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Hawaiian Entomological Society

Editor Emeritus, O. H. Swezey

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JANUARY 8, 1945

The 469th meeting was held at the H.S.P.A. Experiment Station on Monday, January 8, at 2:00 p.m., with President Jensen in the chair.

Members present: Messrs. Bianchi, Fullaway, Jensen, Nishida, Pemberton, Rosa, Sakimura, Schmidt, Swezey, Van Zwaluwenburg, Williams and Zimmerman.

Visitors: Messrs. C. T. Parsons and F. G. Werner.

NOTES AND EXHIBITIONS

Psoroptes communis Fürstenberg—Mr. Pemberton reported the presence of quantities of this scab mite in the ears of a rabbit. The mites were collected by a member of the U. S. Army on Oahu, December 26, 1944. This is the first record of this sarcoptid in the Territory.

An aphid new to Hawaii—Mr. Van Zwaluwenburg called attention to the description by E. O. Essig of *Cerosipha californica* n.sp.[1] (Hilgardia, **16** [4]: 177-181, fig. 1, July 1944) from California and Oahu. It was first found at Salinas, Calif., on roots of slightly wilted seedlings of guayule (*Parthenium argentatum* Gray). Later it was found on roots of potatoes at Bakersfield, and (alates) on leaves of French prune at Davis, Calif. In checking alate specimens of what he provisionally considered to be *Vesiculaphis caricis* (Fullaway), collected September 9, 1940, on tomato by W. C. Look at the "Waipaha" [Waipahu] school garden, Prof. Essig found them to be this "guayule aphid".

Achaea janata (Linn.)—Mr. Sakimura reported finding three specimens of this agrotid moth at light immediately after the Society's last meeting in December at which the species was first re-

[1] This insect was later shown by Prof. Essig to be a synonym of *Cerosipha subterranea* (Mason), a species widely distributed in the continental United States from Maryland to California. See p. 468 [Ed.].

corded locally. That the moth has suddenly become fairly numerous was attested by reports of several other members who have collected it recently.

Hambletonia pseudococcina Compere—Dr. Schmidt reported the recovery of this encyrtid parasite of *Pseudococcus brevipes* (Cockerell) from material collected recently at Baldwin Packers, west Maui; it had not previously been reported from this region. The parasite was imported from South America during the period from 1935 to 1937.

FEBRUARY 12, 1945

The 470th meeting was held at the H.S.P.A. Experiment Station on Monday, February 12, at 2:00 p.m., with President Jensen in the chair.

Members present: Messrs. Bianchi, Faxon, Fullaway, Jensen, Keck, Marlowe, Murakami, Pemberton, Rosa, Swezey, Van Zwaluwenburg, Williams and Zimmerman.

Visitors: Messrs. A. S. Johnson, J. D. Maple and E. M. Miller.

Mr. Fullaway nominated Mr. Douglas J. Worcester for membership in the Society.

NOTES AND EXHIBITIONS

Leptomastix dactylopii Howard—Mr. Fullaway exhibited specimens of this aphelinid parasite of mealybugs recently found established at the Territorial plant nursery in Honolulu, a new record for the Islands. This is an accidental introduction from California, and Mr. Fullaway's specimens came from a mixed infestation on soybeans and eggplant of *Phenacoccus gossypii* Townsend & Cockerell and *Pseudococcus kraunhiae* (Kuwana).

Backyard insect census—Dr. Swezey reported progress on the insect census of his garden and residence on Lanihuli Drive, Manoa Valley, Honolulu. Since his last report (Proc. Haw. Ent. Soc., 11: 277, 1943) he has added about 40 names, so that now the total is 293, distributed in the following orders: Hymenoptera 57; Diptera 41, Coleoptera 63; Lepidoptera 43, Heteroptera 11; Homoptera 28; Orthoptera 10; Dermaptera 2; Blattaria 9; miscellaneous 29.

Achaea janata (Linn.)—Dr. Swezey reported that R. E. Doty had brought him a specimen of this immigrant agrotid collected at light on Mt. Tantalus, February 5. Dr. Swezey also reported the capture of two of these moths at light on February 11 at his house in Manoa Valley.

Identity of the new immigrant parasite of cockroach eggs—Mr. Zimmerman reported that Dr. Harold Compere had identified the new encyrtid parasite of cockroach oöthecae as *Comperia falsicornis*

(Gomes). The species was described from the Federal District of Brazil, as *Comperia merceti* var. *falsicornis* Gomes (Bol. Escola Nac. Agro., 2: 30-37, 1942). Mr. Zimmerman previously reported upon the successful work of this parasite on oöthecae of *Supella supelectilium* (Serville) at a meeting of the Society in 1943 (Proc. Haw. Ent. Soc., 12: 20, 1944). It is the same species as that recorded by Mr. Pemberton (Proc. Haw. Ent. Soc., 11: 139, 248, 1942) as probably *Metaphycus* sp.

Caenis sp.—Dr. Jensen exhibited a mayfly he had collected in Gilmore Hall, University of Hawaii, Manoa, Honolulu, on the night of January 30, 1945. The specimen apparently had been attracted to the light and entered the room through an open window. This record represents an extension in distribution of this order from Pearl City to Manoa Valley. Other specimens of this ephemerid were first collected in Hawaii in July 1944, in a light trap operated by Lt. Wm. M. Herms, U.S.N.R., at Pearl City, Oahu. According to Dr. Swezey, who identified the Pearl City material, the genus *Caenis* Stephens is cosmopolitan; the adults of the family Caenidae, to which it belongs, are characterized by having very few cross veins and no hind wings.

Blapstinus dilatatus LeConte—Dr. Jensen exhibited specimens of this tenebrionid beetle collected at Koko Head, Oahu, September 20, 1944. Adults were reported injuring watermelon plants, chewing the vines two or three feet from the base of the plant, thus causing the vines to wilt. The species is common in southern California where it has been recorded girdling young pepper plants. Three specimens were collected earlier by Messrs. Look and Nishida in soil at Waialua, Oahu, June 16, 1944. The specimens were determined by Dr. E. C. Van Dyke; earlier local identifications of this species had been only tentative.

A gynandromorph *Contarinia*—Dr. Jensen exhibited a slide mount of an unusual gynandromorph which occurred among adults of a cecidomyiid, *Contarinia* sp., reared from flower buds of "pikake" (*Jasminum sambac*). A single specimen was found which bears female antennae, but male genitalia. The characters of the antennae of the sexes are as conspicuously different as are the genitalic characters. The pikake buds were collected by Dr. Jensen near Fort Ruger, Honolulu, January 11, 1945. Approximately 75 per cent of the living buds were infested with eggs, larvae or both.

MARCH 12, 1945

The 471st meeting was held at the H.S.P.A. Experiment Station on Monday, March 12, at 2:00 p.m., with President Jensen in the chair.

Members present: Messrs. Bianchi, Fullaway, Jensen, Nishida, Pemberton, Rosa, Swezey, Tanada, Van Zwaluwenburg, Williams and Zimmerman.

Visitors: Messrs. O. H. Edinger, Wm. D. Field, J. E. Webb, Jr., and F. N. Young.

Mr. Douglas J. Worcester was unanimously elected to membership.

NOTES AND EXHIBITIONS

Tribolium castancum (Herbst)—Mr. Van Zwaluwenburg called attention to a paper by Newell E. Good (U.S.D.A. Tech. Bul. **498,** "The Flour Beetles of the Genus Tribolium", 1936) in which it is shown that the red flour beetle, a cosmopolitan pest, should be known as *Tribolium castaneum* (Herbst), and not as *T. ferrugineum* (Fabr.). Two species were described by Fabricius under the name *Tenebrio ferrugineus.* The first one so named, in 1781, is a cucujid, on the authority of Waterhouse and others; the same name used in Fabricius' 1787 description, is a homonym, and cannot stand.

Hyposoter bred from *Achaea*—Mr. Van Zwaluwenburg reported that one of three larvae of the recently established agrotid, *Achaea janata* (Linn.), collected March 8 at Waialua mill, Oahu, on the weed known locally as *Euphorbia bifida* Hooker & Arnott, yielded a cocoon of the ichneumonid, *Hyposoter exiguae* (Viereck), two or three days later. Earlier the same week, Mr. Rosa observed an adult *Hyposoter* in a jar containing *Achaea* larvae collected at Waianae, Oahu.

New geometrid moth—Mr. Pemberton discussed the status of an unidentified geometrid[2] recently found widely distributed over Oahu. Over a dozen moths were first caught in a light trap operated by the Navy at West Loch, Pearl Harbor, during August 1944. Then, early in February 1945, Dr. Williams found some strange caterpillars feeding on foliage of *Nicotiana glauca* in his garden in Honolulu. Reared to adults, they proved to be the same as the moths caught at Pearl Harbor. Examination by Dr. Swezey showed the species to be new to Hawaii. Field surveys by H.S.P.A. entomologists resulted in the recovery of the moth during February over most of this island, and on Mt. Tantalus to an elevation of 1,600 feet. Larvae were found feeding on the leaves of 29 different plants, and in some cases causing considerable defoliation. Many of the host plants are ornamental flowering trees, and several are important forage trees and shrubs. The list embraces 14 different plant families, with Leguminosae especially favored. It is assumed that the insect came to Oahu in an airplane.

[2] Subsequently identified as *Anacamptodes fragilaria* (Grossbeck), an insect native to southern California [Ed.].

Achaea janata (Linn.)—Mr. Pemberton also discussed the result of surveys made to determine the present distribution and host plants of this large agrotid, first seen in Hawaii in December 1944, when Dr. Williams collected an adult at the H.S.P.A. Experiment Station, Honolulu. Caterpillars were found in quantity at Waianae and Ewa, Oahu, feeding on, and completely defoliating, castor oil plant (*Ricinus communis* Linn.). It was also found on the common weed, *Euphorbia bifida* Hooker & Arnott and on the forage plants *Leucaena glauca* Bentham and *Desmanthus virgatus* Willdenow; a single larva was taken on a partially eaten leaf of a fern (*Polypodium* sp.).

