

PROCEEDINGS

OF THE

Hawaiian Entomological Society

VOL. VIII, No. 1

FOR THE YEAR 1931

Nov., 1932

JANUARY 8, 1931

The 300th regular meeting of the Hawaiian Entomological Society was held at the Experiment Station of the Hawaiian Sugar Planters' Association at 2:30 p.m., January 8th, 1931.

In the absence of the President and Vice-President, Mr. O. H. Swezey acted as chairman. Other members present were: Messrs. Au, Bryan, Ehrhorn, Fullaway, Ito, Keck, Rosa, Sakimura, Stanley, Van Zwaluwenburg, Wilder and Williams. Two visitors: Miss Dobroscky and Miss Suehiro.

The minutes of the previous meeting were read and approved.

The Chairman appointed Mr. Ehrhorn to audit the Society's accounts for 1930.

Mr. Bryan reviewed the list of common names of insects in Hawaii. The list, which is not yet final, induced considerable discussion.

Mr. Swezey spoke of the Trail and Mountain Club hike up Mt. Kaala on Sunday, January 11, as offering opportunity for entomologists.

Miss Dobroscky spoke of the New York Entomological Society, of which she has been a member since 1926.

PAPERS

"Thrips tabaci Imported From Oregon."*

BY K. SAKIMURA.

NOTES AND EXHIBITIONS

Megamelus proserpina Kirk.—Mr. Fullaway spoke of the taro leafhopper as being very abundant in a limited area in some of

* Not available for publication [Ed.]

the Waianae homesteads. The homesteaders complained of their ravages. All the female leafhoppers were the short-winged form.

Cremastus hymeniae Viereck.—Mr. Swezey reported as an addition to the list of hosts of this parasite *Genophantis leahi* Swezey, whose caterpillars feed on Euphorbia. He had collected four caterpillars on a Euphorbia bush in Iao Valley, Maui, Sept. 11, 1930. Two of these caterpillars yielded, each, one of these parasites.

Chrysopa lanata Banks.—A specimen of this lacewing fly was exhibited by Mr. Swezey, who had reared it from a larva found eating the eggs of *Spodoptera mauritia* on a leaf of *Ficus macrophylla* at the Kamehameha School grounds, Honolulu, Dec. 11, 1930. The larva grew rapidly, feeding on these eggs, and spun a white spherical cocoon Dec. 18. The adult issued Dec. 31. On two or three other occasions the larvae of this species have been found feeding on *S. mauritia* eggs. The larva does not cover itself with debris or insect remains.

Holcobius glabricollis Perkins.—Specimens of this ptnid beetle were exhibited by Mr. Swezey, who had reared twenty-one of them from a dead branch of koa tree from the planted koa forest on Sugar Loaf Hill, Nov. 4, 1930. From some of their larvae, specimens of a Sclerodermus were reared, which is apparently a new species.

Pseudococcus citricolus Green.—Mr. Ehrhorn spoke of finding a mealybug on a lime tree in Manoa Valley which has been identified as this species. It is the first record of its occurrence in the Hawaiian Islands.

Volucella pusilla Macquart.—Mr. Ehrhorn reported finding this species of syrphid fly very abundant on flowers of *Montanoa bipinnatifida*, in Manoa Valley, Dec. 21, 1930, in company with *V. obesa*.

Volucella pusilla Macq.—Dr. Illingworth also reported this recently introduced syrphid abundant, feeding on the flowers of Bidens in a vacant lot in Kaimuki, Dec. 12, 1930. This species was first discovered in the islands by Mr. J. S. Rosa Oct. 30, 1930, at Waipahu.

Dr. Gerrit Wilder reported on collecting a drowned specimen of this fly in swimming pool Nov. 20, 1930.

Volucella pusilla Macquart.—Mr. Bryan reported finding this new fly very abundant at the University of Hawaii campus, Dec. 6, about the blossoms of *Nothopanax cochleatum*, in company with *Lathyrophthalmus arvorum*, *Volucella obesa*, *Stomorhina pleuralis*, *Milichiella lacteipennis*, *Chrysomyia megacephala*, Pachodynerus wasps, and honey bees. The blossoms of Golden dewdrop (*Duranta repens*) near by, were attracting the honey bees and Pachodynerus wasps, but not the flies. The insects were eagerly sucking nectar from the opening blossoms.

Mr. Keck reported having seen what was undoubtedly this fly in September, 1930, on Chinese Orange in Honolulu.

Flies from Laysan Island.—Mr. Bryan exhibited specimens of four species of Diptera collected on Laysan Island by Gerrit P. Wilder, August, 1930. The species were:

- Scatella sexnotata* Cresson
- Lucilia graphita* Shannon
- Undetermined sarcophagid
- Undetermined stratiomyid

All four species have been previously recorded from Laysan, (Bryan, B. P. Bishop Museum Bulletin 31, 1926).

Cryptolaemus montrouzieri Mulsant.—Mr. Bryan exhibited a leaf of the Hawaiian wiliwili (*Erythrina monosperma*) from the University of Hawaii campus, having on it pupal cases of this ladybeetle, and the newly emerged beetles. The cases consist of the dry larval skins, which are white and waxy, much resembling the mealybugs on which the beetles prey.

Caryoborus gonagra Fabr.—Mr. Bryan reported finding this bruchid beetle in a flower of *Sesbania grandiflora* var. *coccinea*, December 6th, on the University of Hawaii campus.

Mylabris limbatus (Horn).—Mr. Bryan reported finding this bruchid beetle in the pods of *Wallaceodendron celebicum*, the banuyo legume, on the University of Hawaii campus, December 6th.

Mosquitoes in Hawaii.—Mr. Bryan stated that he had been told by Mr. David M. Forbes of Waimea, Hawaii, that in 1890, when

he, Forbes, had first gone to the Kukuihaele Plantation in Hamakua, Hawaii, there had been no mosquitoes in that region. He said that they had arrived a few years later, and had become quite abundant.

Mr. Forbes also related the following anecdote, which he had heard secondhand from an old Hawaiian living in Waimea, Hawaii, but which is at least suggestive as to human aid in insect distribution. The story goes that sometime about 1860, a sailor from some vessel anchored at Kawaihae had had a sweetheart living in Waimea. When it came time for him to leave, he gave her a parting gift to remember him by, with instructions that she was not to open it until his ship had put to sea. When she opened the little bag which the parcel contained, out jumped several little uku. And that is how the flea, which is still so abundant in the region, first came to Waimea.

Galleria mellonella (Linn.)—Dr. Wilder reported having reared this moth from comb in beehive, Dec. 3, 1930. Moth, cocoons and chrysalis were exhibited. The other bee moth, *Meliphora grisella* (Fabr.) was also reared at the same time. This appears to be the first record of *Galleria mellonella* in the Hawaiian Islands.

FEBRUARY 5, 1931

The 301st regular meeting of the Hawaiian Entomological Society was held at the Experiment Station of the Hawaiian Sugar Planters' Association, on February 5, 1931, at 2:30 p.m.

Members present were: Messrs. Bianchi, Bryan, Carter, Ehrhorn, Fullaway, Hagan, Illingworth, Marlowe, Mason, McBride, Mitchell, Rosa, Swezey, Van Zwaluwenburg and Williams. Visitors present: A. J. Smith and W. H. Volck.

President Mason called the meeting to order.

The minutes of the previous meeting were read and approved.

Mr. Ehrhorn stated that he had audited the Society's accounts for 1930 and found them to be correct.

