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## SOME ALASKAN SYRPHID FLIES, WITH DESCRIPTIONS OF NEW SPECIES

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Many species of Syrphidae have been reported or described from Alaska, although very few papers have been published dealing exclusively with this family of flies. Coquillett<sup>1</sup> reported on the Diptera of Alaska and described several new Syrphidae; Hine<sup>2</sup> reviewed the species of *Helophilus* occurring in Alaska; and the present paper describes two more species belonging to this genus.

The Syrphidae reported here were lent by the United States National Museum. A few specimens were taken with an insect net at Umiat, Haines, and Matanuska, but the majority of the specimens were collected at Matanuska by J. C. Chamberlin with a rotary trap during the seasons of 1944 and 1945. This trap is described<sup>3</sup> as follows: "The essential principle involved in the construction of all models of this trap is that power is so applied to one or more rigid insect nets as to cause them to rotate in a fixed horizontal plane . . ." If the specimens are removed at frequent intervals they are in good condition and suitable for Museum purposes and the Syrphidae that were sent in for identification are in excellent condition. Those collected in the rotary trap are tabulated on pages 53-54. Of the 756 specimens recorded, 550 are females.

This collection is interesting because of its several forms and records new to Alaska. Many of the species are represented by the female

<sup>1</sup> Proc. Washington Acad. Sci., vol. 2, pp. 389-464, 1900.

<sup>2</sup> Ohio Journ. Sci., vol. 23, pp. 192-200, 1923.

<sup>3</sup> Chamberlin, Joseph C., and Lawson, F. R., U. S. Dept. Agr. ET ser., No. 163, pp. 1-6, figs. 1-9, October 1940.

only, and for this reason positive identification was not always possible; such species are recorded with a question mark.

The genus *Chrysogaster*, subgenus *Barberiella*, was not taken in the rotary trap, but the misunderstood species *alaskensis* Shannon was collected at Umiat. *Melanostoma carinata* Curran was also taken at Umiat and is represented by five males and seven females.

All drawings were made with the aid of a camera lucida except *h*, *m*, and *o* of figure 10. With the exception of these three, comparable drawings are made to the same scale. (EH=ejaculatory hood; S=style; C=cercus.)

#### EPISTROPHE HUNTERI ? Curran

FIGURE 10, *a*, *b*

*Epistrophe hunteri* CURRAN, Kansas Univ. Sci. Bull. 15, p. 171, 1924.—FLUKE, Ent. Amer., new ser., vol. 15, p. 11, 1935.

This species was described from a single male from Teulon, Manitoba, and in my 1935 review I recorded a male from California and a female from Maine. The present collection contains two males and five females, but I make this determination with considerable doubt. The males have a distinctively inflated face and front, as shown in the accompanying figure, with wholly black cheeks, and the femora are narrowly black at the base. The females are different from the one I recorded from Maine principally in the color of the front, which is yellow on the lower one-fourth to one-third, and in the somewhat narrower abdominal bands.

I do not believe these specimens can be *terminalis* Curran, since the oral angles are not produced. *E. hunteri*, *E. terminalis*, and *E. imperialis* Curran are very closely related, and a study of the genitalia may be necessary to straighten them out. *E. imperialis* is also closely related to *E. melanostoma* Zetterstedt.

My recent studies of the genitalia indicate that these forms are true *Syrphus* (*Syrphidis* Goffe), since they have a lingula on the penis sheath similar to that on *S. ribesii* Linnaeus and its relatives, and in other respects they are similar. I believe a better indication of generic relationships than the presence or absence of hair on the disc of the squamae is the presence or absence of hair on the metasternum, although *E. grossulariae* Meigen, with a hairy metasternum, also possesses a lingula and the styles are more like those of *Syrphus* than those of *Metasyrphus*. The so-called *emarginatus* group (*Metasyrphus*) with bare metasterni have a lingula, although it is rather short, and in general the genitalia are similar to *Syrphus*. Most of the slender species now included in *Epistrophe* should probably be included in *Stenosyrphus* Matsumura and Adachi. All the *Metasyrphus* species that I have examined except the *emarginatus* group

lack a lingula, the penis sheath has rough corrugations on the sides, and the styles are more slender than in true *Syrphus*.

#### EPISTROPHE COMPOSITARUM (Verrall)

*Syrphus compositarum* VERRALL, Ent. Monthly Mag., vol. 9, p. 254, 1873.

*Epistrophe compositarum* FLUKE, Ent. Amer., vol. 15, p. 45, 1935.

In 1935 I doubtfully recorded this species as North American on the basis of a single specimen from Newfoundland. The present collection contains nine females from Matanuska, Alaska, that do not appear to differ materially from European specimens. The thorax, however, is a trifle more shining, and the bases of the four front tibiae are somewhat paler.

#### SYRPHUS RIBESII var. JONESI, new name

*Syrphus similis* JONES (nec Blanchard), Ann. Ent. Soc. Amer., vol. 10, p. 224, 1917.—FLUKE, Trans. Wisconsin Acad. Sci. Arts and Letters, vol. 28, p. 69, 1933.

I propose *jonesi* as a new name for this rather distinct variety of *ribesii*. It occurs only in the female. There are six representatives of this variety from Alaska.