Because this moth is widespread from India through the Malay Archipelago to New Guinea, Australia and many of the South Pacific islands, and has been found in airplanes arriving at Honolulu, it is assumed to have reached Oahu by plane. Mr. Bianchi stated that he had found the eggs of *Achaea,* chiefly on leaves of *Ricinus* and *Euphorbia,* widespread over Oahu. The eggs are laid singly, and all that he had collected yielded adults of *Trichogramma minutum* Riley.

Enarmonia walsinghami (Butler)—Dr. Swezey reported having reared several of this tortricid moth from dead, malformed, small branches of *Acacia koa* sent in by C. J. Davis, a ranger at the Hawaii National Park, Hawaii. The material was collected at an elevation of 6,700 feet on the Mauna Loa trail, February 2, 1945. This is the same moth Dr. Swezey previously reared from dead koa twigs on Mt. Tantalus and Mt. Olympus on Oahu, and from koa rust galls on Maui. Mr. Davis found the larvae boring in the living wood where the twig or branch was malformed from the effects of rust galls or something similar. Thus, it is shown that it does not confine itself to dead wood as a diet, as many Hawaiian moths are known to do. This is similar to Mr. Davis' observations of *Neotermes connexus* Snyder feeding in living koa branches, a sample of which he sent in early this year. It was collected in the Kipuka Puaula at the Hawaii National Park, and showed considerable excavation by termites in the heart wood of a branch three to four inches in diameter, which was still alive. Usually this termite feeds in dead branches and trunks of the native forest trees.

Podagrion mantis Ashmead—Dr. Swezey reported that in determining for Mr. Sakimura insects caught in wind traps in the pineapple fields of the Kunia, Oahu, region, he found specimens of this callimomid parasite of mantis eggs, dated April 27, 1943, May 4, 1943, July 13, 1943 and August 17, 1943. The first two dates are prior to the first record reported from Molokai by Mr. Krauss, May 31, 1943 (Proc. Haw. Ent. Soc., 12:92, 1944).

Phygadeuon sp.—Dr. Swezey reported this ichneumonid parasite of syrphids was also found in Mr. Sakimura's material, collected

February 8, 1944. It is apparently its first record from Oahu. It was first collected in July 1932, at the Hilo Sugar Co., Hawaii, by Dr. Williams (Proc. Haw. Ent. Soc., **8**: 233, 1933).

Solierella rohweri (Bridwell)—Dr. Williams exhibited a female of this larrid wasp caught by Mr. Sakimura in a wind trap at Kunia, Oahu, August 8, 1944. The head of this insect was quite abnormal, since there were no ocelli and the eyes converged very strongly at the vertex instead of having their inner margins nearly parallel.

Cerosipha subterranea (Mason)[3]—Mr. Zimmerman reported that Mr. Essig had informed him that the aphid recently found on Oahu, and described as the "guayule aphid," *Cerosipha californica* Essig (Hilgardia, **16** [4] : 177, fig. 1, 1944) has been found to have been described previously by Mason (Proc. Ent. Soc. Washington, **39** [6] : 166, fig. 1, 1937) as *Rhopalosiphum subterraneum,* and that the new name combination *Cerosipha subterranea* (Mason) should be applied to the species.

Ilburnia ipomoeicola (Kirkaldy)—For Mr. Look, Mr. Fullaway reported the finding of this delphacid, the sweet potato leafhopper, near Kilauea, Hawaii. Eggs of this insect were also found in the stems of the vines.

APRIL 9, 1945

The 472nd meeting was held at the H.S.P.A. Experiment Station on Monday, April 9, at 2:00 p.m., with President Jensen in the chair.

Members present: Messrs. Bianchi, Carter, Faxon, Fullaway, Hadden, Holdaway, Jensen, Nishida, Pemberton, Sakimura, Swezey, Tanada, Van Zwaluwenburg, Williams and Zimmerman.

Visitor: Mr. W. W. Wirth.

Mr. Fullaway and Dr. Williams presented the following resolution:

Lehr Artiman Whitney

Whereas, in the death of Lehr Artiman Whitney on February 21, 1945, the Hawaiian Entomological Society has lost one of its oldest and most cherished members, therefore

Be it resolved that the Society record its great and grievous loss with due expression of its appreciation of the interest of its distinguished member in the affairs of the Society which he served as Vice-President in 1929, and as President in 1930, and in the Proceedings, to which he made many valuable contributions in the way of papers, notes, etc., embodying his observations and recording other scientific data.

[3] See p. 463.

With the adoption of the above resolution the Secretary is requested to send a copy of the same to the surviving brothers of the deceased with a note expressing the deep sympathy of the members of the Society in their bereavement.

NOTES AND EXHIBITIONS

Beetles in mango twigs—Mr. Fullaway exhibited a collection of beetles found feeding in living twigs of mango on Kauai by Stephen Au; they were determined by Dr. Swezey as follows: (?) *Lyctus brunneus* (Stephens), 2; *Xyleborus* sp., 1; and several *Stephanoderes* sp.

Parasites of *Achaea janata* (Linn.)—Mr. Bianchi exhibited several puparia of *Eucelatoria armigera* (Coquillett) and some adults of *Chaetogaedia monticola* (Bigot) which had issued from pupae of *Achaea janata.* One *Chaetogaedia* had issued on April 4 from a pupa reared in the laboratory on *Ricinus* at Manoa Valley on February 14. The others had issued from material collected at Ewa during the first part of March. The *Eucelatoria* puparia had been found within skins of *Achaea* caterpillars collected on *Ricinus* plants growing along the Waianae road near Ewa on March 31.

Stegania sp.[4]—Mr. Bianchi stated, for Mr. Rosa and himself, that on March 19, at Waianae, Oahu, they had discovered egg masses of the new geometrid (*Stegania* sp.) under bark on the trunks of kiawe (*Prosopis chilensis*). Eggs had not been found in the field before, although the moth's manner of oviposition in the laboratory had indicated the probability that they would be found eventually under bark. Mr. Bianchi pointed out that in such a location the eggs would be almost completely protected from attack by *Trichogramma minutum* Riley, and said that out of many field-collected egg masses, totalling probably over 1,000 eggs, not a single parasite had issued, although in the laboratory *Trichogramma* had been shown by Dr. Swezey to parasitize the eggs readily.

Ephialtes hawaiiensis (Cameron)—Mr. Bianchi exhibited specimens of this ichneumonid which he and Mr. Rosa had reared in the laboratory on pupae of *Stegania* sp. Numerous *Ephialtes* wasps had been observed at Waianae on March 19 hovering over soil which thinly covered many pupae and prepupae of *Stegania;* from this behavior it was surmised that the wasps would parasitize the pupae. This proved to be the case in the laboratory, but it is apparently a rare occurrence in the field, for not one *Ephialtes* was obtained from about 150 *Stegania* pupae collected at Waianae. Mr. Bianchi stated that *Ephialtes* in glass tubes will readily sting the pupae, the prepupae, and even the larvae of *Stegania,* but that only a small proportion of the attacks results in successful oviposition. The wasps were also observed in the laboratory to attack the pupae

[4] This is the insect subsequently identified as *Anacamptodes fragilaria* (Grossbeck) [Ed.].

of *Achaea janata* (Linn.), but with as yet undetermined effectiveness. The wasps exhibited had emerged in about 16 days from the time of oviposition, a remarkably short time for a parasite of their size. *E. hawaiiensis,* according to data in the H.S.P.A. collection, has been reared previously from pupae of *Pyroderces incertulella* (Walker), *Archips postvittanus* (Walker), *Euhyposmocoma ekaha* (Swezey), *Capua reynoldsiana* Swezey, *Capua cassia* Swezey and *Cryptophlebia* sp., all native microlepidoptera.

Anaphothrips obscurus (Müller)—Mr. Bianchi spoke of a mild infestation of this thrips on sudan grass grown for experimental purposes in the hothouse at the H.S.P.A. Experiment Station. The species was first found in the Territory in the same locality and under the same circumstances in January 1941, and had not been reported again until now.

Notogramma stigma (Fabr.)—On behalf of Mr. Ito, Dr. Carter presented the following: This ortalid fly was recently bred from a dead and rotting stem of *Dendrobium superbum* at Kapahulu, Honolulu. While the owner of the plant suspects that the maggots are casual, the infestation must undoubtedly have occurred after the death of the plant, for this fly has been previously reported breeding in decaying fruits and rotten sugar cane.

Neophyllaphis araucariae Takahashi—Dr. Swezey reported having collected this aphid from young *Araucaria* trees at Foster Gardens, Honolulu, March 31. Dr. H. L. Lyon had called his attention to this slight infestation on young trees in tubs at the nursery. A supply of specimens was collected to send to Prof. E. O. Essig, who desired material of this species. The yellow wingless aphid occurred among the closely approximated leaves at the tips of growing twigs, and would readily escape observation. Four winged forms were obtained. The infestation was discovered by the presence of larvae of the ladybird beetle *Cryptolaemus montrouzieri* Mulsant. These ladybirds, however, were present on account of the coccid *Eriococcus araucariae* Maskell, individuals of which were scattered among the leaves of the terminal twigs. Several of these white coccids were noticed to have exit holes where parasites had issued, and a female parasite was noted in a search among young coccids at the base of the leaves. No doubt this was *Aphycomorpha araucariae* Timberlake, an encyrtid described in Proc. Haw. Ent. Soc., 4:227, 1919. This is the first time Dr. Swezey had observed these three insects: *Neophyllaphis, Eriococcus* and *Aphycomorpha.* On the same trees a puparium of the syrphid fly *Ischiodon scutellaris* (Fabr.) was found which had exit holes of the pteromalid parasite *Pachyneuron allograptae* Ashmead. The aphis-feeding ladybird, *Coelophora inaequalis* (Fabr.), was also present. Two lacewing-fly cocoons were also found, from which adults issued April 5 and proved to be *Chrysopa lanata* Banks.