Upon being called upon, Mr. Volck of the California Spray Chemical Company made a few remarks.

NOTES AND EXHIBITIONS

Engytatus geniculatus Reuter.—Dr. Illingworth reported this mirid bug feeding and breeding in the flowers of tomatoes at Kaimuki. Both nymphs and adults were observed in abundance sucking on the anthers of the flowers, causing these organs to dry up. As a result few of the fruits set. A mosaic disease was evident on the leaves of the plants, and also on peppers adjoining. As far as observed, these bugs were the only sucking insects present, and possibly are the vectors.

This led to a considerable discussion on insects as transmitters of yellows, mosaic and other virus diseases.

Haplogonatopus vitiensis Perk.—Mr. Swezey reported that twenty-six cocoons of this dryinid were collected from taro leaves at Waianae, January 13, where the parasite had bred on the taro leafhopper, *Megamelus proserpina* Kirk. From these cocoons, eight of the dryinid and thirteen *Saronotum americanum* Perkins had issued.

Cyrtorhinus mundulus (Bredd.).—Mr. Swezey reported this bug as occurring abundantly on the taro leafhopper in Waianae. There were adults, nymphs and also the eggs in the petioles of the taro. A Polynema issued from some of these eggs, apparently the same species (*reduvioli*) that has been reared from eggs of *Reduviolus*. Possibly there was a *Reduviolus* egg among the *Cyrtorhinus* eggs. *Reduviolus capsiformis* (Germ.) was observed on the taro.

Scelio sp.—Mr. Swezey exhibited numerous living examples of a *Scelio* reared from grasshopper eggs (*Oxya* sp.) received from Mr. Pemberton, sent from Serdang, Selangor, Federated Malay States. Five consignments of parasitized eggs had been received from Mr. Pemberton, and from them several hundred *Scelio* had issued, 600 of which have been liberated in favorable places for them to find *Oxya* eggs for oviposition. Others are being retained in attempts to rear them.

Protoparce quinque maculata blackburni (Butl.).—A caterpillar of the Hawaiian tobacco worm was exhibited by Mr. Swezey. He had collected two of them on a tobacco plant growing wild at the mouth of Kaneana Cave, Makua, Oahu, January 25, 1931. This insect has seldom been collected on Oahu, though quite common

on Maui and Molokai. It was the first time that he had collected it on Oahu.

Opsis nutator (Fab.)—Mr. Swezey reported having reared nine of this longicorn beetle from a dead *Pipturus* tree from Manoa Valley, Dec. 28, 1930. It apparently had not been recorded from that tree previously. Previous records have been from hau and kukui.

Aneristus ceroplastae How.—Mr. Swezey reported this aphelinid from *Coccus hesperidum*, from which apparently it had not been previously recorded in Hawaii. Sixty of the parasites had issued from a small infestation of *Coccus hesperidum* Linn. on papaia fruit. The material had been handed in Jan. 12 by Mr. Ehrhorn, who had received it from Mr. Ambrose of the Kamehameha Schools. The papaia had grown on the Kamehameha school farm in Hahione Valley near Koko Crater.

Aenasia sp.—Mr. Fullaway exhibited specimens of *Aenasia* sp., parasitic on the pineapple mealybug. He spoke of this encyrtid and the Mexican hemerobiid, sent in by Mr. Rust, as being to all appearances now established here. He exhibited also a Hippoboscid fly, an ectoparasite on pheasants here. The taro leafhopper *Megamelus* at Waianae was also mentioned and rather widely discussed. Mr. Swezey added that *Cyrtorhinus mundulus*, the egg-sucking bug of the sugar cane leafhopper, occurred in all stages among these taro leafhoppers, upon the eggs of which it undoubtedly fed. Mr. Fullaway further mentioned finding the lady beetle *Curinus coeruleus* resting on the fruit of noni (*Morinda citrifolia*) at Waianae, and Mr. Bryan spoke also of finding this beetle resting in groups. Its host did not appear to be present in either case.

Mr. Bryan spoke of a fine relief map of Oahu, the work of Mr. Haas, Government engineer, as being on exhibit at the Bishop Museum. Here also was mentioned the fact that *Nesithmysus haasii*, a rare and handsome native longicorn beetle, was named in honor of Engineer Haas, its discoverer.

At Dr. Carter's invitation, Monday, Feb. 9, at 4:00 p.m., was set aside for an entomological visit to the new virus building of the Association of Hawaiian Pineapple Cannerys.

The Executive Committee announced the appointment of the following officers for 1931:

O. H. Swezey—Editor.

J. S. Rosa—Librarian.

F. X. Williams—Curator of Collections.

MARCH 5, 1931

The 302nd regular meeting of the Hawaiian Entomological Society was held at the Experiment Station of the Hawaiian Sugar Planters' Association, on March 5, 1931.

Members present as follows: Messrs. Bianchi, Bryan, Ehrhorn, Fullaway, Hagan, Keck, Mason, McBryde, Rosa, Swezey, Van Zwaluwenburg, Watt, Weinrich, Wilder, Willard, and Williams.

President Mason called the meeting to order.

The minutes of the previous meeting were read and approved.

NOTES AND EXHIBITIONS

Mr. E. H. Bryan gave a very interesting talk (to be published elsewhere in detail) on his recent visit to the barren island of Kahoolawe, from Feb. 13-19. He made extensive collections of plants and insects and took many photographs. A strong wind sweeps over the island. Two boxes of Kahoolawe insects were shown. Much discussion intervened and followed.

Coptotermes formosanus Shiraki.—Mr. D. T. Fullaway spoke of the spread of this termite to Lanai landing.

Draeculacephala mollipes (Say) on Maui.—Mr. Van Zwaluwenburg reported seeing an adult of this species on grass at Olowalu, Maui, Feb. 19, 1931. This appears to be an addition to its known distribution in these Islands.

Heterocrossa olivaceonitens Walsm.—A series of thirty-seven of this pretty green-marked moth was exhibited by Mr. Swezey who had reared them from about three dozen *Sideroxylon* fruits picked up in the dry stream bed in Makaleha Valley, Waianae Mts., Feb. 1, 1931. It has previously been reared from the same fruit from various places on Oahu, and also from *Clermontia* buds and fruit. It occurs also on Kauai, Maui and Hawaii.

Litomastix floridana (Ashm.)—Mr. Swezey exhibited a caterpillar of *Plusia chalcites* parasitized by this tiny parasite, which had been collected on *Solanum nodiflorum*, a weed in a fallow pineapple field on Kunia road Feb. 19, 1931. This is the farthest from Honolulu that this parasite has been recovered.

Aphis middletonii Thomas.—Mr. Swezey reported finding this root-inhabiting aphid on roots of *Bidens pilosa*, *Solanum nodiflorum* and *Elusine indica* in fallow pineapple fields of Waipio and Kunia, Feb. 19, 1931. These are new host-plant records for this aphid in the Hawaiian Islands.

Dr. Williams reported on two immigrant Psocidae identified by Nathan Banks in 1930. These are:

Psocathropus lachlani Ribaga, taken in 1927 and 1928 in Honolulu by O. H. Swezey; and *Psoquilla marginepunctata* Hag., taken in 1918 in Honolulu by O. H. Swezey and in 1925 at Kualoa, Oahu, by G. A. McEldowney. To quote, in part, Mr. Bank's letter of Aug. 6, 1930: "There are two very good things both described from Europe in hothouses; the *Psoquilla* has been found in various parts of the tropics, the *Psocathropus* in Italy, Africa and now with you; a very similar form is in Florida".

