

## SOME NEW SPECIES OF WESTERN MYCETOPHILIDAE

(DIPTERA)

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In a lot of material sent to me for identification by Dr. D. G. Denning I have found a considerable number of new species. Part of these have been described already in the June 1951 issue of the Brooklyn Entomological Society, (vol. 46: 65-70).

The new species described herein represent five genera, *Exechia*, *Mycetophila*, *Platyura*, *Rhymosia* and *Trichonta*. Most of the material was taken in Wyoming at fairly high altitudes. The number of new species taken was large in proportion to the total number of specimens sent to me. It may be that the area will prove to be rich in new species when it is more thoroughly worked.

The types of the new species are retained in my collection. Paratypes are distributed as stated later in the paper.

***Exechia bilobata*, new species**

Male: length, 4 mm.

Head: vertex and occiput dark brown, frons and mouthparts lighter. First two and basal half of third segment of antennae yellow, remainder dark brown.

Thorax: lateral margins and humeri of mesonotum yellow, three dark brown areas separated by a Y-shaped fine yellow line. Scutellum dark brown with two marginal setae. Prothorax yellow, mesopleura brown, metapleura lighter. Wing  $3\frac{1}{2}$  mm. long. Curvature of  $R_s$  conspicuous. Ratio of  $a:b = 0.66$ . Petiole of  $M$  about  $\frac{4}{7}$  length or  $r-m$  crossvein. Cu forks under origin of  $R_s$ . Halteres with yellow pedicels and brown knobs. Legs—yellow, mesothoracic coxae with brownish marking posteriorly, trochanters with small dark brown mark anteriorly, all femora with narrow brown apical stripe. Tibiae and tarsi appear brown due to presence of brown setulae. Fore basitarsi about  $1\frac{1}{8}$  as long as tibiae.

Abdomen: dark brown. Hypopygium (Fig. 1) somewhat lighter, Dististyles are scissors-like. A prominent bilobed ventral plate is characteristic of this species.

In Johannsen's key, this species would run to the couplet containing *E. umbratica* Aldrich and *E. nugax* Joh. It can be recognized by differences in the hypopygium, venation and color. In some respects it resembles *E. bifurcata* Fisher but differs in the details of the dististyles.

Described from one male collected at a light trap Aug. 16-18, 1949 by J. Simon at Jackson, Wyoming.



***Mycetophila carruthi*, new species**

Male: length  $3\frac{1}{2}$  mm.

Head: uniformly dark brown, palpi somewhat lighter, basal two segments of antennae yellow, remainder yellowish brown.

Thorax: dark brown, humeri faintly tinged with yellow, pro- and meso-pleura brown. Metapleura yellow. Scutellum dark brown with four bristles. Wing 3 mm. long. A brown spot covers origin of  $R_s$ ,  $r-m$  crossvein and petiole of  $M$ .  $M$  forks under origin of  $R_s$ . Petiole of  $M$  about 0.84 as long as  $r-m$  crossvein.  $Cu$  forks slightly distad of fork of  $M$ . Halteres yellow. Legs yellow, tarsi and tibiae appear dark due to presence of numerous setulae. Two rows of setae on extensor surface of hind tibiae. No setae on flexor surface of mesothoracic tibiae.

Abdomen: uniformly dark brown except for hypopygium (Fig. 2) which is yellowish brown.

In Johannsen's key this species would run to *M. falcata* Joh. It can be distinguished by the structure of the dististyles.

Described from one male collected at the junction of Elkhorn Creek and Poudre River, Colorado on August 16, 1947 by D. G. Denning. I take pleasure in naming this insect for Dr. L. A. Carruth of the University of Arizona, Tucson, Arizona.

***Mycetophila ghanii*, new species**

Male: length  $3\frac{1}{2}$  mm.

Head: uniformly dark brown except for palpi which are somewhat lighter. Second and basal half of third antennal segments yellow, remainder dark brown with white pile.