Trichogramma reared from sphingid eggs—Dr. Swezey reported that 11 specimens of *Trichogramma minutum* Riley and one of *T. semifumatum* (Perkins) issued from a sphingid egg found by Dr. Williams on a leaf of *Nicotiana glauca* at his home on Keeaumoku Street, February 14. The egg was undoubtedly that of *Herse cingulata* (Fabr.), though this moth usually oviposits on leaves of several species of *Ipomoea.* Sweet potato vines were growing nearby.

Trichophaga tapetzella (Linn.)—Dr. Swezey reported on two additional records for this tineid moth in Hawaii: 2 specimens from wind trap in pineapple field, Kunia, Oahu, December 2 and 3, 1944 (Sakimura); 2 specimens from light trap, Hickam Field, Oahu, April 8, 1945.

MAY 14, 1945

The 473rd meeting was held at the H.S.P.A. Experiment Station on Monday, May 14, at 2:00 p.m., with President Jensen in the chair.

Members present: Messrs. Bianchi, Faxon, Hadden, Jensen, Keck, Look, McBride, Nishida, Pemberton, Rosa, Sakimura, Swezey, Van Zwaluwenburg, Williams and Zimmerman.

Visitors: Messrs. G. F. Augustson, B. Krafchick, D. B. Langford, J. G. Lewis, F. A. Soraci, J. P. Vinzant and W. W. Wirth.

Dr. Williams nominated Mr. Willis W. Wirth for membership in the Society.

NOTES AND EXHIBITIONS

Draeculacephala sp. a pest of watercress—Dr. Holdaway reported on an insect problem which has become serious in watercress beds since September 1944. The species has been tentatively determined as *Draeculacephala mollipes* (Say).*

Observations were made on watercress beds in the vicinity of Pearl Harbor, March 19, 1945. Inquiries from several growers revealed the following state of affairs: The trouble is present all the year round, but is most serious in the summer months. In September 1944 it became so serious as to reduce production seriously. It has been difficult to secure an exact picture of the injury, since, at the time the observations were made, rotenone dust had been used freely on the watercress and the infestation had been materially reduced. There appear to be two types of injury, the first, a crinkling of the young leaves which reminds one of the injury caused by broad mite (*Hemitarsonemus*) on watercress, although no mites were found. The second type of injury, apparently associated with

* According to Dr. P. W. Oman there are two species of *Draeculacephala* in Hawaii. One, *D. minerva* Ball was first found on Oahu in 1912, and is a southwest United States species. The other, *D. mollipes* (Say) was first taken in Honolulu in 1934, and is a native of the northeastern United States. The above dates are supplied by Mr. E. C. Zimmerman from his unpublished "Insects of Hawaii". [Ed.].

the infestation, is a general yellowing of the older leaves with yellow blotches on the less mature leaves. While this type of injury is apparently associated with an infestation of *Draeculacephala,* since growers report that it ceases to increase when the leafhoppers are controlled by means of rotenone, the injury has the appearance of a disease.

Dr. Holdaway observed *Draeculacephala* in watercress beds at Waipahu in the early part of 1942 when engaged in observations on broad mite on watercress. It would appear that *Draeculacephala* is a common insect of watercress beds, but that not until September 1944 did abundance reach such a level as to be a cause of economic loss.

It is interesting to speculate on why the insect has increased so greatly as to reach economic importance. Two possibilities occur to Dr. Holdaway. First, that particular weather conditions have favored the leafhopper more during the past twelve months than formerly; second, that the increase in watercress production has favored an increase in abundance of the leafhopper. It is not possible, at present, to determine to what extent the first possibility may have operated. Records indicate, however, that production of watercress has increased. Before the war the crop enumerators of the University extension service did not secure records on production of watercress, and so, earlier records are not available. The records for 1943 give a production of 1,003,000 pounds, while in 1944 the production was 1,598,000 pounds—an increase of 50 per cent over the 1943 production which was higher than formerly.

At the time of the observations at Waipahu in 1942, the grower reported that addition of copper sulphate to the irrigation water for control of crayfish appeared to reduce abundance of the leafhopper. Such an observation, if correct, would be in line with observations on control of *Empoasca fabae* (Harris) on the mainland, and *E. solana* DeLong in Hawaii; both of these can be controlled by sprays of Bordeaux. In the case of *E. fabae,* DeLong has demonstrated that control follows absorption of copper by the plant. Inquiries at Pearl Harbor last May revealed that addition of copper sulphate to the extent of 10 to 15 pounds per time, to the head water for control of algae, did not control crayfish and apparently had had little effect on *Draeculacephala.*

Infestation of celery aphid—Dr. Holdaway referred to an infestation of celery aphid, *Brachycolus heraclei* Takahashi, on celery observed by Mr. Nishida and himself at Waialua, Oahu, April 26, 1945. Infestation was building up to an alarming extent on crops nearing maturity. The present shortage of nicotine sulphate for control of aphids and the shortage or unsatisfactoriness of substitutes for nicotine, is resulting in this aphid being a hazard to celery production. Moreover, because celery coming on to the market is often heavily infested with aphids, dealers have sought means of

removing the aphids from the harvested celery before it is placed on sale.

The first record of this species in Hawaii was secured by Dr. Holdaway on celery at Waialua, December 6, 1940. Since then it has been recorded by members of the staff of the Entomology Department of the Hawaii Experiment Station at many places on Oahu (Koko Head, Kaimuki, University campus, Hunnewell Street, Pauoa Road) and also at Lahainaluna School, Maui, and Haleakala homesteads, Olinda, Maui, and at Kamuela, Hawaii. If infestations of celery plants occur when plants are young, serious retardation of the crop may result. The importance of this aphid has increased considerably during recent years, since celery for the local market is now largely produced in Hawaii. The University extension service records an increase of production from 746,000 pounds in 1943 to 2,478,000 pounds in 1944.

A new eriophyid on Hibiscus—Mr. Look reported collecting a new species of eriophyid on hibiscus at Hilo, Hawaii, February 9, 1945. Mr. H. H. Keifer believes it to be an undescribed species of *Epitrimerus,* and is preparing figures of this mite. This mite is particularly abundant during dry weather. High infestations are found on young leaves, petioles and stems of the growing point. The infested leaves generally curl outward and turn reddish yellow, especially at the tips. Old leaves also turn yellow before dropping off.

Mites on citrus—Mr. Look reported that the cosmopolitan citrus rust mite, *Phyllocoptruta oleivorus* (Ashmead) (det. H. H. Keifer), is one of the commonest mites on citrus plants at Hilo, Hawaii. A tarsonemid, probably the broad mite, *Hemitarsonemus latus* (Banks), is also destructive to seedlings and mature citrus trees. Papaya, potato, mango seedlings, dahlia, *Solanum nodiflorum* and *Bidens pilosa* are also commonly infested with tarsonemids.

First records of aphids on Hawaii—Mr. Look presented the following on aphids not previously reported from the island of Hawaii; the ten tabulated were identified by Prof. Essig.

Species	*Host*	*Locality*	*Date*
Aphis ferruginea-striata Essig	carrot	Hilo	Jan. 18, '45
Aphis citricidus (Kirkaldy)	pomelo	Hilo	Feb. 13, '45
Aphis helichrysi (Kaltenbach)	*Ageratum conyzoides*	Hilo	Feb. 9, '45
Aphis rumicis Linn.	*Phaius grandiflorus*	Hilo	Feb. 13, '45
Capitophorus braggii (Gillette)	African daisy	Hilo	Feb. 15, '45
Myzus circumflexus (Buckton)	hibiscus	Hilo	Feb. 9, '45
Myzus convolvuli (Kaltenbach)*	cucumber	Mountain View	Jan. 9, '45
Myzus convolvuli (Kaltenbach)*	rhubarb	Waimea	Jan. 19, '45
Myzus ornatus Laing*	rhubarb	Waimea	Jan. 19, '45
Rhopalosiphum nymphaeae (Linn.)	waterlily	Hilo	Feb. 14, '45
Rhopalosiphum pseudobrassicae (Davis)	mustard cabbage	Kamaili	Dec. 20, '44

* Single alate.

Also reported by Mr. Look, but not new records, were the palm aphid, *Cerataphis lataniae* (Boisduval), and the banana aphid, *Pentalonia nigronervosa* Coquerel. Also observed in the field were *Aphis maidis* Fitch and *Brachycolus heraclei* Takahashi. *Toxoptera aurantii* (Fonscolombe) previously recorded on coffee at Kona by Illingworth (Proc. Haw. Ent. Soc., **7**: 249, 1929) was also collected, breeding on *Macadamia,* hibiscus and *Vanda* orchid.

Tromatobia rufopectus (Cresson)—Dr. Swezey reported having found five egg "cocoons" of the spider *Argiope avara* Thorell in a tangle of web and dried leaves in a bush of *Duranta repens* in his garden, May 5, each of which contained cocoons of the ichneumonid predator *Tromatobia rufopectus,* with 8, 16, 18, 22 and 23 respectively per spider cocoon. From one spider cocoon the parasites had already issued; in another the parasites had died; in the other three cocoons the *Tromatobia* cocoons showed exit holes of the eulophid hyperparasite, *Pleurotropis wilderi* (Howard), and there were a few dead specimens of the latter. This was the first occurrence of these two parasites in his garden. The *Argiope* spider was not found, but one of its webs was observed a few months ago. In one spider egg cocoon were two pupae of the hyponomeutid moth, *Pyroderces rileyi* (Walsingham) from which moths issued later.

