

# PROCEEDINGS of the Hawaiian Entomological Society

---

---

VOL. XXIII, NO. 2

FOR THE YEAR 1977

FEBRUARY, 1980

---

---

## JANUARY

The 853rd meeting of the Hawaiian Entomological Society was called to order by President Radovsky at 2:00 p.m., January 17, 1977, in the Conference Room, Bishop Museum.

**Members Present:** Beardsley, Brennan, Hardy, Ikeda, Joyce, Koover, Kunishi, Montgomery, Papp, Radovsky, Ralph, Samuelson, Steffan, Sugerma, J.A. Tenorio, J.M. Tenorio, Tanimoto.

**Visitors:** Neal Evenhuis, Keith Arakaki, E.A. Perry, and J.C.E. Riotte (Bishop Museum), Charles Hodges and John Stein (U.S. Forest Service).

**New Business:** Radovsky summarized a letter from the Dir. of Nat'l Marine Fisheries Service informing the HES that we can no longer hold our meetings in their facilities. After discussing other possible sites it was decided to continue to meet at the Bishop Museum until favorable arrangements could be made at another locality.

### NOTES AND EXHIBITIONS

***Agraulis vanillae* (L.):** The passion vine butterfly, *Agraulis vanillae* (L.) was collected for the first time in Hawaii on January 14, 1977, independently by Arakaki and Beardsley from Manoa Valley. Their notes follow for this new state record.

Three adult specimens of *Agraulis vanillae* (L.) were collected on January 14, 1977 in lower Manoa, Oahu. Two females and one male were feeding on star jasmine, *Jasminum multiflora*. On January 15, 1977 two male specimens were taken feeding on *Bougainvillea* in the same area. Search for immature forms yielded several eggs and a single larva feeding on a bud of *Passiflora foetida*. At the same time five empty pupal cases were taken. Determination was made by Father Riotte of Bishop Museum. **K. Arakaki.**

Dr. Beardsley added that many adults of *A. vanillae* were seen on January 14 flying about and alighting on vines of *P. foetida*, the common scarlet fruited passion flower growing on a fence fronting Dole St. next to Krauss Hall on the Univ. campus. Later Nakahara, Murai, Nagamine & Beardsley collected eight more adults during about one hour. Numerous adults have been observed in this general area since. Feeding damage and a cast larval skin on *P. foetida*, and two unemerged pupae were also found in the same area. These findings plus the fact that all adults appear to be newly emerged, suggest that this is a newly established population still essentially even-brooded.

*A. vanillae* is a widely distributed tropical American species belonging to the heliconid group of butterflies (often treated as a subfamily or tribe of

the Nymphalidae). It ranges from Central America through Mexico to Florida, the gulf states, Texas, New Mexico, Arizona and California. The known larval hosts include several *Passiflora* species.

In California larvae of this species sometimes defoliate ornamental *Passiflora* vines. Thus it is considered to be a potential pest of commercial passion fruit production in Hawaii. Additional information on the host range and distribution is being sought. **J.W. Beardsley.**

**Coelopa (Fucomyia) stejneri** Aldrich: A ♀ specimen of this Coelopidae fly was taken from a light trap catch at pier 2, Honolulu, December, 1976 by J.W. Beardsley. It is not likely to establish in Hawaii as it breeds only in kelp and is known only from the Bering Sea, Alaska and Vancouver Island, British Columbia. George Steyskal, USNM, identified it as *Coelopa (Fucomyia) stejneri* Aldrich. **D.E. Hardy.**

Diptera, Family?, New Genus: A small metallic blue fly has been showing up regularly in light traps at Pearl City, Waipahu, and Barbers Point for the past few months. This is a strange new genus of Acalypttratae which will not fit in any known family. The species was first collected in a light trap, Honolulu, June 5, 1967 by C.R. Joyce. Four species of this taxon are on hand from over the Pacific, Malaysia, Ryukyu Islands and Aldabra Island (Indian Ocean). So it obviously is very widespread and has been over-looked in the past due to its small size. The species from Hawaii appears to be the same as one from Guam and the Marianas. No information is available on its habits or biology. **D.E. Hardy.**

**Program:** Dr. Richard Papp, Bishop Museum, spoke on progress of research on Ohia Forest Decline, with reference to woodboring beetles.

## FEBRUARY

The 854th meeting of the Hawaiian Entomological Society was called to order by President Radovsky at 2:05 p.m., February 14, 1979, in the Conference Room, Bishop Museum.

**Members Present:** Beardsley, Bianchi, Hardy, Higa, Howarth, Ikeda, Joyce, Kitaguchi, Kunishi, Lauret, Look, Loschiavo, Montgomery, Nakahara, Nishida, Perry, Radovsky, Ralph, Riotte, Samuelson, Steffan, Sugerman, J.A. Tenorio, J.M. Tenorio, Torimoto, Wong, Ziegler.

**Membership Committee:** Sam Loschiavo for the chairman nominated for membership: James R. Ziegler, Pat Conant, Father J.C.E. Riotte, Elizabeth Anne Perry, and Florante Gatmaitan. All were unanimously elected.

**Executive Committee:** Radovsky announced the members of the standing committees for 1977 and indicated a list of such would be distributed at the next meeting.

**New Business:** President Radovsky read a letter from Reece I. Sailer, President of the ESA, informing the Society that Resolutions 9 and 10 were approved at the final business section of the annual ESA meeting. These relate to Hawaii's endangered species and eco-systems. Dr. Beardsley moved that HES support the ESA resolution and that the President write a letter to the Governor indicating support of the ESA position. Motion was seconded and passed.

Dr. Radovsky reported that the Board of Land and Natural Resources

recently voted not to remove sheep and goats from Mauna Kea at this time.

#### NOTES AND EXHIBITIONS

**Fornax samoensis** Fleutiaux: Two specimens which appear to be this species has been found in collections of students of general entomology at U.H. Manoa during the past four years. This beetle, a member of the family Eucnemidae (=Melasidae) is previously unreported in Hawaii. The first specimen was collected Feb. 20, 1973 by C. Kendrick, and the second on Dec. 7, 1976 by Mr. Terashima, both from Manoa. *F. samoensis* was described from three specimens taken at Apia during 1924 and 1925 (Insects of Samoa Pt. IV, fasc. 2, p. 128, 1928). The Manoa specimens were compared with a Samoan specimen determined by Fleutiaux and no obvious differences were found. This is a new insect record for the state.

Larvae of eucnemid beetles occur in rotting wood and under bark. Adults are generally cryptic and are usually rare in collections. The Hawaiian fauna contains a number of endemic species placed mainly in the genus *Dromaeolus* which appear to be restricted to native forests. Little is known about the biology of this family of beetles. **J.S. Beardsley.**

**Agraulis vanillae** (L.): During late January and early February larvae of the passion vine butterfly were collected on the U.H. Manoa campus on foliage of *Passiflora foetida*, *P. edulis* and *P. suberosa*. Larvae of all stages also fed readily on foliage of *P. mollissima* (banana poka) when offered this host in the laboratory. So far, this butterfly appears to be limited in its distribution to Manoa valley in the vicinity of the U.H. Campus. **J.W. Beardsley.**

**Rhopalosiphoninus latysiphon** (Davidson): This subterranean aphid lives on the roots of *Metrosideros collina* in caves in Bird Park, HI, Volcanoes Nat'l Park, 1220 m elevation, and in lava tubes on nearby Keauhou Ranch at 1700-1800 m. It is a large (1.5-3.0 mm) aphid, light greenish in life, with large clavate cornicles.