#### SYRPHUS VITRIPENNIS Meigen

*Syrphus vitripennis* MEIGEN, Syst. Besch., vol. 3, p. 308, 1822.—FLUKE, Trans. Wisconsin Acad. Sci. Arts and Letters, vol. 28, p. 70, 1933.

Apparently this is a new record for Alaska. The collection includes four females from Haines, August 1945, collected by J. C. Chamberlin.

#### METASYRPHUS PERPLEXUS (Osburn)

##### FIGURE 10, c

*Syrphus perplexus* OSBURN, Journ. New York Ent. Soc., vol. 18, p. 55, 1910.

This species is represented by 20 females. They are, however, considerably darker than typical *perplexus*, especially around the mouth. With these females is a single male that is the same in all essential details except that the eyes are distinctly hairy. The pile is short but quite evident. Several of the females also show a few scattered hairs, but nearly all species of this group have at least a few short hairs on the eyes. These specimens may represent a true subspecies or variety.

#### METASYRPHUS LUNIGER (Meigen)

*Syrphus luniger* MEIGEN, Syst. Besch., vol. 3, p. 300, 1822.—VERRALL, British Syrphidae: British Flies, vol. 8, p. 385, 1901.—LUNDBECK, Diptera Danica, pt. 5, p. 307, 1916.

The specimens from Alaska that I tentatively assign to this species are much darker than those taken in Europe (facial stripe, pile of

face, a few black hairs on the mesonotum, and generally blacker legs), but I can detect no differences in the genitalia.

There is also a variety or subspecies occurring in the United States, especially in the Rocky Mountain region, that is paler than the Alaska material. Several other specimens are at hand that are slightly different, but I am inclined to think they are all variations of *luniger*. The description given below is based on eight males and two females from Matanuska, Alaska.

*Diagnosis*.—Face with a median black line; pile on the sides of the thorax tinged with yellow; scutellum black haired; abdomen with three pairs of isolated lunulate spots, their inner ends nearer the bases of the segments than their outer ends.

*Male*.—Face yellow with an abbreviated black stripe, which ends in the depression, widens below and reaches the oral edge, and is generally connected with the shining black cheeks, decidedly receding below the tubercle, the pile mostly yellow but often black down the sides next to the eyes, face lightly pollinose on the sides; frontal triangle yellow, heavily covered with yellow pollen except just above the antennae where there are two arcuate narrowly connected black spots; pile black; antennae black, yellow beneath the third segment, arista thickened for two-thirds its length; occipital pile whitish below, yellow above with several black cilia overhanging the eyes; ocellar triangle black with black pile; eyes bare.

Thorax shining aeneous, pile pale yellowish, a few black hairs on the sides just above the base of the wings. Scutellum opalescent yellow, the pile black, with longer hairs and with some yellow hairs on the apex and basal angles. Legs yellow, the basal one-half of the four front femora and the basal one-half or more of the hind femora black, hind tarsi with a median black ring, tarsi infuscated black above. Wings hyaline, stigma brownish, halteres and squamae yellowish.

Abdomen black with three pairs of isolated yellow spots; first pair triangular, inner ends pointed; second pair arcuated, their inner ends rounded and nearer the base of the segment than the outer ends; third pair similar but smaller and less arcuated; apical margins of fourth and fifth tergites and basal corners of fifth yellow. Venter yellow with three large quadrate black spots, one each on sternites 2, 3, and 4; styles of genitalia small, evenly contoured, yellow.

*Female*.—Very similar; facial pile usually yellowish but sometimes black along the sides, front with a wide subinterrupted pollinose band, legs less extensively black, tergal spots smaller.

