

The correct uses of American names, under the conceptions adopted in the catalogue, are not referred to in the preceding. Several of the synonyms of *Aedes* (as *Ochlerotatus*) and *Culex* are correctly given, though by no means all of the names that could have been quoted are given.

## ON BRITISH COLUMBIAN MYCETOPHILIDAE—I

(Diptera)

By C. B. D. GARRETT

In working up the fungus gnats of British Columbia I am particularly indebted to Mr. R. S. Sherman, who has spent much time on this family in the Coast Division from where he has described 20 or more new, and has sent me many species to work over, several of which I believe to be new. I am also greatly indebted to Col. C. H. Pollen, who has for many years done so much to help my studies in every way.

In the difficult genera *Beletina* and *Mycomya* it seems quite useless to describe one wing, owing to the variation shown in the series; but an average one is selected. The females seem hopeless at least as far as characters to connect them to their truthful mate. This has largely to be done by date and locality. Before me are several apparently not described, but except in a single case, I have refrained from describing, as I do not think the male may ever be properly connected with them.

The males have been studied chiefly by the hypopygium, and slides of nearly all species described are on hand. Most females have been considered as paratypes, and paratype males without the hypopygium mounted have been numbered.

Paratypes of some species will be found in the Canadian National Collection, the U. S. National Collection, and in that of R. S. Sherman. The remainder are in the author's collection.

### *Mycomya terminata*, new species.

Head grey-black; mouth parts and palpi yellow; antennae scape and base of flagellum I, yellow, the remainder black-brown; all segments twice as long as wide. Thorax, dorsum

grey-black; no vittae, but they are indicated by reflection, being slightly polished. Extreme humeral edge showing a brown shade. Bristles and hair dorsally black, laterally brown, with some black. Scutellum dark with two pairs of bristles. Propleura yellow brown, all others blackish, the pteropleura paler. Abdomen dark brown, with brown pilosity. Coxae yellow, the two hind darker, mid-coxal spurs weak, long and rather straight with the tip bent. Wing; C reaches the apex of the wing. Sc enters C proximad but nearly over mid cell R; Sc2 is proximad of the latter. Petiole of M shorter than M2; CU forks below cell R which is long trapezoidal, being over twice as long as deep. Hypopygium dark, some of the minor parts brown; tergite  $\frac{1}{2}$ ; from near the center issue a pair of chitinized points (in *cranbrooki* and *caufieldi* called A); from near the lateral corner rises a large, fleshy, elongate oblong lobe, the inner tip of which has a rounded chitinized point directed inward (called B); from below this and near the middle of the lobe there is a chitinized point with a very long terminal bristle which sometimes branches near its middle. The sternite half near its center has a pair of triangular pyramids on the apex of which is a hinge, working a long chitinized projection, with an angle near its tip and two points at its apex (called C). (In pinned specimens C is usually completely folded in and not seen.) Between these and near the middle are a pair of thread-like chitinized prongs (called D). There are other lesser spikes from within the center.

Described from 8 males from Vancouver and Savary Island, B. C., in March and April. It is hard to limit the number of females by the variation; probably 5. The ♀♀ are as the ♂ but seem browner on the thorax. All specimens taken by R. S. Sherman.

### *Mycomya cranbrooki*, new species.

Male; similar to *terminata*, differing as follows: Palpi dark; all hairs and bristles of the dorsum brown; propleura black. The wing is between *terminata* and *caufieldi* in Sc1, Sc2; petiole of M about equal to M2; CU forks slightly proximad

of mid cell R. Hypopygium A is smaller. B is not distinctly chitinized and of slightly different shape, with the long terminal bristle shorter. C is parallel sided, its two apical points very small and short. D is differently shaped.

Holotype, Cranbrook, B. C., May 27 (C. B. Garrett).

*Mycomya caulfieldi*, new species.

Similar to *terminata*, with the hypopygium different. The tergite half runs to a short central point, thus A is absent. The lateral flaps B are broad, not elongate. C is of different shape and ends in a single triangular point.

Holotype and allotype, Caulfields, B. C., May 5, 1917 (R. S. Sherman).

*Mycomya humidus*, new species.

Male, occiput and front grey-black, face brown, mouth parts and palpi yellow. Scape and base of first flagellar joint yellow, the remainder dark brown, each segment about twice as long as wide. Thorax, dorsum obscure brown, primrose grey or all grey-black, no distinct vitta, but with a light brown patch behind the humeri. Propleura yellow, the remainder dark, brown-black. Abdomen, tergites dark brown with posterior margins yellowish. Venter sometimes pale. Coxae yellow, the hind one darker or infuscate, the spurs of the mid coxae are moderately long, and curved. Wing; C ends slightly beyond the apex of the wing; Sc enters C about over mid cell R; Sc<sub>2</sub> is proximad of the middle of cell R which is trapezoidal, the shorter side being not much longer than the ends. Petiole of M slightly longer than M<sub>2</sub>. Cu forks below or more than the length of the RM cross vein proximad of it. Hypopygium yellowish, all pieces seem chitinized except the lateral flaps which may also be. Tergite half, dorsally in the center runs out into a long projection having a thin apex but a very broad base. The lower lateral corners run out into a long narrow oval flap pilose on the outer side. Sternite half with two cerci looking projections in the center which reach the arc made by the lateral flaps; to the side of these, but from within

a pair of sharp long spikes rise which also nearly reach the arc. There seem two other pairs of short spikes in the middle.

