

PROCEEDINGS
OF THE
Hawaiian Entomological Society

VOL. XI, No. 3

FOR THE YEAR 1942

AUGUST, 1943

JANUARY 12, 1942

The 433rd meeting was held at the H.S.P.A. Experiment Station on Monday, January 12, at 2:00 p.m., with Vice-president O. H. Swezey in the chair.

Members Present: Messrs. Fullaway, Illingworth, Oakley, Pemberton, Rosa, Swezey, Van Zwaluwenburg and Williams.

Visitor: Charles D. Hyslop.

The minutes of the preceding meeting were read and approved as corrected.

Mr. R. G. Oakley introduced Mr. Charles D. Hyslop and nominated him for membership in the Society. Following the rules, Mr. Hyslop will be voted upon at the next meeting.

PAPER

Mr. Swezey presented a paper entitled "Host Plant Records of Some Kauai Lepidoptera". He briefly discussed this paper.

NOTES AND EXHIBITIONS

Listroderes obliquus Klug.—Dr. Williams presented the following, for Mr. A. C. Browne who was absent: On Nov. 28, 1941 the vegetable weevil was taken in the Libby, McNeill & Libby camp gardens at Maunaloa, Molokai, where it was feeding on Chinese and head cabbage. No larvae were found. As no heavy rains had yet come, it may possibly be that these adults were those which might have been aestivating during the late spring and summer months.

Ceratitis capitata Wied.—Mr. Pemberton reported rearing 305 Mediterranean fruit flies from a single, ripe breadfruit picked from a tree in Manoa Valley on August 4, 1941. This is of interest since breadfruit is rarely found infested with the larvae of this fly. At the time the fruit was picked it was ripe but not soft. Many growth cracks had formed on the surface into which the fruit fly eggs had been inserted. The variety of breadfruit in this case is an uncom-

from the anterior margin backward to about the posterior fourth, narrowed at its middle, and more or less pointed behind; prosternum entirely orange-yellow except for coxal margins and distal part of mucro; and (2) a short basal orange-yellow area on each elytron, infuscate posteriorly and failing to attain either the suture or the humerus. Pubescence coarse, erect, black throughout except on hind prothoracic angles and along anterior margin of the elytra, where it is yellowish.

Front convex above, flattened on anterior half; punctation moderately fine, dense, uniform. Antennae strongly serrate from 4th segment on; exceeding hind angles of prothorax by about one segment; 3rd nearly twice as long as 2nd, the two together slightly longer than 4th; 4-10 triangular, becoming progressively broader distally; 11th oval.

Prothorax wider than long; sides subparallel from hind angles to anterior third, thence arcuately narrowed to anterior margin. Pronotum strongly convex; punctation anteriorly as on head, finer and sparser toward rear; shallowly depressed medianly at base. Hind angles subparallel, broad, convex, vaguely unicarinate. Mucro moderately upcurved before hind coxae.

Scutellum elongate oval; feebly convex. Elytra at base slightly narrower than prothorax; gradually narrowed to beyond middle, thence more rapidly to the conjointly rounded apices; striae punctures feeble, vague, especially distally; intervals flat.

Described from a holotype female: BISMARCK ARCHIPELAGO, *New Britain*, iv. 11. 1941, on blossoms of *Melaleuca* sp. (J. L. Froggatt) C 2662; and one paratype female, with same data and collection number. The holotype is in the British Museum collection, the paratype in the H.S.P.A. Experiment Station collection.

The Insects of Canton Island

BY R. H. VAN ZWALUWENBURG
Experiment Station, H.S.P.A., Honolulu

(Presented at the meeting of May 11, 1942)

The use of Canton Island as a commercial airplane station during the past two years affords an opportunity to follow the changes that occur in the fauna of a small, isolated atoll when it is suddenly exposed to sustained contact with the outside world. Until very recently visitors to the island have been comparatively few: occasional castaways; a labor force which exploited the guano deposits for a year or more in the 1880's; a brief stay by a landing party to set out coconuts in 1916; and now and then short visits by naval parties or scientific expeditions. Continuous occupation of the island (by a British radio officer) dates from the summer of 1937.

In 1939 the Pan American Airways Company began construction of a base on Canton in preparation for regular service between Honolulu and Auckland. By the summer of 1940 Clipper planes

Proc. Haw. Ent. Soc., Vol. XI, No. 3, August, 1943.

were touching at the island, and supply ships had begun regular calls. Importations of planting materials and of soil were made in connection with the landscaping of the airport grounds.

Faunal changes were bound to follow; some are already noticeable. More are certain to occur within the limits set by a simple flora and meagre water resources. Entomologists in Hawaii should keep informed of such changes because, using Canton as a stepping-stone, insect immigrants from the south Pacific might arrive here which could adversely affect the agriculture and the health of these islands.