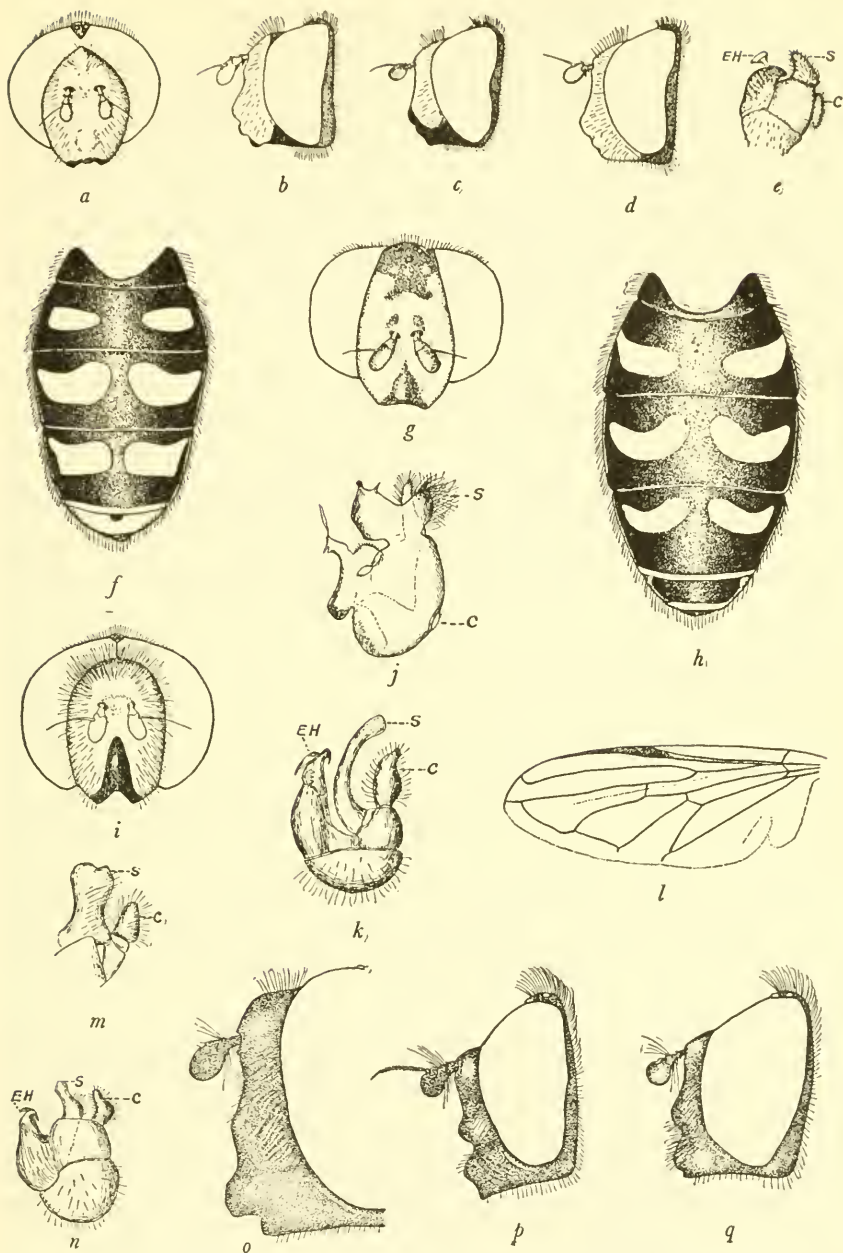


FIGURE 10.—a, b, *Epistrophe hunteri*? Curran, head of male; c, *Metasyrphus perplexus* (Osburn), var., head of male; d, *M. neoperplexus* (Curran), head of male; e, *M. neoperplexus* (Curran), genitalia; f, *M. neoperplexus* (Curran), abdomen of male; g, *M. lundbecki* (Soot-Ryen), head of female; h, *M. lundbecki* (Soot-Ryen), abdomen of female; i, *M. lundbecki* (Soot-Ryen), head of male; j, *Sphaerophoria nigratarsi* Fluke, genitalia; k, *Chrysogaster alaskensis* Shannon, genitalia; l, *C. alaskensis* Shannon, wing; m, *C. versipellis* (Williston), genitalia; n, *C. nigripennis* (Williston), genitalia; o, *C. versipellis* (Williston), head of male; p, *C. alaskensis* Shannon, head of male; q, *C. nigripennis* (Williston), head of male.

## METASYRPHUS NEOPERPLEXUS (Curran)

FIGURE 10, d-f

*Syrphus neoperplexus* CURRAN, Kansas Univ. Sci. Bull. 15, p. 93, 1924.*Metasyrphus neoperplexus* FLUKE, Trans. Wisconsin Acad. Sci. Arts and Letters, vol. 28, p. 101, 1933.

A series of five males and seven females of this species, all from Matanuska, Alaska, are before me. They are very uniform in appearance and are best recognized by the reddish fifth segment in both sexes (a small median basal black dot on the male), small to medium-sized styles on the genitalia, and the arcuated and interrupted spots on the abdomen.

I misinterpreted this species in 1933. The diffused opalescent stripe on the face of the type male does not appear to be a normal condition. All the specimens from Alaska have a yellow to reddish face and the midstripe is somewhat darkened but never distinctly brown or black. The specimens I reported from Ontario apparently represent another species. The nearest relative of *neoperplexus* appears to be *talus* Fluke, but the males can be told readily by the elongate styles on *talus*.

The front of the female is shining yellow below the depression with a faint elongate brownish spot above each antenna, shining black above the depression with weak side dust spots; the ocellar triangle shining black. The mesonotal pile is yellowish; pleural pile white; scutellar pile mostly black, some yellow hairs intermixed, especially along the rim. The legs are yellowish to reddish and in fully colored specimens the bases of the femora are somewhat blackish but there is no sharp demarcation of the colors.

Dr. G. E. Shewell kindly made careful comparisons with the type and while there are some differences in color I believe these Alaskan specimens are *neoperplexus*. I quote below some of the notes made by Shewell:

As you have noted in your 1933 paper, the type has the tubercle and oral margin faintly but unmistakably suffused with brownish black. In this, I find your specimen differs. Though there is a very faint suggestion of dark pigmentation below the tubercle, the only area which corresponds closely to the type in this respect is that alongside the facial groove. [Some of the Alaska males are reddish brown on the mid-strip below the tubercle which indicates a variability in this respect.] The color of the facial pile definitely differs. In the type there are no long black hairs below the facial depression and only a few scattered short black hairs on the tubercle.

In shape and length of genital styles, there is no noticeable difference.

Attention is called to the mouth edge of the Alaska males, which has a reddish cast somewhat darker than the rest of the face. Also, the abdominal spots on the type are larger, but here again there is considerable variation.