Described from 3 males and 3 females. Holotype and allotype, Wilson Creek, Michel, B. C., Sept. 24, 5,200 feet. Paratypes as holotype collected by C. B. Garrett and one male from Montana (Exp. Station, Yellowstone Park), 8,200 feet, Aug. 25, 1915.

*Mycomya vulgaris*, new species.

Male head grey black, mouth parts and palpi yellow. Antennal scape and base of first flagellar segment yellow, the remainder black except the first; each segment is hardly twice as long as wide. Thorax; dorsum grey black, opaque, the usual three vittae hardly visible, being a browner shade only. All bristles and hairs black. Scutellum black sometimes with a brown shade, set with two pairs of bristles and a few short hairs. Pleura black, propleura sometimes brownish, a rather large patch of yellow round the disk. Abdomen; tergites black, ventrals 2, 3, 4 yellowish occasionally, all with black pile. Halteres, coxae, femora and tibia yellow. Fore coxae anteriorly with a few scattered black hairs, a row of short bristles on the distal edge and a strong bristle about the middle of the proximad edge directed inward. Mid coxae with long curved spurs which hardly reach the base of the fore coxae below the head. Wing; C not produced past R<sub>4</sub>, 5; Sc ends in C slightly distad of mid cell R; Sc<sub>2</sub> over the mid cell, which is trapezoidal, its short side about twice as long as the ends. Cross vein RM about equal to the basal sections of RS. The tip of R<sub>4</sub>, 5 drops almost to the level of fork of M. Petiole of M shorter than M<sub>2</sub>, M forks over the tip of CU<sub>2</sub>; CU forks below or proximad of the RM cross vein. Hypopygium dark. Tergite half all chitinized large and appears like the top half of a sparrow's beak. This is composed of an inner and outer part. At the lower side of the tergite is a rather short cylindrical projection (about one-third the length of the beak) which terminates in three hairs. Sternite half in the middle has three pairs of triangular points from the center of the inside a soft bi-lobed pad rises yellowish and with pale pilosity.

The female is similar. The scape is not so yellow, it is darker. The flagellar segments are not twice as long as broad; the abdomen sometimes shows shadings of pale posterior edges brown yellow. The fore coxae has no inner bristle and mid coxae no spurs.

Described from 131 males and 55 females all from Fernie, B. C., July 21-29 (C. B. Garrett).

**Mycomya magna**, new species.

Male. The entire description of *vulgaris* applies to this species, except flagellum segments twice as long as broad. Both pairs of scutellum bristles are about equal in length. Abdominal ventrites 2 to 4 always brown yellow. Fore coxae with no inner lateral bristle, but a row of long hairs up that edge. Wing cell M often not twice as long as deep, leaving the tip of C over the distad end and Sc2 in the middle. CU forks more proximad. The hypopygium is somewhat similar to *vulgaris* but the beak has no inner piece, it being small, the cylindrical lateral projection is swollen oval club shaped and the entire apical half is set with fine pilosity. The points of the sternite half are slightly different, the whole together appearing quite different. It is larger than *vulgaris*. Female as the male, but the tergite often has a posterior yellow margin.

Described from 11 males, 13 females. Fernie, B. C., July 21-28.

**Mycomya ampla**, new species.

Male. The description of *vulgaris* applies to this except the scape of the antennae is dark brown. The scutellum has one pair of bristles. The propleura is yellow. The tergites have a posterior yellow margin; all the abdominal hairs brown yellow. The fore coxae have no mid bristle. The mid coxal spurs are short, reaching only to three-quarters of its own coxae and they are almost straight. Hypopygium; tergite half along the middle edge with two pairs of thin flat oblong round tipped appendages. The lower lateral edge runs out into a long thin pale yellow fleshy lobe pilose on the outer side. The sternite half is cup shape, the top lateral edge running out and touching

at their tips, the bottom between being transparent skin. There are other minor spines within.

Female is as *vulgaris* but the scape more yellow. The abdomen with posterior yellow margins. The fore coxae more thickly pilose. Scutellum with one pair of bristles; and SC in one wing does not reach C.

Described from holotype, Hot Springs, Banff, Alberta, July 17, 1908 (N. B. Sanson), in the Canadian National Collection. Paratype, male and female, Fernie, B. C., July 9.

