORDS AND DESCRIPTIONS OF CRANE-FLIES  
FROM THE EASTERN UNITED STATES  
(TIPULIDAE, DIPTERA)<sup>1</sup>

BY CHARLES P. ALEXANDER

AMHERST, MASS.

The new species described at this time were all included in the extensive collections of crane-flies submitted to the writer for examination by Professor J. Speed Rogers, to whom all types and uniques have been returned. In his preparation of the lists of Tipulidæ for the states of Iowa, Michigan, Indiana, Tennessee, North Carolina, Georgia and Florida, Professor Rogers has discovered a large number of previously undescribed species that are being discussed in a series of papers by the writer, whose sincere thanks are extended to the collector for the privilege of examining this rich material.

DICRANOPTYCHA OSTEN SACKEN

*Dicranoptycha rogersi* new species

Size large (wing over 10 mm.); general coloration light gray; legs brownish black; wings with a strong brownish gray tinge; costal fringe long and conspicuous in both sexes; male hypopygium with the outer dististyle relatively long and narrow, the outer margin serrulate.

Male.—Length about 10 mm.; wing 11.2 mm.

Female.—Length about 11 mm.; wing 12 mm.

Rostrum dark, sparsely pruinose; palpi brownish black. Antennae with the basal segment dark, sparsely pruinose; second segment light brown; flagellar segments dark brown, decreasing in diameter outwardly, the outer segments more elongated. Head gray.

Pronotum light gray. Lateral pretergites restrictedly pale. Mesonotal praescutum clear light gray, the usual stripes pale brown, narrow and indistinct, the intermediate pair narrowly separated, not reaching the suture; pseudosutural foveae elongate, black; humeral region very restrictedly pale; scutum dark gray, the scutellum and postnotum darker. Pleura light gray,

<sup>1</sup> Contribution from the Department of Entomology, Massachusetts Agricultural College, Amherst, Mass.

indistinctly variegated with darker longitudinal markings. Halteres pale, the knobs, except at tips, weakly infuscated. Legs with the coxæ gray; trochanters obscure yellow, darker at tips; femora brownish black, the extreme bases a little paler; tibiæ and basitarsi dark brown, their tips blackened; remainder of tarsi black. Wings with a strong brownish gray tinge, the costal and stigmal regions somewhat darker; veins dark brown; macrotrichia dark, the costal fringe relatively long and conspicuous. Venation:  $Sc_1$  ending shortly beyond the fork of  $Rs$ ,  $Sc_2$  near its tip;  $Rs$  angulated and short-spurred at origin, approximately as long as or shorter than cell  $1st M_2$ ; distal section of  $R_1$  approximately as long as  $m-cu$ .

Abdomen dark brown, slightly pruinose, the hypopygium dark. Male hypopygium with the outer dististyle long and narrow, gradually tapering to the blackened tip, the outer margin of this apical spine weakly serrulate, the ventral or inner margin more nearly smooth; entire surface of style except the chitinous apex densely provided with a short erect pubescence. Aedeagus large.

#### Habitat.—Florida.

Holotype, ♂, Marion Co., April 13, 1926 (J. S. Rogers); Coll. No. 5. Allotopotype, ♀. Paratopotypes, 5 ♀♀.

*Dicranoptycha rogersi* is named in honor of my friend, Professor J. Speed Rogers, who has done invaluable work in determining the exact seasonal and geographical range of the North American Tipulidæ. The species is very distinct from the other ten species in Eastern North America.

#### PSEUDOLIMNOPHILA ALEXANDER

##### *Pseudolimnophila australina* new species

Size small (wing, ♂, 4.5–5.5 mm.); mesonotal praescutum gray with four conspicuous brown stripes; pleura entirely dark colored, heavily pruinose; wings with a strong grayish tinge, the stigma darker; cell  $M_1$  present.

Male.—Length 4–4.5 mm.; wing 4.5–5.5 mm.

Female.—Length about 6 mm.; wing 6–6.2 mm.

