

PROCEEDINGS
OF THE
Hawaiian Entomological Society

VOL. X, No. 1

FOR THE YEAR 1937

JULY, 1938

JANUARY 7, 1937

The 373rd regular meeting of the Hawaiian Entomological Society was held at the Experiment Station, H.S.P.A., Honolulu, on January 7, 1937, at 2:30 p. m.

Members present: Miss Amy Suehiro, Messrs. Bianchi, Bryan, Donaghho, Ehrhorn, Fullaway, Illingworth, Krauss, McBride, Rosa, Sakimura, Van Zwaluwenburg, Williams, and Zimmerman.

President Rosa called the meeting to order.

The minutes of the preceding meeting were read and approved.

REPORTS OF OFFICERS AND COMMITTEES

Mr. E. M. Ehrhorn, appointed by the Chair to audit the report of the treasurer of the Society, for the year ending December 2, 1936, reported that he had found the accounts correct. It was moved, seconded and passed that Mr. Ehrhorn's report be accepted.

President Rosa appointed Messrs. Ehrhorn, Fullaway, and Williams to welcome Dr. and Mrs. W. M. Mann, passing through Honolulu on January 25. Dr. Mann is Director of the National Zoological Gardens, Washington, D. C., and also an entomologist of note.

PAPERS PRESENTED

Mr. E. C. Zimmerman presented a paper entitled: "Revision of the Fijian *Ottistirini* (Coleoptera, Curculionidae)".*

NOTES AND EXHIBITIONS

Mr. N. Krauss reviewed H. L. Sweetman's book entitled: "The Biological Control of Insects," 1936 (Comstock Publishing Co.).

He also submitted the following observations: Heavy infestation of *Herse cingulata* (Fabr.) on *Ipomoea insularis* noted at Waimanalo on Dec. 15, 1936. Three mynah birds were seen within a short distance, each with a larva in its beak.

Selenothrips rubrocinctus (Giard).—Mr. Krauss reported that the thrips reported as causing extensive silvering of guava and Java plum leaves and browning and cracking of guava fruits in Kamo-kunui Valley, Oahu (Proc. Haw. Ent. Soc., Vol. 8, p. 385, 1934) had been identified as *Selenothrips rubrocinctus* (Giard) by Dudley Moulton.

* Withdrawn for publication by B. P. Bishop Museum.

Asterolecanium pustulans (Ckll.).—This species was brought in by Dr. Illingworth from the garden of G. P. Wilder, Makiki. The scales entirely encrusted and killed the branches of a Tahitian plant, the red lova lova. The species was determined by Mr. Ehrhorn, who has reported this scale several times in the early numbers of our Proceedings.

Enallagma civile (Hagen).—Dr. F. X. Williams said that the recently discovered blue damselfly *Enallagma civile*, immigrant from the American mainland, was found quite common on the lowlands of West Maui in late December 1936.

Mr. Bryan exhibited and briefly reviewed the following papers by Elwood C. Zimmerman, recently issued as Occasional Papers by B. P. Bishop Museum:

Cryptorhynchinae of Henderson, Pitcairn, and Mangareva Islands, O. P. XII, No. 20, 8 pp., 1 fig., Dec. 5, 1936.

A Cryptorhynchid from Marotiri.

O. P. XII, No. 21, 4 pp., 1 fig., Dec. 5, 1936.

Orochlesis of Fiji.

O. P. XII, No. 22, 10 pp., 1 fig., Dec. 5, 1936.

There was a general discussion of the termite problem in the Hawaiian Islands.

FEBRUARY 4, 1937

The 374th meeting of the Hawaiian Entomological Society was held at the H.S.P.A. Experiment Station on February 4, 1937, at 2:30 p. m.

Members present: Miss Amy Suehiro, Messrs. Bianchi, Bryan, Carter, Ehrhorn, Fullaway, Illingworth, Krauss, Mason, McBride, Rosa, Sakimura, Van Zwaluwenburg, Williams, and Zimmerman.

Visitors: Mabel Chong, Chas. Hoyt, and H. Darwin Kirschman.

President Rosa called the meeting to order.

The minutes of the preceding meeting were read and approved.

The Secretary-Treasurer read a memo approved by the Society, and then submitted to the Territorial Board of Agriculture and Forestry. It urged that, for the common good, the practice of commercial insect control and/or extermination be regulated.

Mr. E. H. Bryan, Jr., presented a useful summary of the present stock on hand of the Proceedings of the Hawaiian Entomological Society.

PAPERS PRESENTED

Dr. Carter presented a paper entitled: "A New Species of Gall Midge Predacious on Mealybugs," by Dr. E. P. Felt.

Mr. E. C. Zimmerman presented a paper entitled "The Genus *Phanerostethus* in Fiji (Coleoptera, Curculionidae)".*

* Withdrawn for publication by B. P. Bishop Museum.

NOTES AND EXHIBITIONS

Mr. F. Bianchi said that the East African fruit fly and parasite material collected by Mr. N. Krauss and himself had been examined in Washington, D.C. by Government Entomologists and that a report sent to Mr. O. C. McBride of the U.S.D.A. at Honolulu showed some new species of these insects.

Coccus viridis Green.—Dr. Illingworth reported observations on control of this troublesome scale. During the winter season it increases on such garden plants as: *Ixora*, *Plumieria*, *Fitchia*, *Citrus*, etc. It is a difficult pest to control with ordinary oil-emulsion sprays. An atomized Deo-Base oil to which pyrethrum extract had been added gave perfect control with no injury to the foliage. *Plumieria* that were not sprayed soon attracted natural enemies of the scale. Most noticeable were the white, woolly larvae of lady bird beetles, *Azya luteipes* Muls., which came in great numbers. *Cryptolaemus montrouzieri* Muls. was also present. Internal parasites were also doing their work, as evidenced by holes in the scales. Hence there is some question as to whether artificial control measures should be applied. This would check these valuable natural enemies, as well.

Litomastix floridana (Ashm.).—Dr. Illingworth reported rearing caterpillars of *Plusia chalcites*, which were a serious pest of lettuce during the rainy weather of January. Of the 26 caterpillars under observations, 8 died of bacterial wilt; 4 spun up but later turned black and died; 12 pupated, and emerged as moths; only 2 were parasitized by this tiny wasp—about 8%. Since Swezey discovered this parasite, Feb. 27, 1929, records of parasitism have averaged better than 50% during the warmer portions of the year, and this has resulted in a marked decrease in *Plusia* devastation in our gardens. Evidently cold rainy weather gives these tiny wasps a real set-back and *Plusia* becomes a serious pest. A spray of atomized Deo-Base oil mixed with pyrethrum extract successfully controlled the outbreak.

Mr. R. H. Van Zwaluwenburg mentioned that branches of panax (*Nothopanax*) hedge plants in Nuuanu Valley had been gnawed more than half through by some rodent, probably a tree rat. These branches were well off the ground where attacked.

Dr. Walter Carter reported that the wasp *Anagyrus coccidivorus* imported from Brazil by Mr. D. T. Fullaway, had been found established on the pineapple mealybug on Molokai and Oahu. He also spoke of the recovery here of *Hambletonia*, another neotropical wasp parasitic on this mealybug. Dr. Carter then exhibited specimens of the new midge that destroys the pineapple mealybug.

Dr. F. X. Williams exhibited a collection of insects made by F. C. Hadden, Quarantine Entomologist, on Midway Island.

