

## A NEW PARASITIC FLY OF THE GENUS CHAETOPHLEPSIS

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The new species described in this paper was recognized in the course of parasite work at the gypsy moth laboratory of the Bureau of Entomology. The writer wishes to acknowledge the technical assistance which he received from Dr. J. M. Aldrich, of the United States National Museum, during the preparation of this description and the notes which accompany it.

According to Aldrich,<sup>1</sup> the genus *Hypochaeta* Brauer and Bergentamm does not occur in the United States and the species assigned to that genus by Coquillett<sup>2</sup> and Smith<sup>3</sup> should be referred to *Chaetophlepsis* Townsend.<sup>4</sup> In assigning Smith's species to *Chaetophlepsis*, Aldrich recognized but one of them, *townsendi*, as valid; the other, *eudryae*, he made a synonym of *C. tarsalis* Townsend. A study of more material from the gypsy moth laboratory, Melrose Highlands, Mass., confirms Aldrich's synonymy in part. It appears that the type material of *Hypochaeta eudryae* Smith is a mixture of two species. The holotype (from *Eudryas grata*, Newton, Mass.) and one paratype (White Mountains, H. K. Morrison) are identical with *C. tarsalis*, while the remaining paratypes (Oswego, N. Y., 1897) represent a new species.

The males of this new species are readily differentiated from the others of the genus by their well-developed orbital bristles, wider front, and shorter pulvilli. The females are more difficult, but the wider front, shorter antennae, and distinctive reddish-yellow base of the third antennal joint will serve to separate them from *tarsalis*. The female of *townsendi* is unknown.

<sup>1</sup> Proc. Ent. Soc. Wash., vol. 25, 1923, p. 161.

<sup>2</sup> U. S. Dept. Agr. Div. Ent., Tech. Ser. 7, 1897, p. 65.

<sup>3</sup> Proc. Ent. Soc. Wash., vol. 18, 1916, p. 94.

<sup>4</sup> Proc. U. S. Nat. Mus., vol. 49, no. 2115, 1915, p. 422.

## CHAETOPHLEPSIS ORBITALIS, new species

*Male*.—Front, at vertex, 0.42 of the head width (measurements of three as follows: 0.41, 0.42, 0.43); inner orbits equidistant from vertex to base of antennae, thence gently divergent, entire front grayish pollinose, concolorous; frontalia broad, wider than the parafrontals; frontal rows of four or five strong bristles extending below base of third antennal joint; ocellar bristles erect, directed outward and a little backward; two pairs of strong orbital bristles; inner vertical bristle well-developed. Face grayish pollinose, receding, facial plate sunken; facial ridges bristly three-fourths way from vibrissae to base of antennae; parafacial narrow, less than one-half the width of the third antennal joint; vibrissae at the oral margin; bucca slightly over one-third the eye height; two geno-orbital bristles. Antennae inserted high above middle of eye; first and second joints black, short; third joint black, broad, and seven or eight times the length of the second; second joint of the arista short, the third thickened for about one-half its length and gradually tapering therefrom. Eyes indistinctly short hairy. Palpi yellow, the proboscis short.

Thorax black, heavily gray pollinose and with a brassy cast, the vittae indistinct; three postsutural dorsocentral bristles; two sternopleural bristles; no pteropleural bristle. Scutellum with two lateral bristles on either side, a strong decussate apical and a small discal pair of bristles.

Abdomen black, gray pollinose with a faint brassy tinge; abdominal hairs depressed; first segment with a lateral macrochaeta only; second segment with two lateral, one discal pair, and one marginal pair; third segment with three lateral, one discal pair, and one marginal pair and the fourth segment with a discal pair and a complete marginal row. Viewed from behind, the fourth segment is wedge-shaped, the posterior margins not contiguous, hence exposing the large, elongated first genital segment. This segment is not retractile, thickly gray pollinose and sparsely beset with fine black hairs; second genital segment small; inner forceps curved under, piercerlike in appearance, and about equal in length to the first genital segment, outer forceps elongate with rounded ends which terminate acutely.

Legs robust, black; tibiae brownish; front tibiae with two posteroventral bristles near the middle and a row of bristles in front; middle tibiae with a stout anterodorsal bristle at about the middle and a weaker one above it, also an inner bristle; hind tibiae with seven or eight short and long bristles on the outer hind side; all the pulvilli short.

