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The following minutes, notes and exhibitions were recorded by the Secretary on the month indicated during the calendar year 1988. The minutes contain only the highlights in abbreviated form. Total attendance is indicated as well as important committee reports and business transactions. Complete minutes may be seen in the Secretary's file.

"PHES" is the abbreviation used in the Notes and Exhibitions section of the Proceedings for "Proc. Hawaii. Entomol. Soc." In the headings for the notes, the scientific names are in boldface type if the insect is reported as a new immigrant to Hawaii (The Editor).

JANUARY

The 985th meeting of the Hawaiian Entomological Society was held at the Manoa Library, Honolulu, starting at 2:00 p.m. on Tuesday, January 19, 1988, with President John Armstrong presiding. Twelve members were present.

Program: Drs. Neal Evenhuis and Arthur Buckman discussed the highlights of the National meeting of the Entomological Society of America, held in Boston, Massachusetts, during December 1987.

NOTES AND EXHIBITIONS

Ategumia matutinalis (Guenée): The pyralid moth previously reported in Hawaiian literature as *Blepharomastix ebulealis* (Guenée) is actually *Ategumia matutinalis* (Guenée), according to specialists at the British Museum (Natural History) and the U.S. National Museum. This moth was purposefully introduced from the West Indies to aid in controlling the noxious weed, *Clidemia hirta* (L.) D. Don. It was released and became established in 1970. Due to recent confusion concerning the species identity, specimens were sent to the British Museum for determination. They were collected at the Aiea Loop Trail, Oahu (1986) and Trinidad (1986) and were identified by M. Schaffer as *A. matutinalis*. Also, specimens collected during exploratory trips in Puerto Rico (1969), Ecuador (1979), and Trinidad (1986), and specimens collected from Aiea Loop Trail, Oahu (1983 and 1986) were sent to the Systematic Ent. Lab, USDA, for re-examination. These were all determined as *A. matutinalis* by D.C. Ferguson, who noted that this species and *B. ebulealis* are similar in appearance and apparently, in 1969, there was confusion in the identification. **B. Kumashiro** and **R. Burkhardt**.

Veronicella cubensis (Pfeiffer): The correct name for the slug that was previously known here as *Veronicella floridana* (Leidy) (PHES 27:14) is *Veronicella cubensis* (Pfeiffer). The identification was made by Dr. Jose Willibaldo Thome of the Fundacao Zoobotanica in Port Alegre, Brazil. The slug was first found in Kalihi Valley, Oahu in 1985. Since then, additional specimens have been collected from Kaneohe, Mililani, and Aina Haina. **B. Kumashiro** and **R. Hue**.

FEBRUARY

The 986th meeting of the Hawaiian Entomological Society was called to order by President Armstrong at 2:00 p.m., Monday, February 8, 1988 at the Manoa Library, Honolulu. Thirteen members and one guest, Mr. Gary Jahn, were present.

Program: Dr. John Armstrong, Research Leader at the Commodity Treatments, Handling and Distribution Research Unit, USDA-ARS Tropical Fruit and Vegetable Research Laboratory, Hilo, presented a talk titled: "USDA-ARS Commodity Treatments, the Blossom-end Defect Crisis and a Replacement Quarantine Treatment."

Election of New Members: Four new members were voted into the Society: Muhammad M. K. Chaudhry, who is with the Punjab Agricultural Department in Rawalpindi, Pakistan; Tim Whittier and Laura Gusukuma, Master's degree candidates in Entomology with the University of Hawaii Entomology Department; and Gary Jahn, a Ph.D. candidate in Entomology at the U.H.

MARCH

The 987th meeting of the Hawaiian Entomological Society was called to order by President-Elect Patrick Conant at 2:00 p.m., Monday, March 14, 1988 at the Manoa Library, Honolulu. Fifteen members and one guest were present.

Program: Dr. Eric Jang, USDA-ARS Tropical Fruit and Vegetable Research Laboratory, Hilo, spoke on the subject "Physiology and Olfaction of Tephritid Fruit Flies and their Relationship to Commodity Treatments."

Election to Membership: Ms. Sandra Toba, a student laboratory assistant at the U.H. Entomology Department, was elected to membership.

NOTES AND EXHIBITIONS

Nephrotoma suturalis wulpiana (Bergroth) (Diptera: Tipulidae): One female specimen of this large crane fly was collected on a window drape in Moore Hall on U.H. campus, January 1986. It was sent to Dr. George W. Byers, University of Kansas who identified the species and stated that the larvae feed on the rootlets of seedling plants and grasses. Its distribution is

California to British Columbia, eastward to Colorado, Montana and Western Texas. Dr. Byers said, "that your specimen was taken there at the University indicates that the species is probably established there. That is, it is unlikely that one individual came over from California on a plane and flew all the way up to Manoa Valley." However, as of this date, no additional specimens are known to have been collected here, and therefore it is assumed that this record does not represent permanent establishment of the species in Hawaii. Submitted by J.W. Beardsley for D. Elmo Hardy.

Psyllaephagus sp. nr. *rotundiformis* (Howard) (Hymenoptera: Encyrtidae): A single adult of *Psyllaephagus* sp. nr. *rotundiformis* (Howard) was collected from koa-haole (*Leucaena leucocephala*) foliage infested with the leucaena psyllid, *Heteropsylla cubana* Crawford, on Mt. Tantalus, Oahu on February 9, 1988 by W. Nagamine. Identification was made by B. Kumashiro, Hawaii Dept. of Agriculture (HDOA). This constitutes the first recovery of this psyllid parasite in the state. *Psyllaephagus* sp. nr. *rotundiformis* was purposely introduced from the West Indies in 1985 as a biocontrol agent for the leucaena psyllid. The last release in the Tantalus area was made in December 1987. Mummified psyllid nymphs also were observed in small numbers at the collection site on Feb. 9.

Parasitized leucaena psyllid nymphs were also recovered from koa-haole foliage at Niumalu and Nawiliwili, Kauai on February 10, 1988 by L. Nakahara and D. Sugawa. Five *Psyllaephagus* sp. nr. *rotundiformis* adults emerged from these after holding in the HDOA insectary. Identification was made by B. Kumashiro. This is the first recovery of the parasite from Kauai. The last parasite release in Nawiliwili was made in October 1987, and at Niumalu in August 1987. W. Nagamine, L. Nakahara, and D. Sugawa.