Rostrum and palpi black. Antennæ black, moderately elongated; flagellar segments (♂) gradually decreasing in diameter outwardly, elongate-oval to elongate-cylindrical, with conspicuous verticils; antennæ (♀) shorter. Head gray.

Mesonotal praescutum gray with four conspicuous brown stripes, the intermediate pair not reaching the suture; pseudosutural foveae shiny black; scutum brownish gray, the centers of the lobes darker; postnotum dark gray. Pleura uniformly darkened, gray pruinose. Halteres pale, the knobs dark brown. Legs with the coxæ yellowish testaceous, their bases

infuscated; trochanters obscure yellow; femora obscure yellow, soon passing through brown or dark brown to brownish black; tibiæ and tarsi brown to brownish black. Wings with a strong grayish tinge, the oval stigma slightly darker brown; veins still darker brown. Venation:  $Sc_1$  ending just before  $r-m$ ,  $Sc_2$  at its tip;  $Rs$  nearly straight to gently arcuated at origin;  $r$  about one and one-half times its length beyond the fork of  $R_{2+3}$ ;  $m-cu$  at about one-third its length beyond the fork of  $M$ ; anterior arculus preserved.

Abdomen dark brown, this color usually including the hypopygium, in some cases the latter a little paler. Ovipositor with the tergal valves elongate, upcurved.

#### Habitat.—Southeastern United States.

Holotype, ♂, Marion Co., April 4, 1926 (J. S. Rogers); Coll. No. 1. Allotopotype, ♀. Paratopotypes, ♂♀'s; paratype, ♂, Beltsville, Maryland, July 9, 1916 (W. L. McAtee).

The writer (Crane-flies of New York, Part I; Cornell Univ. Agr. Expt. Sta. Mem. 25: 917; 1919) had considered the present species to represent *P. contempta* (Osten Sacken). An examination of Osten Sacken's type of *contempta*, however, shows that it pertains to the larger northern species that was later described by Alexander and Leonard as *P. nigripleura*. The dark pleural stripe is still perfectly evident on the type of *contempta*. *P. nigripleura* therefore must be placed in the synonymy of *contempta*, leaving the southern species to be re-named as above.

#### GONOMYIA MEIGEN

Some notable additions to our knowledge of the distribution of the Nearctic species of *Gonomyia* have been made in recent years. The then known facts in the distribution of the genus were indicated in a paper by the writer (Proc. Acad. Nat. Sci. Philadelphia, 1916: 508–528; 1916).

#### The *cognatella* group

The chief characters for the separation of the species in this group lie in the details of structure of the male hypopygium, especially the shape of the dististyles and gonapophyses. The outer dististyle, especially, offers excellent characters. In the more specialized species (*cognatella*) this is a very elongate sinu-

ous rod, that is somewhat shorter and more powerfully constructed in others (*florens*, *armigera*). The style is shortest, less than one-half the length of the longest arm of the inner dististyle in the two new species described hereinafter. The inner dististyle is profoundly split into an elongate spine-tipped arm, a shorter pale arm that terminates in a few setiferous tubercles, and a very short finger-like lobe. In the review of the Nearctic *Gonomyia*, above cited, the spinous arm of this style was considered as being the third appendage, the setigerous arm the first or dorsal appendage (d). In the various species, the spinous arm is constricted and bent strongly upon itself a short distance beyond the base, appearing as an elongate, simple, more or less sinuous rod, bifid in *kansensis*. The gonapophyses bear acute lateral or subapical spines on the margin, in *kansensis* both spines occurring, the smaller lateral spine being directed caudad toward a larger subapical spine, the two enclosing an oval notch. The subapical spines are more slender and directed strongly cephalad (*cognatella*, *taeniata*) or dorsad into powerful chitinized spikes (*florens*, *armigera*). The lateral spine is generally lacking but in *reflexa* is conspicuously developed.

***Gonomyia (Gonomyia) cognatella* (Osten Sacken).**

IOWA: Poweshiek Co.; Rogers No. 52.

