

PROCEEDINGS  
OF THE  
Hawaiian Entomological Society

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JANUARY 12, 1948

The 505th meeting was held at the H.S.P.A. Experiment Station on Monday, January 12, at 2:00 p.m., with President Fullaway in the chair.

*Members present:* Balock, Bianchi, Bonnet, Fullaway, Holdaway, Keck, Krauss, Lewis, Look, Mainland, Pemberton, Ritchie, Rosa, Sakimura, Swezey, Tanada, Tuthill, Van Zwaluwenburg, Weber and Zimmerman.

NOTES AND EXHIBITIONS

*Erebus odora* (L.)—Mr. Krauss reported that a specimen of this agrotid moth, the black witch, was collected at Haiku, Maui on August 4, 1929; this is the first record for that island. The moth was first found in the Islands at Honaunau, Kona, Hawaii by A. C. Mason, October 15, 1928. Other first records are: Oahu, November 7, 1928; Kauai, January 27, 1929, and Molokai, April or early May, 1929. There are no published records of this species for Lanai or Niihau. The late Bro. Matthias Newell once said he had observed what was probably this moth at Hilo, Hawaii, some years prior to 1928.

*Opsius stactogallus* (Amyot)—Mr. Krauss exhibited this cicadellid leafhopper taken on tamarix at Keomuku, Lanai, October 28, 1947, and on the same host near Paia, Maui, November 12. These are both new island records. The species was first taken in the Islands on Oahu in June or July, 1928, and was later found on Molokai (1943) and Kauai (1944).

*Stragania robusta* (Uhler)—Mr. Krauss exhibited specimens of this North American cicadellid (determined by Dr. Swezey) taken at La Perouse Bay, Maui, November 11, and at Waihee, Maui, November 12; this is a new island record. This insect, formerly known as *Bythoscopus robustus*, had earlier been found at Kawela Bay, Oahu, April 23, 1933, and on Molokai, June 4, 1943.

*Opius* bred from *Eutreta*—Mr. Fullaway reported breeding the braconid *Opius tryoni* Cameron from galls of the lantana tephritid fly, *Eutreta xanthochaeta* Aldrich. He added that Q. C. Chock in the Philippines, bred an undetermined species of *Opius* from hau buds (*Hibiscus tiliaceus*) infested by tephritids of the genus *Acidoxantha*.

New species of Hawaiian *Clunio*—Mr. Van Zwaluwenburg called attention to a paper by Alan Stone and W. W. Wirth (Proc. Ent. Soc. of Washington, 49:201-224, 1947) in which are described three new tendipedid flies from Hawaii: *Clunio littoralis*, *C. vagans* and *C. brevis*.

*Dacus dorsalis* Hendel—Dr. Ritchie reported the presence of this fruitfly on Guam. K. L. Maehler bred it December 19, from bananas grown near Agaña.

*Scolia ruficornis* Fabr.—Mr. Pemberton exhibited specimens of this scoliid. He said that this wasp is being introduced from Zanzibar to the Palau Islands to control the coconut beetle, *Oryctes rhinoceros* (L.), under direction of the Pacific Science Board, National Research Council, at the request of the Navy. Living material is being shipped by Harold Compere via New York to Honolulu, where the wasps are fed and sent on through Guam to the Palaus. Of four consignments made during November and December, 1947, two arrived here with all material dead. A fair number of wasps were alive in the other two lots. *Oryctes rhinoceros* causes great damage to coconut trees in the Palaus. In Zanzibar *S. ruficornis* is reported to parasitize the larvae of *Oryctes monoceros* Olivier and of *O. boas* Fabr.

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#### FEBRUARY 9, 1948

The 506th meeting was held at the H.S.P.A. Experiment Station on Monday, February 9, at 2:00 p.m., with Vice-President Balock in the chair.

*Members present:* Alicata, Balock, Bianchi, Bonnet, Joyce, Kartman, Keck, Krauss, Lewis, Mainland, Nishida, Pemberton, Ritchie, Rosa, Stout, Swezey, Tanada, Tuthill, Van Zwaluwenburg, Weber and Zimmerman.

*Visitors:* Miss Constance Inada, Mr. John H. Fales.

It was unanimously voted to confer on Dr. Francis X. Williams honorary membership in token of his long service to the Society. Miss Constance Inada was nominated for membership.

#### NOTES AND EXHIBITIONS

*Dacus dorsalis* Hendel—Mr. Van Zwaluwenburg said that this fruitfly, though known from Kauai since the latter part of 1946, has until now never been reported from that island. The distribution records for this species in Hawaii now include the islands of Niihau, Kauai, Oahu, Lanai, Molokai, Maui, Kahoolawe<sup>1</sup> and Hawaii.

Mr. Look reported breeding *D. dorsalis* from persimmon fruits (*Diospyros kaki*) collected December 11 at Mountain View, Hawaii; this is a new host record.

New immigrant *Volucella*—Mr. Van Zwaluwenburg called attention to descriptions by Curran of two new syrphid flies recently

<sup>1</sup> Reported in December 1948, by E. C. Zimmerman.

found on Oahu, and obviously immigrants from America (Amer. Mus. Novitates, no. 1361, Nov. 3, 1947); *Volucella dracaena*, first taken by Charles Hoyt, January 1, 1946 (Proc. Haw. Ent. Soc., 13: 4, 6, 1947) on flowers of *Dracaena* and of *Hoya* in Honolulu; and *Volucella hoyae*, first collected by Dr. Williams, March 3, 1946, on *Hoya* flowers in Honolulu. Among the type material of *V. hoyae*, Dr. Curran records specimens from Oahu and Lower California; *V. dracaena* so far is known only from Honolulu. Mr. Pemberton said he had recently bred *V. hoyae* from rotting breadfruit.

*New thrips records*—Mr. Look reported new host records for two species of thrips determined by Mr. Sakimura, from the island of Hawaii. *Heliothrips haemorrhoidalis* (Bouché) on taro leaves at Ahualoa; and *Isoneurothrips carteri* Moulton, on naio leaves (*Myoporum sandwicense*) on Mauna Kea at 4,000 ft. elevation. This latter species was breeding within old tunnels of a leafminer, and was associated with *Haplothrips rosae* Bianchi and the eulophid, *Thripoctenus bruii* Vuillet.

Mr. Krauss reported new island records from thrips collected by him on Lanai (October-November, 1947); Molokai (November 3-5); and Maui (November 7-15). Identifications were by Mr. Sakimura.

#### Lanai

*Chirothrips mexicanus* Crawford (Lanai City)  
*Anaphothrips swezeyi* Moulton (Lanai City)  
*Hercothrips fasciatus* (Pergande) (west coast of the island)  
*Frankliniella minuta* (Moulton) (mountains)  
*Frankliniella sulphurea* Schmutz (Lanai City)  
*Isoneurothrips antennatus* Moulton (mountains)  
*Plesiothrips panicus* (Moulton) (Lanai City)  
*Hoplothrips flavitibia* Moulton (Maunalei gulch, and  
 in the mountains)

#### Molokai

*Hoplothrips flavitibia* Moulton (Halawa Valley and  
 Mapulehu)

#### Maui

*Organothrips bianchii* Hood (Waihee)  
*Docidothrips trespinus* (Moulton) (Huelo)  
*Taeniothrips cyperaceae* Bianchi (Kihei)  
*Karnyothrips melaleuca* (Bagnall) (Pauwela)  
*Haplothrips fusca* Moulton (Kihei)  
*Haplothrips sesuvii* Priesner (Kihei)

Insects on *Opuntia*—Mr. Krauss exhibited a collection of insects, identified by Mr. Pemberton, collected January 22 at Keawanui, Molokai on a cactus, *Opuntia megacantha*, attacked by *Fusarium* disease:

*Dactylosternum dispar* Sharp (a new island record)  
 Numerous larvae of a syrphid, probably *Volucella pusilla*  
 (Macquart), many of which were flying about  
*Copris incertus prociuus* Say (one specimen)  
*Belonuchus ohippiatus* (Say) (two specimens) (a new  
 island record for this staphylinid)

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MARCH 8, 1948

The 507th meeting was held at the H.S.P.A. Experiment Station on Monday, March 8, at 2:00 p.m., with Vice-President Balock in the chair.