This parasite subsequently was described as a new species, *Psyllaephagus yaseeni* (Noyes, 1990. Bul. Entomol. Res. 80:39) (ed.).

Phenacoccus madeirensis Green (Homoptera: Pseudococcidae): Dr. D. J. Williams of the Commonwealth Institute of Entomology, London, recently (Bul. Entomol. Res. 77:335-356, 1987) pointed out that *Phenacoccus gossypii* Townsend and Cockerell and *P. madeirensis* Green are closely related but distinct species. Furthermore, most of the literature records of *P. gossypii* represent misidentifications of *P. madeirensis*. In light of this information, I have examined the Hawaiian specimens in my collection which previously were determined as *P. gossypii*. All appear to fit Williams' concept of *P. madeirensis*, which therefore is the correct name for our so-called Mexican mealybug. Apparently, true *P. gossypii* does not occur here. Also, specimens from Guam which I reported as *P. gossypii* (Insects Micronesia 6:657, 1975) are actually *P. madeirensis*.

Of these two species, *P. madeirensis* is far more widely distributed. True *P. gossypii* is known only from Mexico, southeastern U.S. and the Bahamas. *P. madeirensis* occurs throughout the southern tier of states of the U.S. mainland, from California to Florida, and in Mexico and throughout Central

and South America, the Caribbean Islands, and Africa, as well as in Hawaii and on Guam. It is presumed to be of American origin. **J.W. Beardsley.**

APRIL

The 988th meeting of the Hawaiian Entomological Society was held at the Manoa Library, Honolulu, beginning at 2:00 p.m. Monday, April 11, 1988 with President Armstrong presiding. There were 19 members and two guests present.

Program: Members who attended the First International Symposium on Fruit Flies in the Tropics, held March 14-16, 1988, at Kuala Lumpur, Malaysia, spoke on the highlights of that meeting. The speakers were: Dr. John Armstrong, Dr. Ernest Harris, Dr. Kenneth Kaneshiro, Dr. Nicanor Liquido, Dr. Toshiyuki Nishida and Dr. Roger Vargas.

NOTES AND EXHIBITIONS

Gasteracantha sp. (Araneae: Araneidae): Several specimens of this spider were collected at Lawai, Kauai on March 20, 1988. Identification was made by B. Kumashiro. This is a new record for Kauai. This spider forms a strong web and has become a serious nuisance in some residential and farming areas. It was first found in Hilo, Hawaii in December 1985 (PHES 28:10, 1988), and has become widespread along the Hamakua Coast to Kona and Kohala. **D. Sugawa.**

Pteromalus luzonensis Gahan (Hymenoptera: Pteromalidae): Two hundred *P. luzonensis* adults emerged from two pupae of the citrus swallowtail, *Papilio xuthus* L., collected from citrus plants in Honolulu in March 1988. Identification was made by B. Kumashiro. Although parasitized pupal cases of *P. xuthus* containing fragments of *P. luzonensis* adults were collected on Oahu in April 1985 and January 1986, this is the first recorded rearing of live *P. luzonensis* adults from Oahu. *P. luzonensis* was purposely introduced by the Hawaii Department of Agriculture (HDOA) from Guam in May 1975, to aid in the control of the citrus swallowtail (Nakao & Funasaki, PHES 23:125-128, 1979). The HDOA has specimens of *P. luzonensis* recovered from Kapaa, Kauai in 1983, but this was not previously reported. *P. luzonensis* is also known to be established on Maui (PHES 23:128). Presented by R. Hue for **K. Teramoto.**

Palembus ocularis Casey (Coleoptera: Tenebrionidae): This pantropical darkling beetle is established on Kauai and constitutes a new state record. The first specimen came from the HDOA office in Lihue via Laura Ishii. It was collected by D. Melandez on 7 Jan. 1987 from dried tamarind pods from a tree in Lihue, Kauai. Upon identifying the unique specimen, I called Ms. Ishii to see if more specimens could be obtained. Further specimens were reared from tamarind pods and good series are now deposited in the Bishop Museum and HDOA collections. Data on the additional specimens are: Kauai: Lihue, 8 Jan. 1988, ex dried tamarind pods, L. Ishii collector.

Dr. Charles A. Triplehorn, Ohio State University, provided the definitive identification and noted that Halstead (1975, Entomol. Mon. Mag. 110:241-3) treated the genus and included synonymies of species. *P. ocularis* has several junior synonyms, including *Martianus castaneus* Fairmaire, the name under which it had been recorded for certain Pacific islands. This tenebrionid is frequently associated with the tamarind, *Tamarindus indica* L. (Leguminosae). **G.A. Samuelson.**

MAY

The 989th meeting of Hawaiian Entomological Society was held at the Manoa Library, Honolulu, beginning at 2:00 p.m. on Monday, May 9, 1988 with President Armstrong presiding. There were 15 members and four guests present.

Program: Dr. James I. Moss, USDA-ARS Tropical Fruit and Vegetable Research Laboratory, Hilo, spoke on "Mechanisms of Heat Induced Death in Mediterranean Fruit Fly."

Science Fair Committee Report: Secretary Ron Hue reported for Dr. Lynn LeBeck, Chairman, that the 1988 Hawaiian Entomological Society Science Fair award winners were: First Place (\$30.00 award), Mr. Ryan Iwasaka, Baldwin High School, grade 10 for project titled "*Zeteticontus utilis*: a Biological Control;" Second Place (\$20.00 award), Mr. Sherwin Cheng, Waiakea High School, grade 12 for project titled: "Larvacidal Activities of the Mediterranean Fruit Fly."