He also showed specimens of a new species of a *Neoclytarlus** longicorn beetle that he had reared from unhealthy or nearly dead stems of the native pigweed bush *Chenopodium oahuensis* collected on the middle slopes of Palikea, Waianae Mts., Oahu, Nov. 1936. Wasp parasites emerging from this material were identified by Mr. D. T. Fullaway as *Ischiogonus palliatus* (Cam.) and *Hormiopterus vagrans* Bridw.

Mr. Bryan exhibited the following recent Bishop Museum Occasional Papers: William Morton Wheeler, Ants from the Society, Austral, Tuamotu, and Mangareva Islands, vol. 12, no. 18, 17 pp. Dec. 31, 1936. Records 29 spp. and 2 subsp. of ants, mostly vagrants, and describes two new species, one from Rapa related to Antarctica and the other from Tahiti, to Papua and Malay Archipelago.

Elwood C. Zimmerman, Cryptorhynchinae of the Society Islands, vol. 12, no. 23, 48 pp., 4 figs., Dec. 31, 1936. Records 46 species of these weevils, with keys, describing 26 as new. The sweet potato weevil, *Euscepes batatae* (Waterhouse), is synonymized with *Euscepes postfasciatus* (Fairmaire).

MARCH 4, 1937

The 375th meeting of the Hawaiian Entomological Society was held at the H.S.P.A. Experiment Station, Thursday, March 4, 1937, at 2:30 p. m.

Members present: Miss Amy Suehiro, Messrs. Bianchi, Bryan, Carter, Ehrhorn, Fullaway, Illingworth, Ito, Mason, McBride, Rosa, Sakimura, Swezey, Van Zwaluwenburg, Weinrich, Williams, and Zimmerman.

Visitors: Miss Mabel Chong and Donald Mitchell.

President Rosa called the meeting to order.

The minutes of the previous meeting were read and approved.

PAPERS PRESENTED

Mr. E. C. Zimmerman presented a paper entitled: "Two Insect Immigrants New to the Hawaiian Fauna." (A weevil and a drosophilid fly).

Mr. E. C. Zimmerman presented a paper entitled: "Storeus in Fiji (Coleoptera, Curculionidae)".*

NOTES AND EXHIBITIONS

Takahashia japonica (Ckll.).—Dr. Illingworth brought in specimens on a Kuhio vine (*Ipomoea Horsfalliae*). Mr. Ehrhorn identified the specimens.

Empoasca solana De Long.—Dr. Illingworth reported bean plants destroyed in his garden at Kaimuki. Mr. Swezey identified

* Described by Dr. Perkins on page 59 of this issue.

* Withdrawn for publication by B. P. Bishop Museum.

the jassids as the species that he had previously reported several times from *Amaranth*, *Datura*, and other weeds. It was identified by Mr. F. W. Poos of Arlington Farm, Va. (P. H. E. S., VIII, 226, 1933).

Mr. D. T. Fullaway exhibited specimens of *Phenacoccus gossypii* Towns. and Ckll. on *Dombeya*, the first record of its occurrence in Hawaii.

With reference to Mr. Zimmerman's paper on Two Insect Immigrants New to Hawaii, Dr. Walter Carter mentioned that the drosophilid fly *Chymomyza procnemis* (Williston) was found on prematurely blossoming *Ananas* (pineapple) flowers and bred out of butt rot material of pineapple at Kunia, Oahu, and was also observed in the Kipapa region, Oahu, last year. It is spreading.

Mr. E. H. Bryan, Jr., introduced Mr. Donald Mitchell, teacher of biology at the Kamehameha School for Boys.

Mr. O. H. Swezey gave a very interesting talk on his and Mrs. Swezey's sojourn in Guam and the voyage to the Orient. He described the topography and botany of Guam and remarked that a good forest was conveniently near for collecting and making observations. Many photographic scenes and boxes of insect specimens were shown. Mr. Swezey reared a considerable number of Lepidoptera, a field hitherto but little touched in Guam. Good collecting was also to be had at lights there. Among other insects, mention was made of a leafroller caterpillar that kills or severely injures the growing tips of the guava.

APRIL 1, 1937

The 376th regular meeting of the Hawaiian Entomological Society was held at the Experiment Station, H.S.P.A., on April 1, 1937, at 2:30 p. m.

Members present: Messrs. Bryan, Carter, Ehrhorn, Ito, Keck, McBride, Marlowe, Rosa, Sakimura, Swezey, Van Zwaluwenburg, Williams, and Zimmerman.

President Rosa called the meeting to order.

The minutes of the previous meeting were read and approved.

PAPERS PRESENTED

Mr. E. C. Zimmerman presented two papers, the one entitled "Note on Typhlonesiotes swaluwenbergi Jeannel", and the other "A Note on Limnastis and Nesomicrops (Coleoptera, Carabidae)".

On behalf of Dr. R. C. L. Perkins, Dr. F. X. Williams presented a paper entitled: "Another new Cerambycid in Hawaii".

Mr. E. C. Zimmerman presented a paper entitled: "Idotasia of Fiji (Coleoptera, Curculionidae)".*

* Withdrawn for publication by B. P. Bishop Museum.

NOTES AND EXHIBITIONS

Plagithmysus cuneatus Sharp.—Mr. Swezey exhibited 2 fine females of this endemic cerambycid which had issued from a section of *Sapindus oahuensis* tree brought in from near Palikea in the Waianae Mountains, February 22, 1937. There were many of the *Sapindus* trees in the region, and most of them showed injury by the larvae of this beetle. Some partially dead trees showed a great deal of the work of the larvae, i.e., the scorings of the branches where the bark was removed, and there were numerous exit holes through the bark where adult beetles had issued. Some beetles were cut out of their cells in the wood. This is one of the species of *Plagithmysus* which injures living trees.

Mr. E. M. Ehrhorn exhibited two staphylinid beetles found on Oahu.

Dr. F. X. Williams stated that Mr. E. T. Cresson, Jr., had recently described (Trans. Am. Ent. Soc., 62, p. 259, 1936) two new flies from Oahu. They are *Hydrellia williamsi*, bred from *Lemna* or duckweed, and *Hydrellia hawaiiensis*, not reared. Both are from the lowland Waianae portion of the Island.

He also exhibited what appears to be an immigrant ephydrid fly, provisionally identified as *Lytogaster willistoni* Cress., common in California. It was swept off a wet spot on the Tantalus trail in March. It was relatively scarce.

In studying the biology of flies of the genus *Scatella*, common about streams, reservoirs, sea shore, etc., a species additional to the five already described, was found. It can be caught in the same sweep of the net with the 5-spotted *S. hawaiiensis*, from which it differs also as a larva at least when quite young. Thus, in concentrating on certain groups, one may discover new facts if not new species.

The subject of insects taken at search lights and other lights was briefly discussed.

Mr. O. H. Swezey exhibited some of the butterflies he secured in Guam and on Mt. Maquiling, Luzon, P. I., the latter fauna being much the richer. Other insects were also shown. Mr. Swezey also spoke of the entomologists he had met on his recent trip to the Orient.

Mr. E. C. Zimmerman exhibited and reviewed briefly Prof. H. Osborn's recent book, "Fragments of Entomological History".

Mr. C. B. Keck spoke of the Entomological meeting he attended while on the mainland, the entomologists, the entomological dinner, and spoke of a U.S.D.A. bill in legislature to secure bee inspection against disease for the Hawaiian Islands.

MAY 6, 1937

The 377th regular meeting of the Hawaiian Entomological Society was held at the Experiment Station, H.S.P.A., May 6, 1937, at 2:30 p. m.

Members present: Miss Amy Suehiro, Messrs. Bianchi, Carter, Ehrhorn, Fullaway, Illingworth, McBride, Rosa, Sakimura, Swezey, Van Zwaluwenburg, Williams, and Zimmerman.