*Members present:* Balock, Beller, Bianchi, Joyce, Keck, Krauss, Lewis, Mainland, Nishida, Pemberton, Ritchie, Rosa, Sakimura, Stout, Swezey, Tuthill, Van Zwaluwenburg, Weber and Zimmerman.

*Visitor:* John H. Fales.

Miss Constance Inada was elected to active membership, and Miss Mabel Chong was nominated for membership.

NOTES AND EXHIBITIONS

*Latrodectus geometricus* Koch—Mr. Pemberton said that he had recently observed a female of the false black widow spider feeding on a freshly killed female of the house spider, *Heteropoda regia* (Fabr.). This was at the edge of the *Latrodectus* nest which contained two egg-sacs filled with unhatched eggs. The *Heteropoda* was carrying an egg sac in which were a number of newly hatched young. A few feet away from this nest Mr. Bianchi observed another *geometricus* nest in which was a well-grown, freshly killed scorpion, *Isometrus maculatus* DeGeer.

*Dacus dorsalis* Hendel—Mr. Weber gave the following list of previously unrecorded hosts of the oriental fruitfly, reared from field-collected fruits by Miss Chong, and all from Oahu with the exception of *Dovyalis* which was from Maui:

|   |                   |
|---|-------------------|
| <i>Averrhoa carambola</i>                     | Carambola         |
| <i>Bumelia rotundifolia</i>                   |                   |
| <i>Capsicum frutescens abbreviatum</i>        |                   |
| <i>Chrysophyllum oliviforme</i>               | Damson plum       |
| <i>Citrus limon</i>                           | Lemon             |
| <i>Citrus reticulata</i>                      | Tangerine         |
| <i>Dovyalis hebecarpa</i>                     | Ceylon gooseberry |
| <i>Euphoria longan</i>                        | Longan            |
| <i>Fortunella japonica</i> var. <i>hazara</i> | Chinese orange    |
| <i>Garcinia xanthochymus</i>                  |                   |
| <i>Mammea americana</i>                       | Mammee apple      |
| <i>Mimusops elengi</i>                        | Elengi            |
| <i>Passiflora laurifolia</i>                  | Lemiwai           |

*Eutreta xanthochaeta* Aldrich—Mr. Weber reported that in several lots of field-collected galls on *Lantana* held for emergence of this tephritid fly, puparia from which adults later emerged were

found at the bottom of the jars. No previous records are known of *Eutreta* larvae leaving the galls to pupate; it is thought probable that these maggots left the galls because of the drying out of the material.

*A new trichopteron*—Miss Inada reported that on September 29, 1947 Dr. H. A. Banner collected trichopterous larvae in the lily pond at Moanalua Gardens, while collecting plankton material. According to Mr. Zimmerman the larvae appear to be distinct from those collected by him in the same locality in October 1940 (Proc. Haw. Ent. Soc., 11: 350, 1943) which later proved to be *Oxyethira maya* Denning.

*Chrysobothris* sp.—Mr. Zimmerman exhibited the third example of this immigrant buprestid beetle to be taken in the Territory. It was collected by T. Tanaka, November 22, 1947, at Moiliili, Honolulu. The earlier specimens were collected in the Makiki district of the city in June 1946, and in nearly the same locality in May 1947.

*Exitianus* sp.—Mr. Zimmerman reported that this new immigrant cicadellid leafhopper was first taken in the H.S.P.A. light trap at Iroquois Point, Oahu, October 30, 1947. It was studied by Dr. P. W. Oman of the U. S. National Museum, who states that it appears to belong in the North American *E. exitiosus* (Uhler)—*obscurinervis* (Stål) complex. Essig, in his "Insects of Western North America" calls *exitiosus* "the destructive leafhopper," and notes that "It is widely distributed in North America . . . It may often be present in swarms and is destructive to grasses and grains."

*Two new tenebrionids*—Mr. Zimmerman exhibited two tenebrionid beetles new to the Territory, both taken in the H.S.P.A. light trap at Iroquois Point, Oahu, in November, 1947. One is *Doliema plana* (Fabr.), widespread in the Americas; the other belongs to "a genus near *Palorus*," according to Dr. E. A. Chapin of the U. S. National Museum, who identified both insects.

*Monotoma* sp.—This beetle (see p. 341), first taken in a light trap at Iroquois Point, Oahu, August 4, 1947 (Proc. Haw. Ent. Soc., 13: 213, 1948) has been identified as belonging to this genus of the family Monotomidae, by W. S. Fisher. Over 250 species are known in this genus, and Mr. Fisher does not give it a specific name.

*A new hydrophilid*—Mr. Zimmerman reported that a hydrophilid beetle of a genus new to Hawaii, was collected from a freshwater pond in Nuuanu, Honolulu, by a student, Takuo Kono, February 23, 1948 (see p. 341). The larvae were seen feeding on mosquito larvae.

*Coconut pests on Palmyra*—Mr. Krauss exhibited adults of a small moth, *Agonoxena argaula* Meyrick (determined by Dr. Swezey) (family Agonoxenidae), the larvae of which he found abundant on coconut foliage on Palmyra Island in February 1948. The larvae feed on the under surface of the leaves and cause elongate brown blotches. Mr. Krauss also noted damage to coconuts by rats on the island, and that coconut crabs (*Birgus latro* Herbst) were fairly common.

*Eurytoma orchidearum* (Westwood)—Mr. Krauss reported that

larvae of this "Cattleya fly," a eurytomid wasp, were causing considerable damage to leafbuds of *Cattleya* orchids in greenhouses at Aiea Heights, Oahu, in February. This species has been reported by growers in Hawaii occasionally over a period of years.

*Pteropus mariannus* Desmarest—Mr. Krauss exhibited a dead fruit bat, or "flying fox," of this species, brought alive to Hawaii from Guam recently. It was confiscated by the Board of Agriculture & Forestry in accordance with Territorial law. This bat feeds on a variety of fruits, and is itself sometimes eaten by natives of Guam. The bat was identified by Mr. Bryan.

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#### APRIL 12, 1948

The 508th meeting was held at the H.S.P.A. Experiment Station on Monday, April 12, at 2:00 p.m., with President Fullaway in the chair.

*Members present:* Alicata, Bianchi, Bonnet, Fullaway, Joyce, Krauss, Mainland, Nishida, Pemberton, Rosa, Swezey, Tanada, Tuthill, Van Zwaluwenburg and Weber.

*Visitor:* Henry S. Dybas.

Miss Mabel Chong was elected a member of the Society.

#### PAPER

Mr. Tanada presented a paper by Curtis W. Sabrosky entitled: "The Muscid Genus *Ophyra* in the Pacific Region (Diptera)."

#### NOTES AND EXHIBITIONS

*Anacamptodes fragilaria* (Grossbeck) — Mr. Bianchi reported finding the caterpillars of this geometrid moth feeding on kiawe (*Prosopis chilensis*) near Kawaihae, Hawaii, March 28; this is a new island record. The caterpillars were fairly abundant there, but at Mahukona, a few miles away, an hour's search revealed only a single dead caterpillar, none alive.

*Achaea janata* (Linn.) — Mr. Bianchi reported that this agrotid moth remains much more common on Hawaii than on Oahu. Near Pahala and Naalehu particularly, fluctuations in *Achaea* populations are reflected by periodic increase and decrease of injury on *Ricinus*, a favored hostplant. On Oahu no feeding on *Ricinus* has been observed for many months, nor has the insect been common on cultivated hosts as was so often the case during the first year of its establishment on Oahu.