NOTES AND EXHIBITIONS

Pachyneuron siphonophorae (Ashmead) (Hymenoptera: Pteromalidae): On February 13, 1988 several adults of *P. siphonophorae* were collected from foliage of *Leucaena leucophylla* plants, infested with *Heteropsylla cubana* Crawford, located outside the HDOA insectary in Honolulu. *H. cubana* nymphs parasitized by the recently introduced encyrtid, *Psyllaephagus* sp. near *rotundiformis* (Howard), were later collected from this source and held for parasite emergence. Several pteromalid adults which emerged were identified by Dr. Beardsley as *P. siphonophorae*. This is a well-known hyperparasite of primary parasites of aphids, but has not previously been reported from psyllids here. Also, this is the first record of *P. siphonophorae* developing as a hyperparasite on an encyrtid primary here. Previous records are all from aphidiine Braconidae. These included *Ephedrus incompletus* Provancher, *Diaeretiella rapae* (M'Intosh) [= *Diaeretus chenopodiaphidis* (Ashmead)] (Timberlake 1924, PHES 5(3):418-449), and *Lysiphlebus testaceipes* (Cresson) (Swezey 1931, PHES 7(3):332). Also, *Aphidius obscuripes* Ashmead is presumed to be a host (Beardsley 1966, PHES 19(2):143-144). Presented by R. Hue for W. Nagamine.

JUNE

The 990th meeting of the Hawaiian Entomological Society was held at the Campus Center, University of Hawaii at Hilo, beginning at 9:30 a.m. on Monday, June 13, 1988 with President Armstrong presiding. Twelve members and two guests were present.

Program: Following the meeting, Society members were given a tour of the State Department of Agriculture Entomology facility, the University of Hawaii Waiakea Experimental Station, and the USDA-ARS Tropical Fruit and Vegetable Research Laboratory, in Hilo.

Election of New Member: Mr. Terrance Moniz, a technician with the U.H. Hilo College of Agriculture, was elected to membership.

NOTES AND EXHIBITIONS

Aprostocetus sp. (Hymenoptera: Eulophidae: Tetrastichinae): In 1987 M.W.R. de V. Graham, a British chalcid specialist, published "A reclassification of the European Tetrastichinae (Hymenoptera: Eulophidae), with revision of certain genera" (Bul. British Museum Nat. Hist. Entomol. 55: 1-392). In this paper, the very large and important genus *Tetrastichus* Haliday was broken up, and many species formerly in that genus have been, or will need to be, placed in other genera, based upon Graham's work. Many of the species formerly in *Tetrastichus*, including several which occur in Hawaii, have been or will be placed in *Aprostocetus* Westwood.

Several incompletely identified Tetrastichinae from Hawaii which have not been reported in PHES are represented in the U.H. collection. One of these, a species of *Aprostocetus*, is reported now as a new state record because of its recently discovered host association.

While examining material collected sweeping roadside grass and weeds during an entomological survey carried out on Hickam Air Force Base, Oahu, on May 19, 1988 I noticed small circular emergence holes in several seeds of the common introduced weed, *Bidens pilosa*. A number of deformed *Bidens* seeds without emergence holes were dissected. These yielded several puparia and teneral adults of a small tephritid fly, which I identified as *Dioxya sororcula* (Wiedmann), a species known to infest *B. pilosa* flower heads (Hardy and Delfinado 1980, Insects of Hawaii 13:42-44).

Apparently, only one fly develops in each infested seed. Many of the seeds examined contained parasitized *Dioxya* puparia or puparial remains associated with larvae, pupae or pharate adults of a parasitic wasp. The parasite apparently develops externally on the pupa of *D. sororcula* within the puparium. The pharate adult parasites were determined to be the *Aprostocetus* species previously referred to. Several fully developed adult females of this species were found in the material collected with the infested *Bidens* seed at Hickam AFB.

This *Aprostocetus* species has been present in Hawaii since 1971 at least, and possibly was accidentally introduced here with its host. The latter was first found in Hawaii during 1966 (Hardy and Delfinado 1980). There are

15 specimens of this species, all females, in the U.H. Entomology Department Collection. I first found it in sweep net collections from grass and weeds made at the Koiaia Reserve, 3,000 ft., Kohala Mts., Hawaii, II•10•1971. The first Oahu collection was made by me at Ewa, V•21•1976, also collected sweeping weeds. This species can be recognized by its size (large for *Aprostocetus*), relatively elongate gaster and well-developed ovipositor. The color is generally black, with a few inconspicuous yellow markings (ie: the metanotum, the oral border of the head capsule and parts of the legs).

A second *Aprostocetus* species, also unidentified, which is similar in size and body form to the above, is represented in the U.H. Entomology Collection by three female specimens from the Ewa area of Oahu which were taken in light traps during September and October 1976. This species is dark metallic blue, and differs in several morphological details from the other. Its origin and host relationships are unknown. **J.W. Beardsley.**

New Immigrant Thrips Records: Three immigrant species of thrips not previously reported from Hawaii were identified recently by Mr. K. Sakimura from specimens collected during the past 25 years.

***Haplothrips niger* (Osborn):** This Holarctic species, characterized by very short setae on head and prothorax, was first collected in Hawaii at Haleakala, Maui, side of Crater Road, 8,500 ft. elevation, on *Anthoxanthum odoratum* (sweet vernal grass), 15•VII•1963, K. Sakimura (Saki #4179). It was later collected in abundance on the same host at Hosmer's Grove, Haleakala, 6,600 ft. and Holua Cabin, Haleakala Crater, 6,900 ft. elevation, in June 1977 by J.W. Beardsley and G. Teves. This species apparently is a high elevation grass infesting form and possibly may be found at similar elevations on Hawaii Island.

***Neurothrips punanus* Stannard:** This Central American species is characterized by the head having greatly bulging cheeks and variegated antennae. It was first collected in Hawaii at Barbers Point, Oahu, 16•XII•1969, Floyd Andre, sweeping vegetation (Saki #4883), and subsequently at St. Louis Heights, Honolulu, August 1974, K. Sakimura, beating dead koa branches.