Visitor: Foo Kau Lee.

President Rosa called the meeting to order.

The minutes of the preceding meeting were read and approved.

Under the heading of unfinished business, Dr. Walter Carter asked what progress had been made by the committee on publication policy appointed by President Keck at the meeting of October 1936. After a brief discussion further action was deferred until a fuller committee could take it up.

Mr. E. C. Zimmerman presented an obituary notice of Dr. W. M. Wheeler and offered a resolution—seconded and passed—that, on behalf of the Society, the Secretary send Mrs. W. M. Wheeler an expression of condolence.

DR. WILLIAM MORTON WHEELER

It is with regret that the entomologists of Hawaii learn of the death of Dr. William Morton Wheeler at Cambridge, April 19, 1937, shortly after his seventy-second birthday. How unfortunate it is that science must lose such men as he! Dr. Wheeler was a brilliant student, internationally renowned, and a true philosopher. His work has been of fundamental importance, outstanding and unsurpassed; it will live long. His passing leaves a conspicuous, unfilled gap in the world's men of science.

Many of us here in Hawaii have not been fortunate enough to have had personal contact with Dr. Wheeler, but his work has been a constant inspiration and of real value. More than two score of his publications have been devoted to the ants of Oceania.* One of the last papers Dr. Wheeler wrote was upon the ants collected by the Mangarevan Expedition to southeastern Polynesia. His check lists of the ants of Hawaii and of Oceania and his many reports greatly facilitate our work. His irreparable loss is keenly realized by all of us.

PAPER PRESENTED

Mr. E. C. Zimmerman presented a paper entitled: "On Chaenosternum with a Key to the Genera of Hawaiian Cryptorhynchinae (Coleoptera, Curculionidae)".

* See Check List of the Ants of Oceania, B. P. Bishop Mus., Occasional Papers, vol. xi, no. 11, 1935, for an almost complete bibliography.

NOTES AND EXHIBITIONS

Mediterranean fruit fly infesting tomatoes.—Mr. Marlowe submitted the following note (presented by R. H. Van Zwaluwenburg):

On December 4, 1936, 5 mature tomatoes which contained maggots, were collected from a small field of bearing "Break of Day" plants at Kailua. Some female Mediterranean fruit flies were observed on the leaves of the plants during the gathering of the infested material. The tomato field was located approximately 200 feet from bearing papaya trees which was the nearest host of *C. capitata*.

The infested fruit were placed in a tray and held over sand in a tight standard holding box. A total of 64 larvae and pupae were obtained. From these, there emerged 16 melonflies and 10 *C. capitata*. This is the first authentic record of *Ceratitis capitata*, Wied. having been reared from tomatoes infested while growing under natural field conditions. Previous to this time the data available on the infestation of tomatoes by *C. capitata* were those which had been procured from cage tests.

Lema nigrovittata Guerin.—Dr. Illingworth reported that he had found this beetle breeding on Cup of Gold (*Solandra guttata*) at Kaimuki. All stages were present on the leaves, resulting in complete defoliation of the portions of the stems attacked. This Mexican pest was first reported by Mr. N. Krauss, Nov. 2, 1933 (Proc. Haw. Ent. Soc., VIII, 389), in Honolulu, and later March 1934 (Proc. Haw. Ent. Soc., IX, 13), breeding on Angel's Trumpet and Jimson Weed. The eggs are golden yellow, placed in clusters of 6 to 12 on the under side of the leaves. The larvae feed at first only on the lower epidermis, their excrement and dirt piling up on their backs, which appears to be a means of protection from natural enemies. The older larvae eat holes in the leaves, causing them to dry up and fall. When fully fed they enter the soil to pupate. Many adult beetles were found in the same yard feeding on Jimson weed, but no eggs or young were observed on this, which is reported to be their native plant on the Pacific Coast.

Adoretus sinicus Burm.—Dr. Illingworth exhibited a leaf from a Cycad palm, badly eaten by this oriental beetle. A similar emergence occurred last year during April (P.H.E.S. IX, 131). We need more records of the life history of this pest, so observations of damage to such favorite food plants can be used to plot seasonal activity.

Sinoxylon conigerum Gerst.—Mr. Swezey exhibited specimens of this beetle and their work on living twigs of avocado. The material was brought in May 3, 1937, by Sergt. McDole from his residence at 1555 Wilhelmina Rise, Honolulu. The beetles had bored into living twigs and in several places their burrows had practically

severed the wood portion of the twig. It is an unusual habit for this beetle, for it usually attacks injured or severed branches, chiefly operating on the kiawe. One specimen of *Xylopsocus castanoptera* was among the lot.

Bedellia orchilella parasites.—Mr. Swezey reported rearing the following parasites from the sweet potato leaf miner, *Bedellia orchilella* Walsm.: 4 *Secodella metallica* (Ashm.), 13 *Notanisomorphomyia externa* Timb., 2 *Achrysocharis fullawayi* (Crawf.). The material was obtained at the gardens of the Kaneohe Hospital on windward Oahu, April 21, 1937. Certain varieties of sweet potatoes were badly attacked by the leaf miners. Only a small per cent were found to be parasitized by these three eulophids, in the half a dozen leaves brought in. Scores of moths issued.

Orneodes objurgatella Walsm.—Specimens of this moth were exhibited by Mr. Swezey. They had issued in abundance from 154 fruits of *Plectronia odorata* collected by Mr. E. Y. Hosaka at Kaupo, Maui, 25 ft. elevation in a gully near the sea, April 11, 1937. Between April 19 and May 5, 52 moths issued from these fruits, and 21 *Eupelmus* sp. also, which were parasitic on the moth pupae. This is a 44% infestation, and a 28% parasitism. The *Eupelmus* runs to the species *aporostichus* in Perkins' table of *Eupelmus*, but the Maui specimens do not quite agree with the type specimen nor with the description in the Fauna Hawaiiensis; besides, Dr. Perkins' 43 species of *Eupelmus* are each described from a single island, and none from Maui.

Lema nigrovittata Guer.—Mr. Van Zwaluwenburg reported that Mr. Bianchi and he found adults and eggs of this immigrant Mexican chrysomelid on potato plants in Field 58, Oahu Sugar Co., March 23, 1937. On May 1, Mr. Douglas Cooke took numerous adults on "belladonna" (*Brugmansia arborea*) at Black Point, Honolulu. First found on Oahu in 1933, it has apparently spread rapidly on this island, and also occurs on Maui.

Dr. F. X. Williams reported that on his two visits to Māpūlehu, Molokai (April 15-16 and 30) he found the immigrant blue damselfly *Enallagma civile* (Hagen) common.

He also found the striped datura beetle, *Lema nigrovittata* Guerin ovipositing on the yellow-flowered *Datura metel* but more particularly on the common *Datura tatula*.

He also mentioned the number of moths that are destroyed when they fly into the illuminated fountain as observed in Thomas Square, Honolulu.

The immigrant water-running bug *Mesovelius mulsanti* was found in the adult stage well in the mossy forest, at about 1750 feet elevation along the Lulumahu stream, Konahuanui. The insect is prevalent in the hot lowlands of Oahu.

Chrysopa lanata Banks.—This immigrant green lace wing, common on the larger Hawaiian Islands, was found on Midway by F. C.

Hadden, who sent in examples to the H.S.P.A. Experiment Station for determination.

Dr. Walter Carter mentioned seeing the common *Pheidole* ant seize *Hambletonia pseudococcii*, the recently established South American wasp parasitic on *Pseudococcus brevipes*.