*Latrodectus* spp. — Mr. Bianchi reported that on March 26 at South Point, Hawaii, he found almost as many egg cocoons and adults of *L. geometricus* Koch as were present when he last visited the area in 1946. *L. mactans* (Fabr.), on the other hand, has almost disappeared, for a morning's search revealed but one egg case of this species. Of the two parasites previously liberated at South Point, *Baeus californicus* Pierce was found not at all, but *Eurytoma* sp. was extremely abundant, flying about and present in at least 80 per cent of all the egg masses examined.

*Macrosiphum luteum* (Buckton)—It was reported for Mr. Look that he found a heavy infestation of this orchid aphid attacking several species of *Dendrobium* and *Phalaenopsis* at Hilo, Hawaii, in March 1948. The aphid was identified by E. O. Essig. The greatest population was on foliage, flowers and terminal shoots of *D. phalaenopsis* growing in a lath house; only flowers and buds of *Phalaenopsis* were infested. Mr. Krauss added that this same aphid was found by Stephen Au on orchids on Kauai in March (identified by Mr. Weber by comparison with material named by Mr. Essig). In January of this year the species was found infesting *Epidendrum* plants from California in a quarantine house in Honolulu, but this infestation was believed to have been eradicated. However, subsequently Mr. Pemberton reported that *M. luteum* was found by Dr. H. L. Lyon on April 14, infesting flower spikes of *Dendrobium* sp. growing outdoors at Foster Gardens, Honolulu. Hence this new immigrant aphid has been discovered almost simultaneously on Hawaii, Oahu and Kauai.

*Dacus dorsalis* Hendel—Mr. Weber reported the following new host records for this tephritid fly, all supplied from field-collected fruits by the local Division of Foreign Plant Quarantine, U. S. Bureau of Entomology & Plant Quarantine:

|  |                 |
|--|-----------------|
| <i>Annona reticulata</i>                             | Bullock's heart |
| <i>Artabotrys uncinatus</i>                          | Ylang-ylang     |
| <i>Coffea liberica</i>                               | Liberian coffee |
| <i>Flacourtia indica</i>                             | Governor's plum |
| <i>Gossypium barbadense</i>                          | Cotton          |
| <i>Inga laurina</i>                                  |                 |
| <i>Manilkara emarginata</i>                          |                 |
| <i>Murraya exotica</i>                               | Mock orange     |
| <i>Noronhia emarginata</i>                           | Madagascar plum |
| <i>Passiflora subpeltata</i>                         |                 |
| <i>Pimenta dioica</i> (officinalis)                  | Allspice        |
| <i>Pimenta racemosa</i> (acris)                      | Bay             |
| <i>Pithecellobium</i> ( <i>Pithecolobium</i> ) dulce | Opiuma          |
| <i>Polyalthia longifolia</i>                         |                 |
| <i>Prunus domestica</i>                              | Plum            |
| <i>Yucca aloifolia</i>                               |                 |

All the plant identifications, except *Yucca*, are by Miss Marie Neal of the Bishop Museum. In addition to the above named field-collected hosts, *D. dorsalis* was bred in cage tests on apple (*Pyrus malus*) and on bitter melon (*Momordica charantia*).

Mr. Weber also reported specific names for some hosts of *dorsalis* reported to genus only by Mr. Look last year:

Ripe bananas (Proc. Haw. Ent. Soc., 13: 11); this record is of *Musa nana* (*cavendishii*)

Oranges (l.c.: 13); *Citrus sinensis*

*Prunus* sp. (l.c.: 20); *Prunus salicina* × *P. cerasifera* (Methley plum)

*Passiflora* sp. (l.c.: 20); *P. edulis* var. *flavicarpa*

Mr. Van Zwaluwenburg reported rearing *D. dorsalis* from field-collected fruits of the Chinese banyan (*Ficus retusa*), the Port

Jackson fig (*Ficus rubiginosa*), and the Moreton Bay fig (*Ficus macrophylla*). The fruits of *F. retusa* were collected for him by Masaru Tanaka at Kailua, Oahu, March 1; from about 90 fruits 18 adult *dorsalis* were reared. On March 11 Mr. Rosa and he collected 13 fruits of *F. rubiginosa* at Ewa Plantation Co., Oahu, from which 18 flies (9 males and 9 females) issued between March 29 and April 1. Mr. Rosa and he collected 87 fruits of *F. macrophylla* in Makiki Park, Honolulu, on March 16; 97 flies (54 males and 43 females) emerged from this material between April 1 and April 7. The flies from *retusa* and *rubiginosa* were generally smaller than those from *macrophylla*.

These *Ficus* host fruits are the only three species of the genus for which the specific pollinating wasps have been introduced and become widely established in Hawaii. The Mission Black variety of commercial fig (*Ficus carica*) is usually not pollinated here, but produces edible fruit which is readily attacked by *dorsalis*. Efforts to rear this fly from the sterile fruits of *Ficus heterophylla* have been unsuccessful even though attempted oviposition in them by female *dorsalis* has been observed in the field.

*Stictoptera subobliqua* (Walker)—Mr. Weber exhibited larvae and adults of this agrotid moth, here recorded for the first time from the Hawaiian Islands. It was first taken on *Mammea americana* at the Honolulu Academy of Arts on March 18, 1948, having been called to Mr. Weber's attention by Mr. Duncan of the Academy staff. Larvae have since been found feeding on foliage of *Calophyllum inophyllum* and *Garcinia cambogia*. Typical damage has also been seen on *Garcinia xanthochymus*. According to Swezey (Insects of Guam II: 169, 1946) this moth is known from Ceylon, Sikhim, North Assam, Singapore, British New Guinea and Guam. In Guam it feeds on *Ochrocarpus obovalis*; all its hostplants known so far belong to the family Guttiferae.

*Aphidius* sp.—Mr. Weber exhibited a specimen of this aphid parasite new to the Islands. It was found in a tube of galls of pamakani (*Eupatorium adenophorum*) collected on Tantalus, Oahu, February 24, 1948, which were being held for emergence of parasites of *Procecidochares utilis* Stone, the pamakani tephritid.

*Rhopalosiphoninus latysiphon* (Davidson)—Mr. Krauss exhibited a single alate of this aphid, called the myrtle aphid, collected November 14, 1947 on an unknown hostplant at Olinda, Maui; identification was by E. O. Essig. The species is known from Europe and the San Francisco Bay region of California; it has been recorded from chrysanthemum, cowslip, *Vinca*, Shasta daisy, morning glory and potato. Mr. Pemberton reported that Mr. Bianchi had also collected this aphid at Pohakuloa, Hawaii, while sweeping grass, March 28, 1948. This aphid is new to the Territory.

*New drosophilids*—Dr. Mainland reported the following exotic species of drosophilid flies not previously known from Hawaii,



taken March 18, 1948, in a banana trap on the University of Hawaii campus, Honolulu:

*Drosophila repleta* Wollaston  
*Drosophila immigrans* Sturtevant  
*Drosophila* sp.

Earlier records of both *repleta* and *immigrans* from the Hawaiian Islands were based on misidentifications.

*Simodactylus marianorum* Van Zwaluwenburg—Mr. Van Zwaluwenburg reported that this elaterid beetle, recently described from Guam, Rota and Tinian (Proc. Haw. Ent. Soc., 13:270, 1948) was collected on Saipan in December by K. L. Maehler.

*Encarsia formosa* Gahan—Dr. Swezey exhibited specimens of this aphelinid which were reared from *Trialeurodes vaporariorum* (Westwood) on *Sonchus oleraceus*. He found parasitized aleurodids by the roadside along Punahou School grounds, March 19, 1948, at the Experiment Station, H.S.P.A. grounds, April 1 and 12, and on Hunnewell St., in Manoa, April 4. Mr. Fullaway recognized the species as one that he introduced in 1942 from the parasite laboratory at Ontario, Canada. It was reared abundantly at that time and liberated on beans heavily infested by *Trialeurodes* at Waiaanae, Oahu. It had not previously been recovered.

