PROCEEDINGS

OF THE

Hawaiian Entomological Society

VOL. X, NO. 3 FOR THE YEAR 1939 AUGUST, 1940

JANUARY 5, 1939

The 397th meeting was held at the H.S.P.A. Experiment Station, January 5, 1939, at 2: 30 p.m.

Members present: Miss Margaret Poor, Miss Amy Suehiro, Messrs. Bryan, Ehrhorn, Fullaway, Holdaway, Illingworth, Mason, Pemberton, Rosa, Van Zwaluwenburg, Williams, and Zimmerman.

In the absence of the President and Vice-president, Mr. C. E. Pemberton was appointed Chairman pro tem.

The minutes of the previous meeting were read and approved.

Mr. E. M. Ehrhorn reported that he had audited and found correct the financial report of the treasurer of the Hawaiian Entomological Society for the year ending December 1, 1938.

PAPERS PRESENTED

Mr. E. C. Zimmerman presented a paper entitled: "On the Genera of Anobiidae and Ptinidae Found in Hawaii (Coleoptera)."

Dr. F. G. Holdaway presented a paper on "The Susceptibility of Bean Varieties to Melon Fly Attack."

NOTES AND EXHIBITIONS

Mr. E. M. Ehrhorn transmitted an interesting note reading as follows: *A Singular Phenomenon.*—A few evenings since a gentleman went into his bedroom, where a lamp was burning on the bureau, and noticed a large number of what, at first, appeared to be mosquitos flying about. On looking around he found the bureau literally covered with *large winged ants,* from one-half to one inch in length, of a light red or rather flesh color. He set to work to destroy them, and killed over two hundred in ten minutes. They exhibited none of the viciousness of the small red ant, which will bite ferociously, but so far as was noticed, were entirely harmless. On examining where the insects came from, he found them crowding through an aperture in the wall, evidently driven to seek shelter from the rain which was then falling quite freely. The next day he found a picket which exhibited the mischief done by these ants, which are

a new variety here, so far as we know. The inside of the picket was entirely eaten out, leaving a mere shell, which can be examined by the curious at our office. It will be seen that great damage may be done to houses by these winged ants, wherever they obtain a lodgment. (The Pacific Commercial Advertiser, July 31, 1869.)

Mr. Ehrhorn also exhibited a portion of a palm frond heavily infested by *Pseudococcus pseudonipae* and remarked that this mealybug showed no attack by the parasite of its near ally *Pseudococcus nipae*. Discussion on the distinctness of these two mealybugs followed.

Miss Ethel Lucas presented some new host plant records for Hawaiian mirids:

Hyalopeplus pellucidus Stal was, March 1938, breeding in the flower clusters of the avocado pear tree (*Persea americana*). One infestation was observed on the University of Hawaii campus, the other in Kaimuki. This is the first record in the Proc. Haw. Ent. Soc. of the avocado as one of its host plants.

Pycnoderes quadrimaculata Guer. was observed breeding on the lower surface of okra leaves (*Hibiscus esculentus*) at the University of Hawaii vegetable gardens in May 1937.

During October and November 1938, *Cyrtopeltis varians* (Dist.) was observed breeding on plumbago (*Plumbago capensis*) on the University of Hawaii campus. Adults and immature forms of different sizes were found in the inflorescence. Swezey (Proc. Haw. Ent. Soc., Vol. 6, 1927) found it breeding on tobacco at Makua; the only record to date of its breeding on a plant other than tomato, in Hawaii.

Heliothis armigera (Hüb.) (*obsoleta*) *on potato.*—Mr. Van Zwaluwenburg reported that early in December Mr. H. C. Weight, of the Oahu Sugar Co., called attention to damage done to young potato foliage in Field 62 by newly hatched larvae of this noctuid moth. The feeding was on the epidermis, and the infestation, which covered some six or seven acres, was soon brought under control by the spraying which is routine practice in the plantation's potato fields. Transferred for convenience to tomato foliage, the larvae grew rapidly and were soon damaging tomato fruits in characteristic fashion. The specimens are now in the pupal stage.

Mr. Van Zwaluwenburg exhibited spectrographs made by Dr. S. S. Ballard,* of ash of the centipede (*Scolopendra subspinipes*), the Cypress roach (*Diploptera dytiscoides*), and the sugar cane beetle borer, adult (*Rhabdocnemis obscura*).

Mr. C. E. Pemberton spoke of the Sugar Technologists meeting held last fall in Baton Rouge, Louisiana, and of which he was chairman of the Entomological section. It occupied six full days. Twenty-five to thirty entomologists attended. The papers referred

* Analysis printed in Nature, Vol. 143, p. 979, June 10, 1939.

chiefly to various phases of the sugar cane industry in Louisiana. An excellent paper at the meeting was on trapping the sweet-potato weevil by applying tangle foot to the cuttings. Another paper, on the sugar cane aphis in Formosa, stressed the fact that this aphis is strongly selective in its feeding on cane, preferring varieties of high brix content (rich juices). Mainland entomologists showed much concern over the spread and ravages of the white-fringed beetle, a species of weevil endemic to southern South America.

FEBRUARY 2, 1939

The 398th meeting was held at the H.S.P.A. Experiment Station, February 2, 1939, at 2:30 p.m.

Members present: Miss Margaret Poor, Messrs. Browne, Bryan, Ehrhorn, Fullaway, Illingworth, Keck, Marlowe, Mason, Pemberton, Rosa, Sakimura, Van Zwaluwenburg, Willard, Williams and Zimmerman.

Visitors John F. Altstaetter, A. Gordon Galloway, Foo Kau Lee, and J. A. Verret, Jr.

Vice-president Marlowe in the chair.

The minutes of the previous meeting were read and approved.

PAPER PRESENTED

Mr. E. C. Zimmerman presented a paper entitled: "Revision of the Hawaiian Alleculidae (Coleoptera)."

NOTES AND EXHIBITIONS

Dr. F. X. Williams spoke of finding *Culex* mosquitoes quite numerous up to or near the summit of Mt. Olympus. Strong winds were offered for this condition as observed previously on the same mountain. Mr. F. K. Lee thought these mosquitoes had their origin from puddles nearby, the recent weather having favored such. Dr. Williams also mentioned the relative abundance of the two immigrant damselflies, *Enallagma civile* and *Ischnura posita,* occurring far up in the cloud zone. Native species were rare, only two or three individuals were seen, one of which was identified as *Megalagrion oahuense.*

Mr. D. T. Fullaway spoke of the near elimination at Hanalei, Kauai, of the ground-nesting termite (*Coptotermes formosanus*). Mr. Au employed the Paris green treatment. A discussion followed.

