

with yellow luster. Wings narrower than in the female. Length: Body about 3 mm., wing 1.8 mm.

Buena Vista, Florida, December 29, 1913 (C. A. Mosier); Miami, Florida, two females on flowers of avocado (*Persea* sp.), December 20, 1912, two males, November 22 and 23, 1912 (F. Knab); Little River, Florida, two females November 30, 1912 (Knab); Biscayne Bay and Lake Worth, Florida (Mrs. A. T. Slosson).

*Type:* Cat. No. 18419, U. S. N. M.

Closely resembles *Forcipomyia propinquus* Williston, but differs principally in the shape of the palpi and hind tarsi, both being more slender than in Williston's species.

#### ***Forcipomyia crudelis* n. sp.**

*Female:* Occiput dull brown, clothed with coarse yellow hair. Antennæ with the proximal portion of the shaft yellowish, of subglobose and subovate joints, the last five joints blackish and clothed with white pubescence, elongate and subcylindrical. Palpi black, the antepenultimate joint greatly thickened. Thorax and scutellum brownish black, a small yellowish humeral spot, vestiture of coarse yellow hair. Abdomen black, clothed dorsally with dark hair, at the sides with tufts of shining yellow hair at the bases of the segments. Wings smoky, clothed with coarse black hair; costa black to end of first vein and on this portion bearing long and dense black hair, a patch of yellow hair at its base; submarginal cell indistinct, ending slightly beyond middle of wing. Halteres with brownish stem and whitish knob. Legs yellow, clothed with coarse, irregular yellow hairs; an ill-defined brown ring subapically on middle and hind femora; entire fore tarsi infuscated, middle and hind tarsi with the last three joints dark; first joint of hind tarsi slightly less than half the length of the second, the last joint nearly as long as the fourth. Claws long and slender; empodium fleshy, ciliate. Length: Body about 1.5 mm., wing 1.7 mm.

Plantation "La Oaxaqueña," near Santa Lucrecia, Mexico, October, 1911. (F. W. Ulrich.)

*Type:* Cat. No. 18420, U. S. N. M.

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### NOTES ON SOME FOREST COLEOPHORA WITH DESCRIPTIONS OF TWO NEW SPECIES.<sup>1</sup>

BY CARL HEINRICH, *Bureau of Entomology.*

The following species of *Coleophora* were reared by Mr. A. Busek and the writer during the past summer, at the Falls Church, Virginia, station of the Forest Insect Investigations Division of

<sup>1</sup> Contribution from the Division of Forest Insect Investigations, Bureau of Entomology.

the Bureau of Entomology. The writer is indebted to Mr. Busck for final determination of the species.

**Coleophora leucochrysellæ** Clemens. Dyar N. A. Lp. No. 6026.

Eleven specimens of this beautiful moth were reared under Hopkins U. S. No. 11135.

Larval case 10 to 11 mm. long; first two-thirds made from material of the leaf; light yellow; elongate cylindrical, somewhat flattened and slightly bulged in the middle with distinct fin-like projection from base to middle; mouth deflected about 30 degrees; posterior third made of pure silk, slightly darker, curving in to a blunt point and splitting vertically along the posterior extremity of the keel.

*Habitat:* Falls Church, Virginia, and Charter Oak, Pennsylvania.

*Foodplant:* *Castanea dentata*

The larva mines the leaves from the under surface. The clear, rectangular mine with the small circular entrance on the under side clearly distinguishes the work of the species. A number of full grown larvæ collected at Falls Church, Virginia, during the early part of May, by Mr. Busck and the writer, pupated June 2, the adult moths issuing June 16 to 20. The larvæ overwinter in the cases, which are attached to the twigs or the bark of the tree, and feed up during the following May.

Two new species of Hymenopterous parasites of the larvæ (*Microdus* sp. and *Microbracon* sp., determined by Mr. S. A. Rohwer) were reared from larvæ collected at Falls Church, and from a couple of larvæ collected at Charter Oak, Pennsylvania, by Mr. T. E. Snyder, of the Bureau of Entomology.

**Coleophora carpinella** n. sp.

Palpi grayish white tinged with brownish ochreous. Antennæ slightly thickened and clothed with brownish ochreous scales to basal fourth; white beyond and distinctly annulated with deep brown. Face and head brownish ochreous shading to white. Fore-wings deep brown with darker dustings in apical portion and with white streak along costa from base to costo-apical cilia, narrowing and faintly visible beyond first third and bordered with brown on extreme costal margin; cilia shaded from brownish ochreous on costo-apical to lead gray on dorso-apical portions. Hind-wings dull steel gray, cilia steel gray along costal and lead gray along dorsal margins with lighter shadings toward base of wing. Abdomen brown dusted with grayish white above and beneath; anal tuft slightly paler brown. Legs light brown on outer, white on inner side, tarsi annulated with darker brown. Alar expanse: 7 to 7.5 mm.