*Bemisia giffardi* (Kotinsky)—Dr. Swezey reported a heavy infestation by this aleurodid on *Clausena lansium* in Foster Gardens, Honolulu, April 3, 1948. Apparently this is a new hostplant for this species which commonly infests various kinds of *Citrus*. Both plants are in the family Rutaceae. The tree was black with sooty mold, which had flourished on abundant honeydew excreted by the aleurodids.

*Insects from dead breadfruit wood*—Dr. Swezey reported the following insects which issued from a dead branch of breadfruit tree in his garden, January 7 to March 29:

- 100 *Ericryphalus henshawi* Hopkins
- 453 *Ericryphalus* sp.
- 2 *Xyleborus fornicatus* Eichhoff
- 3 *Oxydema fusiforme* Wollaston
- 1 *Araecerus fasciculatus* (DeGeer)
- 28 *Opsis nutator* (Fabr.)
- 2 *Sybra alternans* Wiedemann
- 1 *Pterolophia camura* Newman
- 1 *Lagocheirus obsoletus* Thomson
- 4 *Opogona purpuriella* Swezey
- 3 Spalangidae

*Toxoptera aurantii* (Boyer de Fonscolombe)—Mr. Fullaway reported finding this aphid on *Calophyllum inophyllum*, a new host record, at Punaluu, Oahu, March 31.

MAY 10, 1948

The 509th meeting was held at the H.S.P.A. Experiment Station on Monday, May 10, at 2:00 p.m., with President Fullaway in the chair.

*Members present:* Bianchi, Bonnet, Chong, Fullaway, Holdaway, Joyce, Kartman, Keck, Mainland, Nishida, Pemberton, Rosa, Swezey, Tanada, Tuthill, Van Zwaluwenburg, Weber and Zimmerman.

*Visitor:* Norman E. Flitters.

Mr. Flitters was nominated for membership in the Society.

## PAPERS

Dr. Swezey submitted his paper entitled: "Synonymy of *Hypocryphalus mangiferae* (Stebbing) and its Occurrence in Hawaii (Coleoptera: Scolytidae)." Mr. Zimmerman presented Dr. Usinger's paper: "War-time Dispersal of Pacific Island *Nysius* (Hemiptera: Lygaeidae)." Mr. Bianchi presented a paper entitled: "Recent Changes in the Parasite Complex of Armyworms."

## NOTES AND EXHIBITIONS

*Eumenes pyriformis philippinensis* Bequaert—Dr. Swezey exhibited a photograph of a mud nest of this eumenid wasp which Dr. Lyon had found on a *Dendrobium* in his orchid house. He had watched the wasp build one cell after another and store caterpillars in them. Dr. Swezey opened the three central cells to determine the species of caterpillars; they were all the geometrid, *Anacamptodes fragilaria* (Grossbeck), and there were six to eight per cell. One cell contained a nearly full-grown larva. It was fed six caterpillars in addition to those already in its cell, and it had accordingly grown to a larger size than usual. Later note: The wasp failed to issue from the cocoon and on later examination was found to have matured and died within the cocoon.

*Stictoptera subobliqua* (Walker)—Dr. Swezey reported finding three eggs of this most recent immigrant agrotid moth on a leaf of *Calophyllum inophyllum* at the University on April 4. They hatched April 7, and grew rapidly; two pupated on April 22, and reached the adult stage on May 2 and May 4. Thus the larval stage was 15 days, and the pupal stage 10 to 12 days.

*Chelonus texanus* Cresson—Mr. Bianchi reported finding adults of this braconid parasite of armyworms at Honokaa, Hawaii, a new island record. He discussed the present status of armyworms in sugarcane fields on Hawaii, and said that the parasites dominant there at present are the braconids *Meteorus laphygmae* Viereck and *Apanteles marginiventris* Cresson, and the tachinid *Eucelatoria armigera* (Coquillett).

*Brachymeria fonscolombi* (Dufour)—Mr. Weber exhibited specimens of this new immigrant chalcid (identified by A. B. Gahan), parasitic in blowfly larvae. It was first captured on a store

window at Waipahu, Oahu, August 1, 1947, and later was taken at Kaneohe, Oahu. It is known from central Europe, Russia, Java, Haiti, Mexico and the southern United States as far north as Illinois. Among its recorded hosts the following occur in Hawaii: *Phormia regina* (Meigen), *Phaenicia* (*Lucilia*) *sericata* (Meigen), *Sarcophaga haemorrhoidalis* (Fallen) and *Synthesiomia nudiseta* (van der Wulp).

New hosts of *Dacus dorsalis* Hendel—The following new host records for this tephritid fly are all from field-collected fruits. (1) Mr. Weber reported for Dr. Ritchie that the local office of the Division of Foreign Plant Quarantines had reared this fly from *Zizyphus mauritiana* on Oahu. (2) Mr. Van Zwaluwenburg reported that Mr. Rosa and he had reared adults from fruits of *Ochrosia elliptica* collected April 15 at the Foster Gardens, Honolulu. (3) Dr. Holdaway and Mr. Tanada recorded breeding *D. dorsalis* from fallen macadamia nuts (*Macadamia ternifolia*) collected by C. Lyman at Pahala, Hawaii, April 14. These nuts had fallen prematurely; some of the larger nuts (all were immature) had split open and had the kernel exposed. From three cracked nuts three adult *dorsalis* emerged. Whether the fly was responsible for the dropping and cracking of the immature nuts, or whether the cause was physiological, is not known. (4) Mr. Flitters reported that Mr. Balock had recently reared 29 *D. dorsalis* from four fruits of *Calophyllum inophyllum*.

*Graphomya maculata* (Scopoli)—Mr. Joyce exhibited a male specimen of this muscid fly (determined by C. W. Sabrosky), taken on a screen, March 2, 1948, at the quarantine station, Ft. Armstrong, Honolulu. This is apparently the first record of its capture in Hawaii. A widespread species, it has been reported from Europe, Alaska, Canada, United States, South America and Australia. The specimen is a pale one, the species usually being darker in color. Further intensive collecting in the Ft. Armstrong area has failed to reveal any more specimens. The females are known to lay only a few eggs, so the species is seldom found in abundance. The proximity of the place of capture to the harbor area suggests that the species was recently introduced through commerce.

*G. maculata* may readily be distinguished from other Muscidae in Hawaii by the following combination of characters: Antennae separated at base by carina; sternopleura with two bristles behind, none in front; propleura bare in middle; pteropleura bare; prosternum bare; squama dusky, lower lobe large, reaching base of scutellum; body gray, partly rufous with well-defined black lines on thorax and black spots on abdomen.

Incidence of *Aedes* in Honolulu—Dr. Bonnet reported on a survey, completed April 20, of the distribution of *Aedes aegypti* (L.) and *A. albopictus* (Skuse) in the city of Honolulu. On 42,764 premises inspected, a total of 1,534 containers were found breeding *Aedes* mosquitoes. Of this number 1,523 were *A. albopictus* and only 11 were *A. aegypti*. All of the *A. aegypti* were found on the

makai (seaward) side of a line drawn along Beretania St. The following table presents data of previous surveys, although it is not known if the figures are all comparable on the basis of sampling methods:

| Year       | Per cent<br><i>A. albopictus</i> | Per cent<br><i>A. aegypti</i> |
|------------|----------------------------------|-------------------------------|
| 1911 ..... | 50                               | 50                            |
| 1912 ..... | 80                               | 20                            |
| 1913 ..... | 33                               | 67                            |
| 1914 ..... | 91.6                             | 8.4                           |
| 1915 ..... | 91.6                             | 8.4                           |
| 1926 ..... | 99.2                             | 0.8                           |
| 1943 ..... | 85                               | 15                            |
| 1944 ..... | 93.5                             | 6.5                           |
| 1948 ..... | 99.3                             | 0.7                           |

Mr. Kartman remarked that in his experience during the recent war, in both East and West Africa, *Aedes aegypti* was never found as adult or larva in dwellings, but that the adults were invariably found away from habitations, and their larvae in tree-holes and in water-holding plants. These observations, the reverse of those for this species in the Americas, were corroborated elsewhere in Africa by other groups studying *A. aegypti*.