Dr. Carter exhibited under the microscope smears showing individual symbionts in the taro leafhopper (*Megamelus*). He also discussed briefly the mycetom arrangement in leafhoppers, virus, and future studies along these lines.

Mr. D. T. Fullaway exhibited 6 species of the genus *Ecthromorpha* (Ichneumonidae). Twenty-seven species of these wasps are now known. *Ecthromorpha* ranges from Africa, Australia and far into Oceania.

JUNE 3, 1937

The 378th regular meeting of the Hawaiian Entomological Society was held at the Experiment Station, H.S.P.A., June 3, 1937, at 2:30 p. m.

Members present: Messrs. Bianchi, Bryan, Donaghho, Illingworth, Marlowe, Mason, McBride, Rosa, Sakimura, Swezey, Van Zwaluwenburg, and Zimmerman.

Visitor: F. K. Lee.

President Rosa called the meeting to order.

The minutes of the previous meeting were read and approved.

PAPERS PRESENTED

Mr. Zimmerman presented a paper entitled "Heteramphus of Oahu (Coleoptera, Curculionidae)".

"*Stenotrupis* of Samoa and Hawaii (Coleoptera, Curculionidae)" was the title of another paper submitted by Mr. Zimmerman.

NOTES AND EXHIBITIONS

Oxaxis collaris (Sharp).—Mr. Swezey exhibited specimens of this beetle brought in by Dr. Lyon, who had collected them on the flowers of *Tournefortia argentea* growing in the Ala Moana park. This beetle has usually been taken at lights, often quite abundantly.

Dr. McBride and Mr. Marlowe mentioned the abundance of this oedemerid on corn growing on Quarantine Island a year ago; it was present in large numbers in the silk and on the tassels of the plants, and persisted for several weeks. Mr. Swezey remarked that although this insect is supposedly predacious, definite knowledge of its feeding habits is rather meagre.

Anaphothrips orchidii (Moulton).—Mr. Swezey exhibited specimens of this thrips identified by Mr. Sakimura. They were collected from *Anthurium* at Mr. F. K. Lee's residence, Waikiki, May 16, 1937. Apparently the only other record of this species in Hawaii

is a single specimen collected by Dr. Williams on honohono (*Commelina*) on Mt. Tantalus. Possibly the species is quite common on *Anthurium*, as injured flowers have been noted, and Dr. Lyon has mentioned thrips on anthuriums, but had not brought in any specimens.

Agromyza simplex Loew.—Mr. Swezey exhibited specimens of this fly captured in an asparagus field in the Waimea section of Waialua Agricultural Co., May 18, 1937. Four flies were caught by sweeping with a net, after Mr. Bianchi had found an asparagus stem with a puparium beneath the epidermis in the mine where the larva had fed. After considerable search Mr. Bianchi found another puparium similarly located. Apparently this is the first record of the asparagus miner in Hawaii. An account of the pest in the United States is given by Chittenden in U.S.D.A., Ent. Bul. 66, Part I, 1907. The species was described by Loew in 1869.

Bruchus chinensis L.—Mr. Swezey reported having identified the following parasites handed him by Mr. Sakimura, who had received them from Mr. M. Kurosawa, Yokohama, Japan, where they had issued from *Bruchus chinensis* infesting beans imported from Honolulu, June 20, 1936: *Glyptocolastes bruchivorus* Crawford, *Urosigalphus bruchi* Crawford, and *Heterospilus prosopidis* Vier.

Lema nigrovittata Guerin.—Dr. Illingworth reported this Mexican beetle as a serious pest of angel's trumpet (*Brugmansia arborea*). A garden of these plants at Waikiki was entirely defoliated. Plants of the same kind on Round Top were also attacked with all stages of the breeding beetles on the leaves. The pest was checked by a fog spray of deo-base oil containing pyrethrum of the same strength as used for house spray.

In a discussion of oil sprays which followed, Dr. Illingworth mentioned the successful use by local dairymen against hornfly, of gas oil (specific gravity 32 degrees) to which concentrated pyrethrum extract has been added.

Muscoid Diptera.—Mr. Bryan exhibited part 4 of Dr. C. H. T. Townsend's Manual of Myology. This part gives generic diagnoses of the oestroid flies of the families Dexiidae and Exoristidae. In the latter are classified the genera *Microceromasia*, *Frontina* and *Chaetogaedia*, species of which are found in Hawaii. Brief mention is made of the value of *Microceromasia sphenophori* as a parasite on the sugar cane beetle borer. Townsend states that "what has been called *Chaetogaedia monticola* is not Bigot's *monticola*, which has the female third antennal joint only a little longer than the second, but is probably *vilis* van der Wulp, or an allied species". In a table of oestroid generic synonymy it is noted that *Ochremeigenia* is a synonym of *Hamaxia* Walker. The other two species of "tachinids" found in Hawaii are noted in part 3 of this series: *Archytas* in the family Tachinidae, and *Leucostoma atra*, as the type of the

genus *Paradionaea*, in the family Gymnosomatidae. *Hamaxia* is placed in the family Oestridae.

New Publications on Pacific Insects.—Mr. Zimmerman called attention to the following papers relating to insects of Oceania, just issued as parts of Volume XIII, Occasional Papers of Bernice P. Bishop Museum:

Check List of the Cleridae (Coleoptera) of Oceania, J. B. Corporaal (vol. xiii, no. 3).

Check List of Neuroptera Planipennia of Oceania, P. Esben-Petersen (vol. xiii, no. 5).

Check List of the Cecidomyiidae of Oceania, H. F. Barnes (vol. xiii, no. 6).

On Lea's Fijian Deretiosus (Coleoptera, Curculionidae), E. C. Zimmerman (vol. xiii, no. 7).

JULY 1, 1937

The 379th meeting of the Hawaiian Entomological Society was held at the Experiment Station, H.S.P.A., July 1, 1937, at 2:30 p. m., with President Rosa in the chair.

Members present: Messrs. Bianchi, Bryan, Carter, Illingworth, Marlowe, Mason, McBride, Rosa, Pemberton, Sakimura, Suehiro, Swezey and Zimmerman.

Visitors present: Mr. Chas. Hoyt and Dr. S. W. Wakabayashi.

The President installed Mr. Zimmerman as Secretary pro tem.

The minutes of the previous meeting were read, corrected and approved.

PAPERS PRESENTED

Mr. Zimmerman read a paper entitled "*Atelothrus* on Oahu (Coleoptera, Carabidae)", and another on "*Teleodactylus* in the Solomon Islands (Coleoptera, Curculionidae)".

NOTES AND EXHIBITIONS

Mr. Zimmerman exhibited a paratype of his new species of *Atelothrus* from Oahu.

Cerambycobius cushmani Crawf.—Mr. Swezey exhibited specimens of this eupelmid which had issued from pods of *Acacia farnesiana* infested with *Bruchus sallaei* Sharp. The pods were collected June 11, 1937, in the flats near Makapuu Head. Six females and five male parasites had issued from June 14th to 30th. As proof that these were parasites of *B. sallaei*, one male parasite was found to have died when only partially issued from the pod. On opening the pod, one seed was found with an exit hole, and on opening the seed the pupal skin of the parasite was found, as well as the remains of the bruchid larva on which the parasite larva had fed. From the same batch of pods, 174 *Bruchus sallaei* issued and 3 *B. amicus*.

