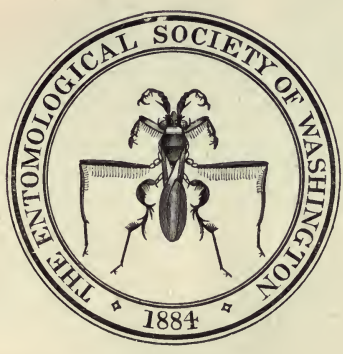


545,70673
Insects

690
n.m.

PROCEEDINGS
OF THE
ENTOMOLOGICAL SOCIETY
OF
WASHINGTON.



Volume IV.
1896-1901.

WASHINGTON, D. C.
PUBLISHED BY THE SOCIETY.
1901.

DATES OF ISSUE OF THE PARTS OF VOLUME IV.

No. 1 (pp. 1-48), November 5, 1896.

No. 2 (pp. 49-176), March 21, 1898.

No. 3 (pp. 177-345), May 24, 1899.

No. 4 (pp. 347-527), July 16, 1901.

Publication Committee for Volume IV.

L. O. HOWARD, THEO. N. GILL, E. A. SCHWARZ,
WM. H. ASHMEAD, F. H. CHITTENDEN.

tion. Mr. Schwarz mentioned Dr. Hagen's paper which brought together the instances of copulation between different species of insects, and in which it is shown that closely allied species rarely copulate, while there are many instances of species belonging to different families having been seen in sexual union; he further said that he had once seen two species of *Lachnosterna* of different groups apparently in the act of copulation, but on examination found they were both males!

DECEMBER 14, 1899.

The 147th regular meeting was held at the residence of Mr. W. H. Ashmead, 1821 Q street N. W. President Gill in the chair, and Messrs. Ashmead, Heidemann, Marlatt, Busck, Caudell, Matthis, Dyar, Howard, Johnson, and Currie, active members, and Woods, Barber, Ulke, Kotinsky, and Bayley, visitors, also present.

The officers for 1899 were re-elected for the year 1900.

—Under the head of Exhibition of Specimens and Short Notes, Mr. Ashmead showed a new genus of Braconidæ belonging to the Helconine group, from the Chatham Islands, which he proposes to call *Schauinslandia*.

In response to a question, Dr. Gill said that the fauna of the Chatham Islands is all Australasian but of somewhat colder character than that of New Zealand. Most of the genera are New Zealand genera, but the species are usually different.

—Mr. Heidemann read a note from Dr. Christopher Aurivilius, of Stockholm, stating that specimens which Mr. Heidemann had considered to be identical with Stal's *Aradus niger* in a paper recently read before the Society, had been compared with Stal's type and the identity established.

—Mr. Henry Ulke was invited by the Chair to make some remarks and stated that for two years he had done nothing in entomology. He had recently attended a meeting of the Philadelphia Entomological Society and mentioned the fact that he was the first member elected to that Society—forty years ago the present month. He spoke of some of his experiences in collecting in the District of Columbia some insects formerly considered exceedingly rare,

whereupon some discussion ensued between Messrs. Gill and Ulke as to the meaning of the terms "rare" and "rarity." According to Dr. Gill, these terms are comparative and depend largely upon locality, presence of food, and periodicity. He mentioned the curious history of *Lepidosiren* as an example and Mr. Howard suggested that the history of *Margarodes* was a parallel one.

—Mr. Howard mentioned finding *Hippodamia convergens* congregated together upon a chapparal bush near the top of Mount Tamalpais near San Francisco Bay, on November 15th last, many thousands of specimens being present, occurring three or four deep over every twig and branch of the bush, stating that this was the first time he had had the pleasure of observing this congregating of Coccinellidæ on mountain tops, although it had been mentioned at a previous meeting of this Society by Mr. Schwarz and at a meeting of the Biological Society by Mr. C. D. Walcott.

Mr. Ulke said that the clustering together of adult Coccinellidæ for hibernating purposes had been noticed by him in the District of Columbia.

Mr. Johnson said that he found *Megilla maculata* clustering about the bases of apple trees infested with the San Jose scale in Maryland so abundantly that he had them shovelled away with the earth so that that they should not be killed when the trees were sprayed.

—Mr. Johnson also said that he had noticed a migration of *Anosia plexippus* in the streets of Frederick, Md., in late September, in such extraordinary numbers that the colored inhabitants were excited, and came out with sticks and brooms, knocking down the butterflies. The main street for a distance of $1\frac{1}{2}$ miles was full of butterflies.

Mr. Ashmead said that he noticed this species in migratory swarms in Jacksonville, Fla., the present month (December).