Thorax: dark brown except for humeri and lateral margins of mesonotum which are chestnut colored. Scutellum dark brown with four marginal setae. Wing 4 mm. long. A dark brown spot covers origin of  $R_s$ , the  $r-m$  crossvein, the petiole and fork of  $M$ . A second brown spot occupies the tips of the costal cells and cell  $R_{1+2}$  extending to vein  $M_{1+2}$ . A faint band extends from  $R_{1+2}$  to beyond  $Cu_2$ . Media forks under the origin of  $R_s$ , petiole of  $M$  subequal to the  $r-m$  crossvein. Fork of  $Cu$  proximad of the base of the  $r-m$  crossvein. Halteres yellow. Legs—coxae and trochanters yellow, all femora yellow with brown stripe posteriorly and apices likewise colored. Tibiae brown at apices, tarsi brown. Fore basitarsi about 0.80 as long as tibiae. Hind tibiae with two rows of spines on extensor surface. Mesothoracic tibiae with one seta on flexor surface.

Abdomen: uniformly dark brown except for hypopygium (Fig. 3) which is paler.

In Johannsen's key this species would run to *M. fenestrata* Coq. It can be distinguished by the structure of the hypopygium and by the wing pattern.

Described from two males, the type from Snowy Range



Mountains, Albany, Wyoming, Sept. 25, 1947 and a paratype from Centennial, Wyoming, August 2-3, 1947. Both specimens were collected by D. G. Denning. I take pleasure in naming this insect for Dr. M. A. Ghani of Lyallpur, Pakistan.

***Platyura palmi*, new species**

Male: length 5½ mm.

Head: vertex and occiput dark brown, mouthparts a little lighter. Basal half of 3rd antennal segment yellow, remainder of antenna dark brown.

Thorax: uniformly dark brown except for small pale area on humeri. Prothoracic spiracle yellow. Wing 4½ mm. long. No distinct markings but apex is slightly infuscated. Costa extends about ⅓ distance from  $R_{4+5}$  to  $M_{1+2}$ .  $Sc$  long, ending beyond origin of  $R_s$ .  $Sc_2$  near humeral crossvein.  $R_s$  ends in costa and is at an angle to  $R_{4+5}$ . Petiole of  $M$  is short, about as long as  $R_s$ .  $Cu$  forks beyond origin of  $R_s$ . Two distinct anal veins of which the first does not quite reach the margin of the wing. Halteres pale yellowish-brown. Legs—yellow. Trochanters have small black stripe on anterior outer surface. Tibiae and tarsi appear dark brown due to presence of numerous dark setulae. Fore basitarsi about ⅝ the length of the tibiae.

Abdomen: uniformly dark brown. Hypopygium (Fig. 4) dark brown.

In Johannsen's key, this species would run to *P. inops* Coq. from which it can be distinguished by having the basitarsi shorter than the tibiae, by color differences and by the structure of the hypopygium.

Described from one male from Snowy Range Mountains, Albany County, Wyoming, collected by D. G. Denning. I take pleasure in naming this insect for Dr. C. E. Palm of Cornell University.

***Rhymosia coheri*, new species**

Male: length 4 mm.

Head: dark brown, mouthparts and palpi yellowish brown. First two and basal half of third segment of antennae yellow, remainder dark brown covered with whitish pile.

Thorax: dark brown except for prothorax which is yellow and for a triangular yellow spot on the dorsal posterior region of the mesothoracic katepisternum. Scutellum dark brown with two marginal setae. Wing 3 mm. long. Petiole of  $M$  subequal to the  $r-m$  crossvein in length. Fork of  $Cu$  slightly distad of origin of the  $r-m$  crossvein. Halteres yellow. Legs yellow, fore basitarsi subequal in length to tibiae.

Abdomen: All segments dark brown above, first, third, seventh and eighth tergites completely brown. The remaining tergites have the anterior lateral portions largely yellow. Sternites yellow. Hypopygium (Fig. 5) yellow.