*R. latysiphon* was originally described from California but is now known from British Columbia, Europe, Egypt, Kenya, Australia, New Zealand, and possibly Japan. It has a wide host range but feeds only on etiolated portions of the plant. Hosts include *Chrysanthemum maximum* and *Gladiolus* roots, potato tubers, tulip bulbs, and etiolated stems of *Urtica dioica*. It is unusual in being subterranean without being attended by ants. Eastop (1966, Aust. J. Zool. 14: 473) gives references and suggests that it may be the summer form of the Japanese *R. deutzifoliae* Shinji which lives on *Deutzia*. N.L.H. Krauss first collected this aphid from Olinda, Maui, Nov. 1947 and F.A. Bianchi took it at Pohakuloa, Hawaii, Mar. 1948 (Note, Proc. Hawaii Entomol. Soc./13 (3):326, 1949).

Specimens collected from Ohia roots in Keamoku lava tube, Keauhou Ranch, at 1800 m on 10.VII.1976 by K. Sattler and F.G. Howarth were determined as *R. latysiphon* by Dr. V.F. Eastop of the British Museum (Nat. Hist.). This is a new host record. **F.G. Howarth.**

**Pseudogonia rufifrons** (Wiedemann): This tachinid is now common in the lowlands over Oahu. It superficially resembles *Chaetogaedia monticola* Brauer and Bergenstamm and obviously has been confused with that species. This is a new record for Hawaii, the earliest collection date seen is November 1973 from Waianae.

It is readily differentiated from *Chaetogaedia* (under the microscope) by having strong reclinate ocellar bristles, and no bristles on facial ridge. This species probably parasitizes a wide range of Noctuidae and other Lepidoptera. Similar to *Chaetogaedia* it is widespread in distribution over much of the tropics and subtropics except the New World.

Presence of this tachnid in Hawaii was discovered by Dr. J.W. Beardsley who recognized specimens found in collections of students in general entomology as being distinct from *Chaetogaedia monticola*. **D.E. Hardy.**

**Widow and violin spiders in Hawaii:** *Latrodectus mactans* (Fab.) is presumably on all inhabited islands: confirmed on Hawaii, Maui, Molokai, Kauai, Lanai, Oahu and Midway. *L. hesperus* Chamberlin and Ivie is confirmed on Oahu, Maui, Molokai, and Midway. *L. geometricus* Koch is presumably on most islands: confirmed on Hawaii, Molokai, Lanai, Oahu, Kauai, French Frigate Shoal and Palmyra.

*Loxosceles rufescens* (Dufour) is widely distributed throughout the Pacific islands and in Hawaii is confirmed at Napili, Maui, Ewa Beach, Oahu and Lanikai, Oahu. *Loxosceles reclusa* Gertsch and Mulaik, the "brown recluse spider," has not been collected in Hawaii and presumably does not inhabit the region, contrary to popular reports in the press. **L. Pinter.**

**Delta curvata** (Saussure): A single vespid wasp was caught at large in an office at Lihue, Kauai by D. Sugawa on Dec. 9, 1976. S. Higa of the State DOA identified it as *D. curvata*. Kauai is a new island record for this recent immigrant previously reported only from Oahu and Molokai. **L.M. Nakahara.**

**Macroglossum pyrrhostictum** (Butler): A single adult of *M. pyrrhostictum*, the maile pilau hornworm, was captured at large on Nov. 22, 1976 at Lihue, Kauai by C. Ragasa. Identification was made by S. Higa of the State DOA. This is a new island record of this recent immigrant occurring on Oahu and Hawaii. **L.M. Nakahara.**

**Paraleyrodes naranjae** Dozier: A light infestation of this whitefly was observed on citrus at Kealakekua, Hawaii on January 26, 1977 by E. Yoshioka and L. Nakahara. This is a new island record of the recent immigrant. Identification was made by S. Higa. **L.M. Nakahara.**

**Cligenes marianensis** Usinger: Large numbers of adults of this lygaeid bug were reported alighting on students and causing nuisance problems in a school at Kapaa, Kauai on January 10, 1977 by State Department of Health personnel. This recent immigrant (Jan. '74) is a new island record for Kauai. Specimens were collected by W. Sonoda and identified by S. Higa, DOA taxonomist. **L.M. Nakahara.**

**New Hawaiian Host Records:** The croton whitefly, *Orchamoplatus mammaeferus* (Q. & B.): Moderate to light infestations of all stages were collected from orange (*Citrus sinensis*) on December, 28, 1976 by M. Chun and L. Nakahara and from surinam cherry (*Eugenia uniflora*), lemon (*Citrus limonia*), and *Begonia* sp. on February 2, 1976 by K. Murai and L. Nakahara at Palolo, Oahu. Identifications were made by S. Higa. These are new host records for Hawaii of this recent immigrant. **L.M. Nakahara.**

**Survey results:** Yellow shouldered souring beetle, *Urophorus humeralis* (Fab.), and dried fruit beetle, *Carpophilus hemipterus* (L.): Heavy swarms of both pests were observed by S. Kahoohalahala, P. Jackson, and G.

Taniguchi at Lanai City, Lanai during Jan. 17-18, 1977. Swarmings caused numerous nuisance problems. Beetles adhered to one newly painted house and were attracted to freshly laundered clothing. Throughout the month of January, periodic light to moderate swarmings occurred on warm, sunny days with gentle winds.

**Giant African snail, *Achatina fulica* Bowdich:** Recent infestations of juveniles and adults were reported by D. Sugawa at Ahukini and Kekaha, Kauai during January and early February, 1977. Infestations had earlier been reported from Hanapepe, Poipu, Lihue, Nawiliwili and Waipouli.

**European brown snail, *Helix aspersa* Muller:** As of February 4, 1977 a total of 6,202 snails have been collected from the infestation site at Waimea, Hawaii by Entomology and Weed/Pesticide Branch personnel of the State Department of Agriculture. A larger portion of the snails currently being collected are juveniles apparently unaffected by the metaldehyde bait. Follow-up surveys of surrounding areas, high risk localities, and interception points at Koloa and Kalaheo, Kauai continue to be negative. **L.M. Nakahara.**

**New Parasite releases for the biological control of Agromyzid leaf-miners (*Liriomyza* spp.):** *Cothonaspis* poss. n. sp. (Cynipidae): This Eucoidid, which was identified by Dr. Carl Yoshimoto, Bio-systematics Research Institute, Canada Dept. of Agriculture, was collected by Exporatory Entomologist R. Burkhart, in Laguna Vista, Texas in June 1976. Since its initial release on December 15, 1976, a total of about 6,000 parasites have been released to date in Pearl City, Waipahu, Waianae, Waimanalo and Manoa. Morphologically, this species looks like our established *Cothonaspis pacifica* Yoshimoto but can be separated on the basis of the construction of the scutellar disk and cup.

*Chrysocharis giraulti* Yoshimoto (Hymenoptera: Eulophidae): This insect was reported as *Chrysocharis* sp. in the December 13, 1976 meeting. It was recently identified as the above species by Dr. Carl Yoshimoto. *C. giraulti* has been released primarily on Maui (ca. 3,000 parasites in various locations since November 23, 1976). One release of 100 parasites was made in Pearl City, Oahu on December 29, 1976. **S.Y. Higa.**

**Program:** Lawrence Pinter, Navy Entomologist, spoke on spiders in Samoa.

### MARCH

The 855th meeting of the Hawaiian Entomology Society was called to order by President Radovsky at 2:00 p.m., March 14, 1977, in the Conference Room, Bishop Museum.