***Strepterothrips orientalis* Ananthakrishnan:** This is an oriental species, previously known from South India and Thailand, and recently found in Fiji. It is characterized by the large squarish and deeply sculptured head, with bead-like seven-segmented antennae. In Hawaii, it was first collected at Barbers Point, Oahu 7•IX•1964, K. Sakimura, beating dead kiawe branches (Saki #4253, 4263), and subsequently at the same locality, December 1969, by Floyd Andre. Two other species of *Strepterothrips* are known; one from Queensland, Australia and New Zealand and the other from New South Wales, Australia. **K. Sakimura.**

***Neohydatothrips* sp. (Thysanoptera: Thripidae):** Specimens of this immigrant thrips were found infesting ornamental marigolds at the University of Hawaii Hilo Campus on the day of this meeting, June 13, 1988 by Mr. D.M. Tsuda, who made the identification. This is a new island record for *N. sp.* which was first reported in Hawaii from Oahu in 1986 (Tsuda and Sakimura 1988, PHEs 28:16). **D.M. Tsuda.**

JULY

The 991st meeting of the Hawaiian Entomological Society was held at the Manoa Library, Honolulu, beginning at 2:00 p.m. Monday, July 11, 1988, with President-Elect Conant presiding. There were six members and three guests present.

Program: Dr. John Stimson, Zoology Department University, of Hawaii at Manoa, spoke on the subject "Increase in the Frequency of the White Morph of the Monarch Butterfly, *Danaus plexippus* (Linnaeus) on Oahu, Hawaii."

NOTES AND EXHIBITIONS

Toyo dryope (Kirkaldy) (Homoptera: Delphacidae): Specimens of this planthopper, a new state record, were exhibited. Details concerning this species are presented in a paper in this issue of PHEM. J.W. **Beardsley**.

Harmolita species in Hawaii (Hymenoptera: Eurytomidae): The genus *Harmolita* Motschulsky is a large and economically important group, worldwide in distribution. All of the species for which hosts are known develop in the stems of grasses. Individual species have narrow host ranges and are generally limited to one or to a few closely related species of grass. Many species apparently are parthenogenetic as males are rare or unknown. I have seen only one male specimen from Hawaii.

Until now, a single species of *Harmolita* has been known in Hawaii; *H. swezeyi* Phillips and Poos, which was described from Hawaiian material in 1922 (Kansas Univ. Sci. Bul. 14:350), but was first collected here in 1905. It is presumed to be an immigrant of unknown origin, and its only known host is Bermuda grass (*Cynodon dactylon*).

Recently, while sorting through unidentified specimens of Eurytomidae in the University of Hawaii Entomology Department collection I found three species of *Harmolita* represented. These species can be distinguished by means of the following short key.

KEY TO HAWAIIAN HARMOLITA

(Females only; males are very rare or unknown in our species)

1. Head relatively elongate, malar space (=distance from lower margin of eye to oral margin of gena) slightly less than length of compound eye (ca 9:10); propodeum strongly, coarsely rugose over entire surface sp #2
 - Head shorter, malar space at most slightly more than one-half as long as compound eye; propodeum finely reticulate, at least on central posterior part 2
2. Scape and pedicel of antenna yellowish; malar space slightly more than one-half length of compound eye (ca 3:5) *swezeyi*
 - Scape and pedicel dark brown to black; malar space slightly less than one-half length of compound eye (ca 4:9) sp #1

Although I am unable to identify either of the two previously unreported *Harmolita* species from available literature, they are both presumed to be relatively recent immigrants. Species number 1 is known from Oahu and Molokai and is represented by 12 female specimens (including three in the Hawaii Department of Agriculture's collection). The four oldest were collected at: Naval Airport (Barbers Point N.A.S.), VII•23•1945, ex *Chloris* grass, by O.H. Swezey. The other Oahu specimens are from Honolulu, Waipio, and Ewa; the most recently collected was taken in IX•1976. The Molokai record is based on a female, taken at Halawa, 20•III•1966, C.M. Yoshimoto. A single male which may be this species is labeled: Oahu, Wiliwilinui Ridge 6•IX•1968, C.M. Yoshimoto. Species number 2 of the above key is represented by five specimens, all from Hawaii Island. The oldest was collected at Pohakuloa, 1800 m, 22•III•1961, L.M. Quate. The other four are from Ahumoa Crater, 7,000 ft., VI•18•1966. J.W. Beardsley.

Harmolita swezeyi apparently occurs on all the islands as there are specimens in local collections from Kauai, Oahu, Molokai, Maui, Lanai and Hawaii. Although the size ranges of the three species of Hawaiian *Harmolita* overlap, specimens of sp. number 2 are slightly larger than most *swezeyi* specimens that I examined, while those of sp. number 1 are mostly slightly smaller. J.W. Beardsley.

AUGUST

The 992nd meeting of the Hawaiian Entomological Society was held at the Manoa Library, Honolulu on Monday, August 8, 1988, beginning at 2:00 p.m., with President Armstrong presiding. Eighteen members and two guests attended.

Program: Members who attended the 28th International Congress of Entomology in Vancouver, British Columbia, July 3-8, 1988, presented highlights of that conference. Speakers were Drs. John Armstrong, Franklin Chang, Neal Evenhuis, Frank Howarth, Lynn LeBeck, Donald McInnis, Al Samuelson and Bruce Tabashnik.

NOTES AND EXHIBITIONS

Pieris rapae (Linnaeus) (Lepidoptera: Pieridae) Aggregating on Kauai: The cabbage white butterfly was observed in large numbers at the lower terminus of Awaawapuhi Trail, ca. 730 m (2,400 ft.) elevation, N and downslope of Kokee, on 23 April 1988. Butterflies were aggregating on a spur prominence dividing Nualolo and Awaawapuhi Valleys ca. 100 m SW of the overlook. It appeared that the butterflies were gravitating to this spur from lower elevations. The butterflies congregated about the summit of the spur, which is at the brink of subvertical valley walls. From there the elevation continues up, but at a much more gradual slope. The butterflies also tended to continue upslope beyond the spur, at least for a short distance, often flying to flowering lantana at the overlook area. While observing the

spur from the overlook (ca. 1:15-1:45 p.m.), 5-10 butterflies were seen at any moment around the spur, but one count in the same field was > 25 butterflies. They frequently clustered, with 3 or 4 individuals in a tight group. The largest cluster counted contained 7 individuals, and ended when all 7 flew in-line about the spur area. This formation was spectacular, as the individuals were evenly spaced and they stayed in line long enough to make several turns. Most of the trail upslope of the overlook was forested and *P. rapae* was not observed in numbers there. I could not determine whether the butterflies remained in the area once they attained the spur. In any case, it appeared that individuals were "hilltopping" at least momentarily. This site would be ideal for a marking and recapturing experiment.
G.A. Samuelson.