Wings hyaline; apical cell open, ending a little way before wing tip; first vein bristly from base to apex; third vein at base with three bristles, the outermost ones strongest and unusually long; costal spine appressed. Hind cross vein retracted, the last section of the first vein considerably more than one-half the preceding.

*Female*.—Front, at vertex, 0.40 of the head width (measurement of three as follows: 0.39, 0.39, 0.41); part of the second and base of third antennal joint reddish yellow; third joint mostly black, five times the length of the second; otherwise, except for the genitalia, like the male.

Length, 5 to 7 mm.

The species is represented by large series of both sexes and there appears to be but little variation. Occasionally the males will show a little red on the first two antennal joints and a few specimens have the frontal vitta a little more yellowish than the parafrontals. As a rule the arista is thickened from one-third to one-half the way from the base and gradually tapers therefrom. Rarely is there any abrupt tapering. There are usually two (rarely one) midtibial bristles, often three in the females; hind cross vein retracted, but the distance from its end to the small cross vein is variable. The number and position of the geno-orbital bristles vary. Costal spine usually appressed, sometimes upright and distinct. The anal cell open or closed. There is also minor variation in the abdominal macrochaetae.

*Puparium*.—The puparium has been described by Greene<sup>5</sup> under the name of *Hypocheata longicornis* Schiner.

*Biology*.—Only a few facts concerning the biology of the species are known. Usually there is a single generation, but occasionally adults will emerge in the late summer of the same year in which the puparia are formed and possibly a partial second generation ensues. The species passes the winter in an undeveloped state within the puparium.

Described from 25 specimens of both sexes reared at the gipsy moth laboratory from *Cingilia catenaria* Drury, by J. V. Schaffner, jr., and others. The type (G. M. L. 12418 J3a) is from Sherborn, Mass.; emergence date, April 21, 1924. The allotype (G. M. L. 12418J3) from Sherborn, Mass.; emergence date, April 24, 1924. The paratypes are as follows: 4 males, Sudbury, Mass., June 2, 4, 4, 4, 1923 (G. M. L. 12418 H2); 4 males, Sherborn, Mass., June 2, 2, 4, 4, 1923 (G. M. L. 12418 H1A); 3 males, Brewster, Mass., June 2, 4, 4, 1923 (G. M. L. 12418 H3); 1 female, Lancaster, Mass., May 20, 1929 (G. M. L. 12418 P 2); 2 females, Amherst, N. H., May 16, 17, 1929 (G. M.

<sup>5</sup> Proc. U. S. Nat. Mus., vol. 60, no. 2405, art. 10, 1921, p. 28.

L. 12418 P1); 1 female, Westerly, R. I., May 18, 1921 (G. M. L. 12418 F3); 2 females, Sudbury, Mass., June 17, 17, 1924 (G. M. L. 12418 J2); 2 females, Sherborn, Mass., April 24, 24, 1924 (G. M. L. 12418 J3); 4 females, Sherborn, Mass., April 23, 24, 24, 24, 1924 (G. M. L. 12418 J3A). Four of the paratypes are at the gypsy moth laboratory. The remainder of the type material is in the United States National Museum. Other material examined consist of 237 specimens of both sexes reared at the gipsy moth laboratory from *Cingilia catenaria* Drury from New England localities and several specimens in the United States National Museum from New York, Maryland, and New Hampshire.

*Type*.—Male. Cat. No. 43135, U.S.N.M.

#### NOTES ON CHAETOPHLEPSIS TARSALIS TOWNSEND

Townsend described only the female of *tarsalis*, and while this description will suffice for the male, some additional notes may prove of value. The species is represented at the gipsy moth laboratory by about 60 specimens of both sexes, reared from *Alypia octomaculata* Fabricius by J. V. Schaffner, jr., and others.

Front at vertex in six males varying from 0.31 to 0.33 of the head width; in the females from 0.32 to 0.33; geno-orbital bristles variable; frontalia usually more yellowish pollinose than the parafrontals, often concolorous; males usually with one strong, outer midtibial bristle, sometimes with two; female invariably with two strong ones; third antennal joint of male about six or seven times the second, in the female a little shorter; second antennal joint usually black, occasionally a little reddish but never conspicuously so; hind cross vein retracted, distance from end to small cross vein variable but never ending beyond the middle of fifth vein; male pulvilli as long as the last tarsal joint.

*Distribution*.—Peru, Colorado, New Hampshire, New York, Massachusetts, and Mississippi.