Horn. Other parasites which issued were 5 *Heterospilus prosopidis* Vier. and 37 *Urosigalphus bruchi* Crawford. Also quite a number of the egg parasite *Uscana semifumipennis* Gir. One moth, *Argyroplote illepada* (Butler) also issued and two of its parasite *Pristomerus hawaiiensis* Perkins. *Cerambycobius cushmani* is described in Proc. Ent. Soc. Wash., vol. ix, p. 158, 1908. There is also a table separating several species of the genus in the same paper. Mr. Bianchi sent this parasite from Guatemala in 1934 as one of the parasites of the pepper weevil. It has been reared continually at the Board of Agriculture. This is the first knowledge of its having become established here. *Bruchus sallaei* has been listed as one of its hosts at Brownsville, Texas.

Limnastis swaluwenbergi Jeannel.—Mr. Zimmerman reported this small carabid having been taken by Mr. Swezey "on rotten cane seed in ground, field 7, Kahuku, 5-17-28" on Oahu. This is a new distributional note for the species. It has heretofore only been taken by flotation by Mr. Van Zwaluwenburg in soil at the experiment station of the H.S.P.A.

Lema nigrovittata Guérin.—Mr. Swezey and Dr. Wakabayashi exhibited a specimen of this chrysomelid beetle taken by the latter at Waihee, Maui, in September, 1936. It was feeding on eggplant. This is apparently the second record of this beetle on Maui. It was first collected in May 1936, by Mr. Broadbent at Puunene. Mr. Swezey reported for Mr. Noel Krauss that he had found recently severe damage by this beetle on angel's trumpet, *Brugmansia arborea*, in Manoa Valley, the Capitol grounds, and other places, the plants being almost stripped of leaves. A general discussion of the beetle followed.

Insects from "Clipper" planes.—Mr. Pemberton exhibited some insects intercepted on Midway Island by Mr. Hadden from trans-Pacific air liners from the orient. Mr. Hadden sprays the planes at night, and since he has been stationed on Midway the number of insects taken from the planes on arrival at Honolulu has been substantially reduced.

Rhyncogonus of the Mangarevan Expedition.—Mr. Bryan briefly reviewed Bishop Museum Occasional Paper, vol. xiii, no. 11, June 1, 1937, by Dr. Van Dyke in which 39 new species of this weevil genus are described as new from many localities in south-eastern Polynesia. The collection of almost 2,500 specimens was collected almost entirely by Mr. Zimmerman.

Mr. Pemberton was called upon by the President for some remarks on his recent expedition to New Guinea and adjacent islands. Mr. Pemberton spoke briefly on his several months' trip collecting wild cane seed in New Guinea, New Britain and New Ireland. Fifty-seven lots of sugar cane seeds were brought back and some of these have already germinated. He had little time to devote

to entomology, but he did collect some interesting specimens which were exhibited including another parasite of the sugar cane weevil.

A general discussion, led principally by Dr. Wakabayashi, of mirid and tenebrionid damage on tomatoes, pepper weevil and gladiolus thrips followed.

AUGUST 5, 1937

The 380th meeting of the Hawaiian Entomological Society was held at the Experiment Station, H.S.P.A., August 5, 1937, at 2:30 p. m. with President Rosa in the chair.

Members present: Messrs. Bianchi, Bryan, Carter, Illingworth, Keck, Mason, McBride, Pemberton, Rosa, Sakimura, Swezey, Timberlake, Van Zwaluwenburg, and Zimmerman.

Visitor: Charles Hoyt.

The minutes of the previous meeting were read and approved.

PAPERS PRESENTED

Mr. Swezey read a paper entitled "Identity of the Nutgrass Armyworm in Hawaii".

Mr. Zimmerman presented a paper "Four New Solomon and Caroline Island Deretiosus (Coleoptera, Curculionidae)".

NOTES AND EXHIBITIONS

Thrips.—Mr. Sakimura stated that the first known case of outdoor infestation by *Hercothrips femoralis* Reuter was found on *Emilia sonchifolia* growing under citrus trees on the grounds of the Pensacola Street Experiment Station. It probably infested the citrus trees, which were not examined.

He also reported that Mr. Fullaway found a large number of thrips on fresh asparagus shipped from San Francisco, on July 8, 1937. The specimens, submitted to Mr. Sakimura for identification, were: *Thrips tabaci* Lind., 13 female specimens; *Frankliniella occidentalis* Perg., 1 male, 3 female specimens. The former species is known to be a transmitting vector of tomato spotted wilt in California. The other transmitting vector of the same disease, *Frankliniella moultoni* Hood, was not recovered from the asparagus.

European earwig (?).—Mr. Swezey exhibited an immature earwig found by Mrs. Swezey in a cavity in a radish, July 9, 1937. Apparently it had eaten the cavity itself, and makes one suspicious of its being the European earwig which is so destructive in Oregon and Washington. He was unable to determine whether the specimen was the young of some local species or not. It is well to be on the lookout for further evidence which might prove the presence of the European earwig.

Opogona purpuricella Sw.—Mr. Swezey reported having reared three moths of this species from larvae in dead asparagus stems at

the asparagus field in Waimea section of Waialua Agricultural Co., May 18, 1937.

Collecting on Kauai.—Mr. Zimmerman told of a three-weeks visit to the Kokee region of Kauai, recently made by Mr. Bianchi and himself. Upwards of 13,000 specimens were obtained, including a *Eupelmus*, the first known from Kauai. Several of Perkins' species, previously known only from uniques in the British Museum, were rediscovered. No trace of the almost fabulous green sphinx moth was seen, although special search for it was made.

Bruchid new to Hawaii.—Mr. Timberlake exhibited a specimen of bruchid taken by him on the ground at Waimanalo Beach, July 14, 1937, which appears to be unlike any of the species present in the H.S.P.A. collection.

Tomato blossom drop caused by midge infestation was reported by Dr. Illingworth. The maggots feed upon the essential organs in the unopened buds. The stamens and pistil are so injured that they darken in color and dry up, and the petals also are usually affected in the same way. Practically all of the buds fall off without opening. The maggots when fully developed leave the buds. They are quite yellow in color and have a habit of skipping which enables them to escape natural enemies and get into the soil to pupate. Maggots of similar habit on tomato were observed by Mr. Swezey, and reported at the meeting of July 5, 1906 (Proc. Haw. Ent. Soc., I, 79). These were determined as *Contarina solani* Rübsaamen. Another species, *C. lycopersici* Felt, has been reported recently doing similar injury to tomatoes in the West Indies (Rev. Appl. Ent., ser. A, xxiii, 713).

Oxacis collaris (Sharp).—Mr. Pemberton reported that thousands of adults of this oedemerid were observed on July 12, 1937, massed together on the under surfaces of leaves of a young coconut palm adjacent to the government road at Niu, Oahu. They were mostly inactive, except when disturbed, when they would quickly take wing. Mating pairs were common. The beetles were not feeding. The tree was again examined on July 27th, when it was noted that the beetles were still present in large quantities, and some were found similarly massed on another coconut tree a few feet away. Females were filled with well-developed eggs. Upon examination on July 30th almost all of the entire assembly had disappeared.

Orchid pests.—Dr. Carter exhibited a larva of *Amorbia emigratella* Busck, a tortricid which causes severe injury to orchids at Woodlawn. He reported further that *Dendrobium taurinum* is an orchid extremely susceptible to injury by an unidentified red spider, while *D. phalaenopsis* is not at all susceptible. A hybrid of the two species proves to be just as susceptible as *D. taurinum*.

Distribution of soil-inhabiting carabids.—Mr. Van Zwaluwenburg's field notes of a survey made some years ago extends the known range of the two small carabids inhabiting Hawaiian soils. *Limnastis swaluwenbergi* Jeannel, the larger, fully-eyed species, has

been recorded from Honolulu (type locality) and Kahuku, Oahu. It was also found in Field 12, Aiea, Honolulu Plantation, Oahu; Field W, Mountain View, Olaa Plantation, Hawaii; and Field 35, Grove Farm, Kauai. Possibly the insect on the other islands is not conspecific with that on Oahu, for at the time differentiating characters were not known; but evidently a bembidine carabid occurs on the outlying islands which is closely related to, if not identical with the *Limnastis* of Oahu.