## METASYRPHUS ARCUATUS (Fallen)

*Scæva arcuatus* FALLÉN, Diptera Sveciæ, Syrphici, p. 42, 1817.

*Syrphus venustus* MEIGEN, Syst. Besch., vol. 3, p. 299, 1822.

*Metasyrphus venustus* FLUKE, Trans. Wisconsin Acad. Sci. Arts and Letters, vol. 28, p. 112, 1933.

*Syrphus arcuatus* SOOT-RYEN, Ent. Tidskrift, Argang 67, p. 195, 1946.

*Syrphella arcuata* GOFFE, Ent. Monthly Mag., vol. 83, p. 196, 1947.

This species has been recorded in North America under the well-known name of *venustus* Meigen. There are five females and one male from Alaska. The American specimens do not seem to differ in any way from European material.

## METASYRPHUS LUNDBECKI (Soot-Ryen)

FIGURE 10, *g-i*

*Syrphus arcuatus* LUNDBECK (nec Fallén), Diptera Danica, pt. 5, p. 311, 1916.

*Syrphus lundbecki* SOOT-RYEN, Ent. Tidskrift, Argang 67, p. 195, 1946.

After many years of misidentification of Fallén's species *arcuatus*, Soot-Ryen examined the type series, which contained five specimens representing three species, two males and three females. Soot-Ryen selected the only nearly perfect male as type for *arcuatus*, but this specimen unfortunately is conspecific with the species that is generally known as *S. venustus* Meigen, 1822. Accordingly, a new name was needed for Lundbeck's *arcuatus*, and Soot-Ryen chose *lundbecki*, with a male specimen from Copenhagen as type, Lundbeck's original description serving as the diagnosis.

One male and eight females included in the Alaskan material fit Lundbeck's description almost exactly: Puffed face and front of the male, heavy black pile on the front, enlarged facets of the eyes, and nearly straight third longitudinal vein. The character of the hairy metasternum should be added to the original diagnosis.

The abdominal spots on the second tergite on the male do not reach the side margins, and the hind femora of the female are black on the basal half to two-thirds. These minor differences do not seem important enough to suggest even a subspecific name for the Alaskan material.

## Genus SPHAEROPHORIA Lepeletier and Serville

FIGURE 10, *j*

Two species have been recorded from Alaska: *S. sulphuripes* Coquillett (1900) and *S. cylindrica* Malloch (1919). The present collection contains 51 specimens, 26 of which belong to *S. robusta* Curran and 25 to *S. nigritarsi* Fluke. Most of the specimens are females that are quite difficult to separate. Both species possess the continuous

yellow side stripes on the mesonotum. The principal yellow cross-bands of *S. robusta* are entire but they are interrupted on *nigritarsi*. Several of the females of *robusta* show the fourth tergite partially interrupted and the bands otherwise quite narrow, a character that indicates a linking of the two species, so *robusta* may be only a form of *nigritarsi*. Some of the males also indicate this gradation from one to the other. The genitalia are very much alike. *S. nigritarsi* is typically darker and *robusta*, as represented by the Alaska specimens, is never as pale as specimens from the United States. Both these species were described in 1930.

#### Genus PLATYCHEIRUS Lepeletier and Serville

Many of the females of this genus are difficult to determine. Nine species are represented, eight by males that are quite readily placed.

The males that I have determined as *clypeatus* Meigen agree with my understanding of this species and they also agree with specimens from Europe. The females, 31 in number, are quite variable and may represent more than one species. Those that I have from Europe are so variable that I am not sure which ones are typical.

There are six specimens of *P. angustatus* Zetterstedt, all females, all having the typical pointed abdomen and black fifth segment.

#### Genus CHRYSOGASTER Meigen

##### Subgenus BARBERIELLA Shannon

##### FIGURE 10, k-q

*Barberiella* SHANNON, Ins. Insc. Menstr., vol. 10, p. 122, 1922.

Shannon erected this subgenus for his new species *chilosioides*, making it the type, but he included *versipellis* Williston, described originally as a *Chilosia*. He also indicated that his *alaskensis* belonged to the same group but he had only the female before him. *C. nigripennis* (Williston) also should be included.

In his characterization Shannon stated that the front is bare, but there are distinct long black hairs on *versipellis* and Williston so describes them. The most easily distinguished character is the length of the black bristlelike hairs on the second segment of the antennae; some at least are longer than the length of this segment, especially above. The first vein extends well out along the margin of the wing and thus elongates the stigma.

It has long been a puzzle to me why Shannon placed *versipellis* Williston in his new subgenus and failed to include *nigripennis* Williston. A recent study of the type specimens shows that the identity labels for these two species became interchanged (the museum numbers however were correct) and thus considerable confusion in the identifi-

cation of these forms and a misleading idea of the generic limitations were caused. I think the group is somewhat natural and should include *versipellis* Williston (nec Shannon) even though the front is inflated and pilose. The characters on the antennae and wings are weak and certainly deserve only subgeneric consideration.

The material from Alaska contains a small series of *alaskensis* so I take this opportunity to present a key to the species. C. W. Sabrosky made careful comparisons of my material with both Shannon's and Williston's types. Many of the notes given here and the sketches of the type of *versipellis* were made by Mr. Sabrosky, and I wish to thank him for permission to copy the pencil sketches he made for me. He pointed out the genital and frontal characters used in the keys.