Pantala flavescens (Fab.)—Dr. Williams also exhibited two living nymphs of our common dragon fly. These nymphs are often abundant in very shallow water of ditches and marshes where the temperature feels almost tepid to the touch. He called attention to their protective coloration. They breathe by means of rectal gills.

Ethmia colonella Walsm.—This moth, that defoliates the native "Kou," *Cordia subcordata* Lam., was discussed and the question arose that, since one now seldom sees large specimens of this "Kou", whether *Ethmia* was not responsible for the commonly stunted condition of these trees and if it was not to be considered an introduced insect.

Mr. Swezey spoke of having received a publication in German on the life of Albert Koebele.

The subject of a picture of the late Mr. W. M. Giffard came up and Mr. G. P. Wilder kindly volunteered to procure one, if possible, for the Society.

APRIL 2, 1931

The 303rd regular meeting of the Hawaiian Entomological Society was held at the Experiment Station of the Hawaiian Sugar Planters' Association, on April 2, 1931, at 2:30 p.m.

Members present as follows: Messrs. Bryan, Carter, Chapman, Ehrhorn, Fullaway, Ito, Keck, Mason, Rosa, Sakimura, Van Zwaluwenburg and Williams.

Visitors: Dr. Irene D. Dobroscky, Miss Amy Suehiro and Mr. T. M. Blackman.

President Mason called the meeting to order.

The minutes of the previous meeting were read and approved.

Dr. Wilder mentioned having secured a photograph of the late Mr. W. M. Giffard.

PAPERS

Mr. D. T. Fullaway read the titles of two papers now in preparation by him—as follows:

"Synopsis of the Hawaiian Diaspinae."

"Hymenopterous Parasites of Coccidae, etc., in Hawaii."

Dr. Williams read by title a paper by J. Meikle Brown—as follows:

"A New Species of Proisotoma (Order Collembola) from India."

NOTES AND EXHIBITIONS

Nesithmysus haasii Perkins.—A fine specimen of this cerambycid beetle was exhibited by Mr. Swezey who had reared it from a larva found in a *Pelea clusiaefolia* tree on the U. S. Engineers' trail from Wahiawa to Waikane. The locality was just over the crest on the Waihawa side of the Koolau Range, and probably within a mile of where the type specimen was collected on the same trail July 4, 1920. The only other specimen ever collected was by Dr. Williams, July 21, 1929, on the top of Mt. Kaala. This is the first time it has been reared, and determines its host tree to be *Pelea*, the same as for all of the other species of *Nesithmysus* that are known.

Two specimens of *Nesithmysus bridwelli* Perkins were reared also from grubs obtained in the same tree as the above.

Oxaxis collaris Shp.—A specimen of this oedemerid beetle was exhibited by Mr. Swezey, who had collected it from a young cane shoot at Kawela, Molokai, Mar. 23, 1931. The first record of its occurrence on that Island.

Ananca sinensis Gemm. (?)—A specimen of this oedemerid beetle was exhibited by Mr. Swezey. He had collected it at light at Mapulehu, Molokai, Mar. 21, 1931. The first record of its capture on Molokai.

Kelisia paludum Kirk.—A specimen of this delphacid leaf-hopper was exhibited by Mr. Swezey, who had captured it in swamp (swept from a small sedge) at Mapulehu, Molokai, Mar. 20, 1931. Several nymphs were also obtained. It is the first record of its occurrence on Molokai.

Lathyrrophthalmus aeneus (Scop.) — Mr. Swezey reported catching one of these syrphid flies at light at Mapulehu, Molokai, March 21, 1931. It is the first record of its occurrence on that Island.

Mr. E. H. Bryan, Jr., exhibited some beetles from New Guinea.

Virus diseases—chiefly on plants, were discussed by Drs. Dobrosky, Chapman, Carter, Messrs. Fullaway and others.

Dr. Carter reported on the long-postponed virus trip that took place on February 19. It was replete with interesting discoveries re mosaic and other diseases on various weeds. Considerable discussion followed. Only five persons (all entomologists) went on this trip.

Following a discussion on the corn ear worm (*Heliothis obsoleta*) which has done much damage to corn here during the last year, Mr. Fullaway spoke of the larger quantities of fresh vegetables coming from the Pacific coast in recent years and hence the danger from insect pests from these sources.

Acting upon a motion made at the beginning of the meeting by Mr. Fullaway and seconded by Mr. Bryan, that a committee be appointed to secure and assemble photographs of members of the Hawaiian Entomological Society, particularly of the older members, President Mason appointed Messrs. Ehrhorn, Fullaway and Swezey as the members of that committee.

MAY 7, 1931

The 304th regular meeting of the Hawaiian Entomological Society was held at the Experiment Station, H.S.P.A., on May 7, 1931, at 2:30 p.m.

Members present as follows: Messrs. Bryan, Crawford, Ehrhorn, Fullaway, Hagan, Illingworth, Keck, Mason, Mitchell, Rosa, Swezey, Van Zwaluwenburg, Wilder and Williams.

Visitor—Mr. T. M. Blackman.

President Mason called the meeting to order.

The minutes of the previous meeting were read and approved.

Mr. Swezey announced that the Proceedings of the Hawaiian Entomological Society VII, No. 3, for the years 1929-1930 were now published and available.

Mr. Bryan presented a MS. of the index for Vol. VII, of the Proceedings. The Society expressed its appreciation of the work of Editor O. H. Swezey and Mr. E. H. Bryan, Jr., for their painstaking work.

Mr. Bryan presented the Society with a large container for photographs of members of the Society.

PAPERS

Mr. Swezey presented a paper entitled

"The Host Trees of the Endemic Cerambycidae in Hawaii"
and gave a brief résumé of it.

On behalf of Dr. F. Muir he presented a book review entitled **"The Biological Control of the Coconut Moth (*Levuana iridescens* Beth-Baker) in Fiji,"** by Messrs. J. D. Tothill, T. H. C. Taylor and R. W. Paine.

NOTES AND EXHIBITIONS

Enchytraeus silvestris Bretsch.—Mr. Swezey reported that he had recently received a card from Dr. Michaelson, of Hamburg, giving this as possibly the name of a tiny worm sent him. The worms were from soil about seed cane, Puunene, Maui. They also were in the decaying seed cane and rotten leaf sheaths attached.

Heterocrossa atronotata Walsm.—A specimen of this moth was exhibited by Mr. Swezey, who had reared it from a larva collected on leaves of *Vaccinium*, Puu Kalena, Waianae Mountains, April 19, 1931. The species was described on a single specimen from the top of Haleakala, Maui, and this is the first time it has been collected since. It is very close to *H. inscripta*, which has been reared from Ohelo berries (*Vaccinium reticulatum*) at Kilauea, Hawaii.

Gitomides perspicax Knab.—Mr. Swezey reported rearing this fly from *Cenchrus* grass infested with *Trionymus insularis* collected at Kanoa, Molokai, April 27, 1931. It had not previously been recorded from Molokai.

Marietta graminicola Timb.—Mr. Swezey reported rearing this secondary parasite from *Trionymus insularis* Ehr., swept from Bermuda grass at Mapulehu, Molokai, March 20, 1931. The parasite issued April 17. It had not been recorded from Molokai previously.

Nesithmysus haasii Perkins.—A series of 12 of this cerambycid beetle was exhibited by Mr. Swezey, who had reared them from larvae in *Pelea* trees collected at the top of the ridge above Kahana Valley, February 9, 1931.