Mr. R. H. Marlowe then introduced Mr. A. G. Galloway, of the U. S. Bureau of Entomology, who is superintending the processing of fruit in Honolulu for exportation. Mr. Galloway responded, and Mr. H. F. Willard also made some comments on the situation.

MARCH 2, 1939

The 399th meeting was held at the H.S.P.A. Experiment Station, March 2, 1939, at 2:30 p.m.

Members present: Miss Ethel Lucas, Messrs. Bianchi, Bryan, Ehrhorn, Mason, McBride, Pemberton, Rosa, Swezey, Van Zwaluwenburg, Williams, and Zimmerman.

President Bianchi in the chair.

The minutes of the previous meeting were read and approved.

Mr. John F. Altstaetter was elected to membership.

PAPER PRESENTED

Mr. E. C. Zimmerman presented a paper entitled "The Genus *Viticis* in Amboina (Coleoptera: Curculionidae)."

NOTES AND EXHIBITIONS

Podothrips lucasseni (Kruger).—Mr. Swezey called to attention that in the Review of Applied Entomology, Vol. 26, Ser. A, Part 8, p. 457, 1938, in a review of an article by Priesner (Bull. Soc. Ent. Egypte, 21 (1937), pp. 68–81, 13 figs., many refs., Cairo, 1938), *Kentronothrips hawaiiensis* Moulton is considered by the author to be the same species. *Podothrips lucasseni* was described by Kruger on cane in Java, in Berichte der Versuchsstation fur Zuckerrohr in West-Java, Heft I, p. 105, Taf. III B, figs. 8, 9, 1890, as *Phloeothrips lucasseni.* Priesner now places it in *Podothrips,* and considers *Kentronothrips* as a subgenus of *Podothrips,* and *hawaiiensis* Moulton a synonym. The latter was described from sugar cane in Hawaii in Proc. Haw. Ent. Soc., VII, p. 126, 1928.

Bythoscopus robustus Uhler.—Mr. Swezey exhibited a specimen of this cicadellid collected on the windshield of his wife's auto as she arrived in front of the Experiment Station, H.S.P.A., March 1, 1939. As it was on the inside it probably had come all the way down from Manoa, and would indicate that the species is established there in the vicinity of Mr. Swezey's home on Lanihuli Drive. The only other record of it so far as known is that of the first capture at Kawela Bay, Oahu, April 23, 1933.

On behalf of Miss Amy Suehiro, Dr. F. X. Williams presented her findings on the clerid beetle, *Tillus notatus* Kl., which she had recently taken on bean flowers at the University of Hawaii, Honolulu. Miss Lucas had also found it at Waipahu. Mr. O. H. Swezey took it in Guam and it occurs also in the Philippines and elsewhere in the Orient. This is a new record for Hawaii.

Mr. O. H. Swezey, being given the floor, gave an interesting account of his stay in Washington, D. C., and visits elsewhere on the mainland. Many old-timers among entomologists at the National Capitol were mentioned. Mr. Swezey attended meetings of the large and flourishing Entomological Society of Washington, as well as

other scientific society meetings. He also attended a dinner given in honor of Professor Herbert Osborn, by his former students, of which Mr. Swezey was one. Seventy-five attended this the 25th Osborn dinner, which occurred at Richmond, Va., at the time of the annual meeting of the A.A.A.S.

APRIL 6, 1939

The 400th meeting was held at the H.S.P.A. Experiment Station, April 6, 1939, at 2:30 p.m.

Members present: Miss Ethel Lucas, Miss Margaret Poor, Miss Amy Suehiro, Messrs. Bianchi, Bryan, Browne, Carter, Ehrhorn, Fullaway, Holdaway, Pemberton, Rosa, Sakimura, Swezey, Van Zwaluwenburg, Williams, and Zimmerman.

Visitors: H. D. Kirschman, W. C. Look, Y. Tanada, Phil Weber, T. Yoshida.

President Bianchi in the chair.

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

The Executive Committee announced the appointment for 1939 of the following officers: editor, O. H. Swezey, with E. H. Bryan, Jr., and R. H. Van Zwaluwenburg, assistant editors; librarian, J. S. Rosa, and custodian of collections, F. X. Williams.

Under *New Business* the Executive Committee announced its decision to propose increasing the cost of the Proceedings of the Hawaiian Entomological Society. It was voted and passed that in the future the price of each number be increased from $0.75 to $2.00, and that a volume with index be increased from $2.00 to $6.00.

PAPERS PRESENTED

Mr. E. C. Zimmerman presented a paper entitled: "A New Lowland *Neoclytarlus* from Oahu (Coleoptera, Cerambycidae)."

Mr. Bianchi presented a paper entitled: "Three Interesting New Host-Records in the Thysanoptera."

Mr. D. T. Fullaway presented a paper entitled: "Descriptions of New Species of Ichneumonid and Braconid Wasps from Samoa."

NOTES AND EXHIBITIONS

New Staphylinid.—Mr. Swezey exhibited a small staphylinid beetle which he had collected at Waimanalo, Oahu, March 18, 1939, which is quite different from any of the known staphylinids here. It is distinct in its coarse umbilical sculpture, and its particularly slender and elongate antennae, and also long slender mandibles. He had not been able to determine it, but made it out to be possibly a member of the tribe Hygronomini.

Calendra linearis var. *striatus* (Thb.).—Mr. Swezey exhibited a

vial containing 204 of these weevils taken from 13 old tamarind pods picked up beneath a tree at Waialua, Oahu, March 13, 1939. This was an average of 15 weevils per pod. The larvae had eaten the tamarind seeds and all had already matured, and all of the seeds had been destroyed except 3 seeds in one pod. As the tree had had a considerable crop of pods, this count indicates that the beetles were to be numbered by the thousands. They were a nuisance in the house of the yard where the tree stood.