Through the cooperation of the Pan American Airways the Hawaiian Sugar Planters' Association has, since April 1940, maintained on Canton a plant quarantine service. Planes, whether north- or southbound, are inspected and sprayed to rid them of living insects; assistance is given the airport's landscaping program; and a collection of the island's insects has been assembled.

How long the majority of the insects on Canton have been established there is largely guesswork. However, a few can be grouped into various categories on that basis with reasonable assurance.

1. *Species long, and probably permanently, established.* Here are to be included most of the insects attached to the truly native plants: *Achaea* on *Cordia*; *Utetheisa* on *Tournefortia*; the unidentified caterpillar and the agromyzid leafmining fly on *Scaevola*; and the cicadellid leafhopper on *Boerhaavia*. The *Pethrochroa* moth, the larvae of which feed on the trash about bunchgrass clumps, is also probably long established.

2. *Species temporarily established.* In common with some other equatorial Pacific islands, Canton is subject to remarkable variation in annual rainfall:

1938.....	8.7 inches
1939.....	18.4 "
1940.....	69.3 "
1941.....	112.6 "

Whatever the length of cycle (if indeed there is a definite cycle), it is clear from records elsewhere and from the evidence of vegetation on the island prior to 1940, that periods of extremely scanty rainfall have occurred; there is no reason to believe that they will not occur again. There are no sources of water on the island other than catchment from rains, and during a succession of dry years it is unlikely that storage facilities would suffice for much beyond personal needs. It is certain that plant life on the island would then suffer severely, and so would much of the insect life associated with it.

The handsome *Hypolimnas* butterfly arrived at Canton during 1939 and 1940 at long intervals, and only as an isolated straggler. By 1941, when a comparatively luxurious vegetation had made its

Zwahlenburg, 1943

considerable nuisance because of the numbers which collected on the surface. The larvae feed on the dead trash about bunchgrass clumps. The species is known from Wake Island as well as Canton, but has not been recorded from Samoa.

Diptera

Mycetophilidae

Undet. species

About soil under old coconuts.

Sciaridae

Undet. species

Taken by Danner on native vegetation.

Chironomidae

Undet. species

Taken by Danner on native vegetation.

Dolichopodidae

Chrysosoma sp.

Several specimens collected by Danner.

Hydrophorus sp.

Abundant on surface of brackish pools.

Syrphidae

**Ischiodon scutellaris* (Fabr.)

Widespread but not numerous; predaceous on aphids.

Calliphoridae

**Lucilia sericata* (Meigen)

Bred from dead rat; very numerous.

Sarcophagidae

**Sarcophaga dux* Thomson

Very common.

Muscidae

**Musca domestica* Linn.

Very abundant at times.

Anthomyiidae

**Atherigona excisa* var. *trilineata* Stein

A single specimen.

Ortaliidae

Euxesta sp.

About bits of organic matter on the beach; attracted to lights.

**Scholastes bimaculatus* Handel

A single specimen collected by Danner in July 1941. In Samoa it is said to breed in rotten meat of coconuts cut for drinking while still green, but not in ripe coconut meat or copra.

Ephydriidae

Hecamede persimilis Handel

A single specimen taken by Langford, April 1940.

Scatella sp.

On brackish pools.

Chloropidae

**Prohippaelates pallidus* (Loew)

Taken in sweeping and at lights; attracted to dead animals. Sometimes very numerous aboard planes while moored at Canton during the day.

**Siphunculina signata* Woll.

Not common.

Milichiidae

**Desmomctopa m-nigrum* Zettersted.

Several specimens collected by Langford; breeds in decaying mollusks.

**Milichiella lacteipennis* (Loew)

Common; taken in sweeping foliage.

Tethinidae

**Tethina insularis* Aldrich

A single specimen from Canton, but very common among interceptions aboard planes at both Canton and Honolulu.

Agromyzidae

Undet. species

Bred from leafmines in *Scaevola frutescens*; parasitized by a eulophid, *Notanisomorphomyia*.

Hippoboscidae

**Olfersia spinifera* Leach

On young frigate birds.

Hymenoptera

Megachilidae

Undet. species

Six megachilid cells formed of *Sida* leaves were found in November 1941 by Mrs. F. I. Fleming. The bees bred from them by Ely, now unfortunately unavailable for identification, were predominantly grey with black bands on the abdomen.

Formicidae

**Paratrechina bourbonica* (Forel)

**Paratrechina longicornis* (Latr.)

The "crazy ant" is the dominant ant in the inhabited part of the island and is a great nuisance in dwellings.

**Tapinoma melanocephalum* Fabr.

On *Sida* plants.