SEPTEMBER

The 993rd meeting of the Hawaiian Entomological Society was held at the Manoa Library starting at 2:00 p.m. on Monday, September 12, 1988, with President Armstrong presiding. Thirteen members attended.

Program: Dr. Ernest Harris, USDA-ARS Tropical Fruit and Vegetable Research Laboratory, Honolulu, spoke on "The Ecology of the Mediterranean Fruit Fly in Coffee at Makaha Valley, Oahu."

NOTES AND EXHIBITIONS

Myllocerus sp. (Coleoptera: Curculionidae): A specimen of a small weevil collected at Hickam Air Force Base, Oahu has been determined as *Myllocerus* sp. by Dr. D.R. Whitehead of the USDA, ARS, Systematic Entomology Laboratory, Beltsville, Maryland. This is a new state record.

To date, only three specimens of this weevil, all from Hickam AFB, are known to have been collected. The first was taken in a light trap on VII-5-1978. The weevil was not seen again until October 1985, when a second light trap specimen was found. Finally, a third specimen was collected sweeping weeds and roadside vegetation on the air base in May 1988. All three were collected by J.W. Beardsley.

Dr. Whitehead wrote that this weevil apparently is not North American in origin and probably came from Asia. Nothing is known concerning its habits. **J.W. Beardsley** and **B. Kumashiro**.

Copidosoma sp., probably sp., *bakeri* (Howard) (Hymenoptera: Encyrtidae): This polyembryonic wasp was first collected in the state on the island of Hawaii during May 1985 (1989, PHEs 29:4). It is now recorded for the first time from Maui. Recently I examined material from yellow pan traps set out in the Kula area of Maui by Dr. Diane Ullman and her coworkers to monitor aphid populations. These trap catches, which were obtained mostly during the first half of 1988, contained numerous specimens of a wide range of parasitoid Hymenoptera. The most abundant species of Hymenoptera in virtually all of the trap catches which I examined was this *Copidosoma*. These outnumbered all other Hymenoptera combined.

Apparently, this parasitoid is now abundant on Maui, judging from these pan trap catches. We do not know what hosts this wasp is parasitizing. However, *C. bakeri* is a well-known parasite of larval Noctuidae in such genera as *Agrotis*, *Chroizagrotis*, and *Peridroma*. In Hawaii we have, in addition to introduced pest species such as *Agrotis ipsilon* (Hufnagel) and *Peridroma saucia* (Hubner), a number of endemic species in the genera *Agrotis* and *Peridroma* which are potential hosts.

C. bakeri is widely distributed in North America. The cool temperatures which are characteristic of the upper elevations of Haleakala on Maui, and on Hawaii, where many endemic agrotine moths occur, probably would not inhibit its spread. This parasitoid could have significant impact on populations of these endemic Noctuidae, which have not previously been subjected to parasitism by polyembryonic Encyrtidae.

This parasitoid is an accidental, not a purposely made, introduction into Hawaii. In view of criticism which has been leveled at past purposeful introductions for biological control of pests, alleging negative impacts on endemic insect populations, I believe that it is important to point out the potential negative impacts on endemic insects which accidental introductions, such as this encyrtid, may produce. I hope that before any future decline in endemic agrotine Noctuidae is blamed upon parasites purposely introduced in the past for biological control of cutworms and armyworms, the possible impact of this accidentally introduced encyrtid will be evaluated. **J.W. Beardsley.**

Pheidole fervens Fr. Smith (Hymenoptera: Formicidae) Tending Taro Root Aphids: This ant, which is much less widely distributed in Hawaii than its relative, *P. megacephala* (Fabricius), is most commonly seen around Hilo on the island of Hawaii. During July 1988, I visited the Hilo area to look into the problem of the taro root aphid, *Patchiella reaumuri* Kaltendach, which seriously infests dryland taro grown there. In company with Dr. Arnold Hara and Dr. Dwight Sato of the College of Tropical Agriculture and Human Resources, I visited a former taro planting which had been so heavily damaged by root aphids that the crop had been abandoned. Volunteer taro plants in the field were all heavily infested just above and below ground level by the aphids which, in every case, were being actively tended by *P. fervens*. It appears that aggressive tending of *P. reaumuri* by *P. fervens* may have been at least partly responsible for the buildup of aphid populations in this field. The possibility of limiting root aphid damage to dryland taro by eliminating these ants should be investigated. **J.W. Beardsley.**

New Immigrant Thrips Records: Two immigrant species of Thysanoptera are reported for the first time in Hawaii. Although both were first collected in years past, they were not identified until recently.

Aeolothrips bicolor Hinds: This species, known previously from the eastern U.S., Oregon and Utah, is characterized by a bicolorous body (abdominal segments II-III pale), forewings with two broad dark bands and antennal segment III pale. It was first collected in Hawaii on Oahu, at Kemoo, on Kikuyu grass, 21•V•1957 by K. Sakimura (Saki #4032). It is now fairly common, and has been collected on all major islands of the state,

except Hawaii. It is predatory on scales and mites on grasses, particularly Kikuyu and Bermuda grasses. It seems to prefer cool, moist, high elevation environments and on Haleakala, Maui has been collected at elevations of 6,000 and 8,600 feet.

Caliothrips punctipennis (Hood): This species, a grass feeder, is known elsewhere from the southern parts of the U.S. mainland. It is characterized by pale unmarked legs and largely hyaline forewings with a small dark spot at the tip. It was first seen here in a quarantine greenhouse in Honolulu in 1981, on grass sod from Georgia and bamboo from California. The first field collection here was from Kula, Maui, 18•VII•1983 L. Yudin, ex sticky trap (Saki #5236) and Kawainui Swamp, Kailua, Oahu, 10•X•1983, D.M. LaSalle, sweeping (Saki #5305). **K. Sakimura.**

Trogoxylon prostomoides (Gorham): This powder-post beetle (Lyctidae) constitutes a new state record. Three specimens had emerged from an imported, woven basket and were collected on 25•VII•1977 in Honolulu by Ms. Sadie Doyle. The basket was purchased locally shortly before powder was observed issuing from it. This beetle appears not to be established in the state, as it has not been reported again during the 11-year interval. Our material keyed satisfactorily in Gerberg's (1957, USDA Tech. Bull. 1157) revision of New World lyctids. *T. prostomoides* is distinguished by having the lateral edges of the postclypeus and frons sharply upturned. It is apparently Central American, chiefly ranging from Panama to Mexico. There are a few records in the United States from imported wood products. **G.A. Samuelson.**