*Habitat:* Hyattsville, Maryland.

*Foodplant:* *Carpinus*.

*Type:* Cat. No. 18183, U. S. N. M.

Described from seven specimens reared June 28, to July 12, 1913, under Hopkins U. S. No. 11143 from larvæ feeding on leaves of *Carpinus*. There are also three specimens of the same species in the U. S. National Museum, reared by Mr. Busck in 1901 from the same food plant.

The larval case is dark brown, smooth; 6 to 7 mm. long and 1 to 1.5 mm. wide; cylindrical in form with posterior end flattened and slightly wider than diameter of the case; mouth slightly deflected.

This species resembles *C. caryafoliella* Clemens, from which it differs in its smaller size, the dark apical dusting on fore-wings, the generally darker color of wings and cilia and the greater deflection of the mouth of the larval case.

***Coleophora alniella* n. sp.**

Palpi white very faintly tinged with ochreous. Antennæ white, annulated with golden brown; base slightly thickened with scales, white to ochreous, not erected. Face and head golden ochreous shading to white on sides. Fore-wing nearly a uniform golden brown with white streak along costa from base to costo-apical cilia; cilia shading from white at end of costal streak to golden brown on dorso-apical margin. Hind-wings and cilia steel gray with faint golden tints. Abdomen brown with argentitious dustings above and beneath. Legs light golden brown on outer, silvery on inner side; tarsi but faintly annulated. Alar expanse: 8 to 9 mm.

*Habitat:* Hyattsville, Maryland.

*Foodplant:* *Alnus*.

*Type:* Cat. No. 18184, U. S. N. M.

Described from three specimens reared June 30 and July 5, 1913, under Hopk. U. S. No. 11139, from larvæ feeding on leaves of *Alnus*.

The larval case is dark brown, rather rough and fibrous; 6 to 7 mm. long by 1.5 mm. wide; a slightly flattened cylinder in form, with posterior end flattened to somewhat curved edge like the blade of an axe; mouth deflected to 90 degrees.

This species so closely resembles *C. caryafoliella* Clemens, that it is difficult to separate the two on adult characters. I find quite a little variation in the specimens of the hickory species before me, so that whatever very slight size and color differences there are, offer no sure means of differentiating the species. It seems however, that in this case the differences in the foodplant and larval cases should be sufficient to warrant the erection of a new species.

The chief structural differences are in the posterior end and mouth of the case. In *caryafoliella* the posterior end is flattened to a straight line, and the mouth deflects to about 40 degrees.

In *alniella* the posterior end is flattened to a slightly curved line and the mouth deflects to about 90 degrees. These differences are constant in all the specimens that have come under my observation.

**Coleophora querciella** Clemens. Dyar List N. A. Lep. No. 6040.

Palpi white with very fine golden brown dustings on apical segment. Antennal base clothed above with a long projecting tuft; white, intermarked with golden brown. Antennæ white, annulated beyond basal fourth with light brown. Face and head white. Fore-wings white with apical dustings shading from golden brown to black; cilia black on costo-apical portion to silver gray on dorsal margin. Hind-wings and costal cilia of same, argentious with faint golden overtone; dorsal cilia somewhat darker. Abdomen white. Legs white with faint brownish markings; tarsi not annulated. Alar expanse: 12 mm.

*Habitat:* Falls Church, Virginia.

*Foodplant:* *Quercus*.

Two adults reared under Hopk. U. S. No. 11135c and 11135d from larvæ collected on *Quercus prinus* and *Quercus alba*. Moths issued June 21 and 25, 1913. I had considerable misgiving about the identity of the species, as Clemens knew it only in the larval stage and his description of the larval case, while corresponding in nearly all details with the specimens before us, is misleading in one point. He describes the posterior end as "squarely excised," while as a matter of fact it curves inward to a blunt point, similar to *C. leucochrysellæ* Clemens. Larval case 9 mm. long.

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## THE SPECIES OF PERILAMPIDÆ OF AMERICA NORTH OF MEXICO.

BY J. C. CRAWFORD, U. S. National Museum.

The species in this family fall in three genera *Euperilampus*, *Perilampus*, and *Chrysolampus*. The species which Ashmead referred to the genus *Elatus* must be transferred to *Chrysolampus* since it has only one ring joint and Walker's original description of *Elatus* characterizes that genus as having two ring joints.

### GENUS EUPERILAMPUS Walker.

The only species of this genus occurring north of Mexico is *E. triangularis* Say. *E. opacus* Ashm. is a *Eurytoma*, Doctor Ashmead being misled by a piece of extraneous matter which had adhered to the scutellum.