A NEW CECIDOMYIID OF THE GENUS LESTODIPLOSIS.

By Charles W. Johnson,
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The following species was received from Mr. R. L. Taylor, who, in making a biological study of the White-pine weevil (*Pissodea strobi* Peck.), has secured many interesting species of insects that are either parasitic, predaceous, commensal or otherwise. The larvæ of the genus Lestodiplosis according to Kieffer are zoöphagous, subsisting upon the larvæ of Cecidomyiids, Mycetophilids, and Xylophagids. Dr. E. P. Felt says[1]:—"This record of zoöphagous habits is confirmed by the rearing of American species, since members of this genus were obtained from a wide variety of galls and the larvæ evidently subsisted upon Itonidids, other small insects and acarids."

Lestodiplosis iridipennis sp. n.

Head black, antennæ white, joints of uniform length, the enlarged portions narrowly banded with black. Thorax yellowish, when viewed from the front showing three broad brown stripes extending to the base of the wings, scutellum yellow, metanotum black, abdomen yellow with yellow hairs. Legs white, tibiæ with the base, middle and tip banded with black, tarsi with the base and tip of the first and second joints black. The base of the third joint is also narrowly black. Wings with yellow and blackish hairs, the latter arranged in spots, these hairs are highly iridescent when viewed at certain angles in a bright light, giving the wing a golden yellow color, ornamented by six large, bright, purple spots, regularly placed, the two anterior ones between the costa and radius, two in the middle of the wing, and the two posterior ones extending on both sides of the cubitus, the outer end of the cubitus is also slightly purplish. Length 1.5 mm.

One male, July 10, 1928, from material taken at Oneonta, N. Y. Type in the Museum of Comparative Zoölogy.

This beautiful little midge is so pronounced that I trust the above description will suffice. It would run to *L. florida* in the table by Felt, but the antennæ do not agree. In the description of *L. florida* the color of the thorax and wings are very different.

[1]New York State Museum Bull., Nos. 231-232, p. 129, 1921.

THE ARTHROPOD FAUNA OF CONIFEROUS LEADERS WEEVILED BY *PISSODES STROBI* (PECK).

By Raymond L. Taylor.

An interesting feature of a study of the bionomics of the white pine weevil, *Pissodes strobi* (Peck), is the varied fauna found associated with it under the same general ecological conditions. Many of these forms bear the very definite relationship of parasite and host or predator and prey, but there remains a number of coexistent species which show no obvious connection with the weevil. This paper deals with the latter group.

In the course of dissecting a large number of the weeviled terminal shoots of the white pine, *Pinus strobus*, Scotch pine, *P. sylvestris*, and Norway spruce, *Picea excelsa*, but principally while breeding out parasitic forms, an incidental series of 90 spiders, mites and insects was obtained. The majority of the miscellany treated herein represent the captures on or near a scrim screen in the window of a room in which 2602 leaders weeviled the previous summer were confined. The primary purpose of this breeding room was to obtain a large number of the insect parasites of Pissodes with a minimum of labor and breeding apparatus. Most of the fauna from this room were taken under conditions which, perhaps, do not establish conclusively that they were from the shoots, but it may be said that the breeding room was empty, except for the shoots, and all doors and cracks were sealed with gummed paper strips. It was, in general, made tight to prevent the escape of the desired parasites. It would seem, at least where species were numerous, that origin in the leaders is indicated. Fauna obtained from smaller cages, with no possibility of other origin, are noted as from localities other than Massachusetts.

This list is presented for what value and interest it may be worth. All specific determinations were made by specialists in the various groups. The following key will show by whom the determination was made, the abbreviation being enclosed in brackets in each case after the specific name.

[1]Contribution from the Entomological Laboratory of the Bussey Institution, Harvard University, No. 301.

Taylor, 1928

A—J. M. Aldrich
Bl—M. W. Blackman
Bu—August Busck
C—E. A. Chapin
Em—J. H. Emerton
Ew—H. E. Ewing
F—C. A. Frost
H—Carl Heinrich
J—C. W. Johnson
R—S. A. Rohwer
S—Grace Sandhouse

Grateful acknowledgement is hereby made to these authorities for their kindness, and to Mr. H. J. MacAloney and Dr. T. C. Barnes for permission to incorporate a part of their unpublished lists of incidental fauna from the same type of material, twelve and two species respectively. Species bred out by these investigators will be so noted. All localities, if not otherwise stated, are Boston, Mass. and environs.

It should be made clear that the following several classes are definitely *excluded* from this list:

1. All parasitic Hymenoptera, whether parasites of *Pissodes strobi* or otherwise.

2. Several predacious Clerids, one fly definitely known to be connected with the white pine weevil, one fly erroneously connected with the weevil in the literature, and one lepidopteron which is facultatively predacious upon Pissodes. These two classes are reserved for another and more extended paper.

3. All insects known to work in these leaders but not obtained, *e. g.*, the pine tip moth, *Rhycionia frustrana*, the pine-bark aphid, *Adelges pinicorticis*, *A. pinifoliæ*, *Pissodes affinis*, *P. approximatus*, *Hylobius pales*, *et al.* The white pine weevil, itself, was not obtained from the breeding room or the cages, although rarely, living adults may emerge after hibernation in the pupal cell.