Oxyopes sp. (Araneida: Oxyopidae): Specimens of a spider not previously known to occur in Hawaii were collected on the outside walls of a house in Kunia, Oahu by C. Zenigami on March 13, 1988. The spider was identified as *Oxyopes* sp. by J. Coddington, Smithsonian Institution, who noted that the family Oxyopidae was not reported for Hawaii by T.W. Suman, and that the species was not North American or Central American in origin. In July 1988, additional specimens were collected in Aina Haina, Oahu. **B. Kumashiro.**

Apanteles opacus Ashmead (Hymenoptera: Braconidae): Specimens of a parasite which emerged from Hawaiian beet webworm, *Spoladea recurvalis* (Fab.), larvae collected at Waimanalo, Oahu in 1987, were identified as *Apanteles opacus* Ashmead by P.M. Marsh, Systematic Entomology Laboratory, USDA. This parasite was not purposely introduced. It is a new state record. **B. Kumashiro.**

Apanteles scutellaris Muesebeck (Hymenoptera: Braconidae): In the Hawaii Department of Agriculture's (HDOA) collection, there are 5 specimens of *A. scutellaris* reared from tomato pinworm, *Kiefferia lycopersicella* (Walsingham), which were collected from Kailua, Oahu on July 12, 1943. This braconid was not previously recorded in PHES as having been recovered from the tomato pinworm. *A. scutellaris* was purposely introduced in 1933 by the HDOA to control the potato tuberworm, *Phthorimaea operculella* (Zeller), and was reintroduced in 1976 and 1981 to control the tomato pinworm. During a survey in 1977 specimens of this parasite

emerged from tomato pinworm-infested plants collected from tomato fields on Kauai. **B. Kumashiro.**

OCTOBER

The 994th meeting of the Hawaiian Entomological Society was held at the Manoa Library, Honolulu on Tuesday, October 11, 1988, beginning at 2:00 p.m., with President Armstrong presiding. Twenty-one members and four guests attended.

Program: Dr. Jay Rosenheim, Entomology Department University of Hawaii at Manoa, spoke on "Host Location and Exploitation by a Cleptoparasitic Wasp: the Role of Learning."

Election of New Members: Three new members were voted into the Society: Mike Caprio and Richard Ebesu, both with the U.H. Department of Entomology, and Dean Jamieson with the State Health Department on Kauai.

Editorial Committee Report: Dr. Beardsley reported the Editorial Committee met on October 4, 1988. The Committee approved two policy changes concerning the Society's "Proceedings".

1. Notes which are submitted for publication in the Notes and Exhibitions section should not exceed $\frac{3}{4}$ of a printed page in length (ca 2500 characters). Anything longer should be submitted as a short paper to be published under the format of Operational and Scientific Notes. This format was first used in Volume 28. We recommend that such papers not exceed two printed pages in length. This format has the advantage that such manuscripts are subject to peer review, and can be formally listed in the author's bibliography. Also, for institutional authors, the society can recover partial costs through page charges, and can provide reprints.
2. The journal name, volume number and pages of each article should be added just above the abstract in 8 pt. type, as is now done in ESA journals. This permits abstracting journals to provide all essential information by simply photocopying the abstract.

Nominations Committee Report: Committee Chairman Dr. Jack Fujii submitted the slate of officers for 1989, which was presented by President Armstrong:

President-elect: Dr. Stanley Higa, Dr. G. Allen Samuelson.

Secretary: Dr. Nick Liquido.

Treasurer: Mr. John Strazanac.

Advisor: Mr. George Komatsu, Dr. Lorna Arita.

As there were no other nominations from the floor, the nominations were closed.

NOTES AND EXHIBITIONS

Hierodula patellifera (Serville) (Orthoptera: Mantidae); *Ootheca* Parasitized by *Podagrion*: *Hierodula patellifera* is a large preying mantis from

Indonesia and the Philippines which was first collected in Hawaii on Kauai in 1924 (Zimmerman 1948, Ins. Hawaii 2:102). This mantis was not seen on Oahu until 1970, (Beardsley 1980, PHES 23:178) but has become common in the Honolulu area during the past few years.

There are no records of parasites of eggs of this mantis in Hawaii. However, on September 6, 1988, I collected an ootheca of this species (exhibited) at Waimanalo, Oahu, which contained numerous small circular exit holes resembling those of the torymid parasite, *Podagrion mantis* (Ashmead). By dissecting the ootheca I found the partial remains of two *Podagrion* adults which had died within it. *P. mantis* is a well-known parasite of *Tenodora angustipennis* Saussure oothecae in Hawaii, and has been recorded from oothecae of other mantid species elsewhere. The *Podagrion* fragments obtained from the *H. patellifera* oothecae could not be identified to species. However, no species of *Podagrion* other than *mantis* is known to occur in Hawaii. **J.W. Beardsley.**

Trichrysis triacantha (Mocsary) (Hymenoptera: Chrysididae): In 1977 I reported a chrysidid wasp, determined as *Trichrysis* sp., as a new state record (1980, PHES 23:185). Recently, I sent specimens to Dr. R.M. Bohart, University of California, Davis, who is an authority on the taxonomy of Chrysididae. Dr. Bohart identified our species as *T. triacantha* (Mocsary), known to be widespread in the Oriental region. It was first collected in Hawaii on Oahu in 1964, and all of the specimens which I have seen (7) are from that island. **J.W. Beardsley.**

Calliephialtes grapholithae (Cresson) (Hymenoptera: Ichneumonidae): A female specimen of this ichneumonid wasp was reared from a larva of *Cryptophlebia* sp. in a damaged macadamia nut collected at the MacFarms macadamia orchard in South Kona, Hawaii, by Mr. Chris Robb on September 12, 1988. This is the first record of *C. grapholithae* outside of Oahu, where it was first collected in 1977 (Beardsley 1980, PHES 23:179). This is also the first Hawaiian host record for this parasite. **J.W. Beardsley.**