Pissodes fasciatus Le Conte.—Mr. Zimmerman exhibited a specimen of this North American weevil that had been collected by Miss Katherine Faus at her residence at the sea shore on the Diamond Head side of Koko Head at Maunalua, Oahu. The specimen was collected in December 1938 and probably came from an imported Christmas tree. The species is found in Oregon, Washington and British Columbia. Its host is *Pseudotsuga taxifolia* (Douglas fir), a tree imported into Hawaii in large numbers each year for Christmas trees. The species has not been found in Hawaii heretofore.

Listroderes obliquus (Gyll.).—Dr. F. G. Holdaway recorded the occurrence of larvae of the vegetable weevil on foliage of Irish potatoes at Makawao, Maui. Elevation 2,160 feet, annual rainfall 90½ inches, 1st February 1939. This insect was first recorded in Hawaii by Swezey from specimens collected 1926 at Parker Ranch, 4,000 feet. Later collected by Wakabayashi at Ulupalakua, Maui, in 1934, 2,000 to 3,000 feet elevation. Recently collected by Mr. Browne on a number of crops in North Hawaii, again at elevations of 2,000 to 3,000 feet. It is possible that larvae observed by county agents of Hawaii on Chinese cabbage and reported as Fuller's Rose Beetle were the larvae of *Listroderes obliquus*. Swezey when he first recorded the insect in Hawaii used the name *Listroderes apicalis*. The generally accepted name today is *Listroderes obliquus,* but the correct name is possibly *Listroderes costirostris.**

Erebus odora (Linn.).—Dr. Holdaway exhibited eggs, larvae and adults of the "black witch" moth. Larvae are being reared on the pods of "monkey pod" tree *Samanea saman.*

Listroderes obliquus (Gyll.).—Mr. Ashley C. Browne reported that on March 31, 1939, Chinese cabbage, carrots, gobo and head cabbage at Waimea, North Hawaii, were found to be infested with larvae of the vegetable weevil. Carrots and Chinese cabbage had been completely destroyed on a number of farms. From head lettuce, head cabbage, and broccoli, adults were taken in numbers. Pupal cells and pupae were readily found in the soil about the carrots. Most cells were in the upper 1½ to 2 inches of soil and usually within 4 inches of the plants. On carrots and Chinese cabbage the foliage was completely consumed, leaving only bare midribs. As protecting food and foliage disappeared, the larvae worked toward the base of the leaf stems where ten to a dozen could frequently be

* Essig. E. O. Science, 77 (2008) : 605–606, 1933.

taken. In many cases all evidence of the former rows of plants had disappeared, leaving only the immature roots in the soil. Carrot and Chinese cabbage plantings had been 95% destroyed and in some cases none survived from as much as 100 feet of row. Dry pyrocide 1 pound, diluted with 8 or 9 pounds of finely ground sulphur and applied liberally with a knapsack duster, had given relief where measures for protection were taken before damage was allowed to become too severe. On head lettuce, gobo and other hosts, adults did not appear to have been doing much damage. Growers report having seen the insect in other years, but not before has it reached epidemic proportions. If, in the Territory, it follows somewhat the habits observed in the few infested mainland vegetable areas, we may expect the numbers and attendant injury to diminish rather sharply with the approach of dry weather.

Araecerus vieillardi (Montr.) and *Araecerus fasciculatus* (De Geer).—Mr. Ralph H. Marlowe reported that on December 9, 1938, samples of Passion fruit (*Passiflora laurifolia*) were collected at Waimea, and that these two beetles were reared from the fruit. The beetles emerged approximately 4 to 5 weeks after date of collection. The specimens were identified by Dr. F. X. Williams. The anthribid larvae were found in green immature fruit as well as in the fruit which was ripe and beginning to dry. Observations were not made on oviposition; however, adults were seen feeding on the skin of mature and dried fruit. Other workers have reported on the rearing of these Anthribids from dead or decaying material.

The question as to whether or not *Pheidole* and *Solenopsis* ants intermingled was discussed. Also discussed was the periodicity of the alate forms of aphids.

On behalf of Dr. C. Schmidt, Mr. K. Sakimura submitted for identification, a tiny fringe-winged beetle. It was determined as a well-known trichopterygid by Mr. Zimmerman.

Mr. C. E. Pemberton spoke of a recent test that he made to see how greatly *Cyrtorhinus mundulus* had reduced the egg-parasites of the sugar cane leafhopper. P. H. Timberlake first noticed a diminution in parasites shortly after *Cyrtorhinus* was introduced. In early 1939 several hundred sugar cane midribs placed in a covered jar yielded but two *Paranagrus optabilis* instead of former thousands of this parasite.

MAY 4, 1939

The 401st meeting was held at the H.S.P.A. Experiment Station, May 4, 1939, at 2:30 p.m.

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

Visitor Wm. C. Look.
President Bianchi in the chair.
The minutes of the previous meeting were read and approved.

PAPERS PRESENTED

On behalf of Mr. E. C. Zimmerman, Miss Margaret Poor presented a paper entitled: "Revision of the Hawaiian Cossonidae (Coleoptera)."

Mr. O. H. Swezey presented a paper entitled: "*Melittobiopsis ereunetiphila* Timberlake, an Efficient Parasite on the Sugar Cane Bud Worm in Hawaii."

NOTES AND EXHIBITIONS

Geococcus radicum Green.—Mr. D. T. Fullaway exhibited some croton roots infested with *Geococcus radicum.* It was doing considerable damage, and the owner of the crotons was treating his plants with paradichlorobenzene. Mr. Fullaway explained that *Geococcus radicum* is the only exclusively ground-inhabiting coccid here. It has frontal hooks and posterior lobes.

Vanessa tammeamea Esch.—Mr. Swezey reported that he had caught a worn specimen of the Kamehameha butterfly when it came to light at his house on Lanihuli Drive, Manoa Valley, on the evening of April 25th.

Micromalthus debilis Le Conte.—Mr. Swezey reported having found larvae of this beetle in soft rotten wood in the extreme butt end of an electric light pole, April 22, 1939, which had been pulled up where the poles were being replaced by larger poles on Wilder Avenue, near Keeaumoku Street. This was in the vicinity of where he had found them abundant in similar rotten poles some years ago.