Omphisa anastomosalis (Guenée)—Dr. Swezey exhibited eggs of this pyralid moth, the sweet potato stem-borer, in a glass vial where they had been deposited by a female moth captured at light at his residence, May 12. Seventy eggs were laid, most of them attached to the surface of the glass, but a few free. They are very pale green, very shortly oval with a feeble reticulation on the surface, about half a millimeter in their shorter diameter, and slightly more than half a millimeter in their longer diameter. There is a sort of projection, or flange, on one side.

Achaea janata (Linn.)—Mr. Fullaway reported the capture of this recent immigrant on Kauai in May 1945, by Stephen Au. He exhibited a specimen of the encyrtid, *Habrolepis* sp., recently taken at the Territorial nursery, Honolulu, on lima bean. This is a rare insect, having been taken only twice before; nothing is known of its habits.

Aneurobracon, a synonym of *Mesocoelus*—Mr. Fullaway stated that his braconid species, *Aneurobracon samoanus* (Proc. Haw. Ent. Soc., **11**: 45, 1941), should be known as *Mesocoelus samoanus* (Fullaway). *Aneurobracon* Brues 1930 being, according to C. F. W. Muesebeck, a synonym of *Mesocoelus* Schulz 1911 (Jl. Washington Acad. Sci., **25**: 282, 1935).

JUNE 11, 1945

The 474th meeting was held at the H.S.P.A. Experiment Station on Monday, June 11, at 2:00 p.m., with President Jensen in the chair.

Members present: Messrs. Carter, Faxon, Jensen, Pemberton, Rosa, Sakimura, Swezey, Van Zwaluwenburg, Williams, Wirth and Zimmerman.

Visitors: Messrs. Bernard Brookman, O. K. Courtney, R. D. Eichmann, R. B. Humphrey, J. Guy Lewis, E. M. Miller and J. J. Raynes.

Capt. W. W. Wirth was unanimously elected to active membership in the Society.

PAPER

Dr. Williams presented his paper entitled "Psychoda pseudalternata, n.sp. (Diptera, Psychodidae)".

NOTES AND EXHIBITIONS

Bactra truculenta Meyrick—Dr. Swezey reported a lot of the eggs of this nutgrass borer being 92 per cent parasitized by *Trichogramma minutum* Riley. A handful of fresh nutgrass leaves was collected from a cane field on the grounds of the H.S.P.A. Experiment Station, June 4. On examination, 13 of the moth eggs were found on the under surface of the leaves, in clusters of from 1 to 6. Twelve of them were parasitized by *Trichogramma;* this demonstrates why there is so little effect on nutgrass by the larvae of *B. truculenta.*

Amyna natalis (Walker)—Dr. Swezey exhibited specimens of an agrotid new to Hawaii, taken in a Navy light trap at Hickam Field, Oahu; a total of six specimens was taken on May 14, 19, 22, 23 and 26, 1945. The moth is known from India, Burma, Celebes, New Guinea, Australia, Fiji, Tonga and Samoa, but there is no information concerning its habits or importance. Hampson lists a few synonyms (Catalogue of the Lepidoptera Phalaenae in British Museum, **10**: 461, 1910).

Polydesma umbricola Boisduval — Mr. Van Zwaluwenburg recorded the presence on Oahu of another agrotid moth new to the Territory, the second such immigrant to be found here within the past three weeks. Specimens were exhibited. On June 4, 1945, F. D. Kennedy of the H.S.P.A. Experiment Station submitted for identification, caterpillars and pupae collected by R. E. Mulholland at his residence, 1120 Koko Head Ave., Kaimuki, Honolulu. These insects were identified by Dr. Swezey as *Polydesma umbricola.* The species is recorded from West and South Africa, Madagascar, India, Ceylon, the Andamans, Burma, Formosa and Guam. Dr. Wil-

liams collected hatched cocoons near Noumea, New Caledonia, which Dr. Swezey identified as this species from pupal characters and from a larval head cast.

On June 5 Messrs. Williams, Rosa and Van Zwaluwenburg visited the Kaimuki address and found nearly mature larvae of *Polydesma* abundant in debris at the base of monkeypod trees (*Samanea saman* [Jacq.] Merrill). A few partially-grown larvae were found in dry blossom heads among the flower clusters near the ends of the branches. In the laboratory the caterpillars fed upon monkeypod foliage. In Guam, Dr. Swezey found the species associated with *Pithecolobium dulce* (Roxb.) Benth., but so far it has not been found on this tree in Honolulu. Dr. Williams' New Caledonia specimens were found under bark of *Albizzia.* Pupation occurs under loose bark attached to the tree, and takes place within a tough cocoon of silk combined with more or less woody material. A few pupae were found under stones on the surface of the ground.

A brief survey showed *Polydesma* to be generally distributed on *Samanea* throughout Honolulu from Kaimuki to Moanalua. Later, on June 8, Dr. Swezey found the larvae at Waipio substation. Two adult moths (a male and a female) were taken on June 5 in the Experiment Station garage on Makiki Street. From the original Kaimuki material Dr. Swezey obtained puparia of *Eucelatoria armigera* (Coquillett); further evidence of tachinid parasitism of *Polydesma* was observed elsewhere about Honolulu.

Eurytoma, a new enemy of *Latrodectus*—Mr. Rosa reported that several egg cases of the spider *Latrodectus geometricus* Koch, collected by his daughter, Miss Mary Frances Rosa, May 11, 1945 on the H.S.P.A. Experiment Station grounds, yielded, a week later, adults of *Eurytoma* sp., an insect new to Hawaii. The *Eurytoma* larvae are predaceous on the spider eggs within the case. The species has been tentatively determined by Mr. Fullaway as *Eurytoma arachnovora* Hesse,[5] a South African species. The same parasite was later bred from *geometricus* eggs collected at the H.S.P.A. Experiment Station, Honolulu, May 18 by Mr. Pemberton, and at Maili Point, Oahu, May 23 by Mr. Van Zwaluwenburg. On May 31 Messrs. Rosa and Van Zwaluwenburg observed adult *Eurytoma* emerging from field-collected egg cases of *L. mactans* (Fabr.) at Lualualei, Oahu.

Anacamptodes fragilaria (Grossbeck)—Mr. Pemberton reported that the new immigrant geometrid, referred to earlier as *Stegania,* had now been determined by H. W. Capps of the U. S. National Museum, through Mr. Muesebeck, as *Anacamptodes fragilaria.* It is a native of southern California, but little is known there of its habits. It was described in the genus *Cleora* (Canad. Ent., 41: 194, 1909) but was later removed to *Anacamptodes* by McDunnough

[5] Later, after examining Hawaiian material, Dr. A. J. Hesse wrote that it is not this species. [Ed.].

(Dept. Agr. Canada, Bul. Ent. 18:29, pl. v, fig. 10, 1920). Mr. Van Zwaluwenburg remarked that he recently found larvae of this species feeding on foliage of woodrose (*Ipomoea tuberosa*) at Maile, Oahu, under circumstances which precluded the possibility that they had dropped onto the vine from another food plant.

Achaea janata (Linn.)—Mr. Van Zwaluwenburg reported finding at Waianae, Oahu, larvae of this agrotid feeding on *Leucaena glauca, Acacia farnesiana* and on *Prosopis chilensis* ("kiawe"). The last-named was found earlier by Mr. Wirth to be a food plant of *Achaea.*

JULY 9, 1945

The 475th meeting was held at the H.S.P.A. Experiment Station on Monday, July 9, at 2:00 p.m., with President Jensen in the chair.

Members present: Messrs. Bianchi, Carter, Jensen, Marlowe, Nishida, Pemberton, Rosa, Sakimura, Swezey, Tanada, Van Zwaluwenburg, Williams, Wirth and Zimmerman.

Visitors: Messrs. D. D. Bonnet, Bernard Brookman, E. D. Eichmann, E. J. Gerberg, Gilbert Gude, G. S. Starkey, G. S. Tulloch, J. P. Vinzant, J. E. Webb, Jr., and P. A. Woke.

NOTES AND EXHIBITIONS

A parasite of the onion moth—Mr. Tanada reported that on March 23 larvae of the plutellid onion moth (*Acrolepia assectella* [Zeller]) were collected on green onions in a vegetable garden at the University of Hawaii; later several more larvae were collected. From this material issued two adult moths and two braconid parasites, *Chelonus blackburni* Cameron. The specimens were identified with the aid of Dr. Swezey.

Megacerus alternatus Bridwell—Dr. Swezey reported for C. J. Davis that the latter had collected 21 specimens of this bruchid at Keauhou, Kona, Hawaii, May 24, 1945, on an *Ipomoea.* Undoubtedly this plant was the usual beach species, *I. pes-caprae,* as that is the usual host plant of this beetle. Apparently this is the first collection of this bruchid on the island of Hawaii, although F. C. Hadden reported seeing its work at Kailua, Hawaii, in November 1929. The round holes in old seed capsules is always evidence of infestation by this bruchid.

Omphisa anastomosalis (Guenée)—Dr. Swezey gave the following observations on the life history of the sweet potato vine-borer. A female caught at light produced 70 eggs overnight in a vial, May 12. Eggs hatched May 18 (6 days). The young caterpillars were placed among numerous sprouts on a sweet potato in a jar. They entered the sprouts at the axils, and after finishing the sprouts,

entered the tuber itself, where they completed their growth. Pupation took place in silken cocoons in burrows in the tuber. The first pupae were found June 14 (27 days); the first moth issued June 26 (12 days) and moths continued to issue until July 9. Hence the length of the stages was as follows: Egg stage 6 days; caterpillar stage 27-36 days; pupal stage 12-16 days; total, 45-58 days.

Ananca bicolor (Fairmaire)—Mr. Bianchi exhibited discolored leaves from a stool of sugar cane upon which a large swarm of this oedemerid beetle had been perched for about a month. The discoloration apparently was the effect of some toxic content of the beetles' excrement. Isolated particles of excrement were in all cases surrounded by small discolored areas, and when enough of such areas joined, the whole leaf became chlorotic. Five or six stools, each with many leaves so affected had been pointed out to Mr. Bianchi in a cane field at Waialua Plantation, Oahu.