The smaller, completely eyeless *Typhlonesiotes swaluwenbergi* Jeannel is usually more numerous than *Limnastis*. Besides Honolulu, the type locality, it was found as follows: Field 9, Oahu Sugar Co., and Field 28, Waianae Plantation, Oahu; and Field 35, Grove Farm, Kauai. Another species of similar size, but at the time considered distinct from the Oahu *Typhlonesiotes*, was taken in Field W, Mountain View, Olaa, Hawaii; specimens are not now available, and material will have to be examined before deciding its relationship to the species on Oahu and Kauai.

The President called for a few remarks from Mr. Timberlake, now visiting Honolulu after an absence of some years. Mr. Timberlake told interestingly of his work in building up the collections of the Citrus Experiment Station at Riverside, Calif. He commented upon the large number of species among certain American genera of the bees, and described collecting these insects in southern California. The desert is a particularly good, and apparently inexhaustible, collecting ground for bees, and new species are constantly being found there.

SEPTEMBER 2, 1937

The 381st meeting of the Hawaiian Entomological Society was held at the Experiment Station, H.S.P.A., September 2, 1937, at 2:30 p. m., with President Rosa in the chair.

Members present: Messrs. Bianchi, Bryan, Ehrhorn, Fullaway, Illingworth, Keck, Marlowe, Pemberton, Rosa, Sakimura, Swezey, Van Zwaluwenburg, Williams, and Zimmerman.

Visitors: Charles Hoyt, F. K. Lee, and Miss Ethel Lucas.

The minutes of the previous meeting were read and approved.

Mr. E. H. Bryan, Jr., Chairman of the Committee to Consider Editorial Policy, reported as follows:

It is recommended:

1. That short papers and notes be given preference in the "Proceedings."
2. That preference be given to papers having to do with the economic and taxonomic entomology of Hawaii and related Pacific Island groups. That, in determining the relationship of other regions to Hawaii, consideration be given both to similarity of fauna and crops, and to close connection by regular means of transportation.
3. That the presentation of concise reviews of current publications on the insects of Hawaii, those of related regions, and those of crops which are grown in Hawaii, and of important general works on entomology, be encour-

aged, for the information of members at meetings; but that in publishing the record of such reviews, it be considered sufficient to give only the author, title, reference, and a brief statement as to the scope of the paper.

4. That an Editorial Committee be appointed by the Executive Committee of the Society, with the Editor as chairman, with power to determine what will be published in the Society's "Proceedings", and to attend to other editorial matters. To provide for the appointment of such a committee, the By-Laws of the Society should be revised as follows:

Amend Article 5 by substituting the following for paragraph (e):

"(e) The Executive Committee shall appoint one or more active members from among themselves or otherwise as Librarian, Curator, and Editor, respectively, and two additional members to constitute with the Editor an Editorial Committee which shall determine the policies of publication and all editorial matters."

Committee to Consider Editorial Policy: { O. H. SWEZEY,
WALTER CARTER,
D. T. FULLAWAY,
E. H. BRYAN, JR., Chairman.

Mr. O. H. Swezey, as Editor of the Proceedings of the Hawaiian Entomological Society, brought up the question as to whether the authors of papers should be given their title and association. After some discussion it was moved by Mr. Zimmerman and seconded by Mr. Ehrhorn that the editor be instructed to give the authors' titles with articles for 1937, and to leave future action in this matter to the editorial committee. Passed.

PAPERS PRESENTED

Mr. E. C. Zimmerman presented a paper entitled "Emperoptera from Maui (Diptera, Dolichopodidae)".

Mr. E. C. Zimmerman presented a paper entitled "Idotasia in New Ireland (Coleoptera, Curculionidae)".

NOTES AND EXHIBITIONS

Leafmite on *Tithonia*.—Mr. Swezey exhibited foliage of this plant from his garden which was badly injured by a small green leafmite. The new leaves were somewhat crumpled, and were drying at the margins in older attacks.

Mr. F. A. Bianchi stated that the *Agromyza simplex* fly had recently become very abundant on asparagus at Waialua, Oahu.

Mr. C. E. Pemberton said that this fly was parasitized in England by a braconid wasp and a tachinid fly. It occurred also in Germany.

Dr. F. X. Williams exhibited some solitary wasps from California and their prey. The psammocharid wasp *Mygnumia hesperina* Banks preyed upon the "tarantula" *Brachythele longitarsis* Simon, the *Asiatus* on certain Heteroptera while members of the genus *Silaon* (sens. lat.) according to species, stored acridiid grasshoppers, certain Heteroptera, and psocids or Corrodentia.

Insect Migration.—Mr. Bryan spoke of meeting Dr. H. L. Richardson, soil chemist at Rothamsted Experiment Station, who had requested that persons having information regarding insect migration should communicate with Dr. C. B. Williams, Chief Entomologist, Rothamsted Experiment Station, Harpenden, Herts., England, who is compiling such data.

OCTOBER 7, 1937

The 382nd regular meeting of the Hawaiian Entomological Society was held at the Experiment Station, H.S.P.A., October 7, 1937, at 2:30 p. m.

Members present: Messrs. Bianchi, Bryan, Chapman, Ehrhorn, Illingworth, Marlowe, Mason, McBride, Sakimura, Swezey, Van Zwaluwenburg, Williams, and Zimmerman.

Visitors: Miss Ethel Lucas, Dr. F. G. Holdaway, and Mr. F. K. Lee.

In the absence of the President and Vice-President, Mr. O. H. Swezey was elected to preside at the meeting.

The minutes of the previous meeting were read and approved.

Mr. E. H. Bryan, Jr., explained the report re the editorial policy for the Hawaiian Entomological Society adopted at the last meeting, and in reference to which he read the proposed amendment to Article 5, of the Constitution by substituting the following for paragraph (e): "(e) The Executive Committee shall appoint one or more active members from among themselves or otherwise as Librarian, Curator, and Editor, respectively, and two additional members to constitute with the Editor an Editorial Committee which shall determine the policies of publication and all editorial matters." Mr. E. C. Zimmerman moved that this amendment be adopted. Seconded by Mr. R. H. Van Zwaluwenburg, and passed.

Mr. O. H. Swezey as Editor of the Proceedings of the Hawaiian Entomological Society announced that Vol. IX, No. 3, was now published.

Mr. E. C. Zimmerman proposed Dr. F. G. Holdaway as a member of the Society. Mr. O. H. Swezey proposed Miss Ethel Lucas as a student member. Following the custom, these two names are to be voted on at the next meeting.

Mr. E. H. Bryan brought up the form of index for Vol. IX of the Proceedings of the Hawaiian Entomological Society and upon which he was working. The subject was considered and reconsidered, and finally it was moved by Mr. Zimmerman and seconded by Mr. Ehrhorn that Mr. Bryan be instructed to arrange it as a general index and a plant index. Passed. A vote of thanks was tendered Mr. Bryan for the considerable work involved in indexing this volume.