Maruca testulalis (Geyer).—Dr. Holdaway exhibited stages of the lima bean pod borer, *Maruca testulalis,* Fam. Pyralidae, and examples of damage to stems and pods. In March this insect was damaging green string beans at Waipahu School Gardens. In April crops of lima beans at Waialua were practically destroyed by it. At both Waipahu and Waialua adults of bean butterfly. *Lycaena boetica,* were abundant but there was no sign of adults of *Maruca.* Larvae of the butterfly were not common in the bean crop. It appears as though much of the damage commonly attributed to bean butterfly is due to *Maruca. Maruca* occurs in India, Ceylon, Burma, Java, Malay, Japan, Tahiti and Samoa, Cuba and Porto Rico, Uganda and Mauritius.

Eurytoma sp.—Mr. J. S. Rosa reported a new host record for this hyperparasite of Braconidae. He had reared it from *Hyposoter exiguae* (an ichneumonid) whose cocoons were collected in the field from the following localities: Waialua Plantation, and the flats west of Makapuu Head, during April 1939. Dr. Perkins reported this species a parasite on *Apanteles,* and it has been recorded on a number of other braconid hosts.

Laphygma exempta (Walker).—Miss Ethel Lucas exhibited a series of this moth to show their sexual dimorphism, the female being duller and more uniformly colored than the male.

Murgantia histrionica (Hahn).—Miss Amy Suehiro reported the occurrence of the harlequin cabbage bug on Chinese cabbage.

Exillis lepidus Jordan.—Mr. Bianchi exhibited some specimens of *Exillis* and stated that he had found this Anthribid causing considerable loss to Japanese papaya growers in Waipahu. The loss, apparently unmarked by the growers themselves, consisted in the destruction of at least a third of each tree's crops while the fruits were yet only an inch or so in diameter. It was caused apparently by accidental extension of the beetles, feeding from the dried out remains of the calyx into the base of the fruit proper.

Dr. J. F. Illingworth spoke of ineffective termite guards on certain buildings and of other phases of termite activities. A considerable discussion followed.

Eupristina verticillata Waterst.—Mr. Pemberton reported finding this fig wasp, the pollinator of *Ficus retusa,* established in a large *retusa* tree at Olaa, Hawaii, on April 21, 1939.

Copris incertus var. *prociduus* (Say).—Mr. Pemberton reported that the Manager of Koloa Sugar Company had sent to the H.S.P.A. Experiment Station a living specimen of this dung beetle, which had been caught at Koloa, Kauai. This is the first record of the occurrence of this beetle on Kauai. It was introduced into Hawaii from Mexico in 1922 and has been established on Oahu, Maui and Molokai for several years.

Yamataphis oryzae Mats.—Mr. Pemberton reported finding this aphis on rice roots in the field at Waipio, Oahu, on May 4, 1939. This is the first record of its field occurrence in Hawaii.

Mr. O. H. Swezey exhibited a recent photograph of Dr. R. C. L. Perkins.

A motion was entertained that Mr. O. H. Swezey be appointed delegate from the Hawaiian Entomological Society to the Pacific Science Conference to be held in California this summer. Seconded and passed.

JUNE 1, 1939

The 402nd meeting was held at the H.S.P.A. Experiment Station, June 1, 1939, at 2:30 p.m.

Members present: Miss Margaret Poor, Messrs. Bianchi, Bryan, Ehrhorn, Illingworth, Mason, McBride, Pemberton, Rosa, Sakimura, Swezey, Van Zwaluwenburg, Williams and Zimmerman.

Visitor: Harold F. Mason.

President Bianchi in the chair.

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

PAPER PRESENTED

On behalf of Mr. J. Linsley Gressitt, Mr. E. C. Zimmerman presented a paper entitled: "New Longicorn Beetles from Islands in the Southwestern Pacific (Coleoptera, Cerambycidae)."

NOTES AND EXHIBITIONS

Pseudococcus kraunhiae (Kuwana).—Specimens of this mealybug with their ovisacs were exhibited by Mr. Swezey, who reported a very severe infestation in a bunch of bananas of a wild variety grown in his garden. The infestation had ruined the bunch before becoming fully ripened. At the time observed, however, the mealybugs were scarce, having been eaten by the larvae of a cecidomyid midge, adults of which were obtained, later, and mounted specimens in diaphane were exhibited. It was not yet determined whether this midge is the *Lobodiplosis pseudococci* Felt which was introduced from Mexico, in 1930, as an enemy of *Pseudococcus brevipes* (Ckll.) and known to have become well established.

Pullus uncinatus.—Mr. Swezey reported for Mr. Fullaway that this lady-beetle had been collected by Mr. Wong, a student at the University of Hawaii. It was thought to be the first recovery of this insect introduced from Mexico several years ago as an enemy of mealybugs.

Araecerus vieillardi (Montr.).—Mr. Swezey exhibited 5 specimens of this anthribid collected from a banana bunch which was badly infested by *Pseudococcus kraunhiae* (Kuwana), from his garden on Lanihuli Drive, May 24, 1939. At the same time 7 specimens of *Araecerus fasciculatus* (De Geer) were also collected.

Eupristina verticillata Waterston.—Mr. Van Zwaluwenburg reported finding adults of this agaonid wasp in a mature fruit of *Ficus retusa,* the Chinese banyan, in the Lihue Hotel yard, on May 17. Unless the fruits of *retusa* are pollinated by this wasp they remain infertile. This is the first record of this insect on the island of Kauai; it is not known if it was introduced there or reached the island by chance.

Rhaphipodus carolinensis Matsushita.—Mr. Swezey exhibited a specimen of a very large prionid which Mr. Ehrhorn had received from the Rev. C. McCall, collected Jan. 1, 1939, on Kusaie of the Caroline Islands. It is very likely this species which was described from Palau Id. in 1935 in Tr. Sapporo Nat. Hist. Society, 14, p. 115. As yet this publication has not been available for comparison of the description.

Mr. C. E. Pemberton spoke of finding *Pentalonia nigronervosa* Coq., the banana aphis, plentiful on several species of ginger, although it was not seen on banana.

Mr. F. A. Bianchi stated that he had found *Nysius* bugs in striking swarms on weeds, sorghum and cotton, at Paumalu, near Pupukea, Oahu.

Mr. J. S. Rosa spoke of finding and rearing a species of *Oechalia* (Pentatomidae). These bugs occurred on coconut leaves near Waimanalo infested by the leafroller (*Omiodes blackburni*), which probably constituted their food.

Mr. E. C. Zimmerman exhibited and discussed a rare Hawaiian cossonid weevil.

