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Occasional Papers
OF THE
Boston Society of Natural History.

NOTES ON MILTOGRAMMINAE WITH DESCRIPTIONS
OF TWO NEW SPECIES.

BY H. W. ALLEN.

[Some biology]

Senotainia vigilans, new species.

Male.—Front at narrowest 0.38 of the head-width (average of two 0.37, 0.39); frontal vitta brown, at base of antennae at least twice as wide as lowest ocellus, broader posteriorly; vertex and upper part of the front including the vitta, golden pollinose, remainder of front and the face silvery; about twelve weak bristles in each frontal row; only two orbitals present, approximated at their insertion which is near the vertex, the lower one proclinate, the upper reclinate; parafrontals nearly bare of hairs; vibrissae length of second antennal joint above front edge of oral margin, and separated by one and one-half times length of second antennal joint; facial ridges bare save for one or two small bristles just above vibrissae; no scattered bristly hairs lateral to vibrissae; antennae extend three-fourths distance to vibrissae, second joint yellow at least apically, third joint yellow usually overlain with blackish tomentum, twice the length of the second joint; arista thickened on the basal three-fifths, penultimate joint slightly longer than broad; parafacials bare; in profile, buccal width one-tenth eye-height and subequal to width of parafacial, front projects nearly half the eye-width; axis at vibrissae slightly less than at base of antennae. Thorax cinereous, with four indistinct black vittae; postsutural dorsocentral bristles becoming rapidly weaker from back to front, usually but two differentiated; two sternopleurals; three pairs of marginal scutellars of about equal size. Abdomen red save the base of the first and the apex of the fourth segments which are black, thinly gray pollinose except the numerous polished spots on dorsum; first segment without median marginal macrochaetae, second with a weak pair, third and fourth with marginal rows of about eight bristles. Inner forceps of the genitalia moderately stout, tapering to sharp, stout points, united save for minute cleft at the apex; outer forceps almost as long as the inner pair, bulbous at base, suddenly constricted to angular stem which is expanded again at tip into process with sharp angles at front and back, the larger rear angle apposed to tips of inner forceps; sides of fifth sternite large, lobiform, nearly bare of hairs. Wings without costal spine; one bristle at base of third vein. Legs black; middle tibia with a single bristle on outer front side near middle; hind tibia with a row of irregular bristles on outside, not extending far beyond the middle; hind femur bearing villous hairs equaling its thickness on proximal third of under surface.

Female.—Front at narrowest 0.35 of head-width (measurements of six as follows: 0.33, 0.33, 0.34, 0.34, 0.38, 0.38); frontal vitta at base of antennae three times width of lowest ocellus; buccal width equal to one-eighth eye-height. Pulvilli much shorter than last tarsal joint. Otherwise like the male save for usual difference in genitalia.

Length 5 to 6 mm.

Type.—Male, in the U. S. National Museum. Adaton, Mississippi, August, 1922.

Allotype.—Female, in the U. S. National Museum. Adaton, Mississippi, July 15, 1922.

Diptera - Sarcophagidae - Miltogramminae
Hymenoptera - Sphecidae - Beutlicinae

Range.—Massachusetts, Ohio, District of Columbia, Maryland, Mississippi.

Described from the following material: one male and one female reared from the nest of *Bicyrtes quadrifasciata* Say, taken at Adaton, Mississippi, August, 1922, and three females collected about a Bembicid colony at the same locality (H. W. Allen); one male, Agricultural and Mechanical College, Mississippi, August 7, 1922 (H. W. Allen). In the U. S. National Museum, aside from the type and allotype: one female taken as it emerged from the nest of *Bembex spinolae*, June 6, 1914, Washington, D. C. (J. B. Parker); one female labeled "Parker Note No. 44," concerning which Professor Parker has furnished the information that, "this fly was captured as it emerged from the nest of *Bicyrtes ventralis* Say, into which it had dashed in pursuit of the wasp as she entered with a Hemipterous insect." A male from Glen Echo, Maryland, August 30, 1923, in the collection of J. R. Malloch. A male and a female taken *in coitu*, at West Springfield, Massachusetts, July 25, 1915 (H. E. Smith), loaned by the Museum of Comparative Zoölogy, agree with the type in the number and position of the orbital bristles and in the degree of thickening on the arista, but the front is narrower as in *rubri-ventris*, and there are no median marginal bristles on the second abdominal segment in either; also two specimens from the same locality in the collection of the Boston Society of Natural History. A single female specimen reared from puparium taken from sand beneath the burrows of *Bembex spinolae* and other fossorial Hymenoptera, at Columbus, Ohio, August 10, 1921 (H. W. Allen), in my collection, agrees with the type in the width of the front, in having the arista thickened no more than the basal half and in the presence of conspicuous blackish tomentum on the third antennal joint. It differs slightly, however, in having two proclinate orbitals.

This species is very closely related, morphologically, to *litoralis*. However, in the specimens that I have examined, the presence of a large amount of red on the abdomen is constant in *vigilans*, while in *litoralis* there is never any reddish coloration. Some specimens of *vigilans* vary toward *rubri-ventris*. Males of these two species may always be readily separated by comparison of the outer forceps which are hooked toward the tips of the inner forceps in the former, away from them in the latter. In both sexes of *vigilans*, the bucca and front are wider, the arista is more extensively thickened than in *rubri-ventris*, and there is one less proclinate orbital bristle.