***Gonomyia (Gonomyia) florens* Alexander.**

This species had been considered as being a northern form but what certainly appears to be the same has been taken as far south as the Upper Austral Region.

ILLINOIS: Anna, Union Co., June 13, 1922 (C. P. Alexander).

INDIANA: Hensler's Woods, near Hanover, Jefferson Co., June 16, 1921 (Alexander and Rogers).

***Gonomyia (Gonomyia) armigera* Alexander.**

Described from Corydon, Harrison Co., Indiana.

INDIANA: Jefferson Co., July 22, 1921 (J. S. Rogers); No. 64.

***Gonomyia (Gonomyia) spinifer* Alexander.**

TEXAS: Old Fort Davis, Davis Mts., Jeff Davis Co., altitude 5,000 feet, November 15, 1925 (O. C. Poling). Numerous specimens in the Rogers Collection.

***Gonomyia (Gonomyia) kansensis* Alexander.**

A prairie species, originally described from Kansas.

ILLINOIS: Muncie, Vermillion Co., June 10, 1919 (Alexander).

INDIANA: Hensler's Woods, near Hanover, Jefferson Co., June 16, 1921 (Alexander and Rogers).

***Gonomyia (Gonomyia) taeniata* new species**

Male.—Length about 4–4.2 mm.; wing 4.5–4.8 mm.

Belongs to the *cognatella* group, from the allied members of which it is distinguished by the structure of the male hypopygium.

Rostrum and palpi black. Antennae with the scape and basal two segments of flagellum yellow; flagellar segments relatively elongate, densely clothed with a pale erect pubescence. Head yellow with a conspicuous dark brown spot on the vertex.

Mesonotal praescutum grayish brown, the humeral region and broad lateral margins buffy; scutum obscure yellow, the centers of the lobes brown; median area of scutum and the scutellum with a narrow brown line; postnotal mediotergite yellow with a dark brown basal triangle. Pleura with a silvery longitudinal stripe broad and conspicuous, narrowly margined above and below by a narrow darker line; dorsal pleural region dusky brown; sternopleurite pale, pruinose. Wings with a strong brownish yellow tinge, the ill-defined stigma darker; veins still darker brown. Venation:  $Sc_1$  ending opposite the origin of  $R_s$ ,  $Sc_2$  close to or somewhat removed from its tip; veins  $R_2$  and  $R_3$  rather strongly divergent; cell  $2nd\ M_2$  about twice as deep as its petiole.

Male hypopygium with the outer dististyle small, pale, sinuous, approximately one-half the length of the longest arm of the inner dististyle, gradually narrowed to the slender tip, the margin of the style with about five setae, arranged along its length. Spinous arm of the inner dististyle very long and ribbon-like, at apex narrowed into a small black spine; setigerous arm of inner dististyle approximately as long as the outer dististyle, with numerous setae along its stem, the terminal tubercles scattered. Gonapophyses compressed, the subapical spines very conspicuous, directed strongly cephalad; no lateral spines present.

Habitat.—Southeastern United States.

Holotype, ♂, six miles south of Tifton, Tift Co., Georgia, June 1, 1923 (J. S. Rogers); Coll. No. 1. Paratopotypes, 2 ♂♂, 1 ♀, with the type; paratype, ♂, Haywood Co., North Carolina, August 3, 1924 (J. S. Rogers); Coll. No. 31.

***Gonomyia (Gonomyia) reflexa* new species**

Male.—Length about 4 mm.; wing 4.6–5.2 mm.

Female.—Length about 5 mm.; wing about 5 mm.

Belongs to the *cognatella* group, from the allied members of which it is distinguished especially by the structure of the male hypopygium.

Rostrum and palpi dark brownish black. Antennæ with the basal segments yellow, the elongate outer segments brownish black. Head yellow, the center of the vertex with a dark brown spot.