**Members present:** Beardsley, Bianchi, F. Chang, V. Chang, Hardy, Higa, Howarth, Ikeda, Komatsu, Kumashiro, Kunishi, Lauret, Look, McEwen, Nakahara, Pinter, Radovsky, Riotte, Sakimura, Samuelson, Steffan, Tanimoto, J.A. Tenorio, J.M. Tenorio, Ziegler.

**Visitors:** K. Arakaki, Sanders, Stein.

**Editorial Committee:** J. Beardsley indicated that the Proceedings for 1974, Vol. 22(2), is published and in the mail. Reprints will be available soon.

**Common Names Committee:** J. Tenorio read a letter from O.W. S. Sutherland, Chairman, 1977 ESA committee on Common Names of

Insects, asking permission to submit the non-ESA names from the Hawaii Entomology Society list of common names for inclusion in the 1977 revision of the "List of Insects Approved by ESA." It was moved, seconded and passed that the HES list of common names be provided to the ESA. J. Tenorio reported that the committee was working on corrections and additions to the 1975 HES list.

**Membership Committee:** Melanie Kam, Edward Macion, John Armstrong, Neil Evenhuis, and Keith Arakaki were proposed for membership and were unanimously accepted.

**Science Fair Committee:** Asher Ota, chairman, asked and the Society approved the expenditure of \$18.75 to purchase a \$25.00 savings bond as the prize for the outstanding entomological project at the fair.

**Unfinished Business:** President Radosky read his letter of February 18th to Governor Ariyoshi expressing support of the two resolutions relating to the conservation of Hawaii's native plants and animals passed by ESA during the Honolulu meetings. Dr. Radosky then read Governor Ariyoshi's reply of March 7th. A discussion then followed on critical habitat and boundaries defined in the Federal Register. A motion was made by Frank Howarth and modified by contributions by J. Beardsley, G.A. Samuelson and Asher Ota to read as follows: that the Society support the concept of critical habitat for the Palila as defined in the Federal Register, pointing out the need to set upper limits with relation to the upper observatory area and the need for inclusion of other endangered or potentially endangered plants and invertebrates and that a letter to such effect be directed to the Director of Federal Fish and Wildlife Service. The motion was unanimously approved.

#### NOTES AND EXHIBITIONS

**New records of Diptera in Hawaii:** Dr. D. Elmo Hardy presented some new Diptera records for Hawaii as follows:

**Melinda pusilla pusilla** (Villeneuve): 1 "♂" specimen of this Caliphoridae fly was collected in light trap Barbers Point, Oahu, Dec. 1976 (J.W. Beardsley). The typical subspecies of *pusilla* is known from Burma, China, Japan and Taiwan. Its biology is unknown. Some members of this genus are known to parasitize land snails. Identification was made by Hiromu Kurahashi, Tokyo. **D. E. Hardy.**

**Odontomyia regisgeorgii** Macquart: 1 "♀" specimen of this fly, family Stratiomyiidae, was recovered from the student collections and was taken in a taro field, Waihole Valley, Oahu, Nov. 1976. This is a common Australian species. It was identified by M. T. James, Pullman, Washington who wrote "the stratiomyid scavengers get around to new places very efficiently, but I do not recall ever seeing an aquatic species that has succeeded in crossing as much ocean as this one did."

Dr. J. Tenorio collected a second specimen of this fly at Kailua, January 1977 and has found specimens which seem to be the same species in the Bishop Museum collection from Samoa and New Hebrides. Specimens have been sent to Dr. James for confirmation.

**Meijerella flavisetosa** Sabrosky: Dr. C.W. Sabrosky recently described two new species of Chloropidae which have been pending for more than 25 years (1977, Pacific Insects 17(1):93, 95). *M. flavisetosa* is known from

all the main Hawaiian Islands, as well as from Malaya, Mariana Islands and Bonin Islands. It is probably a scavenger and has been reared from rotting vegetation, including one record from an endemic *Touchardia* (Urticaceae). This was recorded as *Conioscinella* sp. by Wirth (1946, Proc. Hawaii Entomol. Soc. 13:21). **D.E. Hardy.**

**Chloropsina citrivora** Sabrosky: This chloropid is known from Oahu, Hawaii and Molokai. It has been reared from larvae boring in roots of citrus seedlings. It was first collected in a protein hydrolosate bait trap Dec., 1950 and is no doubt an immigrant species but its homeland is unknown. *C. citrivora* was recorded as *Chlorops* (sens lat.) sp. ? by Dr. Hardy (1952, Proc. Hawaii Entomol. Soc. 14:408). **D.E. Hardy.**

**Xyleborus interjectus** Blandford: Several months ago, Dr. Beardsley displayed some insects new to Hawaii. Among them were 4 specimens of a large ambrosia beetle, Scolytidae. These specimens were collected in Palolo Valley, Oahu in different months, March and October, 1976, by S. Sato and A. Ota respectively. I tentatively identified them as *X. interjectus* and sent samples to Dr. D.M. Anderson of the US National Museum of Natural History, who found the specimens to agree with material identified by Hans Eggers. Dr. Anderson was also satisfied that they were not a similar species *X. validus* Eichhoff.

This species differs from all other members of *Xyleborus* in Hawaii by the following combination of characters: body length well over 3 mm (3.55-3.75mm in ours), prothorax as broad as long or broader than long, color pitch black.

The species has a broad distribution through South Asia from Sri Lanka and India to China and throughout continental islands bordering Asia from Indonesia to Japan.

Beeson (1930, Indian Forest Records 14:64) listed 28 genera of plant hosts for this species and reported that it is primarily a borer of soft wooded timbers and that it also rears broods in sapwood of some hardwoods. Many of the host genera listed by Beeson occur in Hawaii, although most are plantings. **G.A. Samuelson.**

**Spanbergiella quadpunctata** Lawson: Dr. Beardsley exhibited a specimen of this cicadellid leafhopper which is a recently established immigrant on Oahu. A single female was first collected in Kalihi (Honolulu) on Nov. 16, 1976 by Mr. C. Arakaki, a student in the general entomology class at U.H. Manoa. This specimen then unidentified was exhibited at the Dec. 1976 meeting of the Society. Since that time at least three additional specimens have been collected, two from light traps operated in the Honolulu area and one at rest on a *Passiflora foetida* vine on the U.H. Campus by Mr. Lester Kaishi. Identification was made by Dr. J.P. Kramer, USDA Systematic Entomology Laboratory. The species described in 1932 (Lawson, Jour. Kansas Ent. Soc. 5:120) and according to Metcalf (1963, General Cat. Homoptera, Fasc VI(9):55-56) is widely distributed in the eastern, southern, central and midwestern U.S., east of the Rocky Mts. De long (1948, Illinois Nat. Hist Survey Bul. 14(2):173) states that this is a common species on grasses in low moist meadows on grassy woodlands. The Metcalf catalog places *Spanbergiella* in the family Hecalidae, but most authors apparently consider this to be a subfamily

within the Cicadellidae. **J.W. Beardsley**

**Delta campaniformis esuriens** (Saussure): A specimen of a eumenine vespid wasp from Honolulu recently was determined as *Delta campaniformis esuriens* (Saussure) by Dr. A. Menke of the USDA Systematic Entomology Laboratory. To date, seven specimens of this wasp have been collected on Oahu at large, and from light traps beginning in October of 1976. *D. campaniformis esuriens* is similar to the nominate subspecies *D. campaniformis campaniformis* (Fab.) which has been known to be established here since 1946 (Proc. XIII(1):27), however, it is slightly smaller and has a distinctly different color pattern. *D. campaniformis* appears in Hawaiian literature under the name *Eumenes campaniformis*. Apparently all of our Eumenes are now placed in the genus *Delta*. Dr. Menke has recently confirmed the identity of the longer established subspecies as *D. campaniformis campaniformis*. Concerning these wasps Dr. Menke wrote as follows to Mr. Higa:

"They appear to be typical *campaniformis* as opposed to *esuriens*. The latter subspecies is more extensively reddish: the propodeum, the basal three fourths of the petiole, and the basal half of tergum II. Typical *campaniformis* is mostly black and yellow: the propodeum is black with large yellow lateral spots, tergum II is extensively black but has a pair of yellow basal spots and an apical band of yellow. The petiole is red only on the basal half or less. *Esuriens* is also more extensively yellow: the mesopleural yellow spot is very large and the gaster is largely yellow beyond the first segment. *Campaniformis* s.s. has a small yellow pleural spot and the gastral segments are mostly black (only a narrow apical yellow band on segments III-VI or VII). If *esuriens* is established in Hawaii it will be interesting to see if the color patterns remain constant."

It appears that at present we have an unusual situation where two geographical "subspecies" of *D. campaniformis* are established on Oahu. If these are in fact subspecies we may expect one or the other form to disappear, or the two forms to hybridize. If the two populations continue to co-exist but remain distinct, this would be strong evidence that they are full species. Specimens of the two subspecies of *D. campaniformis* were exhibited. **J.S. Beardsley.**

**Parlatoria fluggeae** Hall: Specimens of a previously undetermined species of *Parlatoria* (Diaspididae) from Oahu recently were determined as *P. fluggeae* Hall by Mr. Steve Nakahara of the USDA Systematic Entomology Laboratory. *P. fluggeae* was first collected here in April 1970 on leaves of *Jatropha hastata* by J.W. Beardsley on the U.H. Manoa Campus. It has subsequently been collected from leaves of *Aleurites moluccana*, (Kukui) at Mokuleia, Oahu and from twigs of *Erythrina* sp. at Barbers Point, Oahu. There are earlier records of two quarantine interceptions of this species on plant material believed to have originated in Hawaii. These interceptions were made in 1939 at San Francisco and in 1948 at San Pedro, California. *P. fluggeae* was described from Rhodesia (Hall, 1929, Bul. Ent. Res. 20:359). It is also known from North Africa. **J.W. Beardsley and S. Nakahara.**

**Furchadaspis zamiae** (Morgan). This armored scale insect was found heavily infesting *Cycas revoluta* at Foster Gardens, Honolulu, in December

1976. Collection and identification were made by Mr. Steve Nakahara. This is a new state record. *Furchadaspis zamiae* was described originally from Portugal (Morgan, 1890. Ent. Monthly Mag. 26:44). It is widespread on *Cycas*, *Zamia*, and related plants. It has been recorded on a species of *Strelitzia* in California (Reference: Ferris, 1937, Atlas of Scale Insects Ser I:59). **S. Nakahara.**

**Asterolecanium pseudomiliaris** Green: Specimens of the asterolecaniid scale insect were collected from bamboo leaves at Makiki (Honolulu) by S. Nakahara and R. Kunishi in December 1976. Identification was made by Mr. Nakahara. This is a new state record, although there is a single quarantine interception record from bamboo at Honolulu, during 1960. *A. pseudomiliaris* Green was described from Ceylon (Green, 1922, Bombay Nat Hist. Soc. Jour. 28:1036). It is widely distributed on bamboo. **S. Nakahara.**

**Eidoleon wilsoni** (McLachlan): Adults of the native antlion, *E. wilsoni*, are well documented in our Hawaiian literature and are represented in our major state collections. Beardsley (Proc. Hawaii Entomol. Soc. XV(3):384) was the first to record what he presumed to be empty cocoons of this myrmeleonid and, until now, no larvae have ever been recorded in our Hawaiian literature.

In October, 1976 Mr. Harry Mckee of Ocean View Estates, Kau, Hawaii found a late instar larva clumsily crawling on the inner screen of his greenhouse. The specimen was preserved and referred to me for identification by Ernest Yoshioka of Hilo, State Dept. of Agriculture. It was a typical myrmeleonid larva, measuring 13 mm long (excluding the mandible), 5 mm wide and very likely a late instar.

A second larva was subsequently found in the same situation by Mr. McKee and was much smaller, measuring 9 mm long by 4 mm wide. I received this specimen (dead) through the kindness of Mr. Adolph Johanson of Manuka State Park. It is unlikely these are larvae of an unrecorded immigrant myrmeleonid, so this is presumed to be the first larval record of an endemic *Eidoleon* in Hawaii. **C.J. Davis.**

**Macroglossum pyrrhostictum** (Butler): On January 2, 1977, 7 a.m. this adult sphingid, the maile pilau hornworm, was seen hovering over a honeysuckle flower on the roadside of Wright road, Volcano, 1371 meters elevation. Eight days later three adult sphingids were collected on the front porch of a Volcano resident at 1188 m elevation. The principal lowland host, *Paederia foetida* has not been observed at these elevations and up to the present time this hornworm has not been found on native Rubiaceae in this locality. Feeding tests, however, are positive for pilo, *Coprosma* sp. and manono, *Gouldia* sp. and negative for kopiko, *Psychotria* sp.

Fifteen *Macroglossum* eggs were collected on the leaves of maile pilau, *P. foetida* at a Haile street residence on February 10, 1977 and of these, eleven were parasitized by *Trichogramma* sp. *M. pyrrhostictum* was first recorded from this island by Larry Shimoda who collected it at a Hilo residence on October 4, 1976. **C.J. Davis.**

**Vanessa cardui** (L.): A number of the painted lady butterfly were reared from artichoke, *Cynara scolymus*, and comfrey, *Symphytum* sp. be-

tween August and December, 1976 at Volcano, Hawaii, 1188 M. elevation. Comfrey is a new host record for this nyphalid. **C.J. Davis.**

**Coelostoma sp.:** Four female specimens of this terrestrial hydrophilid were collected from a fallen coconut tree at Keeau, Hawaii by R. Blackshear on December 12, 1976. According to P.J. Spangler, Systematic Entomology Laboratory, ARS, USDA, who made the identification, this is not *C. fabricii* (Montr.) the only other species of this genus known to be represented in Hawaii. Comparison of both species shows *Coelostoma* sp. to be darker and the prothorax and elytra smoother and less punctate than *C. fabricii*. No information regarding its biology is available, but terrestrial hydrophilids are known to occur in dung and probably other decaying organic matter. Further identification is pending as males are required for species identification. **S.Y. Higa.**

**Heteropsylla sp. probably mimosae** Crawford: During February 1977 several adults were recovered from State Dept. of Ag. and USDA, APHIS, PP&Q detection light traps at Honolulu International Airport, Hickam Air Force Base, and Barbers Point Naval Air Station on Oahu. Earlier no specimens had been recovered since the original collection by Dr. J.W. Beardsley of 3 females from a sweeping of klu (*Acacia farnesiana*) and slender mimosa (*Desmanthus virgatus*) at HAFB on May 30, 1975 during a detection survey. On March 4, 1977, a light to moderate infestation of all stages were found on terminals of *D. virgatus* at Waianae, Oahu. Subsequent surveys showed this species to be well established on *D. virgatus*, also at Waipahu and Ewa on Oahu. **L.M. Nakahara.**