Hyposmocoma n. sp.—Mr. Swezey exhibited two moths that had issued from cases amongst lichens on koa tree, Tantalus. Miss Suehiro sent them in for exhibition. The larval cases were covered with bits of the lichen so as to resemble a part of the much-branched lichen to which they were fastened. The species is apparently undescribed, and related to *nigralbida* from Kauai.

Cryptorhynchus mangiferae (Fab.).—Mr. Swezey reported having found a larva of this weevil in seed of mango at Kawela, Molokai, April 27, 1931. It is apparently the first record of this insect on Molokai.

Mr. Bryan spoke of Prof. J. Chester Bradley's "Manual of Beetles of North America" as a very useful book. It is litho-printed.

Ceratitis capitata Wied.—Dr. Illingworth said that at the present time fruit flies were quite bad. Mangoes particularly were affected. Host immunity was discussed by several of the entomologists present.

Anagyrus sp.—Dr. Williams said that the *Anagyrus* wasp, parasitic on the pink sugar cane mealybug and sent from the Philippines by F. C. Hadden was established, having been recovered from mealybugs on cane at the Honolulu Plantation Company on April 16 by Mr. Swezey and himself, and also recently recovered on cane at the H.S.P.A. Experiment Station grounds.

The flights of termites were discussed by Mr. Ehrhorn and others.

JUNE 4, 1931

The 305th regular meeting of the Hawaiian Entomological Society was held at the Experiment Station, H.S.P.A., on June 4, 1931, at 2:30 p.m.

Members present: Messrs. Bryan, Carter, Ehrhorn, Fullaway, Illingworth, Marlowe, Mason, McBride, Pemberton, Rosa, Swezey, Wilder and Williams.

Visitors: A. J. Smith, T. M. Blackman, Amy Suehiro.

President Mason called the meeting to order.

The minutes of the previous meeting read and approved as corrected.

The Secretary reported a meeting of the Executive Committee held on May 26 at 2:30 p.m., all the members of the Committee being present. The bill for \$892.00 for publishing Vol. VII, No. 3, 1929-1930 of the Proceedings of the Hawaiian Entomological Society was discussed and Mr. Fullaway made a motion, seconded by Dr. Chapman, that the Society pay \$250.00 from its funds toward defraying this bill. The motion was passed. An item for \$16.00 for separata was also approved.

The Secretary then presented resolutions in regard to the death of Dr. F. A. G. Muir.

"WHEREAS, in the death of Dr. F. A. G. Muir, at his home in England, on May 13, 1931, the Hawaiian Entomological Society has lost one of its most devoted members, and

"WHEREAS, Dr. Muir, one-time president of the Society, taking the deepest interest in its welfare, faithful in attendance at the meetings, always ready to participate in the discussions, and



DR. FREDERICK A. G. MUIR

contributing valuable papers for publication in the Proceedings, and

"WHEREAS, he has always had the keenest interest in the furtherance of knowledge of the Hawaiian insect fauna, and in addition, being a world authority on the Fulgoroidea, as well as possessing a wide knowledge in other departments of entomology, while in his official capacity he has by his notable discoveries and importations of insect enemies of pests of the sugar cane, saved the sugar planters of Hawaii from great losses, *therefore*

"BE IT RESOLVED, that the Hawaiian Entomological Society hereby expresses its appreciation of his interest and participation in its affairs and his valuable work for the sugar industry, and records the grievous loss it has suffered in the passing of Dr. Muir, and

"BE IT FURTHER RESOLVED, that a sketch of Dr. Muir's participation in entomology in Hawaii be prepared for publication in the Proceedings of the Society, and that a copy of these resolutions be sent with our expression of deep sympathy to the bereaved family".

Dr. Wilder moved that these resolutions be adopted and placed on the minutes of the meeting. Seconded by Mr. Swezey and passed, and it was voted that a signed copy of these resolutions be sent as a message of condolence to Mrs. Muir. This was done.

Mr. Swezey offered to supply a biographical sketch of Dr. Muir. (See page 141 of this issue.)

Dr. Illingworth nominated Mr. Arthur J. Smith, 2468 Kuhio Street, for membership in the Society.

President Mason nominated Mr. T. H. Hong and K. H. Lau, both of the Entomological staff of the U. S. Department of Agriculture here, for Junior membership.

NOTES AND EXHIBITIONS

Mr. Bryan read a letter from Mr. Adamson which showed the progress in the Entomological survey of the Pacific.

Mr. Pemberton gave an interesting account of his experiences in Malaya.

Dr. Carter outlined, by the help of a Latin square diagram, an

experiment in thrips control for yellow spot disease in a pineapple area of eight acres. Dusting with tobacco gave 70% control.

Mr. Swezey mentioned nereid worms—ordinarily marine organisms—being found in some decayed taro at Punaluu. They were not considered to be the cause of the decay.

Mr. Ehrhorn gave, in part, a résumé translated from a German paper, on the life of Albert Koebele.

Coccotrypes dactyliperda (Fab.)—Mr. Swezey reported having collected this scolytid at Kohala, Hawaii, where it was boring in the seeds of a palm at the Kohala Club, May 13, 1931. He also collected it at Olaa, Hawaii, May 20, 1931, where it was boring the seeds of *Dictyospermum album* and *Livistona chinensis*. These were the first records of the occurrence of this beetle on the island of Hawaii.

Enochrus nebulosus (Say).—Dr. Williams exhibited this common hydrophilid beetle found in shallow water of the lowlands. It had been determined by Dr. Van Dyke as *Enochrus nebulosus* (Say), a widely distributed species. It seems first to have been taken here in 1914 by Mr. Swezey, but had remained unidentified until May, 1931.

JULY 2, 1931

The 306th regular meeting of the Hawaiian Entomological Society was held at the Experiment Station, H.S.P.A., on July 2, 1931, at 2:30 p.m.

Members present: Messrs. Bianchi, Bryan, Chock, Ehrhorn, Hagan, Illingworth, Keck, Mason, McPhail, Mitchell, Pemberton, Rosa, Van Zwaluwenburg, Wilder, Williams and Weinrich.

Visitor: Miss Amy Suehiro.

The minutes of the previous meeting were read and approved.

Arthur J. Smith, T. H. Hong and K. H. Lau were duly elected to membership.

Dr. Illingworth made a motion, seconded by Mr. Pemberton, that the bill of \$189.45 for printing the thirty-two page Index for Vol. VII of the Proceedings of the Hawaiian Entomological Society be paid.

Mr. Van Zwaluwenburg made a motion, seconded by Mr. Ehrhorn, that the Secretary, in behalf of the Society, be instructed to write a letter of thanks to the trustees of the Hawaiian Sugar Planters' Association for their valuable financial aid in the publishing of Vol. VII, Proceedings of the Hawaiian Entomological Society.

Dr. Hagan gave an interesting account of the meeting in June, at Pasadena, of the Pacific Slope Branch of the American Association of Economic Entomologists.

NOTES AND EXHIBITIONS

Euscepes batatae Waterhouse.—Mr. Bryan exhibited specimens of this sweet potato weevil from a giant native specimen of sweet potato, u'ala, of the variety Mauna Pohaku, which weighed 16 pounds when fresh, grown by J. W. Kauwenui, at Laupahoe-hoe, Hawaii. The sweet potato was brought to B. P. Bishop Museum, July 2, 1931, by E. S. C. Handy.

