

SPECIES OF DIPTERA REARED IN INDIANA DURING THE YEARS 1884 TO 1890.

BY F. M. WEBSTER.

The following species of Diptera were reared by me while located in Indiana, as Special Agent of the U. S. Dept. Agr., Div. Ent., and are given here as finally determined by Mr. D. W. Coquillett in Bulletin 10, N. S., and Bulletin 7, Technical Series, both of the Division of Entomology.

FAMILY TACHINIDÆ.

Euphorocera claripennis Macq., reared at Lafayette from caterpillars of *Datana contracta* Walk. On one of these larvæ were 213, and on a second 228 eggs of these flies.

Frontina frenchii Will., reared at Lafayette, from caterpillars of *Ichthyura inclusa* Hueb., and also from the larvæ of *Pyrameis cardui* Linn.

FAMILY BOMBYLIIDÆ.

Anthrax hypomelas Macq. This was reared in numbers from the larvæ of *Agrotis heritis*, cutworms, that were excessively abundant in a cornfield near Lafayette, in 1889. See Insect Life, Vol. II, pp. 353-4.

FAMILY OSCINIDÆ.

Meromyza americana Fitch. This occurs throughout the entire State, the larvæ attacking wheat and rye. I reared it from material secured at Oxford, and also from New Harmony.

Chlorops ingrata Will. This species was reared from gall-like swellings on tips of *Muhlenbergia mexicana*. The galls were collected at Oxford, in August, and the adults issued the following May and early June.

Elachiptera longula Loew. This was reared from the stems of *Panicum crus-galli*, within which the larvæ feed, at Oxford, in 1884, and also from fall wheat at Lafayette, in July, 1890, and also from oats, in 1886.

E. nigricornis Loew. and *E. costata* Loew. were also reared with the above in the fall wheat.

E. nigriceps Loew. was reared from *Panicum crus-galli* at Oxford, in September, 1884.

Oscinis trigramma Loew. Reared at Lafayette in July, from volunteer wheat plants. *O. coxendix* Fitch, was reared also with the above.

O. soror Macq., was reared at Oxford, from *Panicum crus-galli*, in October, 1884, and also from the stems of *Poa pratensis*, at Lafayette, in June, 1887.

Oscinis carbonaria Loew., was reared from young wheat plants at Oxford, September, 1884, and from wheat plants at Lafayette, in August, 1886, and again in August, 1888, and in July, 1890, among these last there being also specimens of *O. umbrosa* Loew.

FAMILY AGROMYZIDÆ.

Leucopis nigricornis Egger. Reared from larvæ preying upon *Siphonophora avenæ*, at Vincennes, June 26, 1889, the adults issuing in July, 1889. This is an imported species, as it occurs all over the United States, and has been reared from *Pemphigus* in France.

Ceratomyza dorsalis Loew. Reared from larvæ mining in the leaves of timothy, at Lafayette, in 1888, and also from larvæ mining in the leaf sheaths of wheat.

Agromyza œneiventris Fall. Reared from larvæ burrowing in the stems of white clover, *Trifolium repens*. See Report Commissioner of Agriculture, U. S., 1886, p. 582.

DISTRIBUTION OF BROODS XXII, V AND VIII, OF CICADA SEPTENDECIM, IN INDIANA. BY F. M. WEBSTER.

It was my good fortune, while located at Lafayette, Indiana, during the years 1884-90, as a special agent of the United States Department of Agriculture, Division of Entomology, to have an opportunity of studying the distribution of these three broods of the periodical cicada.

On consulting the accompanying map and explanation thereto, it will be observed that Brood XXII, 1885, covers the entire State, except a small area around the lower extremity of Lake Michigan. This strip of country is much narrower at the Michigan line than it is at the Illinois line, including as it does only the extreme northwest corner of Laporte county, the dividing line between this and Brood V being, here, between the village of Otis and the city of Laporte, crossing the line of Porter county about Wanatah, and passing across Lake county, in the vicinity of Orchard Grove.

This is the strongest of all the broods in Indiana and covers by far the greatest area. Its next recurrence will be in 1902.

Brood V covers only the area over which Brood XXII did not occur and does not, so far as I was able to learn, overlap that brood. It covers a