**Pandesma anysa** Guenee: This noctuid moth was first reported by J.W. Beardsley during the Society's December 13, 1976 meeting. It was first collected in November 1975 from a USDA, APHIS, PP&Q detection light trap at HAFB and in the past several months from light traps at Barbers Point Naval Air Station. Dr. E.L. Todd confirmed that *P. anysa* and *P. quenavadi* are distinct species and that the specimens from Hawaii are *P. anysa*. After several surveys were conducted by a joint U. of H., HDOA, and USDA, APHIS, PP&Q detection team, the larvae of *P. anysa* were recovered from the base of opiuma (*Pithecellobium dulce*) tree at BPNAS on February 25, 1977. *P. anysa* is recorded from *Acacia* and *Prosopis*, but no larvae have been recovered from these plants in Hawaii so far. Some pupae were found encased in frass and earthen cells. No extensive foliar damage was observed on infested trees. Adults of the tachinid parasite, *Eucelatoria* sp. prob. *armigera*, were also reared from several larvae.

**New Island Records:** *Paraleyrodes naranjiae* Dozier was collected on citrus at Mauna Loa, Molokai on February 24, 1977 and *Paraleyrodes perseae* (Quaintance) was collected from citrus at Hoolehua, Molokai on February 24, 1977 by L. Nakahara. Identifications were made by S. Higa. The avocado scale, *Fiorinia fioriniae* (Targioni-Tozzetti), was found for the first time on Maui at Kula on *Camellia* by Dr. R. Mau on January 28, 1977. This species is also recorded from Oahu, Lanai, and Hawaii. Identification was made by R. Mau.

**Program:** Asher Ota gave an update on insect-related problems in Hawaiian sugarcane fields.

## APRIL

The 856th meeting of the Hawaiian Entomological Society was called to order by President Radovsky at 2:05 p.m., April 11, 1977, in the Conference Room, Bishop Museum.

**Members Present:** Arakaki, Beardsley, Bianchi, Cunningham, Davis, Evenhuis, Gatmaitan, Hardy, Harris, Higa, Howarth, Ikeda, Joyce, Kitaguchi, Komatsu, Look, Loschiavo, Perry, Radovsky, Ralph, Riotte, Samuelson, Steffan, Sugerman, J.A. Tenorio, J.M. Tenorio, Watanabe.

**Visitors:** Belicek, Gooch, Higa.

**Science Fair Committee:** Wally Steffan announced that he and Franklin Chang had selected the exhibit, "Smart Cockroaches," as the best entomological exhibit at the Hawaiian Science and Engineering Fair. Dr. Radovsky read the letter he had sent to Phyllis Kong of Kahalui officially awarding her a \$25 U.S. Savings Bond from the Hawaiian Entomological Society.

## NOTES AND EXHIBITIONS

**Biological Control on Agromyzid leafminers (*Liriomyza* spp.):**

1. *Opius* sp. (Braconidae): This parasite was collected from tomato infested plants in Linares, Mexico in June, 1976 by Exploratory Entomologist, R. Burkhart. Parasites were released beginning January 20, 1977 and continue to be released in various localities on Oahu including Manoa, Makiki, Waimanalo, Laie, Pearl City and Waianae. Approximately 7,000 parasites have been released to date. Comparative examinations place this species near *Opius dissitus* Muesebeck, a local immigrant species described as a new species by the author (Proc. Hawaii Entomol. Soc. XVIII (2):289) in 1962.

2. Recovery of a parasite: *Diglyphus* n. sp. (Eulophidae): a small population of this recently introduced parasite (reported in December 13, 1976) was recovered from *Liriomyza sativae* Blanchard infested leaves of bush beans collected from the U.H. Waimanalo Experimental Farm on January 31, 1977. This University of Hawaii facility has been a site for release since early December 1976.

3. Misidentification: *Chrysocharis clarkae* Yoshimoto (Eulophidae): This is the correct name for the agromyzid leafminer parasite reported in the July 12, 1976 meeting as *Chrysocharis ainsliei* Crawford introduced from the Beneficial Insect Research Laboratory (USDA), Newark, Delaware. The identification was made by Dr. Carl Yoshimoto, Canada Department of Agriculture, Ottawa, based on his "Revision of the genus *Chrysocharis* Forster (Subgenus *Chrysocharis* s. str.) Eulophidae, Chalcidoidea) of America North of Mexico." These are two morphologically similar species. According to Yoshimoto, *C. clarkae* distribution range is throughout the Northern Hemisphere of the Nearctic region while the distribution of *C. ainsliei* is throughout North America. **S.Y. Higa.**

***Latrodectus mactans mexicanus* Gonzalez:** An adult female of this black widow spider was first collected by Sgt. Kotko from a cargo building at Hickam Air Force Base, Oahu on March 24, 1977. Identification was made by L. Pinter, USN Entomologist. A dead female, a nymph and an empty egg case (probably of this subspecies) were also collected that same morning by joint UH, HDOA, and USDA, APHIS, PP&Q detection team.

This is the first record of this subspecies in Hawaii. *L. mactans mactans* is commonly established in the islands. *L. mactans mexicanus* is distributed from Guatemala through Mexico to southern Texas. **L.M. Nakahara.**

**Cerataphis palmae** (Ghesquiere): Dr. Beardsley reported that specimens of a *Cerataphis* sp. collected at Hickam Air Force Base, Oahu on January 20, 1977 by Dick Tsuda had been determined as *C. palmae* (Ghesquiere) by Dr. M.B. Stoetzel, USDA systematic Entomology Laboratory, Beltsville, Maryland. This is a new state record. The same species had been collected earlier, during August 1974, on bird-of-paradise leaves (*Strelitzia reginae*) at Waikiki, by J. Jonathan, but not previously recognized as differing from *C. lataniae* (Boisduval) which has been known from Hawaii for many years. *C. palmae* is apparently widely distributed in the tropics and probably originated in southeast Asia. *Cerataphis variabilis* Hille Ris Lambers is a synonym under which name it appears frequently in literature. Holman (1974, Los Afidos de Cuba) provides host and distribution records for the three *Cerataphis* species now known to occur in Hawaii (*C. lataniae*, *C. palmae*, and *C. orchidearum* (Westwood)) and a key in which these species are separated. **J.W. Beardsley.**

**Eidoleon** sp.: Clif Davis exhibited an ant lion larva collected on the island of Hawaii and reported at the March meeting. An ant lion larva from Utah was circulated for comparison. **C.J. Davis.**

**Program:** Dr. John Gooch, Public Health Veterinarian, State Department of Health, reviewed his research on *Salmonella* and its relationship with insects on Oahu.

#### MAY

The 857th meeting of the Hawaiian Entomological Society was called to order by President-elect James Ikeda at 2:06 p.m., May 9, 1977, in the Conference Room, Bishop Museum.

**Members Present:** Armstrong, Bess, Bianchi, Harris, Higa, Howarth, Ikeda, Joyce, Kitaguchi, Komatsu, Look, Nakahara, Ralph, Riotte, Sonidad, Sugerman, Tanimoto, J.M. Tenorio.

**Visitor:** John Stein.

**Unfinished Business:** J. Ikeda read President Radovsky's letter of April 13 to the Director of U.S. Fish and Wildlife Service regarding the proposed critical habitat of the Palila. JoAnn Tenorio read a letter from Dr. John Gooch thanking the Society for inviting him to speak at the April meeting.