Samoan insects.—Mr. Bryan exhibited three trays full of Samoan Orthoptera and Coleoptera, which were part of a collection made by D. T. Fullaway on the island of Tutuila, in February and March, 1930. The specimens had been mounted, labelled, sorted into groups, and many of the species identified, by Miss Amy Suehiro of the Pacific Entomological Survey Staff, at Bishop Museum.

Tachysphex fusus Fox.—Dr. Williams exhibited a fresh specimen of this little larrid wasp, that has the tip of the abdomen reddish. It was caught on the margin of Field 4 B, Waianae Sugar Plantation, Oahu, on June 5, 1931. This insect is common and widespread in the United States, where it provisions its shallow burrows, made in soil, with the young of short-horned grasshoppers. As the sugar cane grasshopper (*Oxya chinensis*) is abundant in parts of Waianae, the wasp probably preys on it.

Chalybion caeruleum (Linn.)—Dr. Williams exhibited a large fresh male specimen of this brilliantly steel-blue sphecid wasp taken June 8, 1931, at a lanai (porch) window in Woodlawn, Honolulu. It uses the cells of *Sceliphron* (black and yellow mud-daubers) for its nest, storing them with spiders. It is common in the United States.

Telmatoscopus albipunctatus (Will.).—Dr. Williams reported on the identification of this large psychodid fly that holds its wings flat or horizontally. It was first taken about Honolulu in 1929 and where it is now common. Its early stages are passed in water or very wet mud, in tree holes, etc. This fly was sent to Dr. Guy Marshall, for identification, who writes that it is widely distributed in the Tropics. It was described in 1893, as *Psychoda albipunctata* Williston from Havana, Cuba.

Philippine weevils in the fruits of wild figs.—Dr. Williams exhibited a collection of weevils which had been referred to Dr. Marshall for identification, and had been determined chiefly by Dr. Heller, an authority on this group. The weevils are mostly of the genus *Balaninus*, but the genera *Metarchus*, *Pleurotyges*, *Tropibalaninus* and *Mecopus* were also represented.

There were fifteen species of these weevils in the collection.

Agrion.—Dr. Williams exhibited also a specimen of a damsel fly which passed through its life-cycle in almost exactly three months. The egg was secured in a stream on Tantalus.

JULY 27, 1931

A special meeting of the Hawaiian Entomological Society was held at the H.S.P.A. Experiment Station at 3:00 p.m., July 27, 1931, in honor of Dr. F. S. Bodenheimer, visiting from Palestine.

Members present: Messrs. Bianchi, Bryan, Carter, Chapman, Chock, Hong, Illingworth, Ito, Keck, Mason, McBride, McPhail, Mitchell, Pemberton, Sakimura, Van Zwaluwenburg, Weinrich and Williams.

Visitors present: Dr. Bodenheimer, Mrs. Cassidy, Messrs. Lau and Kamito, and Miss Suehiro.

President Mason called the meeting to order.

Dr. Bodenheimer gave a very interesting talk on the principles of population movements among insects—what caused epidemics among insects and what suppressed them. This centered in a study of insects in relation to their environment—Ecology.

The factors limiting insect life were considered. Physical factors were here generally considered more effective than control by predators and parasites.

Generally speaking, food supply is not the real limiting factor—as there is usually more than enough for all. Nor is struggle for existence thus effective, because insect mortality is heaviest in the early stages—before there would be competition.

As regards parasitism, at least in countries with well-marked seasons—there is a heavy winter mortality among insects, and parasites must make a new start each year—hence there would be no cumulative effect on pests from year to year.

Climatic factors—Temperature and humidity were considered as having the overwhelming influence on the control of insect life. Insects are killed in the stage where tolerance is least—this is usually in the early stage of existence. The eggs of a *Schistocerca* grasshopper, for example, present a high mortality while the young hoppers themselves are very tough. This showed the importance of careful life-history studies for the understanding of epidemics. A sigmoid curve showing first a slow increase, then a rapid increase, finally a uniform population density level—where nevertheless food might be in plenty, but fertility was lowered, demonstrated very well the proper point at which a pest showing this population curve would best be controlled.

A number of problems were considered :

(1) The relative fertility of a certain insect (e.g., a coccid) on different food plants.

(2) Host resistance—sometimes obvious, e.g., hairiness, hardness, smothering sap, oil cells.

(3) Biological resistance—Host must be suitable, else parasite perishes, e.g., host leucocytic action on parasite eggs. Much parasite mortality. Here it was pointed out that a hundred parasitized caterpillars, for example, represented not one hundred, but probably several hundred parasite eggs laid to effect this parasitism.

Parasites produce biological equilibrium.

Dr. Bodenheimer gave his impression of conditions in Hawaiian economic entomology—due largely to the lack of well-marked seasons, parasitic control was here especially good. He advised strongly that more and systematic study be given the part nutrition, climate, parasites and other factors play in insect control; in other words to make epidemiological analyses here.

By this method the effect and degree of parasitism here would be best understood.

Theoretical possibilities in relation to pests and parasites in Hawaii were stated:

(1) If the host and its parasite have the same climatic tolerance there will result a cumulative parasitism.

(2) If the parasite has the better climatic tolerance the parasitism will be better.

(3) Outbreaks are rare here, perhaps on account of the rare climatic oscillations—fluctuations of insect abundance would still be less.

(4) As regards the fruit fly, there is a possibility of the existence of an optimum center of parasitism.

Dr. Bodenheimer concluded with photographs of identical objects taken through the lens of a butterfly and of man; those taken through the human lens gave the better, more detailed image.

On behalf of the Society, President Mason thanked Dr. Bodenheimer for his very instructive talk.

AUGUST 6, 1931

The 307th regular meeting of the Hawaiian Entomological Society was held at the Experiment Station, H.S.P.A., on August 6, 1931, at 2:30 p.m.

Members present: Messrs. Au, Bryan, Carter, Chapman, Chock, Hagan, Hong, Illingworth, Ito, Keck, Lau, Mason, McBride, McPhail, Mitchell, Pemberton, Smith, Stanley, Van Zwaluwenburg, Sakimura, Weinrich, Whitney and Williams.

Visitors: Messrs. H. P. Agee, L. O. Howard, Hoffman, Kamito, le Roux, Riley, Silva, Vaughan and Amy Suehiro.

President Mason called the meeting to order.

The minutes of the preceding regular meeting were read and approved, and reference was made to the special meeting of July 27, in honor of Dr. Bodenheimer.

The meeting was concerned mainly with the distinguished visitors present.

Dr. L. O. Howard spoke of the importance in publishing one's observations, even though they be fragmentary. From such, future

biological conclusions might be derived. The Entomological Society of Washington is also publishing such notes. He also gave entomological news items from Washington, D. C.

Dr. Wm. A. Hoffmann, who is stationed at Lingnan University in China and who is much interested in aquatic Hemiptera said that there are about fourteen biological journals in China, of which a large proportion were commenced during the last two years. The new species are described in readable language in such journals.

Dr. Wm. A. Riley of the University of Minnesota and now on his way to China made some observations on medical zoology and entomology.

Dr. A. Kamito, a government entomologist in Tokyo, Japan, exhibited some insect pests of rice in Japan and some of the parasites of such pests.

Mr. Pemberton exhibited a specimen of the small bethylid wasp, *Holepyris hawaiiensis*, several of which had recently stung persons in Honolulu, with rather unpleasant effects.

Some varied discussion followed.

SEPTEMBER 3, 1931

The 308th regular meeting of the Hawaiian Entomological Society was held at the Experiment Station, H.S.P.A., at 2:30 p.m. on September 3, 1931.

