

PSYCHE

VOL. XXIX.

JUNE 1922

No. 3

THE NORTH AMERICAN SPECIES OF *CRYPTOLUCILIA*
BRAUER AND BERGENSTAMM (*PSEUDOPYRELLIA*
GIRSCHNER) (*DIPTERA, ANTHOMYIDÆ*).

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Some time ago I sent to the eminent French dipterist, Dr. J. Villeneuve, a series of specimens of the common blue-green anthomyid fly which is passing in this country under the name "*Pseudopyrellia cornicina*." Dr. Villeneuve called my attention to the fact that these specimens were not true *cornicina* but belonged to a related species, *cæsarion* (Meigen). On taking the matter up with Dr. J. M. Aldrich and Mr. C. W. Johnson, and on examining a number of public and private collections, it becomes apparent that these two species are generally confused here. Aldrich (Cat. North American Dipt., 1905, p. 524), for instance, treats *cornicina* and *cæsarion* as synonyms. It seems useful therefore to point out the main differences between them, so as to facilitate their identification by local entomologists.

As indicated by Stein (Arch. f. Naturg., 83, Abt. A, Heft 1, 1919, p. 105), the name *Cryptolucilia* Brauer and Bergenstamm (Denkschr. Ak. Wiss. Wien, 60, 1893, pp. 179 and 206; type: *C. asiatica* Brauer and Bergenstamm = *Musca cæsarion* Meigen according to Stein) has priority over *Pseudopyrellia* Girschner (Berlin. Entom. Zeitschr., 38, (1893) 1894, p. 306), since Girschner's paper was not issued until January 1894.

The species of *Cryptolucilia* have long been placed among *Lucilia*, which they resemble in color and general appearance. They are, however, easily separated from the latter genus by the absence of hypopleural bristles and the arrangement 1:2 of the sternopleural bristles. *Cryptolucilia* therefore belongs to the Anthomyidiæ as defined by Girschner.

Of the Nearctic anthomyid genera, *Pyrellia* and *Morellia* alone have a similar metallic blue-green color. *Cryptolucilia* can

be distinguished from these by the contour of the fourth longitudinal vein, which in its apical part is bluntly angular and a little sinuate beyond the bend, whereas in *Pyrellia* and *Morellia* the curve of the distal section of the fourth vein is broad and gentle.

1. **Cryptolucilia caesarion** (Meigen) (= *Musca caesarion* Meigen, Syst. Beschreib. Europ. zweifl. Ins., 5, 1826, p. 57). Thorax with a pair of acrosticals before the transverse suture, usually placed rather irregularly in an oblique line; three posterior dorsocentrals. Front of the male about one-sixth the width of the head; in the female comparatively wide, measuring over one-third of the total width of the head.

This is a common and widely distributed North American species and, as stated above, is labeled "*Pseudopyrellia cornicina*" in American collections. The figures given by Hough (Biol. Bull., 1, 1899, p. 27, fig. 9) for *cornicina* undoubtedly refer to this species. I have seen specimens from the following States: Maine, New Hampshire, Vermont, Massachusetts, Connecticut, Rhode Island, New York, New Jersey, Pennsylvania, Maryland, Virginia, North Carolina, Nebraska, Texas, South Dakota, Arizona, California, and Washington; also from Canada (Ontario, Quebec.) In addition, Dr. Aldrich possesses specimens from Kansas, Idaho, Nevada, and New Mexico.

The brilliant blue larva lives in cow manure and the adult flies are commonly found on fresh cow dung. This is evidently the species which was reported by Howard (Proc. Washington Ac. Sci., 2, 1900, p. 579), Brues (Psyche, 9, 1902, p. 354), and F. C. Pratt (Canad. Entom., 44, 1912, p. 181) under the name "*Pseudopyrellia cornicina*" as having been bred in abundance from cow manure. Howard figures the early stages.

Among the very large number of *Cryptoluciliae* from North America examined, I have found only one in which the anterior acrosticals were lacking, but as this specimen possessed three posterior dorsocentrals, I believe it is an abnormal example of *C. caesarion*.

2. ***Cryptolucilia cornicina*** (Fabricius) (= *Musca cornicina* Fabricius, Spec. Insect., 2, 1871, p. 438). Thorax without acrosticals before the transverse suture; four posterior dorso-centrals. Front comparatively narrower in both sexes.

This species is thus far unknown from North America. In Europe, however, it is not less common than the foregoing. I have examined a male from Rambouillet, France, kindly sent to me by Dr. Villeneuve.

Stein (Arch. f. Naturg., 83, Abt. A, Heft 1, 1919, p. 105) synonymizes *Pyrellia frontalis* Thomson (Eugenies Resa, 2, Zool., 1, Diptera, 1868, p. 545), from California, with *C. cornicina*. Whether this is based on an examination of Thomson's type specimen is not known, but the description applies equally well to *C. cæsarion*.

The failure of North American entomologists to separate *cæsarion* and *cornicina* is evidently due to the confusion on this subject which has been allowed to prevail until recent years by European dipterists. Even Girschner while establishing his genus *Pseudopyrellia* on "*P. cornicia* F11." was evidently using specimens of *cæsarion*, since he expressly mentions among the generic characters the presence of a pair of heavy acrosticals. Schnabl and Dziedzicki (Die Anthomyiden. Nov. Acta Ac. Leop. Car. Nat. Cur., 95, 1911, pp. 224 and 229) repeated the same error. The two species, however, have been correctly separated by Stein (Arch. f. Naturg., 81, Abt. A, Heft 10, 1916, p. 18), who has also examined their type specimens.

Considering the constant association of *Cryptolucilia cæsarion* with cattle dung, the question might be raised whether this fly has not been imported from the Old World through the agency of man, at a comparatively recent date. It is, moreover, remarkable that of the two common Palearctic species, only one has thus far established itself in North America.



Bequaert, Joseph C. 1922. "The North American Species of *Cryptolucilia* Brauer and Bergenstamm (*Pseudopyrellia* Girschner) (Diptera, Anthomyidæ)." *Psyche* 29(3), 89–91. <https://doi.org/10.1155/1922/95084>.

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