#### NOTES AND EXHIBITIONS

**Fletcherana ioxantha** (Meyrick): This geometrid species is known according to Zimmerman only from the unique "♀" holotype in the British Museum (Nat. Hist.). This reports the first capture of "♀" of *F. ioxantha* in the Alakai Swamp on Kauai on 28th Sept. 1975 by R.C.A. Rice and Ms. E.A. Perry **J.C.E. Riotte.**

**Fletcherana** sp.: Another *Fletcherana* species unknown to me was taken on Maui by S.L. Montgomery and R.S. Villegas on 17th Jul. and 5th Aug. 1976. It has two color morphs. The specimens shown are all "♂". There are no similar specimens in the collections of Bishop Museum and Dept. of Agriculture.

The search in the latter collection brought a surprise. Zimmerman says for *Fletcherana giffardi* (Swezey) as well as for *Fletcherana roseata* (Swezey) that they are known only from the unique type in Honolulu which he had not available while preparing the final draft for his book. These types are in Bishop Museum. They are not dissected. However, Zimmerman publishes photographs of the "♂" genitalia of both. This was a puzzle up to now. We found in the Dept. of Agriculture collection additional, identified specimens of both species: 16 of *giffardi* and 10 of *roseata*, and one specimen of each species had a handwritten label on the pin saying: abdomen sent to E.C.Z. British Mus. 4-19-50. Also the slides with the genitalia preparation were with the specimens and were found identical with the illustrations in Zimmerman, p. 18. A pencil note in Zimmerman's handwriting "TYPE" on the slides has to be considered wrong. Also the data in the captions of the illustrations are partially wrong. The word "type" has to be deleted for both species and the other data have to be: for *F. giffardi*: no changes on p. 175; no changes on p. 181; for *F. roseata*: no changes on p. 182; instead of "Kilauea, Hawaii" read Oloa, 29 miles, Hawaii, at light, W.H. Giffard, VII-18 Coll., on P. 181. **J.C.E. Riotte.**

**Scymnus (Pullus) suturalis** Thunberg: Fifty eight (58) larvae, pupae and adults were sent to the Honolulu Quarantine from J.J. Drea, USDA, European Parasite Research Laboratory, France on April 30, 1977 and trans-shipped to Maui for release at Polipoli, Kula Forest Reserve on April 3, 1977 to aid in the control of the Eurasian pine aphid, *Pineus pini*. This constituted a first release for the island of Maui. A previous shipment of 17 adults was liberated in Waimea, Hawaii in November 1976 (reported in the December 13, 1976 meeting). Additional shipments and releases are scheduled for the same location on Maui. **S. Higa.**

**Agriolimax reticulatus** (Muller): About 50 specimens of this European garden slug, a new state record, were submitted by C.J. Davis who collected them off broccoli plants at Volcano, Hawaii (3,800') on March 2, 1977. Literature sources indicate this slug to be a serious pest of many crops including grain, beets, cauliflower, carrots, beans and strawberries in Washington, Oregon and California. This species can be characterized by being small (25-30 mm) and creamy-white with distinct gray-black mottling on its dorsum. It can be distinguished from other related species in having a whitish area around its breathing pore located on the right side of the mantle. Its mucus is thick and milky white, unlike the clear and watery mucus secreted by the local gray field slug, *Agriolimax laevis* (Muller). Identification as *A. reticulatus* was made by R. Munkittrick, USDA, APHIS, PP&Q, San Francisco. **S. Higa.**

**Philothalpus analis** Erichson: On April 28, 1977, 100 *P. analis* females (Coleoptera: Staphylinidae) were released on Lanai. Initial release of this pineapple souring beetle predator was made in the Lanai Company variety trial field. Fruits of the trial varieties are left in the field to rot creating a breeding site for the nitidulid beetles which in turn becomes an abundant food source for *P. analis*. Thus this area was selected. Trapping stations were set at 50 yard intervals around the perimeter of the variety trial field designed to monitor the dispersal of *P. analis*. An additional 30 adults and 30 larvae were released into a field monitoring cage to care-

fully monitor the behavior of the predator as well as the population of the nitidulid beetle. **G. Taniguchi**

**Leucopis (Neoleucopis) obscura** Hal: *Leucopis obscura*, the chamaemyiid predator of the Eurasian pine aphid, *Pineus pini*, was recovered from Polipoli, Maui. This beneficial predator introduced from France was first released in this area in the period June to November, 1976. Recovery was made by Victor Tanimoto on April 12, 1977 and the determination was made by Dr. Elmo Hardy. Pine sprigs were taken in the area (elev. 6000') on March 30, 1977 and a total of 31 flies emerged on April 12-27. **V.M. Tanimoto.**

**Orcocephalus pacificus** Kirkaldy: In the Department of Agriculture collection single specimens of *O. pacificus* were found from Maui and Kauai. One specimen was collected by N. Miyahira on September 4, 1974 at Hana, Maui. Another was collected by B. Harker on December 10, 1976 at Poipu, Kauai. Both were identified by S. Higa. Maui and Kauai constitute new island records for this reduviid species reported previously from Oahu and Hawaii. **L.M. Nakahara.**

**Orchamoplatus mammaeferus** (Quaintance & Baker): A delineation survey was conducted during March 31-April 7, 1977 of this croton whitefly to gather dispersal rate information by a joint DOA, USDA, APHIS, PP&Q survey team. A total of 15.90 square miles were found to be infested. Infestations occurred in Iwilei, Pauoa, Punchbowl, downtown, Makiki, Ala Moana, McCully, Moliili, St Louis Hgts., and Kahala as well as in Maunalani Hgts., Palolo Valley, Kaimuki, Waialae, Kapahulu, and Waikiki where it was first delineated last September. At that time the area of infestation was 3.07 square miles. In the past seven months the pest has established itself over 1½ miles to the east, 2 miles to the north, and 3½ miles to the west of its closest earlier sites. Considering the availability of the host plants in the area and barring the movement of infested plants by man, the survey shows a distinct westerly movement of this white-fly on this island.

**Heteropsylla** sp. probably *mimosae*: Surveys of this recent immigrant psyllid (first discovered on Oahu during May 1975) were conducted on Maui (April 13-15, 1977) and Kauai (April 20-22, 1977) to obtain dispersal information. Moderate infestations of all stages were observed at Mana, Kauai on April 20, 1977 on *Desmanthus virgatus* by Fred Bianchi, D. Sugawa, and L. Nakahara. Identification was made by S. Higa. This is a new island record. Infestations were also observed at Waimea and Lihue, but not at Moloaa on Kauai. The surveys conducted a week earlier on Maui at Lahaina, Kihei, Kahului, and Wailuku by N. Miyahira and L. Nakahara were negative. **L. Nakahara.**

**Program:** Dr. C.R. Joyce gave an update on mosquitoes taken from airplanes arriving in Hawaii and methods used for controlling accidental introductions by this route.

## JUNE

The 858th meeting of the Hawaiian Entomological Society was called to order by President Radovsky at 2:06 p.m., June 13, 1977, in the Conference Room, Bishop Museum.

**Members Present:** Arakaki, Beardsley, Bianchi, Chang, Hardy, Higa, Howarth, Ikeda, Kunishi, Lauret, Look, Loschiavo, Nakahara, G.M. Nishida, T. Nishida, Ota, Radovsky, Ralph, Riotte, Samuelson, Steffan, Sugerman, Takara, J.A. Tenorio, J.M. Tenorio, Wong, Ziegler.