## KEY TO CHRYSOGASTER (BARBERIELLA)

## MALES

1. Front inflated, with long black hairs near border, genital styles about three times as long as width measured at narrowest point— *versipellis* (Williston)  
Front not inflated, without long pile, genital styles usually longer----- 2
2. Front shining, with a patch of appressed microscopic hairs (pollinose) next to eye angle, genital styles long and slender----- *alaskensis* Shannon  
Front more rugulose, with a band of microscopic naplike hairs along eyes---- 3
3. Downward-projecting pile on edge of scutellum yellow, genital styles similar to *versipellis*----- *chilosioides* Shannon  
Downward-projecting pile of scutellum black, genital styles four times as long as narrowest width----- *nigripennis* (Williston)

## FEMALES

1. Antennae entirely black, front brownish pollinose----- *alaskensis* Shannon  
Antennae yellowish, at least below on third segment; front shining----- 2
2. Pile of mesonotum brown and black mixed, rather long.  
*nigripennis* (Williston)  
Pile of mesonotum short and all brown, black only on rim of scutellum.  
*versipellis*? (Williston)

## CHRYSOGASTER (BARBERIELLA) ALASKENSIS Shannon

FIGURE 10, *k*, *l*, *p*

*Chrysogaster* (*BarberIELla*) *alaskensis* SHANNON, Ins. Insc. Menstr., vol. 10, p. 125, 1922.

*Diagnosis*.—Black; front bare; pile under scutellum long and yellow; genital styles extremely long and slender. Length 8.5 to 9 mm.

*Male*.—General color black with bluish reflections on the face; pile all black except that on the cheeks, sides of abdomen, basal areas of the femora, and the downward-directed pile on the underside of the scutellum; the pile on these areas is generally whitish, somewhat yellow on the abdomen and scutellum. Front is bare, very shallowly grooved and shining except for microscopic pollinose appressed hairs in the angle formed by the eyes; face shining, with a prominent

tubercle and epistoma, the pile rather long. Antennae entirely black, third segment nearly as broad as long; pile on the second segment with two or three hairs above longer than the third segment; arista with basal segment, pubescent.

Mesonotum semishining, black, with three faint grayish pollinose vittae in front that are visible only in certain lights. Squamae light brown with darker fringe, halteres orange yellow. Wings somewhat smoky, veins black, the stigma elongate and dark.

Abdomen generally opaque on the discs of the tergites, shining on the sides and entirely shining on the fourth segment and beyond. Genitalia large, the styles very long and slender, the ejaculatory hood in the shape of closed ice-tongs.

*Female*.—There is little to add to Shannon's description. Most of the females I have seen in this group are teneral and that applies to the four specimens at hand.

*Allotype* (male by present designation).—Umiat, Alaska, June 24, 1947, K. L. Knight, collector; paratype male same data and four females, homeotypes, same data, one without abdomen.

CHRYSOGASTER (BARBERIELLA) VERSIPELLIS (Williston)

FIGURE 10, *m, o*

*Chilosia versipellis* WILLISTON, Synopsis of North American Syrphidae, p. 44, 1886.

*Chrysogaster (Barbericella) nigripennis* SHANNON (nec Williston), Ins. Insc. Menstr., vol. 10, p. 123, 1922.

*Male*.—Front strongly swollen, with a faint depression, bare immediately above the antennae, but with numerous long black hairs along the eye margins. Facial tubercle weak with only a gentle swelling. Face and front polished, highly shining. Basal segments of the antennae black, the third orange, arista missing.

Scutellar pile all black including the downward-projecting hairs, which are short. Wing veins and membrane decidedly yellow; halteres orange-yellow.

*Female*.—The following short description is of a female that I place here with some doubt. The face and front highly polished, only lightly pollinose in a band below the antennae; facial, frontal, and occipital pile short and black; white on the cheeks. Mesonotum lightly brownish pollinose with short yellowish brown pile; scutellar pile brown with longer bristlelike hairs irregularly placed along the margin, the downward-hanging hairs not very evident on this specimen.

Legs black, the tarsi yellowish orange. Wings decidedly brownish; squamae light brown, halteres orange. Angora, Lake Tahoe, Calif., July 11, 1915, E. P. Van Duzee collector.

Another female, from Oregon, differs in darker antennae, darker legs, more pollinose mesonotum, and paler pile on the face.

The females of all these species will be difficult to characterize until a good series, along with their respective males, has been collected.

**CHRYSOGASTER (BARBERIELLA) NIGRIPENNIS (Williston)**

FIGURE 10, *n, q*

*Chilosia nigripennis* WILLISTON, Synopsis of the North American Syrphidae, p. 44, 1886.

*Male*.—Length about 7 mm. Front without long hairs but with a band of very fine pile next to the eyes. Rough area on the sides of the face very distinct, pile rather conspicuous and all black, paler on the cheeks. Downward-projecting pile on the rim of the scutellum yellowish. Wings smoky brown. Styles on the genitalia without a notch at apex and about four times longer than narrowest part; one hook of the ejaculatory hood blunt, other sharp. I do not believe this one hook was broken, although that is a possibility. The specimen studied is one from Mount Jefferson, Oreg., July 15, 1907 (Bridwell). It was compared with the type at Washington. This species and *chilosoides* are very similar in general appearance but the genitalia of the latter are more like *versipellis*.