JULY 6, 1939

The 403rd meeting was held at the H.S.P.A. Experiment Station on July 6, 1939, at 2:30 p.m.

Members present: Miss Ethel Lucas, Miss Margaret Poor, Messrs. Bianchi, Bryan, Ehrhorn, Illingworth, Keck, Pemberton, Rosa, Van Zwaluwenburg, Williams and Zimmerman.

Visitor: William C. Look.

President Bianchi in the chair.

The minutes of the previous meeting were read and approved.

Mr. H. C. Hilts was elected to membership.

NOTES AND EXHIBITIONS

Mr. F. A. Bianchi exhibited some male ichneumonid wasps of the genus *Amblyteles,* which he had taken at Waialua, Oahu, which appeared to be new to our fauna.

Mr. J. S. Rosa exhibited two specimens of *Tarsostenus univittatus* (Rossi) (Coleoptera, Cleridae) taken on a cane plant at the H.S.P.A. Experiment Station, Honolulu. The beetle is a recent immigrant. He also exhibited *Helicobia helicis,* a sarcophagid fly that is rather new here and sometimes breeding in snail shells.

Mr. R. H. Van Zwaluwenburg spoke of the presence of *Cryptotermes piceatus* at Hanalei, Kauai. He exhibited a collection of melasid beetles that had been studied by M. Fleutiaux, world authority on that family and on the Elateridae.

Mr. C. E. Pemberton spoke of black widow spiders of brownish color, on Oahu, and enquired if anyone else had noted this. He also made mention of a report from Hilo, Hawaii, of coconut palms dying there. The trouble was probably the *Pinnaspis buxi* scale insect, and this brought up the question of whether or not the Guam ladybeetle *Cryptogonus nigripennis* Weise was present there.

Mr. E. M. Ehrhorn exhibited an old picture of Alexander Craw, former plant quarantine entomologist here. He presented the picture to the Society as an addition to its growing collection.

AUGUST 3, 1939

The 404th meeting was held at the H.S.P.A. Experiment Station on August 3, 1939, at 2:30 p.m.

Members present: Miss Ethel Lucas, Miss Margaret Poor, Messrs. Bianchi, Browne, Bryan, Keck, Marlow, McBride, Sakimura, Van Zwaluwenburg, Weinrich, Williams and Zimmerman.

Visitors: Dr. Anne Hager, Mr. Wm. C. Look.

President Bianchi in the chair.

Minutes of the previous meeting were read and approved.

Mr. William C. Look was elected to membership.

NOTES AND EXHIBITIONS

Scyphophorus acupunctatus Gyll. (Yucca weevil) was found abundant and widely distributed in the Wailupe Valley, injuring sisal very commonly. The specimens were identified by Mr. Pemberton.

Mr. F. A. Bianchi exhibited a head of *Bidens pilosa* (Compositae) collected at Honouliuli, Oahu, from which he had reared the fly, *Trypanaea crassipes.*

Mr. Ashley Browne stated that the adults of the vegetable weevil, *Listroderes obliquus,* at Waimea, Hawaii, were now feeding on Citrus foliage.

Astata bella Cresson (1882) (Hymenoptera, Sphegoidea, Astatinae).—Dr. F. X. Williams exhibited 4 males and 2 females of this small species of *Astata* that he had taken on *Portulaca* plants at the Waianae end of Ewa Plantation Company, Oahu, on July 18, 1939. This seems to be the first time these little bug-catchers have been noted in the territory. They measure up to about 6.5 mm. long. This wasp was described from specimens taken at San Diego, California. More active and much more numerous on the *Portulaca* plants, that were teeming with *Nysius* bugs, was the little larrid wasp, *Silaon rohweri* Bridwell, another immigrant. Most probably the little *Astata* stored its nest-hole with *Nysius.* Usually *Astata* spp. are very alert and often difficult to catch but these six were easily caught by means of small vials. The specimens were in a fresh condition.

Armyworms and other injurious insects were then discussed.

Miss Poor introduced Dr. Anne Hager, parasitologist from Iowa State College. Dr. Hager gave some interesting data on the grasshopper problem on the mainland. A discussion followed.

SEPTEMBER 7, 1939

The 405th meeting was held at the H.S.P.A. Experiment Station on September 7, 1939, at 2:30 p.m.

Members present: Miss Ethel Lucas, Messrs. Bianchi, Bishop, Browne, Bryan, Ehrhorn, Holdaway, Illingworth, Ito, Look, McBride, Pemberton, Rosa, Swezey, Van Zwaluwenburg, Williams and Zimmerman.

Visitors: T. M. Blackman, Foo Kau Lee and Y. Tanada.

President Bianchi in the chair.

Minutes of the previous meeting were read and approved.

Mr. O. H. Swezey stated that Science Press Printing Company were printing the Proceedings of the Hawaiian Entomological Society, X, No. 2, 1938.

Messrs. L. C. Bishop and R. D. Ross were elected to membership.

Upon motion, the following resolutions were unanimously adopted:

WHEREAS, In the death of Mr. Harold F. Willard, on August 18, 1939, the Hawaiian Entomological Society has lost one of its most valued members; and

WHEREAS, Mr. Willard had for many years shown the deepest interest in the affairs of the Society, faithfully served it in the various capacities of President and Secretary-Treasurer, contributed papers for its Proceedings, and shared in the scientific discussions at its meetings; and

WHEREAS, In his official capacity he maintained at a high standard the regulatory work under his direction, contributed to a better understanding of the fruit-fly problem in these Islands, and showed, in addition, the widest interest in the general entomological problems of the Territory;

Be It Resolved, That the Hawaiian Entomological Society hereby expresses its appreciation of his high personal qualities, and of his interest and participation in its affairs.

Be It Further Resolved, that a biographical sketch of Mr. Willard be prepared for publication in the Proceedings of the Society, and that a copy of these resolutions be sent to his bereaved family.

Messrs. C. E. Pemberton and R. H. Van Zwaluwenburg were asked to prepare for publication in the Proceedings a biographical sketch of Mr. Willard.

PAPERS PRESENTED

Mr. K. Ito presented a paper entitled: "Ants Caught on Wind Traps in Pineapple Fields on Oahu."

On behalf of J. Douglas Hood, Mr. F. A. Bianchi presented a paper entitled: "*Organothrips bianchii,* a New Hawaiian Thrips from Taro."