Agallia lingula VanDuzee (Homoptera: Cicadellidae): Several specimens of this leafhopper were swept from miscellaneous weeds in Hilo, Hawaii, during September by Mr. Shin Matayoshi of Hawaii Department of Agriculture. These were determined by me. This species previously had been collected in the state only on Oahu, and was reported as a new state record in September 1985 (Beardsley 1986, PHES 27:13). **J.W. Beardsley.**

Merothrips spp. in Hawaii (Thysanoptera: Merothripidae): Zimmerman (1948, Insects of Hawaii 2:408) recorded two species of this genus from Hawaii, *M. hawaiiensis* Moulton and *M. morgani* Hood. Bailey (1960, Pan-Pacific Entomol. 36:53-67) reviewed the genus and placed *M. hawaiiensis* as a junior synonym of *morgani*. Bailey studied two Hawaiian collections of *Merothrips*, one from Molokai, the other from Oahu, and placed both as *M. morgani*. A more recent review by Mound and O'Neil (1974, J. Nat. Hist. 8:481-509) confirmed the synonymy of *M. hawaiiensis* with *M. morgani*, but determined a second collection from Oahu as *M. floridensis* Watson (1927, Florida Entomol. 10:60). The latter species has not previously been reported in PHES and is a new state record. I have identified additional

specimens of *M. morgani* from Maui (Kula, XI-XII•1981, W.C. Mitchell, ex wind traps in lettuce field, Saki #5228), and of *M. floridensis* from Hawaii (Volcano, X•1945, C.J. Davis, ex dead branches, in F.A. Bianchi collection).

The two *Merothrips* species present here are very similar, and are distinguished by minor details of sculpture. In *morgani*, the entire pronotum is faintly sculptured with anastomosing lines, whereas in *floridensis* only the posterior quarter of the pronotum is sculptured with fine transverse striations.

Merothrips belongs to Merothripidae of the suborder Terebrantia, and is characterized by reduced ovipositor, rounded abdominal apex in both sexes, and broad tympanum-like sensory bands on antennal segments III and IV, instead of the ordinary horn-like sense cones. They are all fungus feeders among leaf litter and dry grass, or in dead wood.

Outside Hawaii, *M. morgani* is known from the eastern U.S., Panama, Australia, South India and Kenya. *M. floridensis* occurs throughout much of the U.S., including California, West Indies, South America, Japan, Australia, New Zealand, France and South Africa. **K. Sakimura.**

NOVEMBER

The 995th meeting of the Hawaiian Entomological Society was held at the Manoa Library, Honolulu, beginning at 2:00 p.m. on Monday, November 14, 1988, with President Armstrong presiding. Sixteen members and three guests were present.

Program: Dr. Diane Ullman, Department of Entomology, University of Hawaii at Manoa, spoke on the topic "Mosaic Virus Epidemics in Hawaiian Cucurbits: The Impact of Aphid Landing, Propensity and Colonization."

NOTES AND EXHIBITIONS

Hypothenemus obscurus (Fabricius) (Coleoptera: Scolytidae): A scolytid beetle, determined as *Hypothenemus obscurus* (Fabricius) by Dr. Stephen L. Wood of Brigham Young University, Provo, Utah, was recently found infesting macadamia nuts in the Kona region of the big island. This is a new state record. See paper in Scientific and Operational Notes section of this issue for additional details. **J. W. Beardsley, B. Kumashiro, A. Samuelson, and D. Tsuda.**

Hoplothrips japonicus (Karney), (Thysanoptera: Phlaeothripidae): A single female specimen identified by me as *Hoplothrips japonicus* (Karney), was collected in flight at St. Louis Heights, Honolulu, 15•XII•1976, **K. Sakimura** (Saki #4860). This species has not been previously reported in Hawaii and has not been collected here subsequently, although it is likely to be found established. It is known to be a fungus feeder, living on mushrooms, bracket fungi and under bark of fallen trees and rotting stumps. Colonies of the bright red larval stages often are quite conspicuous.

The known distribution of this thrips includes Japan, Taiwan, Transcaucasia (Georgia, USSR) and North America, where apparently it

was introduced. In the U.S. it was discovered in Pennsylvania in 1911 where it was described under a different name. In North America it is now known to occur in eastern Canada, the northeastern U.S. as far south as Georgia, Illinois, Wisconsin, and in British Columbia in the far west.

Karney (1913, Archiv f. Naturgeschichte 79:126) briefly described *japonicus* (in *Dolerothrips*) as having the body dark brown, only fore tibia light brown (not yellow), antennal segment III yellow with weak brown wash at distal third, IV-VI also basally yellow, all body setae nearly pale except wing-retaining setae on tergites light brown. Head about 0.8 times as wide as long, antennae slender and long, about twice as long as head, segment III 2.5-2.7 times as long as wide; fore coxa with single long seta recurving at distal quarter, in addition to few other short spurs; forewing with 15-19 double fringes; tergites III-VII each with long lateral seta and subequally long sublateral seta; tube slender and long, about 0.8 times as long as head.

There are around 20 species of *Hoplothrips* present in Hawaii. Two of these, *H. japonicus* and *H. flavitibia* Moulton, are immigrants. The remaining species constitute a poorly understood endemic species complex. K. Sakimura.

DECEMBER

No meeting was held during December 1988.

NEW IMMIGRANT RECORDS FOR THE YEAR 1988

The following species were reported for the first time in the Hawaiian islands during 1988, or earlier, on the dates indicated in the text. Species marked with an asterisk are considered as doubtfully established as record is based on a single collection.