Achaea janata (Linn.)—Mr. Bianchi recorded this agrotid from the island of Hawaii for the first time. It was found on June 5, 1945 at Pahala, and on June 7 near the entrance to Puu Waawaa ranch. Caterpillars were abundant in both places on castor bean plants along the Mamalahoa highway.

Baeus californicus Pierce—Mr. Bianchi reported the first recovery of this scelionid parasite of *Latrodectus* eggs on the island of Hawaii, where it was liberated in 1939. He found it at South Point on June 7, 1945. Of 18 egg cases of *Latrodectus mactans* (Fabr.) collected, one contained both male and female *Baeus*. Males had not been seen before in the Territory, although they have been described from California; they are winged, in contrast to the apterous females.

Latrodectus—Mr. Rosa reported an egg case characteristic of *Latrodectus geometricus* Koch, produced by a field-collected female spider from Lualualei, Oahu, having the coloration of a typical *L. mactans* (Fabr.). The progeny of this egg case showed a wide variation in color and markings.

Chaetogaedia monticola (Bigot)—Mr. Rosa reported rearing this tachinid fly from pupae of the agrotid *Polydesma umbricola* Boisduval, a new host record.

Heliothis attacking watermelon—Dr. Jensen reported a general attack by the corn earworm, *Heliothis armigera* (Hübner), on watermelons on the island of Molokai. The infestation was examined by Joseph Boyd, truck crop specialist of the University of Hawaii extension service, on June 30. Specimens of the larvae and of damaged melons were brought to Honolulu by Mr. Boyd. The larvae were found attacking melons in all stages of growth from newly set fruits to mature melons. The tissue along the walls of the feeding channels usually became dry and corky, and fermentation developed within the melons. Some of the infested melons were partially

edible, but most of them were considered a total loss. Of the 56 acres of melons growing on Molokai last month, approximately 75 per cent suffered damage from corn earworm, with an estimated loss of 50 per cent of the entire crop, according to Mr. Boyd.

Three fields, of over 10 acres each, comprised most of the watermelon acreage. The attack was general over these fields as well as in smaller plots. The heaviest infestations occurred in the homestead district, with lesser damage east of Kaunakakai. Although the literature records corn earworm larvae feeding on many host plants, no reference was found to extensive damage to watermelons by this insect. A few melon flies (*Dacus cucurbitae* Coquillett) were also reared from some of the melon samples brought from Molokai. However, the damage due to this insect was not considered severe during the past month.

Paraidemona mimica Scudder—Mr. Pemberton exhibited specimens of this grasshopper, found at Hickam Field, Oahu, on July 5, 1945, on grass and other low vegetation. The species was identified by Drs. Swezey and Williams. This is the first record of this acridid in Hawaii. It was described (Proc. U. S. Nat. Mus., **20** [1124]: 43-44, 1898) from material collected in Texas. The specimens collected at Hickam Field have been held in the laboratory for preliminary feeding tests, and have fed on grass, *Bidens pilosa,* and sparingly on sugar cane leaves, *Cyperus rotundus* and *Emilia flammea.* There are apparently no records of this species being of economic importance in Texas. However, it may well prove otherwise in Hawaii after it has become generally distributed.

Polydesma umbricola Boisduval—Dr. Williams spoke of finding this agrotid moth in its larval, pupal and adult stages on monkeypod trees, *Samanea saman,* at Kawela, Molokai, June 19, 1945. This is a new island record. From its larvae were reared the tachinid, *Eucelatoria armigera* (Coquillett) and from the pupae, the ichneumonid *Ephialtes hawaiiensis* (Cameron), while a young caterpillar yielded a *Hyposoter exiguae* (Viereck) (Ichneumonidae). A chalcid, *Brachymeria obscurata* (Walker), issued from a *Polydesma* pupa. *Polistes* wasps were busy searching cracks and openings in the bark. A specimen of the ostomid (trogositid) beetle, *Tenebroides nanus* (Melsheimer), was found in this *Polydesma* material.

Cryptorhynchus mangiferae (Fabr.)—Dr. Williams reported that at Mapulehu, Molokai, the mango weevil did a great deal of damage in the larval state to mango seeds intended for planting, while in two instances the adults were observed with the beak inserted in a large fruit, one of which hung on the tree. This damage by adults would have lessened the market value. These observations were also made previously by George Otsuka, caretaker of the H.S.P.A. installations at Mapulehu.

Metioche sp.—Dr. Williams mentioned catching with a sweep net one of these tiny gryllids in his garden on upper Keeaumoku Street, Honolulu, late in 1944. The specimen was not preserved. Then on June 4 and 6, 1945, macropterous individuals apparently of this *Metioche* (determined by E. C. Zimmerman) were taken at a light trap operated by the Navy at Hickam Field. From June 10 on, other brachypterous forms were again taken in his garden. The genus occurs in parts of Oceania; it is a new record for Hawaii.

Polemistus luzonensis Rohwer—Dr. Williams reported taking this tiny wasp (Sphecidae, Pemphredoninae) on the grounds of the H.S.P.A. Experiment Station, Honolulu, on June 30, 1945, and on several days following. The wasps, which are presumably aphid hunters, were all males, and were flying up and down two posts containing small nail holes, and supporting a portion of one of the greenhouses. Others were later seen in similar flight alongside the trunk of a royal palm on the Station grounds. Dr. Williams first found this wasp in the Philippines in 1917, and from that material Rohwer described the species (H.S.P.A. Expt. Sta., Bul. **14**, Ent. ser., pt. 1: 5-6, 1919). The wasp is new to Hawaii.

AUGUST 13, 1945

The 476th meeting was held at the H.S.P.A. Experiment Station, on Monday, August 13, at 2:00 p.m., with President Jensen in the chair.

Members present: Messrs. Bianchi, Carter, Faxon, Fullaway, Hadden, Holdaway, Jensen, Pemberton, Rosa, Sakimura, Swezey, Van Zwaluwenburg, Williams, Wirth and Zimmerman.

Visitors: Messrs. A. L. Block, D. D. Bonnet, Bernard Brookman, J. R. Douglas, R. D. Eichmann, Gilbert Gude, E. M. Miller, R. Z. Pepper and J. E. Webb, Jr.

Dr. Swezey was unanimously elected to honorary membership in the Society. The President remarked that such action was most fitting, Dr. Swezey having witnessed the formation and growth of the Society, and having been one of its founders.

PAPERS

On behalf of C. J. Davis and A. L. Mitchell, Mr. Pemberton presented a paper entitled: "Notes on Host Records of Philaenus spumarius (Linn.) at Kilauea, Hawaii National Park (Homoptera, Cercopidae)". For Mr. C. F. W. Muesebeck, Mr. Fullaway presented a paper entitled: "A new Apanteles from Hawaii (Hymenoptera, Braconidae)". Mr. Fullaway also presented Howard L. McKenzie's paper: "A new Species of Lepidosaphes attacking Dendrobium Orchids in Hawaii and California (Homoptera, Coc-

coidea, Diaspididae)". For Lt. Sherwin F. Wood, Dr. Carter presented a paper entitled: "The Occurrence of Trypanosoma conorhini Donovan in the Reduviid Bug Triatoma rubrofasciata (Degeer) from Oahu, T. H.".

NOTES AND EXHIBITIONS

Systole geniculata Förster—Mr. Sakimura reported that this fennel seed chalcid, known from the Territory since 1930, was discovered causing damage to Chinese parsley, "yuen-sai" (*Coriandrum sativum*) in Manoa, Honolulu. This new host plant is a close relative of fennel and carrot. The larvae feed within the seeds, making them non-viable. Seeds from infested plants showed a very poor rate of germination. Identification of the insect was made by Dr. Swezey.

Pamakani stem gall fly—Mr. Fullaway reported that the trypetid fly, *Procecidochares* sp., which breeds in the stems of "pamakani" (*Eupatorium glandulosum*), is now established on Mt. Tantalus, Oahu, and in upper Kula on the island of Maui. The fly is an introduction from the Cuernavaca region of Mexico, by the Board of Agriculture. Since January, collections made by Mr. Krauss have been received frequently by air, and the adult flies either liberated or held for propagation. The fly is easily handled, and during the summer its numbers were increased many times by cage rearing. Fresh galls have been noticed on Tantalus for several months, but the establishment on Maui is very recent, for shipments to that island were not made until the middle of May.

Eurytoma sp.—Mr. Fullaway spoke of this new immigrant wasp, predaceous on eggs of *Latrodectus*. Specimens sent to the U. S. National Museum were reported by A. B. Gahan to be similar to a *Eurytoma* of similar habits from Puerto Rico, which may be identical with *E. arachnovora* Hesse* from South Africa.

Hercinothrips femoralis (Reuter)—Mr. Bianchi reported heavy damage to bananas by this thrips at the Campbell plantation at Mokuleia, Oahu. In some of the western fields thrips are so abundant that hardly a bunch of fruit escapes without some damage, and in many cases every individual fruit is completely discolored. The eastern end of the plantation is less badly affected but, according to the manager, damage is on the increase there. In some fields the injury by thrips is aggravated by the work of red spider, the effects of drought and the difficulties currently impeding proper cultivation. When the thrips population on a fruit is relatively small the injury is a characteristic "silvering". When the number of thrips is great, or perhaps when their work is aggravated by red spider and other factors, each banana assumes a peculiar reddish color, which, while not affecting the edibility of the fruit, mars its appearance and lowers its market value.

* See p. 476.

Anacamptodes on Molokai and Maui—Mr. Van Zwaluwenburg reported finding larvae of *A. fragilaria* (Grossbeck) on the south coast of Molokai on July 18, 1945; they were on kiawe (*Prosopis chilensis* [Molina] Stuntz) at various places along the main road from the Kamalo district, about eight miles east of Kaunakakai, to a point about five miles west of the town. Mr. Pemberton added that he had observed this moth at Haiku, Maui on July 26. These are new island records for the species, previously known only from Oahu and Kauai.