Mesonotal praescutum brown, without stripes, the scutellum somewhat brighter colored; postnotal mediotergite pale, with a darker triangle at base, the surface pruinose. Pleura with the ventral silvery stripe broad. Wings with a strong yellowish tinge, the oval stigma darker, relatively ill-delimited; veins darker. Venation:  $Sc_1$  ending opposite the origin of  $R_s$ ,  $Sc_2$  shortly removed from its tip,  $Sc_1$  about one-half  $m-cu$ ;  $m-cu$  at the fork of  $M$ .

Abdominal tergites dark brown, the caudal margins of the segments conspicuously light yellow. Male hypopygium with the outer dististyle a short, powerful chitinized rod, the stem very gently curved, at apex expanded and directed at right angles into a long straight point, the whole apex suggesting the head and beak of a bird; the disk of the head-like portion is provided with numerous setae; region of the crest with a simple or weakly bifid spine; outer style less than one-half the length of the longest (spinous) arm of the inner dististyle. Spinous arm of the inner dististyle broadest at base, narrowed very gradually to the acute blackened apex; setigerous arm of style slender, the tubercles at tip separated. Gonapophyses appearing as large compressed blades, the ventral margin with a curved lateral spine that is directed caudad; no subapical spine. Aedeagus broadly dilated near midlength.

#### Habitat.—Michigan.

Holotype, ♂, Warren Woods, E. K. Warren Preserve, Berrion Co., July 17, 1920 (J. S. Rogers); Coll. No. 169. Allotopotype, ♀, with the type; Coll. No. 68. Paratopotypes, 6 ♂ ♀, July 4–17, 1920 (J. S. Rogers).

#### *Gonomyia (Gonomyia) bidentata* Alexander.

The known range of this species has been greatly extended as a result of the last few years collecting:

WISCONSIN: Cascade Falls, Osceola, Polk Co., July 13, 1925 (G. C. Crampton).

INDIANA: Clifty Ravine, Jefferson Co., June 15, 1921 (Alexander and Rogers); type-locality.

NEW YORK: Ausable Chasm, August 15, 1925 (G. C. Crampton); Sacandaga Park, Fulton Co., August 28, 1925 (Alexander); Masten's Woods, Gloversville, August 31, 1925 (Alexander).

VERMONT: Halifax Gorge, Windham Co., August 23–September 6, 1925 (Alexander and Crampton).

MASSACHUSETTS: Mt. Toby, Franklin Co., July 10, 1923–July 28, 1925 (Alexander); Orient Springs, Hampshire Co., July 24, 1925 (Alexander).

MAINE: Mt. Desert, common in arbor-vitae swamps on western half of island, August 29–September 12, 1926 (C. P. and M. M. Alexander).

The species is characteristic of gorges, ravines and cool northern woods, from mid-July into September.

#### *Gonomyia (Lipophleps) cinerea* (Doane).

TEXAS: Old Fort Davis, Davis Mts., Jeff Davis Co., altitude 5,000 feet, November 15, 1925 (O. C. Poling); at light.

#### *Gonomyia (Lipophleps) helophila* Alexander.

TEXAS: As in the last species, November 11–15, 1925. This is a widely distributed Neotropical species which probably reaches its northern limit at about this latitude.

### ORMOSIA RONDANI

#### *Ormosia brevicealcarata* new species

Allied to *adirondacensis* Alexander; mesonotum reddish brown, the praescutum with a darker median line; wings subhyaline, the stigmal region darker; vein 2nd  $A$  slightly sinuous; male hypopygium with the projection on the margin of the inner dististyle very small; aedeagus relatively short, blackened.

Male.—Length about 3.4 mm.; wing 3.3 mm.

Female.—Length about 4 mm.; wing 4.3 mm.

Rostrum and palpi dark brown. Antennae (♂) of moderate length, if bent backward extending about to the wing-root; antennae brown, the basal segments somewhat paler; flagellar segments with a dense erect white pubescence, in addition to the usual verticils. Head dark.