Mr. Howard said that he had seen the same species the present year, on August 27, starting its southward flight from the Catskill Mountains in Greene county, N. Y., the date being an earlier one than he had previously known. He said that possibly some of the same individuals which he saw August 27 in New York may have been those seen by Mr. Ashmead in December in Florida.

—Mr. Howard, referring to a previous paper read before the Society by Mr. Johnson on the subject of *Trypeta ludens*, stated that the day after he arrived in San Francisco (November 13 last), Mr. Alexander Crow, the Chief Quarantine Officer of the State Board of Horticulture of California, discovered this insect in numbers in a shipment of oranges from Acapulco, Mexico, and had the entire cargo condemned and burned, the shipping interests being informed that no more citrous fruits were to be received from the port of Acapulco. This was mentioned as a striking example of the good effects of the California quarantine system.

Mr. Marlatt suggested that until we are more thoroughly informed as to the complete life-history of this insect, we cannot say with certainty that it will ever be able to establish itself in California orange groves; that there is a period of many months in the summer when citrous trees carry no fruit, in which the insect might die out.

—Mr. Johnson said that he had bred *Aphelinus fuscipennis* in great abundance in Maryland from the San Jose scale this autumn. He is inclined to think that this parasite has become so abundant that it will be necessary to alter remedial measures against the scale. Instead of cutting down and burning trees at once, he will recommend girdling the trees and killing them and then leaving them until all parasites have had a chance to escape before they are burned. He stated that he even doubts the wisdom of winter spraying, although he is not certain as to the stage in which the parasite hibernates.

Mr. Marlatt said that he thought it likely that the parasite hibernates in the larval condition, since he has found many parasitic larvæ under scales this winter, and further stated that he considers scale parasites unusually abundant the present year.

Mr. Howard said that he had found *Aphelinus fuscipennis* hibernating in the larval stage under the scales of *A. tenebricosus*, but that while many parasitic Hymenoptera hibernate in this condition, others hibernate as adults.

Mr. Ashmead said that in his opinion the majority of parasitic Hymenoptera hibernate in the larval condition, but that during warm winters many of them frequently transform to adults well before the opening of spring.

—Mr. Johnson said that the pea louse (*Nectarophora destructor*) is still active in New Jersey, Maine, and Maryland, and spoke

at some length concerning his observations on the life-history of this insect and its natural enemies. He has reared no true parasites in Maryland, although Syrphus flies were abundant early in the season and Coccinellidæ late in the season. He stated that he is at a loss to predict with confidence concerning the abundance of this destructive pea enemy the coming season.

—Mr. Dyar then read the following paper :

LIFE HISTORY OF CALLIDAPTERYX DRYOPTERATA GRT.

By HARRISON G. DYAR.

Not long ago I published a general account of the mature structure of this larva (Can. ent., xxx, 155), the first larva of the Epiplemidæ discovered in America. Last season I found the species near Washington, and was able to observe all the stages. Some unexpected points appeared. The Epiplemidæ are nearly allied to the Geometridæ, yet these larvæ would be taken for little Noctuids. The eggs, too, are of the vertical type, distinctly ribbed, and not at all suggesting Geometridæ or Drepanidæ. The larvæ are exposed feeders and gregarious. Evidently the Epiplemidæ have pursued as larvæ their own course of specialization, distinct from the allied families.

Eggs. Laid in a batch of 25 or more on the back of a leaf. Conical, but with a rounded top, nearly flat; base flat; micropylar area a little elevated, circular, finely reticulated; around this is an area, covering the rest of the top surface, coarsely reticulate, the cell areas strongly sunken; sides finely ridged, 40 or over, the ridges not decreasing in number except just at the top, the spaces between divided into quadrangular areas by fine cross striæ; diameter, .5 mm. On hatching, the larvæ cut off a cap at the vertex, which is left intact with the rest of the shell. Shells very thin, so that some collapse; white.

Stage I. Head rounded, bilobed, colorless; eye black, mouth brown; width, .25 mm. Body colorless, food green. The shape is a trace flattened, both joints 11 and 12 enlarged at the sides, the anal plate small and not colored, though bristly with setæ. Cervical shield likewise rather hairy, though only the primary hairs are present. Segments 2-annulate; tubercles small, slightly conic, faintly blackish. Setæ simple, colorless, rather long. Tubercles iv and v well separated. Feet normal, perfectly equal, slender.

Stage II. Head as in the next stage, but the tubercles all distinctly dusky; width, .3 mm. The larva is squarish, a little flattened, joints 11 and 12 a little enlarged at the sides; no shields; setæ pale. The larvæ feed freely exposed and are active, running about over the stems for new leaves. At first gregarious, later scattering, but remaining on the same plant. They eat the parenchyma from below in irregular patches till stage V, then the whole leaf.