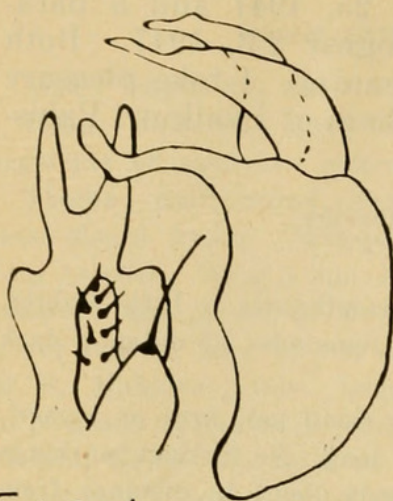


FIG. 1



FIG. 2

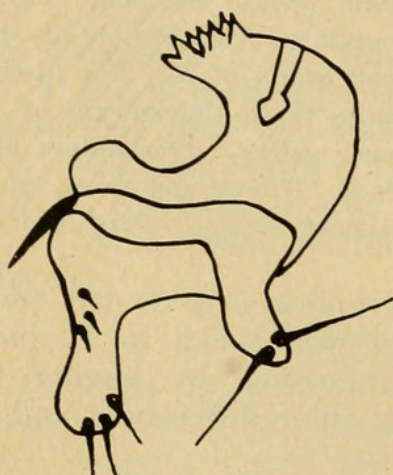


FIG. 3

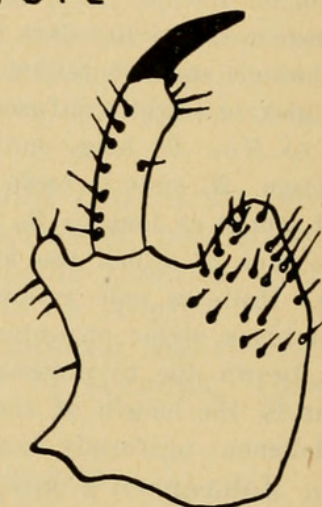


FIG. 4

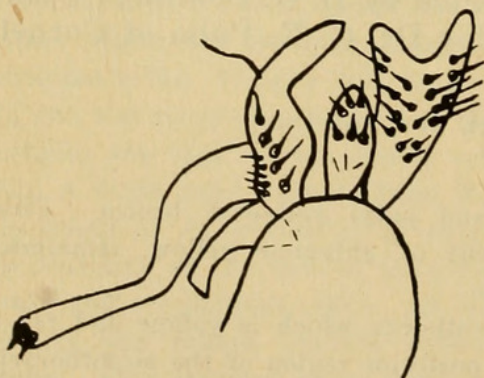


FIG. 5

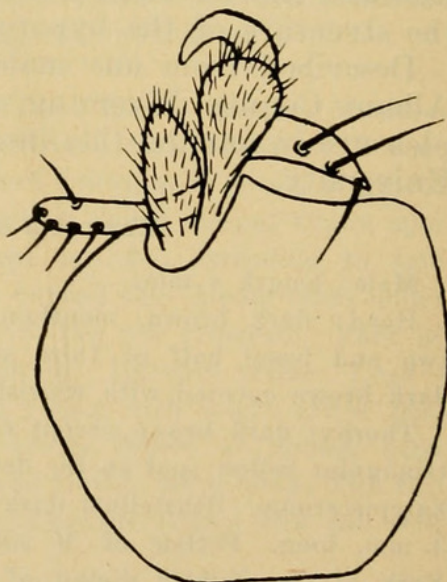


FIG. 6

## PLATE 37. HYPOPYGIA OF NEW MYCETOPHILIDAE

Fig. 1, dorsal view of right half of hypopygium, *Exechia bilobata*. Fig. 2, lateral view of right dististyle, *Mycetophila carruthi*. Fig. 3, internal view of right dististyle, *Mycetophila ghanii*. Fig. 4, lateral view of right basistyle and dististyle, *Platyura palmi*. Fig. 5, lateral view of right dististyle, *Rhymosia coheri*. Fig. 6, lateral view of right dististyle, *Trichonta chaoi*.



In Johannsen's key, this species would appear to run to his species "a" described from a female from California. Since no male has been described for Johannsen's species "a" I consider my species is new.

Described from one male collected July 21, 1947 at Laramie, Wyoming by Dr. D. G. Denning. I take pleasure in naming this insect for Edward Coher.

***Rhymosia dietrichi*, new species**

Male: length  $4\frac{1}{2}$  mm.

Head: dark brown, somewhat paler above the compound eyes. Mouthparts and palpi yellow. First three segments of antennae yellow, remainder brown covered with thick pile.