**Mycomya polleni**, new species.

Male. Occiput and front grey black, face brown, mouth parts and palpi yellow; antennae, scape and all flagellar, one yellow, the remainder black brown. The basal segments are not, the apical segments are twice as long as broad. Thorax, brownish, three indistinct dark vittae somewhat greyish. Dorsum set with many rather long dark bristles. Scutellum black brown, paler below with two strong pairs of bristles. Pleura brown. Propleura and pteropleura yellow. Abdomen two basal segments sessile, compressed, the remainder depressed. All dark brown with posterior margins yellow. Vent sometimes pale. Coxae yellow, hind one with a large darker patch. Mid coxal spurs rather long and curved. Wing; C ends just beyond the apex of the wing. Sc joins C above the distal end of cell R. Sc2 is in the middle of the latter which is twice as long as deep. Petiole of M slightly shorter than M2; CU forks proximad of RM cross vein.

Hypopygium, tergite half dorsally has three triangular points, the lower lateral edge runs out into pale yellow fleshy oval flaps. Sternite half near the middle has a pair of longish triangular points, between which the usual pair of central blades show, which rise from within, on each side of these are a long and short chitinized spike which have a common base.

Described from 6 males, Cranbrook, B. C., July (C. Garrett). Named after the previously mention Col. C. H. Pollen.

**Mycomya difficilis**, new species.

Color. Generally similar to *vulgaris*, but palpi dusky. Scape

base brown, next joint black, base of flagellar one for one quarter yellow, all the remainder black brown. Except flagellar one, the segments are just over twice as long as wide. Scutellum brownish, two pairs of bristles. Abdomen tergite with posterior yellow margins, hairs black. Coxae yellow, their bases all muddy yellow, fore coxae sparingly haired with relatively longish hair. Mid coxal spurs about three quarters as long as their coxae. Wing C ends beyond the apex of the wing. Sc enters C over mid cell R, Sc2 proximad of mid cell R which is twice as long as deep. Petiole of M equal or slightly longer than M2; CU forks proximad of the RM cross vein. Hypopygium, tergite half dorsally in the middle branches into two short points curved outward and their apex pilose. From near the lateral corners rise two oval or pear shaped flaps pilose on the outside. The sternite half, from the tip of the lateral corner makes a V hollow from the apex of the V (opposite the lateral corner) to the center of the sternite is a smaller V about half the length of the first (the whole appears like an M with an extra up line on each side). From within the usual mid pair of blades show between the central V and each side of the mid blades rise a pair of chitinized points with a common base. Centrally there is a soft fleshy pad. The female is similar but the flagellar segments are hardly twice as long as wide.

Described from 6 males and 1 female, Cranbrook, B. C., April and May (C. Garrett).

*Mycomya shermani*, new species.

Male. General color as *vulgaris*, face browner. Antennae; scape and most of flagellum one yellow brown, two or three brownish, the remainder darker. Segments twice as long as wide. Scutellum brownish with one pair of bristles. Propleura yellow brown and rest dark but brownish along the sutures. Abdomen dark with posterior yellow margins. All the ventral segments yellowish. Wing; Sc ends free, slightly beyond Sc2, Sc2 joins cell R very close to RS in one specimen, in the other Sc ends at Sc2 which angles forward and joins cell R

about its middle. The latter is not twice as long as deep, the end RS is almost equal to its next section. Petiole of M nearly equal to M2; CU forks below the proximad end of the RM cross vein. Fore coxae on the inner half in front sparingly haired with long fine hairs. Mid coxal spurs fragile, long and slightly curved. Hypopygium; tergite half ends dorsally in a central point. Laterally the lower corner runs out to a medium long fleshy flap, pilose on the outer side. Sternite half, each side of the middle is a stem with a round point, from the inner side of the usual mid blades show and near the lateral corner are two triangular points with a common base, the whole being somewhat similar to Johannson's fig. 137 for *maxima*.

Described from two males, Michel, B. C., Sept. 1 (C. Garrett). Named after the previously mentioned R. S. Sherman.

## NEARCTIC CALLIPHORIDAE, LUCILIINI<sup>1</sup>

(Diptera)

By RAYMOND C. SHANNON

In the following treatment of the North American Luciliini, it is assumed that the three species determined by Hough and recognized subsequently as identical with the European species, *Lucilia caesar* Linné, *L. sylvarum* Meigen and *L. sericata* Meigen, are conspecific with the forms originally included under those names. The North American species herein recognized, *L. pilatei* Hough, *L. australis* Townsend, *L. unicolor* Townsend, *L. occidentalis* n. sp., *L. pallescens* n. sp. and *Francilia alaskensis* n. gen. and sp., are assumed to be distinct from previously described species.

This is done for the following reasons: (1) The collection at hand of Old World species, authentically determined, is insufficient to make correct identification by means of comparison; (2) the Old World species have not been sufficiently defined in many cases and this prevents accuracy of determina-

<sup>1</sup> The present study is based on the material in the National Collection. The writer wishes to thank Dr. Aldrich for his help and opinions on several matters.