NOTES AND EXHIBITIONS

Latrodectus geometricus Koch.—Mr. Pemberton exhibited a living female of this spider (identified by Dr. F. X. Williams), together with its egg-sac, which is quite different in appearance from that of *L. mactans* (Fabr.). This spider has recently been found rather common about Honolulu. Specimens have been taken at Waikiki, Kaimuki, Makiki, near some of the western piers of Honolulu Harbor and at Maili Point on southwest Oahu. The spider

has evidently been on Oahu for several years. It is not considered as venomous as *L. mactans.*

Baeus californicus Pierce.—Mr. Pemberton exhibited specimens of this scelionid which has been introduced into Hawaii from California during August 1939 for the control of the Black Widow spider, *Latrodectus mactans* (Fabr.). It was discovered in Southern California during 1938, by W. Dwight Pierce, of the Los Angeles Museum, who found it parasitizing the eggs of the spider. Several hundred have been liberated on Oahu, Maui and Hawaii during August 1939.

Oligotoma insularis McLachlan.—Mr. Swezey mentioned that he had been informed by Mr. E. S. Ross, of the California Academy of Sciences, that our local embiid had been synonymized with *Oligotoma saundersii* Westwood, in a paper by Davis, Proc. Linn. Soc. N.S.W., 64, p. 183, 1939. Seven widely distributed species are synonymized with *saundersii.*

Scavengers in banana bunch.—Mr. Swezey reported having reared the following scavenger insects from a banana bunch badly infested with *Pseudococcus kraunhiae* (Kuwana) from his garden in Manoa Valley, May 24, 1939: *Cyane terpsichorella* Busck; *Opogona aurisquamosa* (Butl.); *Pyroderces rileyi* (Walsm.); *Carpophilus dimidiatus* (Fabr.); *Sericoderus pubipennis* Sharp; *Araecerus vieillardi* (Montr.).

Argyroploce illepida (Butler).—Mr. Swezey reported having examined the seeds in koa pods from two different places on Mt. Tantalus, June 27, and in each case only 10% of the seeds were eaten by the larvae of this moth. This is unusually low, as these larvae commonly destroy 50–70% of the koa seeds. The seeds of 238 pods were examined. The koa trees at present have a considerable crop of ripening pods.

Aleurodothrips fasciapennis (Franklin).—Mr. Swezey exhibited a slide mount of this thrips. He had secured several specimens from a small infestation of *Diaspis echinocacti* on *Epiphyllum* at his place in Manoa Valley, May 24, 1939. They were apparently predacious on this scale, as there was nothing else for them. One to three adults were sometimes found beneath a single female scale. Apparently this is a new host record for this thrips in Hawaii.

Mr. E. M. Ehrhorn exhibited some adults of *Sympherobius barberi* Banks, established here from the American tropics. The specimens were reared from larvae taken among mealybugs in his garden.

Dr. J. F. Illingworth gave some biological data on a cerambycid beetle found here on bamboo, to which it was destructive.

Mr. F. A. Bianchi spoke of weevil damage to bell peppers in Kau, Hawaii.

The meeting terminated with a very interesting account by Mr. O. H. Swezey of the Pacific Science Congress he attended in California, July 14 to August 6.

OCTOBER 5, 1939

The 406th meeting was held at the H.S.P.A. Experiment Station on October 5, 1939.

Members present: Miss Ethel Lucas, Messrs. Bianchi, Bishop, Bryan, Ehrhorn, Fullaway, Illingworth, Look, Mason, Pemberton, Rosa, Ross, Sakimura, Swezey, Van Zwaluwenburg, Williams, Zimmerman.

President Bianchi in the chair.

The minutes of the previous meeting were read and approved.

The Secretary read a communication from Dr. F. G. Holdaway relative to the completion of a list of common names of insects in Hawaii. A list revised September 1939 was included. President Bianchi appointed a committee to work on this list as follows: Messrs. F. G. Holdaway, O. H. Swezey, D. T. Fullaway and E. C. Zimmerman.

PAPER PRESENTED

On behalf of Dr. John S. Caldwell, Mr. O. H. Swezey presented a paper entitled: "New Genera and Species of Jumping Plant-lice from the Hawaiian Islands with Descriptions of Several Immature Stages (Homoptera: Psyllidae)." A collection of these psyllids was exhibited, including nine species.

NOTES AND EXHIBITIONS

Mr. E. M. Ehrhorn read an interesting communication and newspaper clipping, as follows: "The enclosed quotation from the Advertiser of Sept. 6, 1879, I think shows that the dry-wood variety of termites were here at least sixty years ago. (Signed) Yours very truly, Arthur C. Alexander." *"The Plague of Ants.*—These insects (which are dignified by naturalists as belonging to the genus "Hymenoptera") have increased to such a degree in these islands of late years as to have become a plague to householders. There are several varieties, from the little mites that infect the cupboard and swarm over articles of food, to the garden ant, and the book ant, *and perhaps worst of all the larger sort that bores into and destroys furniture and the sills of houses.* This latter variety is an importation from abroad—one of the evils resulting from commerce."—(Advertiser September 6, 1879.)

Mr. Ehrhorn exhibited an old coconut (in husk) that held a nest of the ponerine ant, *Leptogenys falcigera.* The ant casts the bleached remains of its sowbug (Crustacea) prey outside its nest.

Dr. F. X. Williams reported capturing a pair of *Tachysphex fusus* Fox along the firebreak trail skirting Mt. Kaala, Oahu, on August 27, 1939. The first and only other specimen of this mainland larrid wasp was taken June 5, 1931, at Waianae Company. He also mentioned the brackish water bug, *Trichocorixa blackburni* (White) along the Waianae road where it was flying in some num-

bers against the polished automobile hood on a late morning this summer. Evidently the bug mistook the burnished metal for water.

A new pest of cabbage in Hawaii.—Murgantia histrionica (Hahn), the Harlequin cabbage bug, which has been in Hawaii for a number of years, was found breeding on broccoli at Lualualei on October 2, 1939. It was also breeding abundantly on kale and head cabbage at the Waianae School Gardens on May 16, 1939.

Miss Suehiro has already reported that she had observed *M. histrionica* on Chinese cabbage at Lualualei (June 28, 1938). The present records indicate that it is attacking three additional crop plants and becoming more abundant. This insect was previously recorded only from *Capparis sandwichiana* on Ewa Coral plains.