**HELOPHILUS NEOAFFINIS, new species**

FIGURE 11, *a, b, c, j*

Related to and very much like *affinis* Wahlberg, differing mainly in the genitalia.

*Male*.—Length 12 to 14 mm. Face and front yellow with golden pollen and yellow pile; face with a broad median shining black stripe, which is wider below and which disappears above at the bottom of the rather deep concavity on the upper third; a broad shining area between the slopes of the face and the grayish pollinose cheeks; the sides of the mouth also shining black. Front relatively wide, the pollinose area above the depression about as broad as long, a V-shaped shining black area on the antennal prominence. Ocellar area velvety black; pile black across the ocelli; occipital pile yellow becoming white below, a few black cilia above, but they are quite short. Antennae black, the third segment brownish black, arista yellow.

Mesonotum opaque black with two golden vittae that are slightly wider both anteriorly and posteriorly; sides broadly golden pollinose; the pile all yellow. Scutellum yellow with yellow pile, strongly black across the disc. Pleura black, lightly grayish pollinose, the pile yellow.

Legs black with the following yellowish areas: Apical one-fourth to one-third of the fore- and midfemora, basal third of the hind tibiae, all of the fore- and midtibiae, the foretarsi, the basal two segments

of the midtarsi, and a small area below at the apex of the hind femora. The foretibiae are often darkened on the apical third. Wings hyaline; squamae whitish yellow, the fringe dark yellow; halteres yellow.

Abdomen black with three pairs of yellow to whitish spots; first segment black, sides yellow; spots on the second segment large, the sides yellow except narrowly at the apex, inner ends of spots broad; spots on the third segment occupy the anterior two-thirds, inner ends whitish; spots on the fourth segment whiter and much smaller, do not reach sides, inner ends well away from the anterior margin. Genital segments shining black with yellow pile; pile on rest of abdomen yellow to golden, black on black areas.

*Female*.—Very similar to male, the front broad with a semishining midstripe connecting the shiny black antennal prominence with the opaque black of the ocellar area; pile of the black areas black, becoming brown below.

Abdominal spots are narrower and there is an additional pair on the fifth segment.

*Holotype*, male.—Matanuska Alaska, June 1944 (J. C. Chamberlin); U. S. N. M. No. 58822.

*Allotype*, female.—Same data.

*Paratypes*.—Four males and eight females, same data; one female, same locality, July 2, 1945. All these specimens were taken in the rotary trap.

This species is related to *obscurus* Loew (fig. 11, *l*), but they are readily separated by the complete thoracic vittae on *neoaffinis*, which on *obscurus* is fainter and partially interrupted. A study of the genitalia indicates the close relationship of *neoaffinis* to *affinis* (fig. 11, *j* and *k*). The males were compared with a specimen of *affinis* from Lapland, and I can see no decided differences except in the genitalia.

HELOPHILUS ALASKENSIS, new species

FIGURE 11, *c, d, g-i, m*

*Diagnosis*.—A medium sized gray-pollinose species. Ground color of face mostly black. Mesonotal vittae very faint. Hind femora quite slender. Length 9.5 to 12 mm.

*Male*.—Head black, pollinose, a broad facial midstripe and the cheeks shining; a reddish streak on the sides of the face, running from the base of the antennae to about two-thirds the distance to the epistoma, and becoming broader below. Front rather broad, grayish pollinose, the area between the depression and anterior ocellus about one and one-half times wider than long; the pile of the head all white except for a few black hairs across the ocelli and on the upper occiput. A prominent reddish velvety spot just below each eye. First two segments of the antennae black, the third reddish to brownish; arista reddish, the base brown, the tip black.