Thorax reddish brown, the median region of the praescutum darker; tuberculate pits placed in the darkened area; postnotum slightly infuscated. Pleura pale reddish, with a vague gray area on the anepisternum and the meron. Halteres pale, the knobs a little infuscated. Legs with the coxæ and trochanters obscure yellow; remainder of legs brown, densely covered with black setae, the femoral bases narrowly paler. Wings subhyaline, the stigmal region darker; veins dark brown. Venation:  $r$  about its own length beyond the fork of  $R_{2+3}$ ; cell 1st  $M_2$  open by the atrophy of the outer deflection of  $M_3$ ;  $m-cu$  at the fork of  $M$ ; vein 2nd  $A$  with the

distal third or less sinuous, more so than in *adirondacensis*, the vein more nearly straight in the female.

Abdomen dark brown, the hypopygium paler. Male hypopygium much as in *adirondacensis* but the thumb-like projection on the margin of the inner dististyle is here reduced to a small triangular point, the region resembling the head of a short-beaked bird. Aedeagus relatively short, heavily blackened, the tip not expanded.

Habitat.—North Carolina.

Holotype, ♂, Crestmont, Haywood Co., altitude 1,700 feet, July 29, 1924 (J. S. Rogers); Coll. No. 17. Allotopotype, ♀. The allotopotype has been returned to Professor Rogers.

#### CRYPTOLABIS OSTEN SACKEN

##### *Cryptolabis (Cryptolabis) minutula* new species

Size very small (wing, ♂, 3.5–4 mm.); general coloration gray, the lateral pretergites dirty whitish; pleura indistinctly variegated with paler; wings subhyaline; macrotrichiae of apical cells very sparse, appearing as a line near mid-width of the cells; *Sc* short, *Rs* strongly convex; male hypopygium with the apex of the dististyle narrow, obtusely rounded.

Male.—Length 2.5 mm.; wing 3.5–4 mm.

Female.—Length about 3 mm.; wing about 4–4.2 mm.

Head and palpi brownish black. Antennae brownish black throughout; flagellar segments oval, the segments decreasing in length and diameter outwardly. Head dark brownish gray.

Pronotum dark brownish gray. Lateral pretergites dirty whitish. Mesonotum gray, the praescutum with a broad brownish median stripe; median region of scutum more reddish brown; median region of scutellum and the anterior lateral angles of the postnotal mediotergite paler. Pleura brownish gray, variegated with paler on the sternopleurite and on the cephalic portions of the pleurotergite. Halteres pale, the knobs darker. Legs with the coxae and trochanters pale; femora and tibiae brown, their tips slightly darker; tarsi passing into dark brown. Wings subhyaline, the base narrowly more whitish; stigmal region barely clouded; veins dark brown. Macrotrichiae of cells of wing sparse, virtually restricted to a single line along the center of the cell. Venation: *Sc* relatively short, *Sc*<sub>1</sub> ending shortly before or opposite midlength of *Rs*, *Sc*<sub>2</sub> far from its tip, the portion of *Sc*<sub>1</sub> before the origin of *Rs* approximately twice as long as that section beyond this origin; *Rs* short, very strongly convex; basal section of *M*<sub>1+2</sub> short; *m-cu* perpendicular to *Cu*<sub>1</sub>.

Abdomen brown, the genital segment paler. Male hypopygium with the dististyle slender, gradually narrowed to the slender, obtusely rounded apex, the surface of the style with sparse scattered setae.

Habitat.—Texas.

Holotype, ♂, Old Fort Davis, Davis Mts., Jeff Davis Co., altitude 5,000 feet, at light, November 15, 1925 (O. C. Poling). Allotopotype, ♀. Paratopotypes, several ♂ ♀ in the Rogers Collection.

*Cryptolabis minutula* is one of the interesting crane-flies discovered in the Davis Mountains, Texas, by Mr. Poling. It is most closely allied to *C. bisinuata* Doane, of the northwestern United States, differing in the smaller size and details of coloration and venation. The dististyle of the male hypopygium of *C. paradoxa* Osten Sacken is acutely pointed at apex, as correctly shown by Osten Sacken (Mon. Dipt. N. Am. 4: pl. 3, fig. 13; 1869).