Members present: Messrs. Bianchi, Bryan, Carter, Hagan, Hong, Illingworth, Keck, Mason, Marlowe, Mitchell, Pemberton, Rosa, Smith, Swezey, Van Zwaluwenburg and Williams.

Visitors: Thos. G. Eckart and Miss Amy Suehiro.

President Mason called the meeting to order.

Mr. Van Zwaluwenburg made reference to the outline of study of Insect Ecology that was given him by Dr. Bodenheimer and stated that it could be mimeographed for distribution among the entomologists here. Dr. Carter moved this be made a motion; it was seconded by Dr. Hagan and passed.

Mr. Bryan proposed the name of Prof. Olsen, teacher in Entomology at the University of Hawaii, for membership.

President Mason spoke of the dinner and informal meeting

of the Hawaiian Entomological Society held the evening of August 19, at the Blaisdell Hotel, in honor of Dr. L. O. Howard. Forty-eight persons were present—members and their wives and visitors, including Dr. L. O. Howard, Col. Chas. E. Davis and Dr. Akira Kamito. An enjoyable evening was had by all.

PAPERS

Mr. Pemberton gave a paper entitled "**Irritation Caused by the Sting of the Bethyloid Wasp, *Holepyris hawaiiensis* Ashm.**"

Mr. Van Zwaluwenburg, on behalf of Dr. E. Fleutiaux, presented two papers, one on descriptions of **New Melasid beetles**, and the other on **New Elaterid beetles**.

NOTES AND EXHIBITIONS

Mr. Swezey remarked on the meeting at Pasadena, in June, of the Pacific Slope Branch of the American Association of Economic Entomologists which he attended. About one hundred and seventy members were present. He spoke of the fine work done by the chalcid parasite *Coccophagus guerneyi* on the citrophilus mealybug; of the earwig parasites, in Oregon; of the evolution of a soil sifter; of the importance of commercial work in entomology; of the bean thrips quarantine; and of the enjoyable collecting excursions, after the close of the meeting.

Dr. Carter mentioned burning on Kailua watermelon vines produced by the little jassid leafhopper *Empoasca*. Bordeaux mixture—regarded as an insect repellent—was taken up by this cucurbit and then sucked up by the leafhopper with deleterious results to the latter.

Kamehameha Butterflies and Koa trees.—Mr. Bryan reported that Mr. E. L. Caum had related the experience of finding the large gray click beetle, *Chalcolepidius erythroloma* Candèze, on a koa branch, and around the white, semicrystalline, hardened sap, which had exuded from the injury it had made, a semicircle of seven Kamehameha butterflies, each with the tip of its proboscis between the head of the beetle and the hardened sap, apparently sipping the sap. This observation was made on July 18th, in the Land of Haukulu, upper Manoa Valley, on the Pauoa side of the valley.

Dr. Illingworth spoke of observing the clean-up by a fungus of the green coffee scale on Gardenia.

Polycaon stouti (Lec.).—Mr. Van Zwaluwenburg reported that a mutilated adult of this bostrichid beetle collected at Puunene, Maui, was received August 20 from Mr. F. W. Broadbent. It was found boring in a piece of furniture which had been imported from the Pacific Coast in November, 1929. The species is a native of Oregon, California and Arizona, attacking dead eucalyptus, etc., and occasionally living trees. It is sometimes a pest of cured hard woods. The only other specimen recorded from these Islands is one that issued from a table top in Honolulu in 1922.

Probable Type-Locality of Simodactylus tastui (Le Guill.).—Mr. Van Zwaluwenburg stated that Schenkling (1925, *Junk's Coleopterorum Catalogus*, part 80, p. 101) incorrectly gives the habitat of the Polynesian elaterid beetle *Simodactylus tastui* (Le Guillou) as Hawaii. The species is not known, or elsewhere recorded, from the Hawaiian Islands.

Candèze (1859, *Mon. des Elat.*, II, p. 152) says of this species that Le Guillou "fait a connaitre . . . un insecte de Hamoa, l'une des isles de l'archipel des Amis . . .". Friendly Islands was Capt. Cook's name for the Tonga group. Search of all available literature, including Dr. W. T. Brigham's *Index to the Pacific Islands*, fails to disclose any such island name in the Tonga, or any other, group of Pacific islands.

However, as pointed out by Mr. E. H. Bryan, Jr., and Dr. Peter Buck of the Bishop Museum, many South Pacific islands lack an "S" in their language, and in place of it use an "H". Savaii of the Samoa group, for example, is identical with the name Hawaii. It therefore seems probable that *Simodactylus tastui*, which is not an Hawaiian insect so far as known, is really a Samoan species.

A new immigrant Elaterid beetle.—Mr. Van Zwaluwenburg reported that on the evening of August 18, 1931, Mrs. R. H. Van Zwaluwenburg, in a house on Lanihuli Drive, Mānoa, Honolulu, captured an Elaterid adult at light, which from its size (16.0 mm.) was at first mistaken for the common *Simodactylus* present here. Examination shows it to be a *Monocrepidius*, dis-

tinct, however, from *M. exsul* Sharp. It is very close to an unnamed specimen from Queensland in the H.S.P.A. collection, and it may be an Australian species. A second specimen (a male) was taken August 26 near Diamond Head, Oahu, by Mr. Pemberton.

A First Record of the Coleopterous Family Scydmaenidae in Hawaii.—Mr. Van Zwaluwenburg reported that two minute beetles taken by himself in August, 1930, in soil in the forest on Tantalus, Oahu, at about 1200 feet, have been determined by Mr. G. E. Bryant, of the British Museum, as *Cephennium* sp., "not in British Museum". This genus belongs to the family Scydmaenidae, a family apparently not recorded from the Territory heretofore. The genus *Cephennium* Müll. and Kunze, according to part 70, Coleopterorum Catalogus, by E. Csiki, contains 94 species, mainly European and North African, with four species recorded from North America, two from Singapore and one from Ceylon. The species from Tantalus definitely is not the single species recorded from California, which is described as eyeless.

Systole geniculata Först.—The rearing of numerous specimens of this seed-chalcid from fennel seeds collected near the polo field on central Maui, July 6, 1931, by Mr. O. H. Lyman, was reported by Mr. Van Zwaluwenburg. Previously reported from Oahu and Hawaii, this is the first time this species has been obtained from Maui.

Macranillus atomus Jeannel.—Paratype specimens of this newly described minute Carabid received from Dr. G. A. K. Marshall were exhibited by Mr. Van Zwaluwenburg. These specimens were taken in cane-soil studies on Oahu, averaging 13 per square foot (to a depth of 9 inches) and being most numerous between 5 and 9 inches, in both growing-cane soil and fallow soil. Their minute larvae are fairly numerous in the lower soil depths.

The genus *Macranillus* was erected by Sharp (1903-Fauna Hawaiiensis, III, p. 287) based upon *M. coecus* Sharp, (a unique) from the high plateau on Kauai. *Macranillus* is separated from *Nesomicrops* by reason of having the eyes not pigmented or faceted, but represented by two small, smooth, slightly raised areas.

Mr. Pemberton spoke of the present scarcity of *Omiodes blackburni*, the coconut leafroller on Oahu. A discussion of its parasites followed and *Cremastus hymeniae* was regarded as probably one of its checks.

President Mason said that two fruit fly parasites had just been sent from Hawaii to California as possible parasites on the walnut husk maggot.