Chance Immigrants

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* <i>Nephrotoma suturalis wulpiana</i> (Bergroth) (Diptera: Tipulidae)	2
<i>Palembus ocularis</i> Casey (Coleoptera: Tenebrionidae)	4
<i>Aprostocetus</i> sp. (Hymenoptera: Eulophidae)	6
<i>Haplothrips niger</i> (Osborn) (Thysanoptera: Phlaeothripidae)	7
<i>Neurothrips punanus</i> Stannard (Thysanoptera: Phlaeothripidae) . . .	7
<i>Strepterothrips orientalis</i> Ananthakrishnan (Thysanoptera: Phlaeothripidae)	7
<i>Toyo dryope</i> (Kirkaldy) (Homoptera: Delphacidae)	8
<i>Harmolita</i> sp. #1 (Hymenoptera: Eurytomidae)	8
<i>Harmolita</i> sp. #2 (Hymenoptera: Eurytomidae)	8
<i>Myllocerus</i> sp. (Coleoptera: Curculionidae)	10
<i>Aeolothrips bicolor</i> Hinds (Thysanoptera: Aeolothripidae)	11
<i>Caliothrips punctipennis</i> (Hood) (Thysanoptera: Thripidae)	12

* <i>Trogoxylon prostomoides</i> (Gorham) (Coleoptera: Lyctidae)	12
<i>Oxyopes</i> sp. (Araneida: Oxyopidae)	12
<i>Apanteles opacus</i> Ashmead (Hymenoptera: Braconidae)	12
<i>Merothrips floridensis</i> Watson (Thysanoptera: Merothripidae)	14
<i>Hypothenemus obscurus</i> (Fabricius) (Coleoptera: Scolytidae)	15
* <i>Hoplothrips japonicus</i> (Karney) (Thysanoptera: Phlaeothripidae) ..	15
<i>Kleidotoma bryani</i> Yoshimoto (Hymenoptera: Eucoilidae)	135
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<i>Kleidotoma kraussi</i> Yoshimoto (Hymenoptera: Eucoilidae)	137
<i>Syrphophagus</i> sp. (Hymenoptera: Encyrtidae)	155

Beneficial Insects Purposely Introduced During 1988

<i>Psyllaephagus yaseeni</i> Noyes (Hymenoptera: Encyrtidae)	3
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NAME CHANGES AND CORRECTIONS CITED IN NOTES

Previous Name	Changed to	Reason*	Page
<i>Blepharomastix ebulealis</i> (Guenée)	<i>Ategumia matutinalis</i> (Guenée)	CD	1
<i>Veronicella floridana</i> (Leidy)	<i>Veronicella cubensis</i> (Pfeiffer)	CD	2
<i>Phenacoccus gossypii</i> Townsend and Cockerell	<i>Phenacoccus madeirensis</i> Green	CD	3
<i>Trichrysis</i> sp.	<i>Trichrysis triacantha</i> (Mocsary)	Det	14
<i>Merothrips hawaiiensis</i> Moulton	<i>Merothrips morgani</i> Hood	Syn	14

*CD=corrected determination, Det=determined, Syn=synonym.

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Treasurer	John Strazanac
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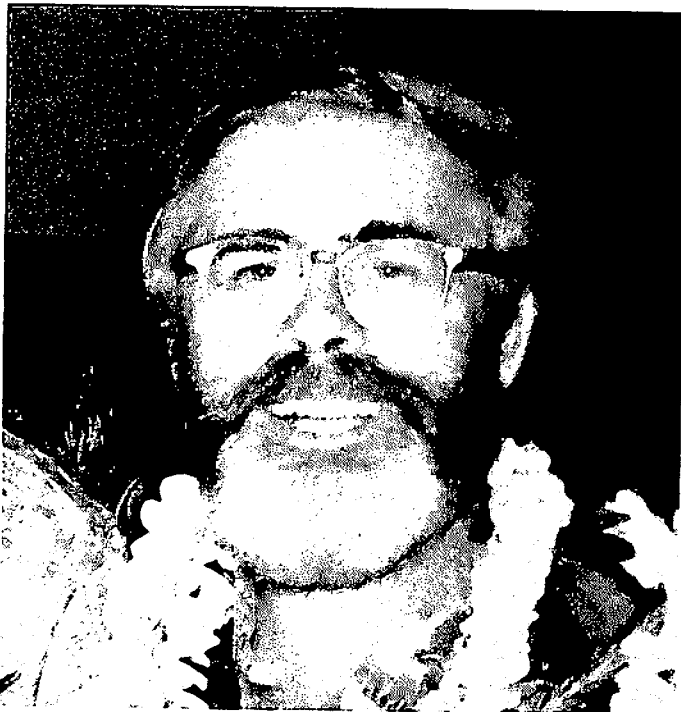
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IN MEMORIAM



WAYNE C. GAGNÉ
(1942-1988)

Dr. Wayne C. Gagné, a well-known and respected entomologist and conservationist, died suddenly on May 24, 1988. Dr. Gagné had been a member of this Society since September 1968, shortly after his arrival in Hawaii. For nearly 20 years he had been associated with the Entomology Department of the Bernice P. Bishop Museum.

Dr. Gagné's primary research interest was in the systematics of the Heteroptera, particularly the family Miridae. His Ph.D. dissertation research, a revisionary study of the endemic Hawaiian mirid genus *Nesiomiris* Kirkaldy, was carried out under the direction of the late R. L. Usinger, himself a long-time member of this Society. Dr. Gagné was an exceptionally gifted field entomologist and naturalist. His work of collecting endemic Hawaiian insects produced a large amount of valuable material, including many undescribed species, as well as much new biological data. His collections are housed in the Bishop Museum.

Dr. Gagné's Ph.D. dissertation on the genus *Nesiomiris* has been edited for publication, and will soon be published by the Bishop Museum Press. This monumental biosystematic study will increase the number of known

Nesiomiris from the single species on which the genus was based to 50 species, 49 of which are described as new.

In addition to his Hawaiian studies, Dr. Gagné's interests in field work and conservation took him to Papua New Guinea, where he spent several years (1976-79) working on an agro-forestry project, while based at the Wau Ecology Institute. The focus of this project was to develop alternatives to the slash and burn agriculture which is so destructive of tropical forests throughout the world. This training program was highly successful, and serves as a model for conservationists working in tropical rain forests, worldwide. He was also very active locally in the Hawaiian conservation movement, working through the Bishop Museum, with MacArthur Foundation funding, to develop a Hawaiian Environmental Education program, now known as the Ohia Project.

Dr. Gagné's untimely death has robbed the entomological community, as well as conservationists, in Hawaii and throughout the world, of a first-class scientist and diligent and effective advocate. In his short lifetime he accomplished much. Granted more time he surely would have accomplished much more. All of us who knew him will miss his friendship and his counsel.

John W. Beardsley