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#### JUNE 14, 1948

The 510th meeting was held at the H.S.P.A. Experiment Station on Monday, June 14, at 2:00 p.m., with President Fullaway in the chair.

*Members present:* Beller, Bianchi, Bryan, Carter, Fullaway, Holdaway, Inada, Joyce, Keck, Mainland, Pemberton, Rosa, Schmidt, Tuthill, Van Zwaluwenburg, Weber and Zimmerman.

*Visitor:* Lew E. Wallace.

Norman E. Flitters was elected to membership, and the name of Lew E. Wallace was proposed for membership.

#### PAPER

Mr. Zimmerman presented a paper by H. F. Strohecker entitled: "The Genus *Spathomeles* Gerstaecker, with the Description of a New Species from Borneo (Coleoptera: Endomychidae)."

#### NOTES AND EXHIBITIONS

*Insect swarms in southerly weather*—Dr. Carter reported that Ichi Yanagihara observed flights of great numbers of a small, unidentified staphylinid beetle on April 2 and April 8, and a flight of some 50 oedemerids, *Ananca bicolor* (Fairmaire), all in Honolulu. All these observations were made during "kona" weather.

*Oechalia pacifica* (Stål)—Dr. Tuthill reported the finding of this pentatomid bug in considerable numbers on Koko Head, Oahu,

May 16. The bugs were on *Crotalaria*, where they were apparently preying on lycaenid larvae. Mr. Van Zwaluwenburg reported that J. D. Bond had recently found nymphs of this bug in Manoa Valley, feeding on the larvae of the chrysomelid, *Lema trilineata californica* Schaeffer, on *Datura*.

*A new slug*—Dr. Tuthill exhibited specimens of what appears to be a new slug. They are about as large as the common black slug (*Veronicella*) and were found in trash about the base of a dead papaya tree on the University campus. Later this slug was identified by Dr. A. R. Mead as *Limax flavus* (L.).

*Aphycus terryi* Fullaway—Mr. Pemberton remarked that this encyrtid parasite of the gray mealybug, *Pseudococcus boninsis* (Kuwana), which was introduced into Louisiana from Hawaii in 1932 by Dr. Swezey, had subsequently been reported to be well established there. However, taxonomic studies by A. B. Gahan (Proc. U. S. Nat. Mus. 96, no. 3200: 321-324, 1946) have shown that field-collected material from Louisiana, supposed to be *A. terryi*, proved without exception to be a new species, described by him as *Pseudaphycus mundus*. All evidence indicates that *A. terryi* is not established in Louisiana.

*Calosoma blaptoides* Putzeys subsp. *tehuacanum* (Lapouge)—Mr. Pemberton stated that he had recently had opportunity to compare critically, named specimens of *Calosoma semilaeve* LeConte, with specimens of *Calosoma* established at Waikii, Hawaii (Proc. Haw. Ent. Soc. 13: 210, 1948), and that they are different. Specimens of the local *Calosoma* were sent to Dr. E. C. Van Dyke who replied on May 23, that our species is *blaptoides tehuacanum*. This proves to be the species introduced into Hawaii from Cuernavaca, Mexico, by H. T. Osborn in September 1923. At that time 30 adult beetles were liberated at Waikii, Hawaii; the species was not seen again until May 1947 when Dr. Swezey and W. C. Look recovered specimens in the general vicinity of the original liberation. When this recovery was reported last year it was assumed that the beetle was *C. semilaeve* because a large number of that species imported from Ventura County, California, in 1923 were also liberated at Waikii. The Mexican introduction was apparently overlooked.

*Monotoma* near *picipes* Herbst—Mr. Pemberton reported that this beetle, previously taken only in a light trap on Oahu, was taken in numbers similarly by Henry Alexander at Lahaina, Maui, June 1, 1948. This is a new island record.

*Dacus dorsalis* Hendel—Dr. Carter discussed the present status of this fruitfly in regard to pineapples, and concluded that this fruit is a definitely unfavorable host for the fly, in which it can only rarely reach maturity. Mr. Pemberton remarked that from six mango fruits collected May 15, and believed by the grower to be free of *Dacus*, a total of 936 *D. dorsalis* adults were reared. Mr. Weber reported rearing a single specimen of *D. dorsalis* from a small, immature coconut. The larva was found under the cap,

where the tissue at the top of the nut had begun to decay. It is not known if the decay was a predisposing factor to oviposition.

Dr. Mainland reported that in the female *D. dorsalis* dissection has revealed that the hind-gut and the posterior vagina are united into a common duct, a cloaca, just anterior to the last plate of the ovipositor. At the time of defecation the ovipositor is usually fully extended. Since the posterior genital tract and the posterior gut are united, it appears probable that the surface of all eggs may be contaminated by microorganisms present in the hind-gut at the time of oviposition.

*Syritta orientalis* Macquart—Mr. Weber exhibited a specimen of this syrphid fly, new to the Territory. It was first taken at Punahoa, Oahu, October 7, 1946, and has since been taken at Hickam Field and in Honolulu. The species is known from Java and Singapore; identification was by C. T. Greene.

*Pison insulare* Smith—Mr. Weber exhibited a series of this new sphecid wasp, first captured on the Kawaiiki trail, Oahu, November 2, 1947 (Proc. Haw. Ent. Soc., 13:222, 1948; as *Pison* sp.). The species was identified by K. V. Krombein; it is known from the New Hebrides.

*A new corizid bug*—Mr. Bianchi exhibited a series of a bug new to the Territory. It was found by Mr. Bianchi near a pineapple field at Poamoho, Oahu; May 26, 1948. A large number of adults and nymphs were present on ground with a thick weed cover in an area about 10 by 40 feet. The nymphs of all stages greatly resemble ants, both in movement and appearance. It feeds on a variety of legumes, and drops its eggs loosely instead of attaching them to the host plant. Later this insect was identified by Dr. P. W. Oman as *Coriscus pilosulus* (Herrick-Schaeffer), which occurs in the United States but is of no economic importance there.

*Caemis* sp.—Mr. Bianchi reported this ephemerid, known here only since 1944, to be extremely abundant at lights at Kailua, Oahu, June 11.

*Ceroplastes rubens* Maskell—Dr. Carter exhibited a mango leaf heavily infested by this wax scale. The tree had been given heavy applications of DDT about a year ago in an effort to combat *Dacus dorsalis*. The scale infestation on this particular tree is in striking contrast to untreated trees nearby which are relatively free from the scale.

*A new gall midge*—For Mr. Look it was reported that a heavy infestation of a cecidomyiid gall midge new to these islands, was found by him damaging leaves and stems of chrysanthemum grown under glass at Wainaku, Hilo, Hawaii, on May 14, 1948. Subsequently Dr. H. F. Barnes of Rothamsted, England, identified it as the chrysanthemum midge, *Diarthromyia chrysanthemi* Ahlberg (Ent. Tidskrift, 60:274, 278, 1939; new name for *D. hypogaea* Felt, not Loew). To paraphrase Dr. Barnes' remarks: This is a well known pest in the United States, and sporadic outbreaks have

occurred in European countries, which have usually been traced back to importations of chrysanthemum cuttings from America. It is now well established in Europe. It was formerly known as *D. hypogaea* (F. Loew), a species described from wild chrysanthemum root galls in Europe. It is now generally accepted that the midge on cultivated chrysanthemums is distinct from *hypogaea*. Apparently the American species was misidentified. Dr. Barnes suggests nicotine dipping of cuttings, and routine sprays with nicotine.

*Hercinothrips femoralis* (Reuter)—Mr. Fullaway reported a heavy infestation by this thrips on *Crinum* lilies in Honolulu, June 7. This is a new host record.

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### JULY 12, 1948

The 511th meeting was held at the H.S.P.A. Experiment Station on Monday, July 12, at 2:00 p.m., with President Fullaway in the chair.