In response to a popular request, Mr. D. T. Fullaway, recently returned from Japan and the Philippines, gave an interesting account of his collecting and shipping several species of "fireflies" (Lampyridae) as enemies of the liverfluke snail and the garden snails here. Mr. N. Krauss assisted in this work in Japan. The fireflies laid many eggs. Some were successfully reared in Honolulu and many distributed.

Mr. E. H. Bryan, Jr., said that Dr. Tonnoir, specialist in psychodid and *Agromyza* flies, would welcome specimens of these insects for study.

NOVEMBER 2, 1939

The 407th meeting was held at the H.S.P.A. Experiment Station on November 2, 1939, at 2:30 p.m.

Members present: Miss Ethel Lucas, Miss Amy Suehiro, Messrs. Bianchi, Browne, Bryan, Carter, Ehrhorn, Fullaway, Look, Illingworth, Pemberton, Rosa, Swezey, Van Zwaluwenburg, Williams, and Zimmerman.

Visitors: Richard Faxon and G. F. Callaghan.

President Bianchi in the chair.

The minutes of the previous meeting were read and approved.

The Secretary stated that at the meeting of the executive committee of the Hawaiian Entomological Society this second day of November 1939, at 2:20 p.m., it was decided that beginning with volume X, No. 2, the Proceedings of the Hawaiian Entomological Society be priced at $2.00 per number instead of $0.75, and that each volume be priced at $6.00 instead of $2.00, as formerly.

Dr. F. X. Williams read the following obituary notice of Brother Matthias Newell, for years an honorary member of the Hawaiian Entomological Society:

BROTHER NEWELL DIES IN OHIO

Brother Matthias Newell, who spent 38 years in Hawaii as a member of the faculties of the Brothers of Mary schools, St.

Anthony in Wailuku, Maui, and St. Mary's in Hilo, died in Dayton, Ohio, on October 12, according to news received by the Brothers at St. Louis College here yesterday from the Rev. Father Aloysius Bedel, former chaplain and religious director at the local institution.

The late educator was born in Bavaria, Germany, and was 85 years old. He came to America in boyhood and was educated in the great Catholic schools of the United States. He retired in 1927 and lived the remaining years of his life at the University of Dayton, mother house of the Marist Brothers.

Brother Matthias was government plant inspector in Hilo for a number of years. He was greatly interested in botany, zoology and was a taxidermist of recognized ability. (Honolulu Advertiser. Oct. 20, 1939.)

Messrs. C. E. Pemberton and R. H. Van Zwaluwenburg presented a biographical sketch of Harold F. Willard, who died in Honolulu on August 18, 1939.

PAPER PRESENTED

On behalf of Dr. M. B. Linford, Dr. Walter Carter presented a paper entitled: "Pineapple Fruit Injuries Caused by Larvae of the Moths *Ereunetis flavistriata* and *Pyroderces rileyi.*"

NOTES AND EXHIBITIONS

Insects Collected October 1939 by A. C. Browne (U. of H. Extension Service Entomologist):

On Canton Island—
Harmonia arcuata (Coleoptera: Coccinellidae) ??
**Cutilia soror* (Orthoptera: Blattidae)
**Musca domestica* (Diptera)
**Olfersia spinigera* (Diptera: Hippoboscidae)
**Aphis gossypii* (Homoptera)—on *Portulaca*
Mealybug (Homoptera)—on *Scaevola*

On Enderbury Island—
**Dermestes cadaverinus* (Coleoptera)
**Aphis gossypii* (Homoptera)—Det. E. O. Essig

On Howland Island—
**Pheidole megacephala* (Hymenoptera: Formicidae)
Cicadellid leafhopper (Homoptera)—Adult and nymphs
**Trichoptilus oxydactyla* (Lepidoptera: Pterophoridae)
**Petrochroa dimorpha* (Lepidoptera: Tineidae)
Microlepidoptera—3–4? additional species

Mr. Browne also gave a short talk describing the several islands visited and the conditions in which the insects were collected.

* Occurs also in the Hawaiian Islands.

Mr. Bryan exhibited specimens of *Psychoda pseudalternata,* a new species being described by Dr. A. L. Tonnoir from Australia. Two of the specimens were paratypes, the others specimens from Honolulu, sent to Dr. Tonnoir for identification. He urged any persons having specimens of Psychodidae from Pacific regions, which they would like to have determined, to loan them for study to Dr. Tonnoir, who was preparing a paper on this family.

F. X. Williams and F. A. Bianchi exhibited some cordwood of "Pride of India" (*Melia azedarach* Linn.) infested by the swift black bee, *Lithurgus scabrosus* Sm. It lay in an open shed containing other cordwood, in the Manoa Arboretum, Honolulu. Attention had been called to this infestation by Dr. H. L. Lyon. The soft *Melia* wood contained numerous rather short *Lithurgus* tunnels, the presence of which was revealed by large quantities of sawdust. None of the other and considerably harder woods had been attacked. The bee was to be found in all stages. Definitely borer here. The finding of such a large colony of these bees here is rare. A single *Xylocopa varipuncta* nest was also in this *Melia* wood.

Dr. Williams spoke of the identity of the skink common in gardens in Honolulu and elsewhere here. It was described by Arthur Loverage as *Leiolepisma hawaiiensis,* new species (Proc. Biol. Soc. Wash., 52, pp. 1 & 2, 1939).

Latrodectus mactans (Fab.).—Mr. Swezey reported having found 3 cells of a muddauber wasp nest (*Sceliphron caementarium* (Drury)) on the under surface of loose coral stones at Lualualei, October 12, which were packed with black widow spiders. The total in the 3 cells was 5 females and 29 males. The spiders were difficult to find there at the time, and it is apparent that the wasp is a considerable factor in their control. Two of the spiders had an egg attached. They were placed in two separate vials, and one egg hatched. The larva ate all of its quota of spiders and spun a cocoon prior to October 30. The cocoon was exhibited. The other egg failed to develop.

Zaischnopsis sp.—Mr. Swezey exhibited a specimen of this *Holochlora* egg-parasite which he collected by sweeping on an *Osmanthus* tree, October 8, along the trail a short distance east from Kolekole Pass, Waianae Mts. This is the first record of this insect anywhere since it was discovered by Mr. Ehrhorn in his garden in Manoa, May 12, 1938, where it parasitized eggs of *Holochlora japonica.* Mr. Swezey also exhibited a cluster of 32 *Holochlora* eggs in a hibiscus twig cut from his hedge on October 22, 1939. On examining them later, they were found to contain full-grown parasite larvae, presumably of this same eupelmid.