Dr. Williams on behalf of Mr. Weinrich, who was unable to attend the meeting, presented a note on *Stapelia gigantea*, an African asclepiad plant with a large malodorous flower which attracted blowflies and induced them to deposit their young on it. Reference was also made to the papaya fruit fly, an American insect not found in Hawaii.

Holochlora japonica Brunn.—Dr. Williams reported this large green locustid as quite abundant on August 9, 1931, at the edge of Poamoho forest reserve at an altitude of about 1400 feet in the Koolau Mts., Oahu. Here also the Philippine wasp *Larrea luzonensis* was seen on one of the trails, as well as a single worn specimen of the immigrant sphecid wasp *Isodontia harrisi* Fernald, first taken by Mr. Swezey and himself at Waianae.

OCTOBER 1, 1931

The 309th regular meeting of the Hawaiian Entomological Society was held at the Experiment Station, H.S.P.A., at 2:30 p.m., October 1, 1931.

Members present: Messrs. Ehrhorn, Hagan, Illingworth, Ito, Keck, Marlowe, Mason, McBride, Olsen, Rosa, Sakimura, Smith, Van Zwaluwenburg and Weinrich.

Visitors: Messrs. G. H. Godfrey and W. J. Hartung.

President Mason called the meeting to order and appointed Mr. Van Zwaluwenburg as secretary pro tem.

Mr. O. Wilford Olsen was elected to active membership.

Mr. Ehrhorn gave an interesting account of his visit to the Pacific Coast. He stated that the California Termite Commission is completing an exhaustive report which will be published by the end of the year. He described the treatment of timbers with creosote against termites, and gave an account of his visits to various scientific centers in California.

Dr. Hagan inquired about the distribution of the native Hawaiian rat, being particularly interested in the parasites of this rat.

Dr. Illingworth reported the native rat, *Rattus hawaiiensis* Stone* to be at present very numerous on Oahu from the Waianae Mts. to Kahala, though until lately it was believed to be confined to Popoia Island in Kailua bay. Specimens from Oahu were determined by Dr. Miller of the U. S. National Museum as the native rat, and Dr. H. E. Ewing reported that the parasites present were the same as those occurring on *R. concolor* of Asia. Dr. Illingworth expressed the opinion that *concolor* is the ancestor of *hawaiiensis* and of the other species of Pacific rats.

Mr. W. J. Hartung read a reference by Dr. A. D. Voûte (Landbouw, December, 1931, p. 715) describing the elimination of Lecanium and other scales from citrus trees in Java, by the simple expedient of eliminating ants from the trees by the use of tanglefoot on the trunks. Mr. Hartung exhibited gardenia plants infested with *Coccus viridis* (Greene), one of which, untreated, was heavily infested, while the other, banded with tanglefoot, had numerous larvae and pupae of *Azya luteipes* Muls. which had nearly eradicated the scale in a single month's time. It was suggested that the tanglefoot treatment was well adapted to coffee trees in Kona, where the green scale is a serious pest.

President Mason introduced Mr. O. Wilford Olsen, who spoke of his work at the University, and of his interest in the histophysiology of *Thrips tabaci* Lind. with reference to investigation of the reason why this species can pick up virus of pineapple yellow spot in the nymphal, but not in the adult stage.

Mr. Ehrhorn exhibited an excellent photograph taken in San Francisco on July 29 of Dr. L. O. Howard, Mr. Brosius, plant quarantine inspector at San Francisco, and himself.

NOVEMBER 5, 1931

The 310th regular meeting of the Hawaiian Entomological Society was held November 5, at 2:30 p.m., at the H.S.P.A. Experiment Station, Honolulu.

* See Occ. Papers, B. P. Bishop Museum, Vol. 3, no. 4, 1917.

Members present: Messrs. Au, Bianchi, Bryan, Ehrhorn, Fullaway, Hagan, Keck, Mason, Olsen, Pemberton, Rosa, Smith, Swezey, Van Zwaluwenburg, Wilder and Williams.

Visitors: Miss Amy Suehiro, Messrs. Krauss and Phillips.

President Mason called the meeting to order.

The minutes of the preceding meeting were read and approved.

President Mason enquired re the work of the committee on procuring photographs of entomologists. Mr. Ehrhorn presented the society with photographs, chiefly of Dr. L. O. Howard.

Mr. Fullaway made a motion of appreciation of Mr. Ehrhorn's donation of the pictures. Seconded by Mr. Wilder and passed.

On President Mason's suggestion, it was decided to have a picture taken of the Entomological Society, at the annual (December) meeting.

PAPERS

"Micropezidae From the Indo-Pacific Region."

BY E. H. BRYAN, JR.

"Insect Exploration in the Hilo Forest Reserve at the 5000 ft. Level."

BY O. H. SWEZEY AND F. X. WILLIAMS.

"Insects From the Summit of Mauna Kea."

BY O. H. SWEZEY AND F. X. WILLIAMS.

Mr. Van Zwaluwenburg presented the title of a paper by Dr. J. W. Folsom, on "**Hawaiian Collembola.**"

NOTES AND EXHIBITS

Sciomyza hawaiiensis Grimshaw.—Mr. Bryan exhibited specimens of this fly. He stated that it had remained unknown in collections until Dr. Aldrich recently determined specimens, which had been among some undetermined species. It is now known from many parts of Oahu, as well as from Puna, Hawaii; Kapaa, Kauai; and Kailua and Keanae, Maui. It is locally abundant, and probably of general distribution on the larger islands of the group.*

* *Chiromyia (Scyphella) flava* (Linn.). See Proc. Haw. Ent. Soc. VI, p. 228, 1926.

Coccotrypes dactyliperda (Fab.).—Mr. Swezey reported having collected this scolytid under date palm trees in the grounds of Lihue Hotel on Kauai, March 11, 1928, which is the first record of its occurrence on that island.

Coccotrypes pygmaeus (Eich.).—Mr. Swezey also reported collecting this beetle at the same place on Kauai as *C. dactyliperda*, which would be its first record for Kauai.

Diorymerellus laevimargo Champ.—Mr. Swezey called to attention that this orchid weevil has escaped being recorded in the Proceedings of the Hawaiian Entomological Society, except for the time when it was first exhibited as an unknown weevil, captured by Dr. Lyon on an orchid. See Proc. Haw. Ent. Soc. III, p. 83, 1915. The beetle was first found on an orchid (*Dendrobium*) by Dr. H. L. Lyon, July 20, 1914; again October 5, 1914; and again February 2, 1915.

Sitophilus rugicollis (Casey).—Mr. Swezey exhibited two specimens of this calandrid beetle, one taken September 19, 1931, at the Vineyard Street Nursery, and the other at the grounds of the Experiment Station, H.S.P.A., October 12, 1931. The only previous record of this weevil in Hawaii is a specimen caught in house in 1928, recorded in Proc. Haw. Ent. Soc. VII, No. 2, p. 279, 1929. The finding of the latest specimens indicates that it must be established here. It remains to be learned what seed it lives in. In India it is known to attack the seeds of *Shorea robusta* and *Dipterocarpus turbinatus*.

Volucella pusilla Macq.—Mr. Swezey reported that Mr. W. J. MacNeil had handed him four specimens of this syrphid fly that had been reared from maggots found in rotten cactus stem. It is the first record of its breeding habits. The first specimen of this recent immigrant was taken in Oahu Sugar Co. plantation, October 30, 1930. It was later found quite common at Red Hill and in Manoa Valley.