**Reports of Officers and Committees:** Membership Committee: Franklin Chang nominated for membership Timothy Miles, graduate student at the University who was unanimously elected.

**Common Names Committee:** Joaquin Tenorio, chairman, reported that the ESA Committee on Common Names of Insects has accepted 312 of the 412 HES names from our 1975 list of names. These 312 will be submitted for publication in the June issue of the ESA Bulletin. Explanation as to why the remaining names were not accepted by the Committee will be forthcoming. The attention of the Society was called to the ESA Form on "Proposal for Common Name or Name Change" which appeared in the March 1977 issue of the ESA Bulletin, p. 59-60. It was suggested that our membership follow the same procedure when submitting common name or name change for our HES Common Names List.

**New Business:** The need for a Society letterhead and logo was discussed. Jack Beardsley moved that the Society have stationary printed without a specific address. Frank Howarth amended the motion to include approval of a native insect for the logo, such as a native cerambycid, for use on the letterhead and for other purposes. The motion as amended was unanimously passed. Jack Beardsley was appointed to chair the Logo Committee and Frank Howarth was appointed a member, with additional members to be chosen by the Committee.

#### NOTES AND EXHIBITIONS

***Sterrha* sp.:** Several specimens of a small geometrid moth new to Hawaii have been taken in light traps at Honolulu International Airport and Hickam Air Force Base; the first two on December 20, 1976. A specimen submitted to the USDA Insect Identification Laboratory in Beltsville, Maryland by Mr. Bob Kunishi, USDA, APHIS, Honolulu was determined as *Sterrha* sp. by Dr. D.C. Ferguson. Apparently this genus is well developed in the western Pacific and the larvae probably are mostly flower feeders. It belongs to a subfamily, the Sterrhinae, which includes also *Cosymbia serrulata* (Packard), our kiawe flower looper.

A second apparently new immigrant geometrid is represented by two specimens, small and as yet unidentified. The first specimen was taken at Kailua, Oahu, Jan. 26, 1977; the second on May 27 in a light trap at Honolulu International Airport. Specimens of the two new immigrant geometrids and *Cosymbia* were exhibited. **J.W. Beardsley.**

***Blatta orientalis* L.:** An adult male specimen of the oriental cockroach, *Blatta orientalis* L., was collected by Mr. D. Strom in his house in Kailua, Oahu on 24 March 1977. The specimen was included in an insect collection which Mr. Strom made for the course in general Entomology at the University of Hawaii Manoa Campus.

The Oriental roach is not known to be established in Hawaii and as no additional specimens have come to light the present record does not necessarily indicate establishment here. Mr. Strom reported that his household effects were shipped to him from the mainland about six

months before the roach was collected, and it seems likely that it could have arrived in a packing crate. *B. orientalis* is a common household pest in temperate climate areas but for some reason has never become established in Hawaii, unless the present specimen in fact represents a resident population. **J.W. Beardsley.**

**Hylas lineata** (Fabricius): Several adult specimens of the white-lined sphinx moth, *Hylas lineata* (Fabricius) were taken in a light trap operated at Holua cabin, 6,900', June 3 and 4, and at Paliku cabin 6,500' June 6, 7, 8 and 9, in Haleakala National Park, Maui. A mature larva was found feeding on *Oenothera striata*, the evening primrose, a common introduced weed in some parts of Haleakala crater. *H. lineata* has been reported feeding upon primrose in other parts of the world, but this appears to be a new host record for Hawaii. **J.W. Beardsley.**

**Omphisa anastomosalis** (Guenee): Larval specimens of this pyralid moth were collected by E.S. Shiroma in stems of swamp cabbage, *Ipomoea reptans* on May 27, 1977, in Moanalua Valley, Oahu. Determination was confirmed by Donald Weisman, U.S. National Museum, Systematic Entomology Laboratory, Washington, D.C. This constitutes a new host record. **R.K. Kunishi.**

**Euscepes postfasciatus** (Fairmaire): Adult specimens of this curculionid weevil were intercepted on swamp cabbage on June 9, 1977, in a cargo shipment from Oahu destined for the mainland U.S. by Michael Jodoi. These weevils were confirmed by Dr. R. White, U.S. National Museum, SEL, Washington, D.C. This probably constitutes a new host record. **R.K. Kunishi.**

**Argiope bruennichi** (Scopoli): A single ♀ of this garden spider was first collected by F. Wong on April 15, 1977 at Hanalei, Kauai. During a survey of the collection area on April 21, five egg masses and several hundred immatures (probably of this species) were discovered on a few pine trees. Identification was made by L. Pinter, Navy Entomologist. This species is common in Japan and Okinawa. Synonyms of this orb weaver include *Aranea fasciata*, *Epeira fasciata*, and *Nephila fasciata*. This specimen is 3 mm longer than the largest recorded Okinawan specimen and is the largest argiopid (body length: 25 mm) known to occur in Hawaii. This is a new state record. **L.M. Nakahara.**

**New Island Records** (reported by L.M. Nakahara):

**Phaneroptera furcifera** (Stal), the Philippine katydid: Heavy infestations of all stages were observed on *Pluchea odorata* at Kaloko, Hawaii on April 27, 1977 by S. Matayoshi and E. Yoshioka. Identification was made by S. Higa. This is a new island record. Conspicuous feeding damage (50% defoliation) was observed on *P. odorata*. Damage also occurred on *Buddleja asiatica*, *Desmodium* sp., and *Ipomoea* sp. Surveys for this insect in other parts of Kona, Hawaii were negative. This species has also been recovered in Hilo in recent light trap samples.

**Dichomeris ianthes** (Meyrick), alfalfa leaf-tier: A moderate infestation (50% of plants; 1 larva/plant) was observed on abandoned alfalfa (10 acres) on April 21, 1977 by F. Bianchi, D. Sugawa, and L. Nakahara at Kilauea, Kauai. Identification was made by S. Higa. This is a new island record for this species that had previously been reported only from Oahu

where it was first collected in 1961.

**Odontaleyrodes rhododendri** (Takahashi), azalea whitefly: Light infestations were observed on azalea at Hana, Maui on April 20, 1977 by H. Nakao. Identification was made by S. Higa, DOA Taxonomist. This is a new island record. This recent pest was first discovered on Oahu in August 1976.

**New Host Records:**

**Xylosandrus compactus** Eichhoff, black twig borer: Infestations were light on 10+ acres of *Anthurium andreaeanum* at Pahoehoe, Hawaii. Galleries with eggs, larvae, and adults were observed in the leaf petioles. Specimens were collected by R. Mau and identified by J. Beardsley and A. Hara of the University of Hawaii. This is a new host record. **R. Mau.**

**Geococcus coffeae** Green, Coffee root mealybug: Moderate infestations of all stages were present on the roots of *Aglaonema* sp. (several plants) at Naalehu, Hawaii. Specimens were collected by T. Shirakawa on April 6, 1977 and identified by R. Mau of the Univ. of Hawaii (Hilo Campus). This is a new host record for the State. **R. Mau.**

**Pandesma anysa** Guen'ee: Many larvae of this noctuid moth were collected from the base and under the bark of *Acacia catechu* by a joint DOA, USDA, APHIS, PP&Q detection team (B. Kunishi, W. Nagamine, H. Tenney, T. Watanabe, and L. Nakahara) on June 2, 1977 at Barbers Point, Oahu. Light foliar damage was observed. Identification was made by S. Higa. This is a new Hawaiian host record for this recent immigrant. **L.M. Nakahara.**

Recent Biological Control Release: Reported by S.Y. Higa.