It is realized that this miscellany is not a complete list of the arthropods associated with weeviled leaders, but it is believed that it comprises a fair representation of those forms which more or less regularly live or hibernate in such shoots.

Class Arachnida

In the opinion of Mr. J. H. Emerton, all of the following spiders, except *Agelena nævia*, were very probably from no source other than the leaders. There can be no question in the case of *Theridion murarium*, as it has often been dissected out of the leaders in the fall. Mr. Emerton states that no place of hibernation for this species has been reported previously. The indications are that this spider invades empty weevil pupal cells in the fall for shelter only.

Order Araneae

Family *Dictynidæ*

Dictyna muraria Em. [Em.] Late March, April. A few half-grown.

Family *Theridiidæ*

Theridion frondeum Htz. [Em.] April. 2 young.

T. murarium Em. [Em.] April. Abundant, all half-grown.

Family *Linyphiidæ*

Tmeticus bostoniensis Em. [Em.] April. 1 female adult.

Family *Argiopidæ* (*Epeiridæ*)

Epeira displicata Htz. [Em.] April. Common, all young.

E. patigiata Em. [Em.] May. Several, all young.

Family *Thomisidæ*

Philodromus sp. [Em.] April. 1 young.

P. sp. [Em.] April. 2 young.

Family *Clubionidæ*

Clubiona abboti L. Koch. [Em.] April. 1 female adult.

Family *Agelenidæ*

Agelena nævia Walck. [Em.] April. 1 very young.

Family *Salticidæ*

Mævia vittata Htz. [Em.] May. 1 very young.

Tutelina (*Icius*) *elegans* Htz. [Em.] May. 1 very young.

Wala mitrata Htz. [Em.] April. 1 very young.

W. palmarum Htz. [Em.] April. 1 very young.

Order Acarina

Family *Tarsonemidæ*

Pediculoides ventricosus Newport. In frass under bark, spring and fall. Rare to abundant. Predacious on variety of larvæ in shoot; of no particular effect on *Pissodes strobi*, but highly destructive to insect cultures reared in the laboratory.

Family *Sapromyzidæ*

Sapromyza rotundicornis Lw. [A.] Durham, N. H. June. 2.

Family *Lonchaeidæ*

One species omitted.

Family *Chloropidæ*

Gaurax apicalis Mall. [Malloch.] Bred by MacAloney, Petersham, Mass.

G. festiva Lw. [J.] Oneonta, N. Y. July. 2.

G. sp. [J.] May. 1.

Hippelates sp. Bred by MacAloney, Petersham, Mass.

Madiza glabra [A.] Bred by MacAloney, Petersham, Mass.

Botanobia (Oscinella) coxendi Fitch. [A.] Bred by MacAloney, Petersham, Mass.

B. frit Linn. [J.] Late May. 9. Also Concord, N. H., Mont Alto, Pa., Northwestern Ct., and Oneonta, N. Y.

Family *Drosophilidæ*

Chymomyza amœna Lw. [A.] Bred by MacAloney, Petersham, Mass.

Drosophila funebris Fab. [J.] May. 6.

Scaptomyza graminum Fall. [A.] Ann Arbor, Mich. June, July. 27.

Family *Milichiidæ*

Desmometopa latipes Mg. [A.] July. 1.

Family *Ochthiphilidæ*

Leucopis simplex Lw. [J.] Common. Also China, Me., McConnellsburg, Pa.

Order Hymenoptera

Family *Tenthredinidæ*

Dr. Rohwer has written in reference to the following sawflies: "Not any of these species feed on pines. They feed in the larval stage on herbaceous shrubs, and were using the burrows of Pissodes only as places to hibernate."

Ametastegia glabrata (Fall.). [R.] Late May. 1 male.

Emphytus mellipes Nort. [R.] May, early June. 6 males, 4 females.

Emphytina aperta (Nort.). [R.] Readfield, Me. June. 1 male; Concord, N. H. Early June 1 male.

E. tener (Fall.). [R.] May. 2 males, 3 females; Fayetteville, Pa. Late May, 1 female; Ansonia, Pa. May. 1 female.

Hemitaxonus dubitatus (Nort.). [R.] Late May. 1 male.

Strongylogaster soriculatipes Cress. [R.] June. 1 female.

Pontania sp. [R.] June. 1 female.

The parasitic families *Braconidæ, Ichneumonidæ, Ceraphronidæ, Diapriidæ, Cynipidæ, Chalcididæ, Eurytomidæ, Eupelmidæ, Pteromalidæ* and *Eulophidæ*, of which a number of species were obtained, are omitted.

Family *Vespidæ*

Ancistrocerus tigris (Suass.). [J.] June. 1.

Family *Sphecidæ*

Trypoxylon frigidum Sm. [R.] Bred by Barnes. N. Y.

Stigmus fraternus Say (?) [S.] June. 1.

Pemphredon (Diphlebus) sp. [S.] June 5. Also Sidney and Readfield, Me. July.

Passalœcus annulatus Say (?) [S.] June. 1.

P. sp. [S.] June. 1.

Xyloceliu sp. [S.] June. 1.

Family *Hylaeidæ*

Hylaeus sp. Bred by MacAloney, Petersham, Mass.