Senotainia litoralis, new species.

Male.—Front at narrowest 0.32 of head-width, (measurements of five as follows: 0.29, 0.31, 0.33, 0.33, 0.34); frontal vitta behind base of antennae scarcely wider than lowest ocellus, broadening gradually to width greater than parafrenal at the ocellar triangle; posterior two-thirds of vitta distinctly pollinose, obscure; face and front silvery; a frontal row on either side of vitta of about nine weak bristles, separated at their middle by distance less than

width of either parafrontal; one reclinate and usually two proclinate orbital bristles; only a few black bristly hairs on parafrontals outside frontal rows; vibrissae inserted length of second antennal joint above front edge of oral margin, separated by distance about equal to length of second antennal joint; no scattered bristly hairs in region lateral to vibrissae; facial ridges bare except for one or two small bristles above the vibrissae; antennae extending to length of second antennal joint above the vibrissae, the second joint rufous, third joint one and one-half to two times as long as second, yellow, usually overlain more or less completely with blackish tomentum; arista thickened on basal half, penultimate joint slightly longer than broad; sides of face bare; in profile, bucca equals one-tenth eye-height, and is subequal to parafacial; proboscis almost as long as height of head, labella fleshy, palpi yellow, slightly clavate. Thorax cinereous, with five rather indistinct black vittae, the outer pair broad and obscure; usually two postsutural dorsocentrals, sometimes a weak third anteriorly, two strong sternopleurals, three marginal scutellar bristles of about equal size. Abdomen densely gray pollinose over black, without reddish spots on the sides, with row of three obscure black spots on apices of intermediate segments; the second segment with a pair of weak median marginal bristles, third and fourth with marginal rows of about eight. Genitalia as in *vigilans*; sides of fifth sternite roundly angular at apex, not lobiform. Wings hyaline; without costal spine; one bristle at base of third vein. Legs black; middle tibia with one small bristle on outer front side near middle; pulvilli of fore foot about as long as last tarsal joint; hind femur without villosity on inner proximal surface.

Female.—Front at narrowest 0.27 (average of five) of the head-width. Pulvilli much shorter than last tarsal joint. Genitalia non-piercing, telescoped within abdomen, in repose. Otherwise like the male.

Length 4.5 to 6 mm.

Type.—Male, in the U. S. National Museum, from Moss Point, Mississippi.

Allotype.—Female, in the U. S. National Museum, from Moss Point, Mississippi.

Described from the following material: one specimen from Manomet, Massachusetts, July 17, 1904 (J. A. Cushman); seven females, Chesapeake Beach, Maryland; two males, Sandusky, Cedar Point, Ohio (J. S. Hine); two males and one female, Lafayette, Indiana (J. M. Aldrich); seven males and eleven females, Moss Point, Mississippi, September 8, 1922 (H. W. Allen); two males and three females, Mobile, Alabama, September 4, 1922 (H. W. Allen); seven males and six females, Gulfport, Mississippi, September 10, 1922 (H. W. Allen); one male and one female, cowpeas, Agricultural and Mechanical College, Mississippi, August 31 to September 1, 1922 (H. W. Allen); one male, College Station, Texas, September 9, 1920 (H. J. Reinhard); one female, Owen's Lake, California, labeled "on flowers of *Asclepias*" (J. M. Aldrich); one specimen in the U. S. National Museum labeled "Parker, Note No. 25", concerning which Professor Parker states, "This fly followed *Oxybelus quadrinotatus* Say into its burrow as the latter entered carrying a house-fly. As the fly came out of the burrow, it was captured, as was *Oxybelus* as she emerged soon afterward."

One male and three females from Moscow, Idaho (J. M. Aldrich, in the U. S. National Museum, differ slightly from the typical in

having the eyes broader and inclined to be angular along the lower orbit. Two of the males from Lafayette, Indiana, one from Moscow, Idaho, in the U. S. National Museum, and one in my collection from Moss Point, Mississippi, in which the genitalia have been relaxed, have the pendant process of the penis extremely long and slender. These variations have not been considered of specific significance.

Phrosinella fulvicornis Coquillett.

Hilarella fulvicornis Coquillett, Journ. N. Y. Ent. Soc., vol. 3, p. 106, 1895.
Euhilarella fulvicornis Townsend, Proc. Biol. Soc. Washington, vol. 28, p. 22, 1915.

The writer compared Coquillett's type with genotype specimens of *Hilarella hilarella* Zetterstedt and *Phrosinella nasuta* Meigen from Europe, determined by Professor Bezzi. The latter species apparently has not been previously examined by workers in this country. Coquillett's *fulvicornis* differs from *Hilarella* in having the bucca and back of head about the oral cavity with sparse, pale hairs, the apical cell open, the inner eye-orbits sinuous and the parafacials distinctly pinched in at the lower corners of the eyes. It agrees with *Phrosinella* in all these characters, and others of generic significance with the possible exception of the sexual dimorphism in the specialization of the fore tarsus not occurring in *nasuta*. A careful study of the Miltogramminae of North America reveals several instances of striking specialization of the fore tarsus occurring in species closely related to others without such specialization, and placed by common consent in the same genus with them. Hence, I recognize *fulvicornis* as of a genus distinct from *Hilarella* but congeneric with *Phrosinella nasuta*.