*Members present:* Bianchi, Bonnet, Bryan, Courtney, Flitters, Fullaway, Inada, Joyce, Kartman, Keck, Mainland, Nishida, Rosa, Schmidt, Stout, Tanada, Tuthill, Van Zwaluwenburg and Weber. Lew E. Wallace was elected to membership in the Society.

#### PAPER

Mr. Bianchi presented a paper: "New Thrips Records and Species from the Marianas."

#### NOTES AND EXHIBITIONS

*A new muscid fly*—Mr. Joyce reported that six specimens of *Muscina stabulans* (Fallen) were taken in a rat-baited trap at Ft. Armstrong, Honolulu, June 13, 1948. This appears to be a new record for the Islands, although specimens have been recovered from planes arriving in Honolulu in past years. The adults of *M. stabulans* are very similar to the common housefly in appearance, but may be readily distinguished by the wing venation. The fourth longitudinal vein is bent feebly upward, not sharply bent as in *Musca domestica* L. *M. stabulans* occurs in houses as well as in stables, etc., and is sometimes called the non-biting stable fly. The larvae normally breed in manure and decaying matter, and have been reared from and captured on human excreta and cadavers. The female frequently oviposits on food, and the larvae have been involved in cases of intestinal myiasis in man. *M. stabulans* is almost cosmopolitan, being known from all the continents as well as from some of the Pacific islands.

*Linognathus setosus* (Olfers)—Mr. Joyce exhibited a specimen of this sucking louse of dog, found on a stray dog at Ft. Armstrong, Honolulu, May 5, 1948. Apparently the species has not previously been reported from Hawaii, although it is possible that

it has been here for some time. It is occasionally abundant on poorly kept dogs in every part of the world.

*Dacus dorsalis* Hendel—Dr. Schmidt commented on the high mortality of maggots of this fruitfly observed in unbroken mangoes. Mr. Fullaway suggested that some of it may have been due to sun heat, and others suggested the possible killing effect of fermentation.

*Agonoxena argaula* Meyrick—Mr. Van Zwaluwenburg exhibited coconut leaves damaged by an insect new to the Territory, an agonoxenid moth first found at Kahala, Honolulu, by Mr. Pemberton and himself, June 28, 1948. Infestation is heavy at Kahala and at Kaalawai, where the insect may have been present for many months. Light infestations were later found at Ft. Ruger and in Manoa Valley. Feeding is confined to the epidermis on the underside of the leaves. The feeding scar of the young larva is long and narrow, spreading into wide, irregular blotches as the caterpillar grows. Feeding areas turn brown and are conspicuous. The caterpillar is yellowish green and feeds beneath a web; it does not tie up the leaf as *Omiodes* does. Pupation takes place beneath a close, elongate, white web on either the upper or lower leaf surface. The egg is not known. From Kahala material a small specimen of *Zaleptopygus* (*Cre mastus*) *flavo-orbitalis* (Cameron) emerged, and later investigation indicates that parasitism of *Agonoxena* by this ichneumonid is considerable.

Reared specimens agree well with the description of *A. argaula* (*Exotic Microlep.*, 2:472, 1921). The species was described from Fiji, and is known also from Samoa, the Ellice Islands and Palmyra. A related species, *A. pyrogramma* Meyrick, occurs in New Guinea, New Britain, the Solomons and Guam. Both species feed on coconut leaves. At Kahala typical *argaula* feeding was also seen on fan palm (*Pritchardia*).

*Polydesma umbricola* Boisduval—Mr. Van Zwaluwenburg reported a new hostplant for this agrotid moth. With Chester Wismer and Mr. Rosa he recently observed feeding by its larvae on pink shower (*Cassia grandis*) in Honolulu. Previously it was known only on *Albizia lebbek*, *Pithecolobium dulce* and monkey-pod.

*Pseudoparlatoria parlatorioides* (Comstock)—Mr. Fullaway exhibited specimens of this diaspine scale taken on *Cypripedium* orchids in Honolulu in June, 1948. This is a new insect for the Islands; the identification was by Mr. Fullaway.

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#### AUGUST 9, 1948

The 512th meeting was held at the H.S.P.A. Experiment Station on Monday, August 9, at 2:00 p.m., with President Fullaway in the chair.

*Members present:* Balock, Beller, Bryan, Carter, Fullaway, Holdaway, Inada, Joyce, Keck, Mainland, Pemberton, Rosa, Stout,



Tanada, Tuthill, Van Zwaluwenburg, Wallace, Weber, and Zimmerman.

*Visitors:* Mrs. Lilla Armstrong, Miss Betty Lou Pelot, Dr. A. C. Baker and Dr. C. L. Marlatt.

Miss Pelot was nominated for membership in the Society.

Dr. Marlatt gave interesting reminiscences of his earlier visits to Hawaii. Mr. Beller presented the Society with a copy of his "Summary of the Insects and Flora of Guam," and Mr. Bryan distributed copies of his "Bibliography of Micronesian Entomology."

#### PAPER

Dr. Carter presented a paper by A. B. Gahan entitled: "Identity of the *Anagyrus* that Parasitizes the Pineapple Mealybug (Hymenoptera: Chalcidoidea: Encyrtidae)." The following paper was presented for K. V. Krombein: "Two new Wasps from Melanesia and Notes on a Third recently introduced into Hawaii (Hymenoptera: Sphecidae)."

#### NOTES AND EXHIBITIONS

*Diorymerellus* sp.—Dr. Carter exhibited an adult weevil of this genus which issued from a *Cattleya* plant in his orchid house on August 7. The orchid originated in Venezuela and the emergence of the weevil despite the treatment the plant had undergone in quarantine, emphasizes the difficulty of keeping out of the Territory certain types of insects from foreign countries.

*Eumenes pyriformis philippinensis* Bequaert—Mr. Van Zwaluwenburg presented rearing notes on this wasp. A broken nest containing an incomplete complement of immobilized caterpillars (only four *Anacamptodes* larvae were present instead of the usual six or eight) and a *Eumenes* egg, was received on the afternoon of July 8. By 8 a.m. the next day, the egg had hatched, and by 8 a.m. July 12, the *Eumenes* grub had entirely consumed the larvae present, and though apparently full grown, searched about for additional food for the next two days. Finally by July 15 it had spun a loose web of silk, had turned from white to yellow in color, and lost its mobility. Pupation occurred between July 17 and 19; the adult wasp issued July 30-31, but lay quiescent for two days before becoming active. The larval stage lasted between 8 and 11 days, and the pupal stage, 11-14 days. Because it had less than the usual number of caterpillars for food, the reared wasp was somewhat undersized.

In a general discussion of *Dacus dorsalis* Hendel, Dr. Baker stressed the value of field studies as an aid to segregating various species of fruitflies which superficially, and based on accepted taxonomic characters, appear to be the same but are actually distinct.

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#### SEPTEMBER 13, 1948

The 513th meeting was held at the H.S.P.A. Experiment Station on Monday, September 13, at 2:00 p.m., with President Fulway in the chair.

*Members present:* Bonnet, Bryan, Carter, Fullaway, Inada, Joyce, Keck, Mainland, Nishida, Pelot, Pemberton, Ritchie, Rosa, Stout, Tanada, Tuthill, Van Zwaluwenburg and Weber.

*Visitors:* Dr. Henry A. Bess, Ellery W. French and Dr. Stephen M. K. Hu.

Miss Betty Lou Pelot was elected to membership. Dr. Bess and Dr. Hu were nominated for membership and Ellery French for associate membership. Mr. Bunki Kumabe of Maui was nominated for corresponding membership.

#### NOTES AND EXHIBITIONS

*Grapholitha molesta* (Busck)—Dr. Tuthill reported finding a nearly mature larva of the oriental fruit moth in an apparently sound plum from California, purchased locally.