Polydesma umbricola Boisduval—Mr. Pemberton reported that Douglas J. Worcester and William Brandt had found this agrotid moth and its caterpillars abundant on monkeypod trees (*Samanea saman*) at Lahaina, Maui, early in July 1945.

Orchidophilus peregrinator Buchanan — Dr. Swezey exhibited specimens of this orchid weevil collected at a Nuuanu orchid garden in June. One hundred thirty-four specimens were given him by Dr. Carter, with the idea that there might be more than one species among them. However, upon comparison with a paratype specimen under a binocular microscope, all proved to be *O. peregrinator*. This indicates that this species is of more importance in Honolulu than Dr. Swezey realized when preparing his recent paper on "Insects Associated with Orchids" (Proc. Haw. Ent. Soc., **12**: 343-403, 1945).

Heliothis armigera (Hübner)—Dr. Swezey exhibited a moth of the corn earworm reared from a uniformly green caterpillar found by him on a leaf of tree tomato (*Cyphomandra betacea* Sendtner), where it had been feeding extensively. He had at first thought the caterpillar might be a different species, but the moth which issued proved to be the same as a specimen reared from an ear of corn whose caterpillar had the usual corn earworm markings.

Acrapex exanimis (Meyrick)—Dr. Swezey exhibited specimens of this agrotid moth found among material from a wind trap operated by Mr. Sakimura in a pineapple field in the Kunia district, Oahu, March 9, 1943. It is the first specimen he had seen since 1927 and 1928, when he reared several moths from larvae boring in the stems of a grass (*Panicum torridum*) growing on the western slope of Koko Head, Oahu. The moth was described by Meyrick as a *Caradrina* (Fauna Haw. 1:153, 1899) from a single worn female collected in Kona, Hawaii by Dr. Perkins. It was redescribed by Meyrick from material reared by Dr. Swezey from Koko Head (Proc. Haw. Ent. Soc., **7**: 92, 1928), and an account of its life history was given by Dr. Swezey (l.c.,: 179-181, 1928). More recently two specimens were found among material from a light trap operated in the Kunia district by Major J. E. Webb, Jr., of the 18th Medical General Laboratory. These moths must have flown down from the forest where *Panicum kaalense* grows, for Dr. Swezey

had found this grass with stems bored, along the trail near the base of Mt. Kaala, but had failed to find any larvae in the stems at the time.

Weevil damage to Vanda orchids—Dr. Holdaway reported that the orchid weevil, *Orchidophilus peregrinator* Buchanan, probably a native of the Philippines, has been causing serious injury in a large commercial orchid garden in Nuuanu Valley, and materially reducing the production of *Vanda* blooms. Injury results principally from the feeding of the adults on the buds, and the feeding of the larvae in the leaves and aerial roots. Since September 1944 studies on the control of the weevil have been undertaken in cooperation with William Kirch of the University Experiment Station orchid project and Robert Warne of Nuuanu. These studies, involving eight different chemicals, have extended from greenhouse experiments to studies on field control involving weevil counts and flower production in the orchid garden. The experiments, which have indicated the superiority of DDT over all other insecticides, will be presented in detail at a later date.

Other observations have indicated that this weevil is capable of serious injury also to *Phalaenopsis* and *Dendrobium* orchids. Dr. Swezey (Proc. Haw. Ent. Soc., **12**: 346-348, 1945) records that the species has been intercepted at Honolulu on the following orchids from the Philippines: *Phalaenopsis schilleriana, P. amabilis* and *Grammatophyllum multiflorum*. He also states that the only record of its occurrence in Honolulu was in 1928 in the orchid house of the late Mr. F. C. Atherton, the first record of the weevil in Hawaii. Since the preparation of Dr. Swezey's paper, Dr. Carter (Proc. Haw. Ent. Soc., **12**: 223, 1945) has recorded the weevil in *Vanda teres*. It is apparent from our observations during the past twelve months that this weevil has become entrenched in orchids on Oahu, and is capable of serious injury to the growing orchid industry.

SEPTEMBER 10, 1945

The 477th meeting was held at the H.S.P.A. Experiment Station on Monday, September 10, at 2:00 p.m., with President Jensen in the chair.

Members present: Messrs. Bianchi, Faxon, Holdaway, Jensen, Keck, Pemberton, Rosa, Sakimura, Swezey, Van Zwaluwenburg, Williams, Wirth and Zimmerman.

Visitors: Messrs. J. E. Alicata, E. W. Bushing, D. D. Bonnet, Bernard Brookman, R. D. Eichmann, E. M. Miller, J. J. Raynes and P. W. Weber.

Dr. Holdaway proposed Dr. J. E. Alicata for membership in the Society.

PAPERS

Dr. Swezey presented two papers, one: "Some New Species of Cerambycidae from the Island of Hawaii (Coleoptera)", the other by himself and Mr. Zimmerman: "Synonymic Notes on Argyroploce illepida (Butler) and A. carpophaga (Walsingham) (Lepidoptera, Eucosmidae)". Dr. Williams presented a paper entitled: "Stigmatomma (Fulakora) zwaluwenburgi, a new Species of Ponerine Ant from Hawaii".

NOTES AND EXHIBITIONS

Additional host plants of *Polydesma*—On August 20, Messrs. Rosa and Van Zwaluwenburg found larvae and pupae of *P. umbricola* Boisduval under bark of *Albizzia lebbek* (Linn.) Bentham. Evidence of feeding was abundant on the tender leaves. The next day numerous *Polydesma* larvae, large and small, were found in debris and under stones at the base of isolated *Pithecolobium dulce* (Roxb.) Bentham ("opiuma") trees, which had suffered considerable foliage damage. One *Erebus odora* (Linn.) was also found associated with opiuma. Dr. Williams found *Polydesma* on *Albizzia* in New Caledonia, and Dr. Swezey found it associated with *P. dulce* on Guam, but until now neither plant was known to be a host for this agrotid in Hawaii.

Corn earworm infesting watermelon—Dr. Holdaway commented on a recent record by Dr. Jensen of attack by corn earworm (*Heliothis armigera* [Hübner]) on watermelons on Molokai. This is apparently the first record of this species attacking watermelon. Speculation on the reasons for this infestation is of interest. During 1944 there was considerable wartime planting of corn on Molokai: 1,200 to 1,500 acres. During 1945 the acreage was somewhat less. By June 1945, when the infestation of watermelons was recorded, there was very little corn on the island. Kaunakakai, where the infestation occurred, is not in the direct line of the prevailing wind from the Kualapuu region where the large plantings of corn were. However, it seems quite probable that a large population of earworm moths developed in the corn were available for oviposition in the absence of the more favored host, corn. Some years ago a somewhat similar state of affairs was encountered when lettuce, not a normal host, was attacked by *Heliothis* larvae at Waimea, Hawaii. As a result, the moths oviposited on lettuce. The larvae caused injury to the lettuce, but could not be reared through to adults on that plant.

A heavy infestation of corn aphid—Dr. Holdaway reported heavy infestations of corn aphid, *Aphis maidis* Fitch, observed during the past two weeks on sweet corn at the Army farm, Kipapa airfield, Oahu. The infestation was so heavy that in two fields with corn

plants 3 to 4 feet and 5 to 6 feet high respectively, almost every plant is infested, many of them severely. In the older planting infestation must run to many thousands of aphids per plant; leaves are covered with a thick encrustation of aphids; leaves of badly infested plants are wilted, and some show a dry, chlorotic condition. It is reported that two years ago at about this time of year, heavy infestations also occurred. At that time a cessation of corn growing was followed by reduction of the trouble. These infestations are interesting from various angles. USDA-34 is apparently a variety very susceptible to corn aphid. Moreover, corn has now been grown continuously at Kipapa for several years, and thus there has been a continuous supply of susceptible food for building up a high population. It seems as though these two facts with a possible third—particularly favorable weather conditions for increase of the aphid—are responsible for the present infestation.

Rhipidius sp. in Hawaii—Dr. Williams exhibited several male specimens of this curious rhipiphorid beetle, new to Hawaii, which is probably parasitic in the cockroach, *Blattella germanica* (Linn.). Such a beetle was first observed as an interception on an Army plane from the South Pacific on January 25, 1944, when it was dissected out of an adult *B. germanica.* Later it was taken at light traps at Hickam Field and at Ewa, Oahu, by Mr. Wirth, who submitted the catch to Dr. Williams. The beetles are now in the H.S.P.A. Experiment Station collection with their dates of capture from late June to late August 1945. Hypermetamorphosis occurs in *Rhipidius* much as it does in the Meloidae. The male *Rhipidius* has flabellate antennae and short elytra; the female is apterous and larviform and remains within the body of its host. *Rhipidius pectinicornis* Thunberg (*R. blattarum* [Sundevall]) is European and has been introduced into the United States. Our species has not yet been determined.

OCTOBER 8, 1945

The 478th meeting was held at the H.S.P.A. Experiment Station on Monday, October 8, at 2:00 p.m., with President Jensen in the chair.

Members present: Messrs. Bianchi, Carter, Faxon, Fullaway, Jensen, Nishida, Rosa, Swezey, Van Zwaluwenburg, Williams, Wirth and Zimmerman.

Visitors: Messrs. Bernard Brookman, E. J. Gerberg and G. S. Starkey.

Dr. J. E. Alicata was unanimously elected to active membership in the Society. Mr. Clifton J. Davis was nominated for corresponding membership.

It was unanimously voted to send $50 to the Zoological Society of London, for the Zoological Record fund.

PAPER

On behalf of Dr. R. I. Sailer, Mr. Zimmerman presented a paper entitled: "The Synonymy and Distribution of Trichocorixa reticulata (Guérin-Méneville) (Hemiptera, Corixidae)".