PAPERS PRESENTED

Mr. Zimmerman presented papers as follows: "The Status of *Acalles wilkesii* (Coleoptera, Curculionidae)", "A New Fijian *Deretiodes* (Curculionidae)",* and "Idosaulus, A New Genus of Fijian Cryptorhynchinae (Coleoptera, Curculionidae)".*

OBITUARY NOTE

(Presented by E. C. Zimmerman)

Lord Rothschild, founder and patron of the Zoological Museum at Tring, died on August 27, 1937, at the age of 69 years. The extensive collections and the buildings have been left to the British Museum. Included in this institution are the enormous collection of Lepidoptera built up by Lord Rothschild since his youth, and numbering between one and two million specimens, and the finest collection of Anthribidae in existence. The latter has been developed by Dr. Karl Jordan. The collections will be preserved intact and will not be scattered as has been the fate of many large collections in the past.

NOTES AND EXHIBITIONS

Tapinoma melanocephalum (F.).—Dr. Illingworth reported this ant as a troublesome pest of residences in the drier beach sections of Honolulu. The workers overrun the houses, getting into all kinds of foods, and even get into the beds, where they cause considerable annoyance by biting people. Ordinary control measures, sprays, and dusts have not met the situation. The nests are evidently in the ground but are difficult to locate, being under the buildings. There is very little in the literature concerning this species. It is recorded as the commonest household species in British Guiana, attacking all kinds of foods and dead insects. It is also reported from Cuba associated with a mealy bug on the roots of sugar cane, and as a household pest in Puerto Rico. According to Wheeler this is a tropical Old World species, widely distributed by commerce. It is an abundant Indian ant, and probably originated there, like many of the other insects of the Hawaiian fauna. This is a very tiny ant with a whitish abdomen, the head noticeably dark. This latter character gives rise to the scientific name of the species, *melanocephalum* being Greek for black head.

Argyroplote illepida (Butl.).—Mr. Swezey exhibited a specimen of this tortricid moth reared from seeds of *Pithecolobium dulce*. This appears to be an addition to the list of host plants for this moth in Hawaii.

Catorama mexicana Chev.—Mr. Swezey exhibited this ptinid beetle and some California black walnuts infested with its larvae. He had had a sack of about half a bushel in his basement which had not been disturbed for a year or more. Black dust was noticed on

* Withdrawn for publication by B. P. Bishop Museum.

the floor around it, and on investigation it was found that *Catorama* larvae had eaten the dried outer shucks from the nuts. There were still many larvae to be found, and also living beetles. The first time that he had noticed it infesting walnuts.

Mr. E. C. Zimmerman exhibited interesting pictures of a nest of *Coptotermes formosanus*.

NOVEMBER 4, 1937

The 383rd regular meeting of the Hawaiian Entomological Society was held at the Experiment Station, H.S.P.A., November 4, 1937, at 2:30 p. m.; President Rosa in the Chair.

Members present: Miss Ethel Lucas, Miss Amy Suehiro, Messrs. Bianchi, Bryan, Ehrhorn, Fullaway, Holdaway, Illingworth, Keck, Marlowe, Pemberton, Rosa, Sakimura, Swezey, Van Zwaluwenburg, Williams, and Zimmerman.

Visitors: Ashley C. Browne, and H. D. Kirschman.

Minutes of preceding meeting read and approved.

The Secretary reported that at a meeting of the Executive Committee held just before the present meeting it was moved, seconded, and passed that the bill of \$655.68 from the Honolulu Star-Bulletin, Ltd., for printing 500 copies of Vol. IX, No. 3, of the Proceedings of the Hawaiian Entomological Society, be accepted.

Mr. E. C. Zimmerman proposed Dr. Ashley C. Browne for membership in the Society. Following the custom, this name will be voted on at the next meeting.

Dr. F. G. Holdaway and Miss Ethel Lucas were duly elected to membership.

PAPERS PRESENTED

Mr. E. C. Zimmerman presented a paper on "A Key to the Genera of Hawaiian Anthribidae," and discussed the identity of the species. He also presented "A Key to the Lanai Proterhinus." On behalf of Dr. J. R. Malloch, Mr. E. H. Bryan, Jr., presented a paper entitled "Two Genera of Hawaiian Drosophilidae (Diptera)". It included a new genus. Mr. E. H. Bryan, Jr., presented a paper on "A Revised Key to the Hawaiian Drosophilidae, with Descriptions of New Genera and Species." Dr. F. X. Williams presented a paper entitled "*Campsicnemus fumipennis* Parent (Diptera, Dolichopodidae)". Mr. D. T. Fullaway presented a paper entitled "Orchid Insects".

Mr. E. C. Zimmerman presented a paper on "Preliminary Revision of the Fijian Baridinae".*

Mr. D. T. Fullaway presented a paper on "New Species from the Bishop Museum Collection of Parasitic Hymenoptera."

* Withdrawn for publication by B. P. Bishop Museum.

NOTES AND EXHIBITIONS

Tromatobia rufopectus (Cress.).—Mr. Swezey reported having collected 9 of the large egg cocoons from a web of *Argiope avara*, on the Pupukea trail, October 14, 1937. They were of various ages, mostly old ones. From one of them 27 *Tromatobia* issued Oct. 22. The other cocoons when examined were found to contain empty cocoons of *Tromatobia*. *Argiope* egg cocoons are seldom found any more, due to the prevalence of *Tromatobia* whose larvae destroy so many of the eggs.

Aplastomorpha calandrae (Howard).—Mr. Swezey reported having reared this parasite from the bookworm *Catorama mexicana*, several of them having issued from the black walnut material exhibited at the previous meeting which was badly infested with this beetle. This is apparently the first record in Hawaii of this parasite being reared from this beetle as a host.

Amyosoma chilonis Viereck.—Mr. Swezey exhibited a specimen of this rice borer parasite which had issued from a stool of rice badly damaged by rice borer, *Chilo simplex* (Butl.), from Waipa, Kauai, brought in by Mr. King, Sept. 28, 1937. It is the first recovery of this introduced parasite from the island of Kauai. Mr. Fullaway has reported its recent recovery on Oahu. The report of its having become established several years ago, was in error. The species reported at the time is now known to be a different still-undetermined species from Japan. *Amyosoma chilonis* was introduced from China in 1928.

Dr. F. X. Williams exhibited nests of a leaf cutter bee from Mapulehu, Molokai. They varied from less than one to nearly 2 inches in length and instead of being constructed within some shelter, as a hole, crack, leaf-frond fold, etc., lay exposed on the upper edge of the door and window casing of the quarantine greenhouse. The casing boards were about $\frac{5}{8}$ " thick and 3 inches under the eaves. The nests in many cases lay along the boards' edge, or rose from it at an angle and were not very strongly cemented down.

Mr. E. H. Bryan, Jr., exhibited a collection of drosophilid flies.

Mr. D. T. Fullaway exhibited a specimen of the hydrophilid beetle *Sphaeridium scarabaeoides*, which he had recently taken on windward Oahu. A short time thereafter Mr. C. E. Pemberton caught a second specimen. This common European species now widely spread was introduced here in 1909 as a possible hornfly enemy, by Albert Koebele.

Mr. C. B. Keck exhibited a bee hive raised some 18 inches from the ground by 4 iron rods, and provided with a wire screen apron in front so as to prevent *Bufo marinus* from getting at the bees.

Mr. F. A. Bianchi exhibited on behalf of Mr. C. E. Pemberton and himself, some potato "seed" from Oahu Sugar Co., Ltd., plantation, that had been slightly damaged by the tenebrionid beetle larva

Gonocephalum seriatum (Boisd.). The "seed" had been treated with bichloride of mercury.

On being called upon for a talk, Dr. A. C. Browne of the University Agricultural Extension Service spoke of the growing development of vegetable crops and their importance and problems.

Dr. Holdaway then responded, explaining his dual role in work—with the Entomology Department at the University and the Experiment Station there. He commented on the scarcity of entomological material for student class work and stated that any assistance here would be very welcome.