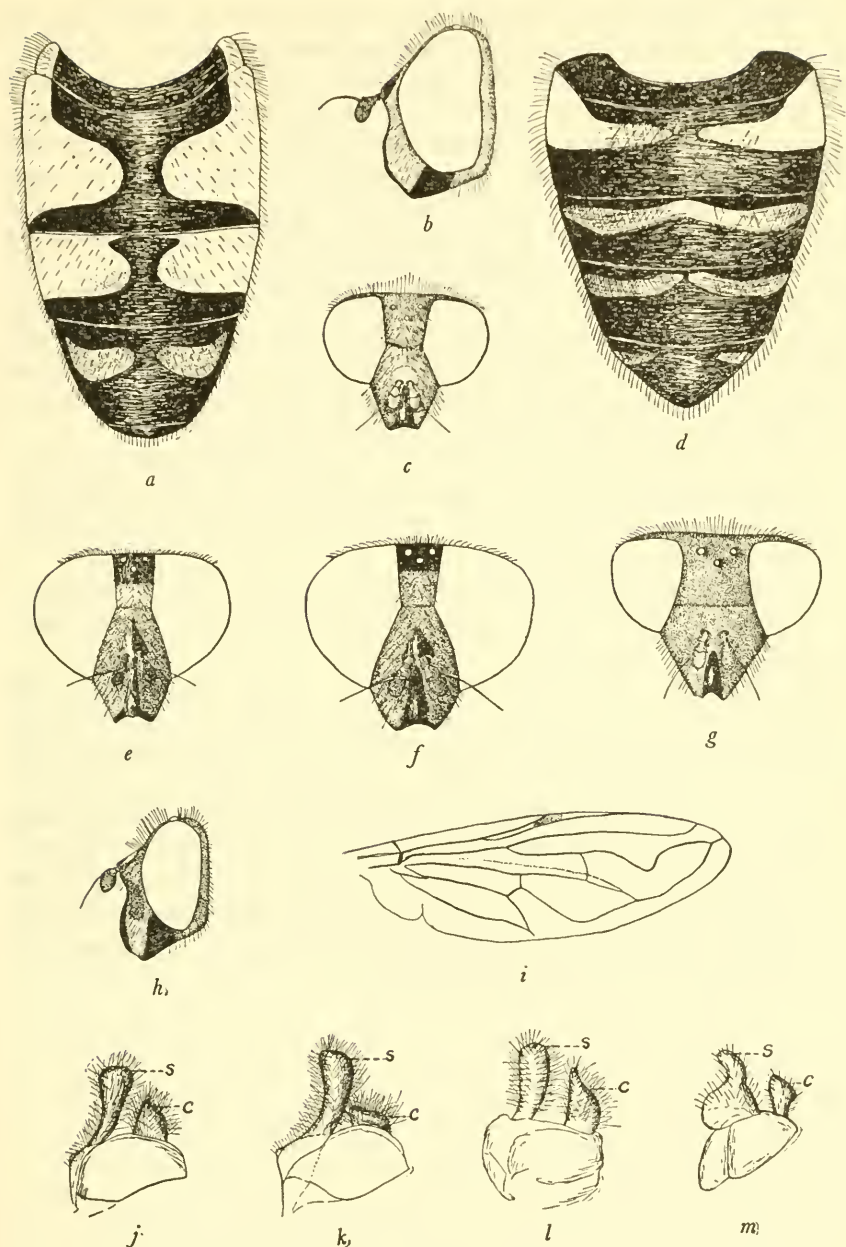


FIGURE 11.—a, *Helophilus neoaffinis*, new species, abdomen of male; b, *H. neoaffinis*, new species, head of male; c, *H. alaskensis*, new species, head of male; d, *H. alaskensis*, new species, abdomen of female; e, *H. neoaffinis*, new species, head of male; f, *H. affinis* Wahlberg, head of male; g, *H. alaskensis*, new species, head of female; h, *H. alaskensis*, new species, head of male; i, *H. alaskensis*, new species, wing; j, *H. neoaffinis*, new species, genitalia; k, *H. affinis* Wahlberg, genitalia; l, *H. obscurus* Loew, genitalia; m, *H. alaskensis*, new species, genitalia.

Mesonotum dullish gray with four faint grayish vittae, which expand and coalesce in front of the scutellum; pile yellow and black mixed. Scutellum translucent, dark, with yellowish pile, a few black hairs on some specimens. Pleura dark, very lightly pollinose, the pile yellow, black on the upper edge of the mesopleura. Legs black, apices of the femora, basal one-third to one-half of the tibiae, and the basal segment of the four front metatarsi yellowish; pile mostly white, some black hairs intermixed. Wings hyaline, the stigma black; squamae yellow with slightly darker fringe, halteres yellow.

Abdomen black, rather dull but shining on the apices of the segments, with three pairs of gray lunules; the first pair broadest and yellowish on the sides, their inner ends almost connected; second pair connected and very narrowly reddish on the sides; third pair similar but all gray and not reaching sides. Pile mostly whitish.

*Female*.—Very similar; the front wide and entirely grayish pollinose, only a small spot above the antennae shining; ocellar triangle quite large, the rear pair remote; fifth tergite with a pair of widely separated gray pollinose spots.

*Holotype*, male.—Umiat, Alaska, June 23, 1947 (K. L. Knight). U. S. N. M. No. 58823. Allotype, female, Matanuska, Alaska, May 26, 1945 (J. C. Chamberlin).

*Paratypes*.—Two males, Matanuska, Alaska, May 19 and 27, 1945 (J. C. Chamberlin); 1 male, Umiat, Alaska, June 26, 1947 (K. L. Knight); 5 females, Matanuska, Alaska, May 17, 18, 19, and 22, 1945 (J. C. Chamberlin); 1 male, Umiat, Alaska, June 26, 1947 (K. L. Knight). The Matanuska specimens were all taken in a rotary trap.

This species looks superficially like *Aemosyrphus willingi* Smith, but the broader stigma, more slender femora, and somewhat smaller ocellar triangle place it in *Helophilus*. It indicates a connecting link and might well be placed in either genus; it likewise indicates that *willingi* may not be a true *Aemosyrphus*.