Apanteles tapatapaoanus Fullaway—Mr. Fullaway proposed the above new name for the braconid parasite of a sweet potato *Bedellia* from Samoa, described by him as *Apanteles bedelliae* (Proc. Haw. Ent. Soc., **11**: 46, 1941) from material bred by Dr. Swezey. In naming this species the fact was overlooked that the name *bedelliae* had previously been used by Viereck (Proc. U. S. Nat. Mus., **40**: 174, 1911) in describing an *Apanteles* bred from *Bedellia* at Washington, D.C. It was suggested to Mr. Fullaway by Mr. Pemberton that the two *Apanteles* might be identical, but after examination of many examples of the American species Mr. Fullaway states definitely that the Samoan species is different. Hence a new name is necessary, and *Apanteles bedelliae* Fullaway becomes *A. tapatapaoanus* Fullaway. *A. bedelliae* Viereck, introduced from Kansas during the past summer by the Board of Agriculture, is now established in a few localities on Oahu.

Two aleyrodids new to Hawaii—Mr. Zimmerman reported that Miss Louise Russell, of the U. S. Bureau of Entomology, has identified for him two aleyrodids not hitherto reported from the Territory. One is the iris whitefly, *Aleyrodes spiraeoides* Quaintance, from iris at Waiakoa, Kula, Maui, collected in April 1945. The other is *Aleyrodes shizuokensis* Kuwana, known to Dr. Swezey on *Oxalis* in his garden in Manoa Valley for the past 20 years. The iris-infesting species was described (U. S. Bur. Ent. Bul., Tech. ser., **8**: 36, 1900) from California; Kuwana's species was described from Japan (Pomona Coll. Jl. Ent., **3**: 620, 1911).

Corn aphid infestation—Dr. Holdaway and Mr. Nishida discussed further the infestation of *Aphis maidis* Fitch at Kipapa, Oahu, reported at the previous meeting. According to the field staff, aphid infestations had been heavy on repeated plantings of corn throughout the summer (since May or June). A parasite, apparently the braconid *Lysiphlebus testaceipes* (Cresson), present in the field when the earlier observations were made (during the first week of September), increased somewhat in abundance during September. Up to the last week of the month, however, it had not increased sufficiently to prevent heavy infestation of new corn plantings, so insecticidal control of the aphids was resorted to. Three applications of nicotine held the infestation down during the early growth of the crop, but, by the time the corn was 4 to 5 feet high and difficult to spray, heavy infestations had developed.

It was observed that aphids occurring in the "cone" of unfolded young leaves were not parasitized. During the last week in September heavy rains reduced aphid abundance considerably, while living aphids were removed from the leaves by the action of the rain, parasitized individuals remained. It is interesting to speculate on the possible result of the rainfall on the ultimate aphid population. The rains no doubt destroyed many adult parasites as well as aphids, but the parasitized aphids, protected from the mechanical action of the rain, may serve as a source of parasites to reduce the infestation more quickly than would have been possible without the aid of rain.

Capitophorus chrysanthemi Theobald—Dr. Jensen reported the occurrence in Hawaii of the above aphid, new to the Territory. Identification was by Prof. E. O. Essig after comparison with type material from the British Museum. Theobald described the species (Bul. Ent. Res., **11**: 69, 1920) from material collected on chrysanthemum in South Africa; it occurs also in Egypt. Prof. Essig writes: "It is apparently of Chinese or Japanese origin. What I feel certain is the same species was described as *C. formosanus* by Takahashi from *Chrysanthemum sinensis* from Formosa in 1929." The record for Hawaii is based upon a single alate specimen collected by Dr. Jensen on chrysanthemum at Waipahu, Oahu, May 15, 1945. Although this host plant has been examined several times at Waipahu and elsewhere on Oahu, additional specimens of this aphid have not been found to date. The specimen from Waipahu was pale green in color and, in gross appearance resembled the potato aphid, *Macrosiphum solanifolii* (Ashmead), except that *C. chrysanthemi* is somewhat smaller and has darker, more conspicuous wing veins.

Neoclytarlus dodonaeae Swezey — Dr. Swezey said that four specimens of this cerambycid beetle had issued from a portion of *Dodonaea* trunk since the previous meeting of the Society, at which he presented a description of the species based on two specimens received earlier from C. J. Davis of the Hawaii National Park.

NOVEMBER 19, 1945

The 479th meeting was held at the H.S.P.A. Experiment Station on Monday, November 12, at 2:00 p.m., with President Jensen in the chair.

Members present: Messrs. Bianchi, Carter, Fullaway, Holdaway, Jensen, Nishida, Rosa, Sakimura, Swezey, Van Zwaluwenburg, Williams, Wirth and Zimmerman.

Visitors: Messrs. G. F. Augustson, J. V. Benschoter, D. D. Bonnet, R. D. Eichmann, M. B. Folb, Gilbert Gude, M. S. Johnson, E. C. Nelson, R. Z. Pepper and P. W. Weber.

Mr. Clifton J. Davis was unanimously elected to corresponding membership in the Society. The name of Dr. David D. Bonnet was nominated for active membership.

PAPERS

Mr. Bianchi presented two papers: "Conocephalothrips tricolor, a new Urothripid from Hawaii", and "Additions to the Thysanoptera from the Island of Hawaii". Mr. Zimmerman presented two papers: "New Usingerius from the Philippines and Borneo (Coleoptera, Curculionidae)", and "Browne 1887, not Douglas 1888, the Author of Orthezia insignis (Homoptera, Coccoidea)", and, on behalf of Dr. Karl Jordan another, entitled: "On the Species of Araecerus Schoenherr known from the Hawaiian Islands (Coleoptera, Anthribidae)". Dr. Jensen presented a paper entitled: "The Identity and Host Plants of Blossom Midge in Hawaii (Diptera, Cecidomyiidae, Contarinia)".

NOTES AND EXHIBITIONS

Coloradoa rufomaculata (Wilson) — Dr. Jensen reported the presence in Hawaii of an aphid genus not previously recorded from the Territory. The aphid, *Coloradoa rufomaculata,* (*Aphis rufomaculata* Wilson. Ent. News, **19**: 261, 1908), was identified by Prof. E. O. Essig from material collected on chrysanthemum by Dr. Jensen at Waipahu, Oahu, May 15, 1945. It occurred in large numbers on the terminal growth of the plants, and to a lesser extent on the under surface of the older leaves. Apterae were abundant, but winged forms were very scarce. However, several alates were reared in the laboratory. In life this aphid appears bright green in general color, but has an inconspicuous whitish bloom due to the numerous small, capitate hairs on the body.

The species has been recorded from *Artemisia vulgaris* var. *indica, Chrysanthemum sinensis* and *Siegesbeckia orientalis* in Japan, and from chrysanthemum in India, Egypt, China, Australia, England, New York, Pennsylvania, South Carolina, Colorado and California.

A new eriophyid on mango—On behalf of Mr. Look, Dr. Williams presented the following note: An eriophyid collected from mango leaves at Hilo, Hawaii, April 1, 1945, has been identified by H. H. Keifer as an undescribed species of *Oxypleurites.* Heavy infestations on a mature tree and on seedlings were observed by Mr. Look during periods of dry weather at Hilo.

Graptostethus servus (Fabr.)—Mr. Van Zwaluwenburg said that a specimen of this lygaeid bug, collected some days earlier at Olowalu, Maui, was received on October 11 from D. J. Worcester. This is a new island record for the species, previously known locally only from Oahu and Kauai.

Achaea janata (Linn.)—Mr. Van Zwaluwenburg said that on October 12, R. E. Doty found a nearly full-grown larva of this immigrant agrotid feeding on *Euphorbia hirta* Linn. in Honolulu. This is the first record in Hawaii of this insect feeding on this host. Mr. Bianchi spoke of finding *Achaea* larvae feeding on *Codiaeum,* the ornamental croton, at Waialae, Honolulu. This is a new host record.

Metioche sp.—Mr. Rosa reported that he recently found this tiny cricket at Waianae, Oahu, as well as in his garden in Nuuanu Valley, Honolulu.

Eurytoma sp. on Maui—Dr. Carter reported that he had bred this recent immigrant which preys on eggs of *Latrodectus* spp., on the island of Maui, a new distribution record. The spiders are a pest of pineapples according to Dr. Carter, binding the growing, central leaves and causing abnormal growth.

Ceroplastes rubens Maskell—Dr. Carter reported finding this wax scale on a *Stanhopea* orchid plant in Honolulu.

Encyrtid parasites of *Pseudococcus brevipes* (Cockerell)—Dr. Carter said that *Anagyrus coccidivorus* Dozier and *Hambletonia pseudococcina* Compere, introduced from Central America and Brazil, were apparently doing good work on the pineapple mealybug in one locality in a Baldwin Packers field in west Maui, where the dominant ant was *Paratrechina longicornis* (Latreille), the so-called crazy ant. The parasitism was high, and pineapple wilt quite scarce.

New insect records from Kauai—Mr. Fullaway reported that Stephen Au, plant inspector on the island of Kauai, had recently submitted specimens from Koloa, Kauai, of the small cricket, *Metioche* sp., and of the new immigrant agrotid moth, *Polydesma umbricola* Boisduval. In an egg sac of the spider *Latrodectus geometricus* Koch, also from Kauai, *Eurytoma* sp. were present. This newly established predator on *Latrodectus* eggs was first found on Oahu in May, 1945.

DECEMBER 10, 1945

The 480th meeting was held at the H.S.P.A. Experiment Station on Monday, December 10, at 2:00 p.m., with President Jensen in the chair.

Members present: Messrs. Alicata, Bianchi, Bonnet, Bryan, Carter, Faxon, Fullaway, Holdaway, Jensen, McBride, Pemberton, Rosa, Sakimura, Swezey, Tanada, Van Zwaluwenburg, Williams, Wirth and Zimmerman.