*Dacus dorsalis* Hendel—Mr. Weber reported rearing this tephritid fly from grapefruit obtained on August 11; the infested fruits were from a store in Kapahulu, Honolulu, where they had been exposed for an unknown time. He also reported that *D. dorsalis* had earlier been reared from the star apple (*Chrysomphyllum cainito*) by Miss Chong, but that the record had until now been overlooked.

Mr. Tanada reported that Dr. Holdaway and he reared 33 *D. dorsalis* adults from four bell peppers (*Capsicum frutescens grossum*) collected at Pahoia, Hawaii (600 ft. elev.) by M. Ueda, July 13. From the peppers was also reared one specimen of *Opius fletcheri* Silvestri (det. C. E. Pemberton). Bell pepper is also a host of *Dacus cucurbitae* Coquillett, so it is not certain that the parasite was attacking *dorsalis* in this instance, even though no *cucurbitae* were obtained. However, it is of interest to note that the Board of Agriculture and Forestry has reared *fletcheri* from *D. dorsalis* in the laboratory.

Mr. Van Zwaluwenburg reported that Mr. Rosa and he had reared six *D. dorsalis* from 38 fruits of the introduced kou, *Cordia sebestena*.

*Eumenes latreillei petiolaris* Schulz—Mr. Weber reported that this wasp was seen by Stephen Au on August 19 in the Makaweli district of Kauai, where it is known to have been present since at least June of this year. This is a new island record.

*Agonoxena argaula* Meyrick—Mr. Van Zwaluwenburg reported further hosts of this recently discovered moth, most of them identified by Mr. Weber. Besides coconut and *Pritchardia* palms, larvae have been found feeding extensively on leaves of *Kentia* palm; bottle palm, *Hyophorbe amaricaulis*; and areca palm, *Chrysalidocarpus lutescens*.

*Cerambycid in orchids*—Mr. Weber spoke of damage done to pseudo-bulbs of certain orchids. (*Dendrobium* and *Cattleya*) by cerambycid larvae identified by the U. S. National Museum as belonging to the subfamily Lamiinae. A number of these larvae have been taken recently in local orchid houses. Later note: Reared

specimens subsequently proved to be the common immigrant, *Sybra alternans* Wiedemann.

*Orosius argentatus* (Evans)—Mr. Fullaway called attention to a paper (Journ. Counc. Sc. and Ind. Res., 16:86-90, Canberra, 1943) in which a virus disease of tomatoes and certain ornamentals in Australia, called "big bud of tomato," is shown to be transmitted by this cicadellid. The species does not occur in Hawaii; *Nesaloha cantonis* Oman is a synonym.

Damage to *Albizzia*—Mr. Pemberton exhibited a branch of *Albizzia saponaria* which showed to an exaggerated degree bud swellings such as have commonly been attributed to feeding on the unopened buds of monkeypod by the agrotid moth, *Polydesma umbri-cola* Boisduval. However, Dr. Carter said that similar damage to monkeypod (*Samanea*) had been familiar to him long before the advent of *Polydesma* to the Territory, and that therefore the swelling of the buds could be caused by other factors in addition to the work of *Polydesma*. A buprestid larva was present in one of the semi-decayed buds, which on rearing to adult later proved to be *Agrilus extraneus* Fisher, an immigrant species known here as early as 1908, and described in 1933. It is known only from Oahu.

#### OCTOBER 11, 1948

The 514th meeting was held at the H.S.P.A. Experiment Station on Monday, October 11, at 2:00 p.m., with Vice-President Balock in the chair.

*Members present:* Alicata, Balock, Bess, Bonnet, Flitters, Hu, Inada, Joyce, Keck, Lewis, Look, Maehler, Mainland, Marlowe, Nishida, Pelot, Pemberton, Ritchie, Rosa, Ross, Stout, Swezey, Tanada, Tuthill, Van Zwaluwenburg and Zimmerman.

*Visitors:* Dr. D. W. Clancy, Dr. D. E. Hardy, F. G. Hinman and L. B. Loring.

Dr. H. A. Bess and Dr. Stephen M. K. Hu were elected to membership, Ellery W. French to associate membership, and Bunki Kumabe to corresponding membership in the Society. The following were nominated for membership: Dr. Clancy, Dr. Hardy and Mr. Hinman.

#### PAPER

Mr. Van Zwaluwenburg presented: "Notes on Parasites of *Agonoxena argaula* Meyrick."

#### NOTES AND EXHIBITIONS

*Vanduzea segmentata* (Fowler)—Miss Inada exhibited specimens of a membracid new to the Territory, which she and T. Kono collected in Honolulu, August 17, 1948, on eggplant. Nymphs and adults were seen feeding at the stem ends, and a few were seen on the calyx of the fruit also. Most of them were attended by *Pheidole megacephala* (Fabr.). The membracid was identified by Miss Louise M. Russell of the U. S. National Museum; she states

that the recorded distribution of this insect is Arizona, Texas, Louisiana, Mexico and Central America. Recently, among student collections at the University, Dr. Tuthill found this same species collected April 20, 1948, Honolulu, without hostplant data.

*Sarcophaga ruficornis* (Fabr.)—Mr. Joyce reported this fly, new to the Islands, taken by him in Honolulu, July 16, 1947, and found also in the H.S.P.A. collection where 2 males and 1 female are present, collected in Honolulu, May 3, 1940, by O. H. Swezey. The species has a wide distribution, mainly oriental: Ceylon, Chagos Islands, India, Malay States, Formosa, Philippines, China (Hong Kong) and northeast Africa. It is said to cause occasionally a very severe form of dermal myiasis in India, and has also been reported in intestinal myiasis.

*Dacus dorsalis* Hendel—Mr. Nishida reported a new host fruit for this fly. From 24 ripe fruits of the latania palm (*Latania loddigessii*) picked up from the ground, 288 adult *D. dorsalis* emerged. Infestation apparently does not take place while fruits are still on the tree, for no flies were obtained from 12 ripe and 13 immature fruits picked from the tree.

Mr. Pemberton stated that Q. C. Chock of the Board of Agriculture and Forestry had reported to him that he had reared *Dirhinus giffardii* Silvestri, *Spalangia philippinensis* Fullaway, *Tetrastichus giffardii* Silvestri and *Pachycrepoides dubius* Ashmead from puparia of *D. dorsalis* in the outdoor laboratory of the Board in Honolulu. These puparia were obtained from guavas collected on Oahu. The pupal parasites *Dirhinus* and *Spalangia* must have entered the laboratory from the adjacent grounds, whereas *Tetrastichus* and *Pachycrepoides* could have parasitized the fly larvae in the field before the fruit was collected, or they could have entered the laboratory and parasitized the larvae after the fruit was brought in. All of these insects have been established in the Territory for many years and have formed part of the complex of Mediterranean fruitfly parasites. Mr. Chock also reported recently rearing good numbers of *Opius longicaudatus* (Ashmead) from *D. dorsalis* from guavas collected in Nuuanu Valley, Honolulu. This is the first recovery of this opiine, which was imported from the Malay Peninsula during the summer of 1948. *O. longicaudatus* was described from the Philippines as a *Biosteres* (Proc. U. S. Nat. Mus., 28: 970, 1905).

*Dacus cucurbitae* Coquillett—Mr. Nishida reported rearing 10 adults of the melon fly from 3 fruits of *Passiflora seemanni*. This is a new host record; the fruit was identified by W. B. Storey.

*Aceria litchii* (Keifer)—Mr. Nishida reported that, according to a recent letter from H. H. Keifer, the name of the litchi erinose mite is now *Aceria litchii*. Formerly it was referred to in the local literature as *Eriophyes chinensis* Trotter, and more recently as *Eriophyes litchii* Keifer.

*Oryctes rhinoceros* (L.)—Dr. Alicata said that losses from this insect are so severe and remedial measures so inadequate, that planters in Western Samoa are reported shifting from coconut to cacao culture.

NOVEMBER 9, 1948

The 515th meeting was held at the H.S.P.A. Experiment Station on Monday, November 9, at 2:00 p.m., with Vice-President Balock in the chair.