Epilachna boisduwali Muls.—Miss Suehiro presented a note and exhibit of an *Epilachna* from Samoa. Among the insects collected in Samoa by D. T. Fullaway, and presented to the Bishop Museum, is a Coccinellid which closely resembles *Epilachna*

boisduwali Muls. This is a new record for Samoa. *E. boisduwali* has been previously recorded from Fiji and New Caledonia.

Culex nigriceps Edwards in Tahiti.—Mr. Bryan exhibited specimens of this mosquito from Tahiti, which had been sent to him by Dr. P. H. Buxton, of the London School of Hygiene and Tropical Medicine. In the Bulletin de la Société des Études Océaniques, No. 21, for October, 1927, Dr. Buxton states that this species is found only in Tahiti. He speaks of it as a dark species, with white spots over the eyes, but without any other markings on the body or legs.

Other mosquitoes recorded from the Society Islands are:

Culex fatigans Wied.

Culex annulirostris (Skuse).

Aedes aegypti (Linn.).

Aedes variegatus Doleschall.

Dr. Williams spoke of, and exhibited some insects taken at Nauhi, Hawaii, 5200 ft. and over, during September and October of this year. They included the vegetable weevil, a species of *Scatella* breeding in a water pocket in a tree at 5800 ft. Also a *Brachydeutera* breeding in a gallon of water in an iron pot at Keanakolu, 5250 ft. He exhibited larvae of a staphylinid beetle parasitized by a proctotrypid wasp.

At this altitude, no termites nor ants could be found, though *Culex* mosquitoes were present. No Scolopendra centipedes, no Heteropoda spiders. Bats were fairly common and were on the wing shortly after 4:00 p.m. Native hawks were present in the mamani (*Sophora*) zone.

Mr. Fullaway gave an account of his trip to the Orient in quest of thrips parasites and of the difficulty of rearing these tiny parasitic wasps. He said that in the Orient he observed that the taro leafhopper (*Megamelus proserpina* Kirk.) was well controlled by parasites.

Mr. Mason spoke of an outbreak of armyworms near Woodlawn, Honolulu. Two or three acres of grass had been eaten. The caterpillars were on the march. It was remarked by Fullaway that armyworms were also common in the Hind-Clarke dairy region, and by Pemberton, at Waimanalo.

Copris incertus var. *prociduus* (Say).—Mr. Ehrhorn said that Dr. Wilder and himself had found the Mexican dung beetle common at Kula, Maui.

DECEMBER 3, 1931

The 311th regular meeting of the Hawaiian Entomological Society was held at the Experiment Station of the Hawaiian Sugar Planters' Association on December 3, 1931, at 2:30 p.m.

Members present: Messrs. Bianchi, Bryan, Carter, Ehrhorn, Fullaway, Hagan, Hong, Illingworth, Ito, Keck, Lau, Marlowe, Mason, McBryde, Olsen, Pemberton, Rosa, Sakimura, Smith, Swezey, Van Zwaluwenburg, Wilder and Williams.

Visitor: N. H. Krauss.

President Mason called the meeting to order.

The minutes of the previous meeting were read and approved.

The Secretary read the minutes of a meeting of the executive committee and the correspondence thereof, held at the instance of the Chairman of the Pacific Entomological Survey for the purpose of expressing its views relative to the continuation of the work of the Pacific Entomological Survey.

It was moved by Dr. Carter, seconded by Dr. Wilder and passed by the Society, that this act of the Executive Committee be approved.

In this connection Messrs. Swezey and Bryan exhibited two preliminary reports of the Pacific Entomological Survey. These reports were excellent.

The secretary-treasurer reported on the finances of the Society for 1931.

The receipts were \$653.95, the expenditures \$520.63 and the cash on hand December 3, 1931, \$133.32.

Officers elected for 1932:

President—Dr. R. N. Chapman.

Vice-President—Dr. Harold Hagan.

Secretary-Treasurer—Dr. F. X. Williams.

Executive Committee—O. C. McBryde and E. M. Ehrhorn.

After a short business speech by President Mason, the members of the Society went out of doors, in a suitable place, and had a photo taken.

PAPERS

The President delivered his annual address.

**"The Economic Importance of the Mediterranean Fruit Fly to
Hawaiian Horticulture."**

**"Some Effects of *Pseudococcus Brevipes* (Ckl.) on Pineapple
Fruits."**

BY DR. WALTER CARTER AND K. ITO.

"Notes on Insects Found on Pineapple Planting Material."

BY K. ITO AND DR. WALTER CARTER.

"A Leafhopper Burn of Cucurbits on Oahu, T. H."*

BY DR. WALTER CARTER.

Mr. O. H. Swezey presented a paper by title:

**"Descriptions of New Encyrtidae and Scelionidae from the
Philippines and Malay States."**

BY P. H. TIMBERLAKE.

"New Species of Hawaiian Lepidoptera."

BY O. H. SWEZEY.

NOTES AND EXHIBITION OF MATERIAL

Celphalonomia tarsalis (Ashm.).—Mr. Swezey reported that he had recently received from Mr. Gahan this determination of a bethylid that has on several occasions been reared from cocoons found in raisins infested with *Oryzaephilus surinamensis* (L.). This bethylid is nearly a cosmopolitan species, and it is the first time it is recorded in Honolulu. Mr. Swezey's dates of collection in Honolulu are: January 4 and 10, 1916; October 24, 1925; September 3, 1926; and February 15, 1930. It is the *Celphalonomia* sp. mentioned in Proc. Haw. Ent. Soc., III, p. 260, 1917.

Acerophagus notativentris (Gir.).—Mr. Swezey reported that Mr. Timberlake had identified as this encyrtid, a specimen which had issued October 30 from the parasitized mealybugs in a bunch of grapes from California. Three more parasites had issued, but

*Not available for publication [Ed.]

were lost. The mealybug was not identified, but might have been *Pseudococcus maritimus* (Ehrhorn).

Cardiocondyla wroughtonii var. *hawaiiensis* Forel.—Mr. Swezey called to attention that in a paper in *Psyche*, Vol. 38, p. 83, 1931, Dr. Wheeler mentions a gynandromorph ant of this species, which is in the collection at the Experiment Station, H.S.P.A. It is the same specimen recorded in *Proc. Haw. Ent. Soc.*, VI, p. 229, 1926, as “apparently *Cardiocondyla nuda minutior* Forel.” Dr. Wheeler also mentions that in the same collection he found another gynandromorph ant of the same species.

Philippine Anagyrus.—Dr. F. X. Williams reported the recovery of the Philippine *Anagyrus* wasp, parasitic in our pink sugar cane mealybug, at Koloa Sugar Company on November 20, 1931, and Grove Farm Company, Ltd., and Lihue Plantation, Ltd., on November 13, 1931, all on the island of Kauai. This parasite was received from F. C. Hadden at Los Banos, Luzon.

Aeschrithmysus n. sp. (?).—Dr. Williams exhibited a longicorn beetle (*Aeschrithmysus* ?), probably a new species. A single female was reared from the stem of *Vaccinium peleanum* Skotts., procured October 3, 1931, above Nauhi, Hawaii, at an elevation of about 8500 feet, issued on November 27, 1931.

Athesapenta cyperi Marshall.—Mr. Pemberton spoke of having found the nutgrass weevil established at Waianae, Oahu.

*Mutillid on Oahu**.—Professor Olsen mentioned that a female mutillid wasp had recently been taken on Oahu by one of his students.

Volucella pusilla Macq.—Mr. Fullaway reported that he collected this syrphid fly at Waianae, Oahu.

* It was later ascertained that the specimen had probably been obtained from the mainland. [Ed.]