Visitors: Miss Mabel T. Chong, Messrs. R. D. Eichmann, M. B. Folb, M. S. Johnson, L. K. Jones, J. G. Lewis and H. F. Riley.

Dr. David D. Bonnet was unanimously elected to active membership. Mr. J. Guy Lewis was nominated for membership in the Society.

This being the annual meeting, the following slate of officers to serve during the coming year was presented:

President	N. L. H. Krauss
Vice-President	Kay Sakimura
Secretary-Treasurer	F. X. Williams
Additional Members of Executive Committee	D. D. Jensen C. E. Pemberton

There were no further nominations, and the above nominees were elected to office.

The revised Constitution of the Society, together with the amendments proposed at the preceding meeting, was unanimously adopted.

President Jensen relinquished the chair to Mr. Sakimura, the vice-president elect, and presented the annual presidential address: "Virus Diseases of Plants and their Insect Vectors, with special Reference to Hawaii".

PAPERS

Dr. Williams presented a paper: "Two new Species of Astatinae, with Notes on the Habits of the Group (Hymenoptera, Sphecidae)". Mr. Zimmerman presented his paper: "A remarkable new Pseudopsectra from Maui (Neuroptera, Hemerobiidae)", and for Dr. Usinger the latter's: "Notes and Descriptions of Ceratocombus (Hemiptera, Cryptostemmatidae)". Dr. Swezey presented a paper entitled: "New Species of Hawaiian Lepidoptera".

NOTES AND EXHIBITIONS

Strumigenys (*Cephaloxys*) *membranifera* Emery var. *williamsi* Wheeler—Dr. Williams recorded the finding of a single specimen, a worker of this hypogaeic myrmicine ant, in soil at the H.S.P.A. Experiment Station in October, 1945, a new record for the island of Oahu. The variety was described from specimens collected under moss near Olaa, Hawaii in April, 1932. (Proc. Haw. Ent. Soc., **8**: 276, 1933.)

Tenodera angustipennis Saussure—Mr. Bianchi exhibited an egg case of this mantid which had yielded the callimomid parasite *Podagrion mantis* Ashmead, as well as a single specimen of the eupelmid *Cerambycobius cushmani* Crawford.

Parasites of *Procecidochares* sp.—Mr. Fullaway exhibited a jar of the pamakani gall-fly (*Procecidochares* sp.) with inclusions of *Diachasma tryoni* (Cameron) and *Eurytoma* sp. It is suspected that both these parasites developed on the trypetid gall-fly.

A new geometrid moth—Dr. Williams reported that a single specimen of a geometrid moth, unlike any previously known here, according to Dr. Swezey, was caught in a light trap at Kaneohe, Oahu, by Mr. Wirth on August 23, 1945. The moth is brown with darker wavy bands across the fore and hind wings.

Notes on Hawaiian Tendipedidae (*Chironomidae*)—Mr. Wirth presented the following notes:

Tabulation of known Hawaiian species

	Named	Discussed by Williams (1944)* but unnamed	New
Tendipes (Chironomus)	1	1	1
Tanytarsus	1	..	2
Spaniotoma	1	3	..
Metriocnemus	..	2	..
Telmatogeton	3	2	..
Clunio	..	3	..
Total	6	11	3

Tendipes sp. A plain-winged *Tendipes* which may, on further examination, prove to be the same as specimens identified by Van Zwaluwenburg in late 1944 from a light trap at Hickam Field, has been taken in a light trap operated at Ewa, Oahu, in November, 1945. The Ewa specimens differ from *T. hawaiiensis* (Grimshaw) in lacking the pre-apical femoral dark bandings, the medial cross-vein is not infuscated, and details of the male genitalia are different. Typically the Ewa specimens are smaller than *hawaiiensis,* the brown markings are restricted, and the male antennae are more sparsely plumose.

Tendipes sp. A spotted-winged *Tendipes* from the Ewa light trap appears to be new to Hawaii. The first specimens were noted on October 25, 1945, and between that date and November 30, 65 females were taken in 27 trap-night's collections. Since only females have been taken, it is suggested that this species may be reproducing parthenogenetically. Dr. Williams collected a similar species in New Caledonia in 1940, including males.

Tanytarsus sp. Mt. Kaala, Oahu, November 6, 1945, W. W. Wirth. Nine males swept while swarming beside trail. A relatively large, black species with broad creamy bands on the tarsi. (*Tanytarsus lacteiclavus* Grimshaw is a small green species). New record for Hawaii, probably endemic.

Tanytarsus sp. Mt. Kaala, Oahu, November 6, 1945, W. W. Wirth. Two males swept while swarming beside trail. Black, smaller than the preceding species, with narrower bands (annulations). A new record from Hawaii, probably endemic.

Metriocnemus sp. Numerous specimens of what is probably the same as Williams' *Metriocnemus* no. 2 (l.c.: 165, 1944) were taken on Mt. Kaala, Oahu, by sweeping on August 22 and November 6, 1945.

Clunio sp. Edwards identified specimens sent him by Williams as three different new species of *Clunio* (l.c.: 170-171, 1944), each from a different locality on the Oahu coast. Numerous males, of which three had the wingless female attached in copulation, were taken December 1-5, 1945 in a light trap operated at Lanikai, Oahu.

* Proc. Haw. Ent. Soc., 12, 154-171, 1944.

One male with attached female was taken in light trap operated at the Kaneohe Territorial hospital, about one mile inland.

Clunio sp. One male was taken in a light trap operated in Hilo, Hawaii at the Plague Laboratory in November, 1945. A different species from the Lanikai specimens. The first record of *Clunio* from the island of Hawaii.

Notes on Hawaiian Heleidae (*Ceratopogonidae*)—Mr. Wirth presented the following:

The four known species of Hawaiian heleids have been collected as follows:

1. *Apelma brevis* Johannsen. In light traps at Wheeler Field, Oahu, November, 1945; Schofield Barracks, Oahu, November, 1945; Lanai City, Lanai, October 10, 1945 (D. D. Bonnet). The last record is apparently the first from Lanai, though the species should have been present for a long time in the large pineapple plantings there.

2. *Forcipomyia ingrami* Carter. Commonly collected in light traps and by hand collections throughout Oahu, from the summit of Mt. Kaala (4,030 ft.) to sea level. What may be a different form has been taken in a light trap at Wheeler Field in November, 1945, as well as by hand collections from Manoa Valley, Kamananui stream and Mt. Kaala, all on Oahu. Females are much smaller and darker than typical *ingrami*, and the hairs of the mesonotum are black rather than golden. *F. ingrami* was also taken in the light trap at Hilo, Hawaii, in November, 1945.

3. *Dasyhelea calvescens* Macfie. Adults were abundant at Hanauma Bay, Oahu, the type locality, swarming over the rocks back of the shore. Larvae were taken from the felt-like growth of algae and diatoms in the shallow pools in the rocks receiving the splash from the sea at high tide.

4. *Dasyhelea hawaiiensis* Macfie. Commonly collected in light traps and by hand collections throughout Oahu, from Mt. Kaala to sea level. The Mt. Kaala specimens were entirely black, even to the tips of the halteres. Specimens taken in a light trap on Judd Street, Honolulu, were a brilliant yellowish green with small brown thoracic markings and with a black dorsal patch on the abdomen. Macfie (Stylops, 3: 133-134, 1934) described the species from Hering Valley specimens which he characterized as brownish, with the scutellum and halteres paler. Either this species is exceedingly variable, or characters may be found which will definitely separate what is probably a highland, from the lowland, form. A series of adults collected at one of the falls in upper Manoa Valley exhibits a wide range in color variation, from yellow to dark brown. The extreme color forms also differ markedly in the distribution of macrotrichia on the wings. *D. hawaiiensis* was also taken in the light trap in Hilo, Hawaii, on November, 1945; this is apparently a new island record for the species.

LEHR ARTIMAN WHITNEY
1890-1945

The death of the veteran entomologist and plant quarantine inspector, Lehr Artiman Whitney, occurred February 21, 1945, after a lingering illness. At his death Mr. Whitney was 54 years of age. During the past quarter century his residence had been in Honolulu.

LEHR ARTIMAN WHITNEY

Mr. Whitney was born September 25, 1890, in Nevada, Iowa, but most of his early life was spent in California, where he attended school in the town of Orange. As a young man he worked in the orange groves of southern California, and it was there undoubtedly that he became interested in the pest problems of the horticulturist, an interest which eventually led to his adoption of the career of agricultural inspector. From 1911 on, he was contributing notes on insect pests to the monthly bulletin of the California State Commissioners of Horticulture. In 1920, while working with his brother, B. B. Whitney, in the San Francisco office of the state quarantine service, he was engaged by the Hawaiian Board of Agriculture and Forestry to take the place vacated by D. B. Langford,

as assistant to the late E. M. Ehrhorn. On the retirement of Mr. Ehrhorn in 1926, Mr. Whitney became the active head of the plant quarantine service and made a record there for quiet, efficient handling of the plant quarantine work.

Despite heavy physical handicaps, Mr. Whitney achieved distinction as a coccidologist, and his collection and study of coccids made him a valuable worker in the entomological field here, where these insects had long been neglected. Together with his wife Bernice, he spent much time also on the Diptera. In 1937 Mrs. Whitney died, and the loss of his wife was a blow from which Mr. Whitney never recovered. He became severely ill in 1939, and although he lived on beyond the expectation of everyone, his professional life was ended.

Mr. Whitney was a prominent Mason, and the Masonic memorial service conducted over his ashes was attended by the members of a committee from the Hawaiian Entomological Society. Mr. Whitney is survived by two brothers in California, one of whom, Mr. Blenn B. Whitney, has already been mentioned. The other is Mr. Mervin M. Whitney of Long Beach, California.

D. T. FULLAWAY

F. X. WILLIAMS