*Members present:* Balock, Bess, Bianchi, Bonnet, Clancy, French, Hardy, Hinman, Hu, Inada, Joyce, Look, Nishida, Pelot, Pemberton, Rosa, Schmidt, Swezey, Tuthill and Van Zwaluwenburg.

*Visitor:* C. W. Schwabe.

Dr. D. W. Clancy, Dr. D. Elmo Hardy and F. G. Hinman were elected to membership. C. W. Schwabe was nominated for associate membership.

## PAPERS

Dr. Tuthill presented a paper by Calvin W. Schwabe entitled: "Observations on the Life History of *Pycnoscelus surinameensis* (Linn.), the intermediate Host of the Chicken Eyeworm in Hawaii"; K. V. Krombein's paper was presented: "The Aculeate Hymenoptera of Micronesia. I. Scoliidae, Mutillidae, Pompilidae and Sphecidae."

## NOTES AND EXHIBITIONS

*Phytomyza spicata* Malloch—Mr. Pemberton reported finding this agromyzid fly mining leaves of Johnson grass at Wailuku, Maui, November 5. Mr. Van Zwaluwenburg added that he had found the same fly in *Setaria verticillata* at Mapulehu, Molokai, November 4. Both are new island records.

*Leptomastix dactylopii* Howard — Dr. Swezey exhibited both sexes of this encyrtid, reared from a light infestation of *Pseudococcus citri* (Risso) on poinsettia leaves in Honolulu. Sixteen of the parasites issued October 20-22, a single parasite per host mealybug. The first record of this species in Hawaii was by D. T. Fullaway in February 1945 (Proc. Haw. Ent. Soc. 12: 464, 1946) of specimens reared from a mixed infestation of *Phenacoccus gossypii* Towns. & Ckll. and *Pseudococcus kraunhiae* (Kuwana) on soybean and eggplant. Mr. Fullaway considered it to be an accidental introduction from California. Harold Compere (Univ. Calif. Pub. in Ent., 7, no. 4: 57, fig. 1) records it in California as having issued (a single pair) in December 1934, from *Pseudococcus citri* imported from Brazil. The progeny of this pair increased to more than 4 million within a year, and were distributed to the orchards of California. The species was described in 1885 (U. S. Bur. Ent., Bull. 5: 23).

*New host of melon fly*—Dr. Hardy reported that *Dacus cucurbitae* Coquillett was recently reared from kai choy (*Brassica juncea*) from Hilo. This apparently is a new host record and establishes the fact that this fly will attack at least some of the cabbages. The Assistant County Agent at Hilo reported infestations on kai choy rather general in the Hilo area, and that the fly is causing severe damage in some fields.

*Dacus dorsalis* Hendel — Mr. Van Zwaluwenburg reported finding eggs and larvae of the oriental fruitfly in berries of the beach naupaka (*Scaevola frutescens sericea*) collected by Mr. Pemberton and himself at Kawela Bay, Oahu, October 17. Apparently this host is not a very favorable one for the fly, for later it was found that none of the maggots in this lot of material succeeded in forming puparia. However, a single adult *dorsalis* was bred from *Scaevola* berries collected later in the same area.

*Sarcophaga ruficornis* (Fabr.)—Mr. Joyce recorded the occurrence of this fly on Kauai, based on collections by F. G. Holdaway at Wailua ranch, December 11, 1940 (3 males and 3 females), and at Kapaa, December 21, 1940, from manure (1 female).

#### DECEMBER 13, 1948

The 516th meeting was held at the H.S.P.A. Experiment Station on Monday, December 13, at 2:00 p.m., with Vice-President Balock in the chair.

*Members present:* Balock, Bess, Bianchi, Bonnet, Bryan, French, Hardy, Hu, Inada, Joyce, Keck, Lewis, Look, Nishida, Pelot, Ritchie, Rosa, Schmidt, Schwabe, Stout, Suehiro, Swezey, Tuthill, Van Zwaluwenburg and Zimmerman.

*Visitor:* L. Schoening.

C. W. Schwabe was elected to associate membership.

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

|                          |                                |
|--------------------------|--------------------------------|
| President.....           | J. W. Balock                   |
| Vice-President.....      | L. D. Tuthill                  |
| Secretary-Treasurer..... | R. H. Van Zwaluwenburg         |
| Additional members of    |                                |
| Executive Committee..... | {D. T. Fullaway<br>C. R. Joyce |

There were no further nominations, so the above nominees were elected.

In the absence of the President, Vice-President Balock read Mr. Fullaway's presidential address: "Dacus dorsalis Hendel, in Hawaii."

#### PAPERS

A paper by O. C. McBride and Y. Tanada was presented, entitled: "A Revised List of Host Plants of the Melon Fly in Hawaii." Mr. Zimmerman presented his paper: "A new Dynatopechus Weevil injuring Lima Beans in Hawaii (Coleoptera: Curculionidae)."

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*Opius persulcatus* (Silvestri)—A note was presented for Mr. Pemberton in which it was reported that Q. C. Chock had reared this opiine parasite from puparia of *Dacus dorsalis* Hendel ob-

tained from field-collected fruit on Oahu during November 1948. This parasite was introduced from the Philippines and the Malay Peninsula during 1948. It is the second parasite on *D. dorsalis* to become established here, the first being *Opius longicaudatus* (Ashmead). *O. persulcatus* was described from India as *Biosteres* (Boll. Lab. Zool., Portici, 11: 167, fig. 5, 1916).

*Identifications of new immigrant insects*—Mr. Zimmerman reported the identifications of some recent immigrant insects, received from the U. S. National Museum:

*Fulvius brevicornis* (Reuter), Heteroptera: Miridae; determined by R. I. Sailer (see *Fulvius* sp., Proc. Haw. Ent. Soc., 13: 213, 1948).

The monotomid beetle believed to be a fungus feeder, reported earlier this year (see p. 323) is near *Monotoma picipes* Herbst, a widespread species, but L. L. Buchanan reports that our specimen sent for comparison is paler and somewhat broader than any specimens under this name in the National Museum collection.

*Tropisternus lateralis* var. *dorsalis* Brullé, is the hydrophilid beetle reported at the March meeting (see p. 323); it is known from western North America and from Central and South America. Mr. Buchanan identified the beetle.

*Chrysobothris* sp. This buprestid beetle, first taken in Hawaii in 1946 (Proc. Haw. Ent. Soc., 13: 12, 1947) has been determined by W. S. Fisher as near *Chrysobothris tristis* Deyrolle, from the Austro-Malayan region.

*Diaperis maculata* Olivier; this is the red and black tenebrionid beetle first taken at Iroquois Point, Oahu, in 1947 (Proc. Haw. Ent. Soc., 13: 212, 1948). It is a variable, widespread species, and was identified by Dr. R. E. Blackwelder.

*Recent coccinellid introductions*—Mr. Zimmerman reported that during the year the following African Coccinellidae were introduced into Hawaii by the H.S.P.A. Experiment Station in cooperation with the Division of Biological Control, University of California: *Scymnus*, species not known; *Scymnus binaevatus* (Mulsant); and *Scymnus quadrivittatus* (Mulsant). The first species was released in Manoa Valley, Oahu, in January; *S. binaevatus* was released at Makiki and Manoa, Honolulu, in January, in Manoa Valley and in the Foster Gardens, Honolulu, in April, and on Lanai, and again in Manoa Valley in February. *S. quadrivittatus* was released at Manoa in January and May, and at Kunia, Oahu, in March. Details of these introductions are in the files of the Experiment Station, H.S.P.A. It is hoped that these species will become established as predators on some of the mealybugs occurring here.

*Dacus dorsalis* Hendel—Mr. Zimmerman reported that two adult flies of this species were bred from 97 ripe olives (*Olea europaea*) from the G. R. Carter estate at Kulamanu, Maui, collected November 24. This is a new host record for the oriental fruitfly.