TABLE 1.—*Syrphidae* Collected in Rotary Trap at Matanuska, Alaska, by J. C. Chamberlin, 1944 and 1945

Species	Number of specimens	
	Males	Females
<i>Volucella bombylans</i> var. <i>plumata</i> DeGeer	1	1
<i>Didea fasciata</i> Macquart	—	1
<i>Scacca pyrastris</i> Linnaeus	1	6
<i>Epistrophe imperialis</i> Curran	1	3
<i>hunteri</i> ? Curran	2	5
<i>mentalis</i> Williston	—	5
<i>tarsatus</i> Zetterstedt	1	5
<i>geniculatus</i> Macquart	—	8
<i>nigrifacies</i> Curran	—	1
<i>macularis</i> Zetterstedt	—	1
<i>garretti</i> Curran	—	2
<i>insolitus</i> Osburn	—	1
<i>cinctellus</i> Zetterstedt	1	6
<i>cinctus</i> Fallen	—	1
<i>guttatus</i> Fallen	1	5
<i>tenuis</i> Osburn	—	1
<i>umbellatarum</i> Schiner	—	3
<i>compositarum</i> Verrall	—	7
<i>Syrphus ribesii</i> Linnaeus	1	—
<i>ribesii</i> var. <i>jonesi</i> Fluke	—	5
<i>torvus</i> Osten Sacken	1	29
<i>vitripennis</i> Meigen	7	13
<i>Metasyrphus latus</i> Osten Sacken	—	1
<i>perplexus</i> Osburn	1	19
<i>luniger</i> Meigen var.	8	2
<i>neoperplexus</i> Curran	5	7
<i>arcuatus</i> Fallen	1	5
<i>lundbecki</i> Soot-Ryen	1	8
<i>lapponicus</i> Zetterstedt	—	40
<i>latifasciatus</i> Macquart	—	1
<i>depressus</i> Fluke	—	1
<i>curtus</i> Hine	1	—
<i>nitidicollis</i> Meigen	—	1
<i>amalopis</i> Osten Sacken	6	13
<i>osburni</i> Curran	1	1
<i>pacifica</i> Lovett	3	3
<i>limatus</i> Hine	—	9
<i>Sphaerophoria nigratarsi</i> Fluke	6	19
<i>robusta</i> Curran	8	16
<i>Baccha obscuricornis</i> Loew	—	3
<i>Pyrophaena granditarsis</i> Forster	7	9
<i>Melanostoma pictipes</i> Bigot	6	19
<i>squamulae</i> ? Curran	1	11
sp.	—	1
<i>Platycheirus clypeatus</i> Meigen	10	31
<i>scutatus</i> Meigen	2	—
<i>angustatus</i> Zetterstedt	—	6

TABLE 1.—*Syrphidae* Collected in Rotary Trap at Matanuska, Alaska, by J. C. Chamberlin, 1944 and 1945—Continued

Species	Number of specimens	
	Males	Females
<i>Platycheirus scambus</i> Staeger.....	1	6
<i>albimanus</i> Fabricius.....	5	11
<i>modestus</i> Ide.....	4	—
<i>nodosus</i> Curran.....	2	—
<i>peltatoides</i> Curran.....	6	19
<i>bigelowi</i> Curran.....	6	16
spp.....	—	6
<i>Pheilosia bigelowi</i> Curran.....	3	7
<i>florella</i> ? Shannon.....	4	1
sp.....	—	1
<i>Cartosyrphus sialia</i> var.		
<i>alpinensis</i> Fluke and Hull.....	1	—
<i>platycera</i> Hine.....	1	1
<i>tristis</i> Loew.....	10	5
<i>Cipiza nigripilosa</i> Williston.....	1	3
<i>Cnemodon</i> sp. new?.....	1	12
<i>Neoscasia metallica</i> Williston.....	1	—
<i>Brachyopa</i> sp.....	—	1
<i>Ferdinandea nigripes</i> Osten Sacken.....	—	1
<i>Temnostoma venustum</i> Williston.....	1	1
<i>Sericomyia militaris</i> Walker.....	—	1
<i>Zelima</i> ( <i>Heliophilus</i> ) <i>naknek</i> Hine.....	5	7
<i>ontario</i> Curran.....	—	1
<i>americana</i> Shannon.....	1	4
<i>subfasciata</i> Loew.....	—	1
<i>flavifrons</i> ? Walker.....	—	1
<i>flavitibia</i> Bigot.....	1	3
<i>vecors</i> Osten Sacken.....	—	2
<i>Helophilus borealis</i> Staeger.....	7	8
<i>obscurus</i> Loew.....	23	25
<i>neaffinis</i> , new species.....	5	9
<i>groenlandicus</i> O. Fabricius.....	—	1
<i>intentus</i> Curran and Fluke.....	10	9
<i>alaskensis</i> , new species.....	2	6
<i>Parhelophilus obsoletus</i> Loew.....	—	2
<i>Lejops perfidiosus</i> Hunter.....	6	11
<i>lunulatus</i> Meigen.....	1	3
<i>Eurhymia stipatus</i> Walker.....	1	—
<i>Polydontomyia curvipes</i> Wiedemann.....	—	1
<i>Tubifera</i> ( <i>Eristalis</i> ) <i>anthophorinus</i> Fallen.....	8	12
<i>compactus</i> Walker.....	2	6
<i>hirtus</i> Loew.....	1	3
<i>obscurus</i> Loew.....	2	4
<i>barda</i> Say.....	—	3
(= <i>flavipes</i> Walker).	—	—
sp.....	—	1
Total.....	206	550