Gelonetha hirta (Fairm.).—A specimen of this cerambycid beetle was exhibited by Mr. Swezey. It had issued from a hau branch (*Hibiscus tiliaceus*) October 20, 1939. A tree had been cut the latter part of June at Waikiki, where the Uluniu Swimming Club

was doing some rebuilding operations. Mr. Swezey had kept a three-foot length of a branch, and 115 beetles had issued from it, as determined by the count of exit holes. The most of them had issued before October 15, when the exit holes were first observed. By cutting into the wood, a pupa was found, which matured October 20. The larvae had burrowed and eaten in the whole inner bark area of the branch, then burrowed into the wood for their pupal cells. Apparently this beetle has a short larval stage for a cerambycid. In this instance, it would have been less than four months, as infestation must have occurred after the tree was cut the latter part of June, and most of the beetles issued before October 15.

Mr. D. T. Fullaway exhibited a small cicadellid leafhopper taken in quarantine and arriving chiefly as immature specimens on celery, chrysanthemums, etc., from the Pacific Coast.

DECEMBER 7, 1939

The 408th meeting was held at the H.S.P.A. Experiment Station, December 7, 1939, at 2:30 p.m.

Members present: Miss Ethel Lucas, Messrs. Bianchi, Bishop, Bryan, Carter, Ehrhorn, Fullaway, Illingworth, Look, Mason, McBride, McPhail, Pemberton, Ross, Sakimura, Swezey, Van Zwaluwenburg, Williams and Zimmerman.

President Bianchi in the chair.

The minutes of the preceding meeting were read and approved.

Mr. G. F. Callaghan was elected to membership.

NOMINATION AND ELECTION OF OFFICERS AT THE ANNUAL MEETING

At a meeting of the Executive Committee held December 7, at 2:20 p.m., the following appointments were made for the year 1940: Editor, O. H. Swezey; Assistant Editors, R. H. Van Zwaluwenburg and A. C. Browne; Librarian, J. S. Rosa; Custodian of Collections, F. X. Williams.

The following officers were elected for 1940:

President	R. H. Marlowe
Vice-President	E. C. Zimmerman
Secretary-Treasurer	F. X. Williams
Additional Members of Executive Committee	C. E. Pemberton K. Sakimura

The Secretary-Treasurer submitted the financial report for the year ending December 6, 1939. It was moved and passed that this report be accepted subject to auditing. President Bianchi appointed C. E. Pemberton as auditor.

The President appointed Dr. Walter Carter to write a bio-

graphical sketch of the late Dr. R. N. Chapman, and to draw up a resolution of condolence to send to his family.*

The following resolution was unanimously adopted by the Society:

"Whereas death has removed from our membership Dr. Royal N. Chapman, a past president of our society and a distinguished member thereof

"Be it resolved: That the members of the society record their deep regret at Dr. Chapman's passing."

In the absence of Mr. Marlowe, Mr. E. C. Zimmerman, newly-elected Vice-President, now took the chair.

Mr. F. A. Bianchi made the Presidential Address, his title being "Notes on the Role of the Self-Introduced Insects in the Economic Entomology of Hawaii."

PAPERS PRESENTED

Mr. K. Sakimura presented a paper entitled: "Pineapple Fruit Insects on Lanai."

Mr. O. H. Swezey presented a paper entitled: "New Species of Hawaiian Lepidoptera."

Mr. E. C. Zimmerman presented two papers, as follows: "A New Proterhinus from the Waianae Mountains," and "Studies in Hawaiian Neuroptera." In connection with the latter paper Mr. Zimmerman exhibited species of Hemerobiidae.

Mr. D. T. Fullaway presented two papers, as follows: "New Species from the Bishop Museum Collection of Samoan Parasitic Hymenoptera," and "*Ootetrastichus megameli* n. sp."

NOTES AND EXHIBITIONS

Xylopsocus capucinus (Fab.).—Mr. Swezey exhibited a specimen of this bostrychid beetle which was collected by Dr. M. B. Linford in pineapple field on Lanai, March 3, 1939. It appears to be the first record of this insect for the Hawaiian Islands. It has a wide distribution in the tropics: India, Malay Islands, Philippines, New Hebrides, New Guinea, New Caledonia, Sierra Leone, Guiana, Brazil, Trinidad. It has been recorded from mango in India, 1919; Hevea in Dutch East Indies, 1924; dried Derris roots, Malay States, 1931, 1933, 1935; grape vines in Brazil, 1935; mahogany in Malaya, 1936. One specimen was collected from ferns in Guam by Mr. Bryan in 1936. (Determined by Mr. W. S. Fisher, U. S. Nat. Mus.)

Rhyncogonus saltus Perkins.—Mr. Swezey reported that a young visiting entomologist named Miller, from Indiana, had shown him specimens of this weevil collected near Kole Kole Pass, Oahu, in November, and that Mr. Miller had told him that he and Walter

* See Science, Vol. 91, No. 2359, March 15, 1940, p. 255.

Donagho had collected two or three hundred of the beetles. This indicates a seasonal abundance of this endemic species which occurs only in that vicinity in the Waianae Mountains.

Dr. Walter Carter spoke of the tortricid moth caterpillar, *Amorbia emigratella,* feeding on a *Dendrobium* orchid pod.

Mr. E. C. Zimmerman said that the Anobiid beetle *Catorama mexicana* is a synonym of *C. herbarium* (Chev.).

Mr. D. T. Fullaway mentioned *Phenacoccus gossypii,* a new immigrant coccid bug, as feeding on *Erythrina.* It is commonly found on *Dombeya.*

Dr. J. F. Illingworth spoke of the abundance of *Musca* and blue green flies at Kaimuki, where formerly they were scarce. Pheidole ants seemed scarce.

Mr. C. E. Pemberton exhibited a garden hose riddled by *Coptotermes formosanus.* The hose had been lying on the ground for a few weeks at the Country Club Golf links.

Dr. Walter Carter spoke of Dr. Carl Schmidt's exploration up the Amazon and tributaries in search of *Pseudococcus brevipes.* The mealybug was only occasionally found.