DECEMBER 3, 1937

The 384th meeting of the Hawaiian Entomological Society was held at the Experiment Station, H.S.P.A., Honolulu, December 3, 1937, at 2:30 p. m., with President Rosa in the chair.

Members present: Miss Ethel Lucas, Miss Amy Suehiro, Messrs. Bianchi, Browne, Bryan, Ehrhorn, Holdaway, Illingworth, Ito, Keck, McBride, Mason, Pemberton, Rosa, Sakimura, Schmidt, Swezey, Van Zwaluwenburg, Williams, and Zimmerman.

Visitors: Dr. S. A. Graham, Mr. F. K. Lee.

The minutes of the previous meeting were read and approved.

Dr. F. X. Williams read the Treasurer's report for the year ending December 1, 1937. The cash on hand was \$172.36. The report had been approved at the meeting of the Executive Committee held just prior to the present meeting. It was moved that this report be accepted and filed—subject to auditing. Seconded and passed. The chair appointed Mr. A. C. Mason as auditor.

Dr. A. C. Browne was duly elected to membership in the Society.

The following officers were elected for 1938:

President: Dr. Carl Schmidt

Vice-President: F. A. Bianchi

Secretary-Treasurer: Dr. F. X. Williams

Additional members of the Executive Committee: E. M. Ehrhorn and R. H. Marlowe.

Mr. R. H. Van Zwaluwenburg moved that a vote of thanks be extended Mr. O. H. Swezey, editor of the "Proceedings" for his editorial work—from 1905 to 1937. Seconded and passed. Mr. Swezey responded to the vote in fitting terms.

Similarly Mr. E. H. Bryan, Jr., was given a vote of thanks for getting out the index of the "Proceedings".

PAPERS PRESENTED

Mr. Kay Sakimura presented a paper by title: "Notes on Thrips on Kauai".

Dr. O. C. McBride presented a paper on behalf of Donald Starr and Kam Hu Lau, entitled: "Cyclohexylamine, an Attractant for *Lathropophthalmus arvorum* (Fabr.)".

On behalf of Mr. R. L. Usinger, Mr. O. H. Swezey presented a paper entitled: "Biological Notes on the Pelagic Water Striders (Halobates) of the Hawaiian Islands, with Description of a New Species from Waikiki (Gerridae, Hemiptera)".

Mr. O. H. Swezey presented a paper entitled: "Host Plant Records of the Species of *Proterhinus* (Col.) in Hawaii". Mr. Swezey exhibited specimens of these beetles.

Dr. F. X. Williams presented by title two papers as follows: "*Asyndetus carcinophilus* Parent, a Maritime Dolichopodid Fly".

"Biological Studies in Hawaiian Water-Loving Insects: Part III; Diptera; A, Anthomyiidae and Ephydriidae".

Mr. E. C. Zimmerman presented papers as follows: "A Second Species of *Elytroteinus* (Coleoptera, Curculionidae)"; "*Orochlesis* in the Solomon Islands (Coleoptera, Curculionidae)".

NOTES AND EXHIBITIONS

Mr. R. H. Van Zwaluwenburg presented some interesting data by Mr. Hugh Brodie on *Chalcolepidius erythroloma* Candeze: Since June 1st, Mr. Hugh Brodie has had an adult of this immigrant South American elaterid beetle (age unknown), which has become more or less of a family pet. "Click" crawls without hesitation onto the extended hand of members of the household, but refuses to accept strangers. Kept in a large bowl, it sometimes gets out by flying or leaping, but makes no effort to hide or to escape from the house. It feeds frequently and with gusto on any of the local fruits except citrus and pineapple; papaya has been its main diet. Its claws becoming dirty with accumulations of food, the insect was recently subjected to a bath, which it survived but showed no evidence of liking. The readiness with which a purple plush elephant is climbed, suggested at first a seeming color preference which now appears to be without significance; the beetle crawls aimlessly over this elephant for hours at a time without trying to leave it. "Click's" leaps from a supine position are becoming less and less vigorous, and it seems likely that it is approaching the end of an existence which, to an elaterid, probably seems sybaritic.

Haplogonatopus vitiensis Perkins.—Mr. Swezey exhibited this dryinid which he had reared from the taro leafhopper, *Megamelus proserpina* Kirk., 52 cocoons having been collected on taro leaves at Kokokahi, Oahu, Oct. 29, 1937. From these cocoons 31 female dryinids issued Nov. 4-9. Later examination revealed 5 dead adults and 2 dead larvae in cocoons—a total of 38 of the 52 cocoons. From the other 14 cocoons 38 hyperparasites, *Helegonatopus pseudophanes* Perkins, had issued, equal to a hyperparasitism of 27%. Mr. Swezey reported having reared the same dryinid from the taro leafhopper in Guam in 1936, and that the hyperparasite attacking it there was *Echthrogonatopus exitiosus* Perkins.

Thripoctenus brui Vuillet.—Mr. Swezey reported that the thrips

parasite which he recorded from *Thrips tabaci* Lind. on nasturtium, on page 361 of "Proceedings" Vol. IX, had been studied by Mr. Sakimura and found to be *Thripoctenus brui* which was introduced from Japan in 1934.

Pinnaspis buxi (Bouché).—Dr. Illingworth brought in some leaves of *Monstera deliciosa* that had been heavily infested by this scale for the past two months. Two species of lady-bird beetles fed on this scale and made a thorough cleaning-up. These are *Chilocorus circumdatus* Schon. and *Sticholotis punctata* Crotch. This scale is also found on coconuts.

Xyleborus kraatzi Eichh.—Dr. Illingworth reported an extensive flight of this scolytid beetle at Kaimuki. On the evening of Nov. 2, 1937, the air was filled with hundreds of the flying insects, so small that they came in through the screens.

Eutochia lateralis (Boh.).—Mr. Pemberton presented a note on this tenebrionid beetle which normally breeds in rotting trash, decomposed manure and compost heaps. During November, 1937, it appeared in enormous numbers in the soil in a young field of "plant" sugar cane at Ewa, Oahu, and severely damaged the germinating shoots of cane "seed pieces" by eating holes in the tender growing tissue and sometimes completely cutting them off. The damage was caused by the adult beetles. During several months previously this field had been manured with heavy applications of Oliver filter mud, a sugar mill by-product, in which the insect had readily bred and accumulated prior to the planting of the cane cuttings. Such massing of the species in cane fields has not been previously noted, though it can usually be found in moderate quantities in rotting cane trash.

Laphygma exigua (Hbn.).—Dr. Browne reported having collected larvae of this noctuid on Nov. 10, 1937, at Kahala, Oahu, which were feeding inside the hollow stems of green onions. The crop was about 25% destroyed. No parasites were reared out when caged material was held for observation. He had also observed the "white fly" *Trialeurodes vaporariorum* abundant recently on strawberries at Wahiawa—a new host record.

Dr. F. G. Holdaway stated as a matter of interest that *Encarsia* sp., a parasite on this "white fly" in England, is shipped regularly to greenhouses in Tasmania, New Zealand, etc.

Dr. F. X. Williams exhibited an ephydrid fly identified by E. T. Cresson, Jr., as *Hecamede persimilis* Hend. This makes the second named species of the genus in the archipelago. It is a beach species that is often associated with the burrows of the "ghost crab", *Ocyrode ceratophthalma* (Pallas).

Dr. Schmidt introduced Dr. S. A. Graham, Forest Entomologist at the University of Michigan, who spoke briefly on his present visit to Honolulu. Dr. Schmidt also gave a short talk on his recent trip to Brazil.