Thorax: mesonotum dark brown with two faint, longitudinal yellow stripes converging posteriorly. Prothorax yellow. A yellow area extends along suture between katepisternum and epimeron of mesopleuron. A small yellow area just below hind margin of wing on mesoepimeron. Lateral margins of scutellum, postnotum and lower portion of pleurotergites yellow. Metapleura yellow, bearing 3 conspicuous setae and about 10 smaller ones. Scutellum with two marginal setae. Wing  $3\frac{1}{2}$  mm. long with a yellowish tinge. Petiole of *M* about 0.55 as long as *r-m* crossvein. *Cu* forks about length of the petiole of *M* before the origin of the *r-m* crossvein. Halteres with white bases and yellow knobs. Legs—yellow, tibiae and tarsi about 1.14 longer than tibiae.

Abdomen: dark brown, lateral portions of tergites paler. Hypopygium light brown, closely resembles that of *R. beckeri* Shaw.

In Johannsen's key, this species would run *R. inflata* Joh. On the basis of the structure of the hypopygium it would be close to *R. beckeri* Shaw. It can be distinguished from *R. inflata* Joh. by the structure of the hypopygium and from *R. beckeri* by the venation, color pattern and thoracic chaetotaxy.

Described from one male collected in Mt. Rainier National Park, Washington on June 19, 1948 by D. G. Denning. I take pleasure in naming this insect for Dr. Henry Dietrich of the Department of Entomology of Cornell University.

***Trichonta chaoi*, new species**

Male: length 3 mm.

Head: uniformly dark brown except for last two segments of the palpi which are yellow.

Thorax: uniformly dark brown except for small area on humeri which are light brown and anterior pronotum and prothoracic spiracular region which are yellow. Wing  $3\frac{1}{2}$  mm. long. Costa does not extend beyond tip of *R*<sub>1</sub>. *Sc*<sub>1</sub> missing, *Sc*<sub>2</sub> ends in *R* about 0.75 of the length of cell *R*<sub>1</sub>. *M* forks beyond origin of *R*<sub>1</sub>. Petiole of *M* about 1.75 as long as the *r-m* crossvein. Fork of *Cu* before fork of *M* but beyond origin of *r-m*



crossvein. Halteres yellow. Legs—yellowish brown. Tibiae and tarsi darker. Fore basitarsi subequal in length to tibiae.

Abdomen: dark brown including hypopygium (Fig. 6).

In Johannsen's key, this species would run to *T. foeda* Loew, which was described from a female. It can be distinguished by color pattern from this species.

Described from one male collected on the Snowy Range Mountains, Albany County, Wyoming on July 17, 1948 by D. G. Denning. I take pleasure in naming this insect for H. F. Chao who has assisted me in the preparation of some of my drawings.

### THE NESTING HABITS OF MIMESA (MIMUMESA) NIGRA (PACKARD)

(HYMENOPTERA, SPHECIDAE)

While repairing a picket fence in an area of small lawns and backyards in Falls Church, Va., June 2, 1951, I found the cells of some insect in a decaying "2 x 4" about one foot above the ground. A section about 6 inches long was infested at one end of the piece of fencing, where the paint had weathered away. A dozen or more cells were present, from some of which the occupants had already emerged. Two intact cocoons were secured, and about June 15 there emerged a black male wasp about 6 millimeters long, later identified by K. V. Krombein as *Mimesa* (*Mimumesa*) *nigra* (Pack.). No published data on the nesting habits or prey of the North American species of the subgenus *Mimumesa* have previously appeared.<sup>1</sup> The second cocoon was opened July 5 and a white larva 4 millimeters long was found and preserved. Its identity as *nigra* was confirmed by comparison with the larval skin removed from the first cocoon after adult emergence. Each cocoon shows a dried deposit of dark meconium at one end. Cocoons are about 7 millimeters long, pale brown and composed of tightly woven silk. They are not capped, but the wasp chews an opening at one end when emerging. All of the cells of *nigra* examined were stocked with female leafhoppers, many of the latter remaining intact, evidently in excess of the larval food requirements. All the leafhoppers belonged to a single species of *Agallia* (det. D. A. Young).

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<sup>1</sup>K. V. Krombein, in Muesebeck, et al, 1951, Hymenoptera of America North of Mexico, Syn. Cat. U. S. Dept. Agric., Agric. Monograph No. 2, p. 958.



1951. "Some new species of Western Mycetophilidae (Diptera)." *Proceedings of the Entomological Society of Washington* 53, 275–280.

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