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FOUR EUROPEAN DIPTERA ESTABLISHED IN NORTH AMERICA

BY FREDERICK KNAB

The following species of European Diptera appear to be unrecorded for North America, although they are well established and common under suitable conditions. All of them may be confidently considered introduced species rather than members of the holarctic series.

Pegomyia hyoscyami Panzer.

Numerous specimens of this species, reared from a number of different food plants, were submitted to the writer for identification by Mr. E. N. Cory, of the Maryland Agricultural College. As this species had not been previously recorded from America, and no European specimens were available for comparison, a male and female were sent to Dr. J. Villeneuve, the well-known French specialist in Cyclorhapha. He confirmed the determination, writing under date of June 15, 1915: "In my opinion it is surely *Pegomyia hyoscyami* that you have sent. I have carefully compared your specimens with those in my collection and I do not find any difference whatever."

Further investigation tends to show that *Pegomyia vicina* Lintner is a synonym of *hyoscyami*. Specimens determined by the late D. W. Coquillett as *vicina* are certainly identical, and there is every reason to believe that Lintner had before him the same species. Lintner sent specimens to Meade in England for identification, who pronounced them a species distinct from *betæ* Curtis (now recognized as a mere color-variety of *hyoscyami*), although closely related. Meade's opinion ap-

pears to have been based upon differences in coloring, principally of the legs, which have since been shown to occur in the one species.

Pegomyia hyoscyami appears to be widely distributed in North America. In the East it occurs at least as far south as the city of Washington; in the West it ranges well down into southern California, occurring probably wherever the sugar beet is cultivated. Western specimens are before me from Colorado, San Mateo County, California, Monterey, California, and Oxnard, Ventura County, California.

Hydrotæa meteorica Linné.

A series of this species, taken in Montana, was sent for identification in 1914 by Prof. R. A. Cooley. The specimens agree closely with European specimens from the vicinity of Berlin and with others of uncertain age from Colorado, determined by Coquillett as this species. Recently specimens have come to hand taken by Prof. W. B. Bell at Neche, North Dakota, August 10, 1915.

Professor Cooley stated that in Montana the species is abundant and troublesome to cattle. Little appears to have been published concerning its habits. Linnæus noted, in connection with the original description, that the flies swarm about the mouths of horses just before a storm and the specific name was evidently given in allusion to this habit. De Geer described the fly as *Musca vaccarum* and has the following observation on the habits:

"These little flies, which are of the size and figure of small house-flies, would not merit being distinguished from the many other species which also partake of sombre colors, black or brown, if one did not see them fly in such large numbers in the month of July and if they were not so annoying to men and beasts. It is they which then flutter in great swarms about the heads of horses and horned cattle, seeking ceaselessly to enter their eyes and ears, to nourish themselves with the moisture found there, in such fashion that they torment them continuously without allowing them the least repose. Persons

are no more protected from their obstinate pursuit. They fly continually around the head, doing all possible to enter the eyes, in such manner that these pitiless flies disturb equally the pleasures of the promenader in the woods and fields."

Leptocera sylvatica Meigen.

A specimen of this European borborid was submitted for determination by R. H. Hutchison. It was taken at Arlington, Virginia, October 11, 1914, on a compost heap. The specimen agrees in every detail with one collected in London, England, by E. Brunetti.

Lynchia maura Bigot.

This hippoboscid is a common parasite of the domestic pigeon in the Mediterranean region. Specimens taken from domestic pigeons at Key West, Florida, were forwarded to the Bureau of Entomology for determination by Dr. J. Y. Porter in February, 1915. Attention had been attracted to the parasites by the occurrence of a fatal disease among the pigeons. A specimen was sent to Prof. Dr. Bezzi, of Turin, who confirmed the determination of the writer.

It appears that this species is widely distributed in America, although still unrecorded for the northern continent. The late D. W. Coquillett had determined the species as "*Lynchia brunnea* Oliv.," and in consequence the species figures in the Brazilian literature under this name. According to Speiser, our best student of the Hippoboscidae, Olivier's *Ornithomyia brunnea* is unrecognizable. Specimens of *Lynchia maura* in the national collection show the following records, in addition to the one from Key West already mentioned:

Ames, Iowa; Savannah, Georgia, 28 Sept. 1896, on pigeon (W. Duncan); Havana, Cuba, on pigeon (J. R. Taylor); Ceará, Brazil, 1904 (F. D. da Rocha); S. Paulo, Brazil, on pigeon (A. Lutz); Campinas, Brazil, on domestic pigeon (A. Hempel). Dr. R. Gonzalez Rincones informs me that the species is an abundant parasite of the domestic pigeon at Caracas, Venezuela.

Recently this species has made its appearance in the Hawaiian Islands. According to Mr. O. H. Swezey, from whom I have

received specimens, it was first noted in Honolulu on domestic pigeons in October, 1910 (Proc. Hawaiian Ent. Soc., vol. 2, 1912, p. 188). Mr. E. M. Ehrhorn reported that the species had become very common on the pigeons in Honolulu by December, 1911 (l. c., p. 206).

DESIGNATIONS OF MUSCOID GENOTYPES, WITH NEW GENERA AND SPECIES

BY CHARLES H. T. TOWNSEND

The writer has recently completed a critical catalogue of all the generic names that have been proposed in the Muscoidea, embracing the world's fauna, recent and fossil, with validly designated genotype for each. Although the subject has been fully elaborated to include, among other things, the actual sense of the authors concerned so far as possible to determine same, ascertained at a cost of great labor, especially translating Brauer and Bergenstamm's sense throughout, and would thus be very useful for reference, yet its publication at this time would avail comparatively little else on account of the large number of nomenclatorial cases involved for which there are as yet no rules or decisions of the International Commission to cover, and which must be left open for future ruling. The designations of genotypes for those genera with status as yet unsettled will occupy but little space; they are given in the present paper, together with a few new genera and species that are necessary in order to validate certain designations and establish the sense of authors concerned.

The great majority of muscoid genera are monobasic, and a very large part of the remainder already possess validly designated genotypes. Less than 140 muscoid generic names remain without designations or with designations whose validity is at all doubtful. The writer has personally verified all the genotype designations of Latreille (1810), Curtis (1826-38), Macquart (1834-43), Westwood (1840), Blanchard (1840), Zetterstedt (1844), Rondani (1856), Desvoidy (1863), Brauer and Bergenstamm (1889-94), Brauer (1893),



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