**Achrysocharella agromyzae** (Crawford): This eulophid parasite was collected by Exploratory Entomologist, R. Burkhart, in Linares, Mexico in June 1976 for agromyzid leafminer (*Liriomyza* spp.) control. Releases of 75 and 350 parasites have been made since June 3, 1977 and further releases are forthcoming from a propagating insectary culture. Identification was made by C.M. Yoshimoto, Biosystematics Research Institute, Canada Department of Agriculture.

Recovery of Parasite, *Cothonaspis* sp. (Cynipidae): A small population (20 adults) of this recently introduced leafminer parasite from Mexico (reported on February 14, 1977 meeting) was recovered on June 6, 1977 from *Liriomyza sativae* Blanchard infested tomato leaves collected from the U.H. Waimanalo Experimental Farm on May 18, 1977. The Experimental Farm has been a release site as early as January 19, 1977. **S.Y. Higa.**

**Syrphidae Name Corrections:** Submitted by Dr. D. Elmo Hardy:

*Allograpta cubana* Curran is a synonym: Correct to read *Allograpta radiata* (Bigot). 1857, in La Sagra, Hist. Isla Cuba (2)7:338. (*Syrphus*). Known from S. Florida, Cuba and West Indies.

*Mesograpta marginata* (Say): Correct combination is *Toxomerus marginatus* (Say); transfer to Tribe Toxomerini.

*Ischiodon grandicornis* (Macq.): Correct comb. is *Simosyrphus grandicornis* (Macq.).

*Eumerus marginatus* Grimshaw is a synonym: Correct to read *Eumerus figurans* (Walker) (Walker, 1860, J. Linn. Soc. 4:121).

*Volucella (Ornidia) obesa* (Fab.): Correct to *Ornidia obesa* (Fab.).

*Vohucella dracaena* Curran: Correct to *Copestylum chalybescens* (Wied.).

*V. tricineta* Bigot: Correct to *Copestylum hoyi* (Curran).

*V. tamaulipana* Townsend: Correct combination to *Copestylum tamaulipana* (Townsend).

*Eristalis (Lathyrrophthalmus) aeneus* (Scop.): Correct combination to *Eristalinus aeneus* (Scop.).

*E. arvorum* (Fab.): Correct combination to *Eristalinus arvorum* (Fab.).

**Stored Products Insects in Hawaii:** Sam Loschiavo reported on the occurrence, distribution, frequency, and economic importance of stored product insects in Hawaii. We found more than 50 species of beetles and up to 11 species of moths. Fourteen of the beetle species and two of the moths occurred frequently and are among the world's most important insects.

Of the two major cosmopolitan flour beetle species, *Tribolium castaneum* (Herbst) occurred frequently in Hawaii, whereas *T. confusum* Jacquelin duVal was found only twice. Similarly, of the two major weevil species in the world, *Sitophilus oryzae* (L.) was the predominant species here: *S. granarius* (L.) was found only once. On the other hand, *T. confusum* and *S. granarius* are the more predominant of the flour beetle and weevil species, respectively, in temperate regions.

A tiny dermestid (about 1 mm long), *Thorictodes heydeni* Reitter was found in barley spillage from a local feed mill, and is, apparently a first record for Hawaii. A complete report of the findings of the survey will be published later. **S.R. Loschiavo.**

**Announcements:** Dr. Radovsky announced the opening of Bishop Museum's new Hall of Hawaiian Natural History and briefly summarized the contents of the 16 exhibits in the Hall.

**Program:** Drs. Toshiyuki Nishida, Franklin Chang, Ernie Harris, and Tim Wong gave their impressions of the Joint meeting in Guadalajara, Mexico, of the Pacific Branch, ESA, Southwestern Branch, ESA, and Mexican Entomological Society.

## JULY

The 859th meeting of the Hawaiian Entomological Society was called to order by President-elect Ikeda at 2:10 p.m., July 11, 1977, in the Conference Room, Bishop Museum.

**Members Present:** Arakaki, Armstrong, Beardsley, Bianchi, Chang, Goff, Hara, Hardy, Harris, Ikeda, Ito, Joyce, Kam, Kohn, Kunishi, Lai, Look, Mau, Nakahara, Nishida, Rice, Samuelson, Sugerman, J.A. Tenorio, J.M. Tenorio, Wong, Ziegler.

**Visitors:** Earl R. Oatman, M. Hapai.

**Membership Committee:** F. Chang nominated John Steen, Marlene Hapai and Bernard Kumashiro and they were unanimously elected to membership.

**Common Names Committee:** Joaquin Tenorio reported on a letter from D.W.S. Sutherland in which he gave an explanation of common names not accepted by ESA Committee on Common Names. The reasons given for non-acceptance of HES names are: organisms with general names that might be applicable to several species, those with other known

common names, and those already in use by ESA but not indicated as such on the HES list.

**Announcements:** Dr. Beardsley announced having received a letter from E.J. Ford indicating that he wished to sell his complete set of Fauna Hawaiiensis. It is in excellent condition and he is giving the people of Hawaii first chance to purchase it at \$400 for the set.

**Presentation of Papers:** D. Elmo Hardy submitted a paper for the Proceedings entitled: Xenasteiidae, a new Family of Schizophora (Diptera) from the Pacific and Indian Oceans.

#### NOTES AND EXHIBITIONS

**Perigea dolorosa** (Walker)<sup>1</sup>: A specimen of a noctuid moth, determined as *Perigea dolorosa* (Walker) by Dr. E. L. Todd of USDA, Systematic Entomology Laboratory, was exhibited. This species previously unreported in Hawaii appears to be established on Oahu, although it appears to be rare. The first local specimen was collected in a black light trap at Hickam AFB on April 7, 1975, and a second specimen was taken at this locality on May 13, 1975. A third specimen was taken in Honolulu by a student in general entomology at Univ. of Hawaii during March, 1976.

Dr. Todd stated that *P. dolorosa* should be placed in the genus *Platysenta*, although he does not believe that this combination has been published. The known distribution of the species includes S.E. Asia, Indonesia, New Guinea, Australia, Solomon Is., New Caledonia and Fiji. *Conyza* (formerly *Erigeron*) *balsimifera* is listed as a larval host. Hosts in Hawaii are *C. canadensis* and *C. bonariensis*, both weedy Compositae. **J.W. Beardsley**

**Aeolothrips nasturtii** Jones: A single specimen of a thrips new to the Hawaiian fauna, determined as *Aeolothrips nasturtii* Jones by Mr. K. Sakimura, was collected by Mr. Arnold Hara on June 9, 1977 at 4800' elevation, Kaupo gap, Haleakala, Maui. *A. nasturtii* is a North American species. **J.W. Beardsley.**

**Sycophila** sp.: A Torymid wasp first collected in Hawaii at Barbers Point N.A.S., Oahu on August 31, 1976 has recently been determined by Dr. Eric Grissell, Florida State Dept. of Agriculture, as *Sycophila* sp.. This is a new state record. The species has been taken more recently in light trap at Hickam AFB and Honolulu International Airport. The original collection was made from *Ficus retusa*, and as species of *Sycophila* are all associated with *Ficus* fruit, it is believed that this *Sycophila* will be found breeding in fruit of *F. retusa*. This is the third torymid species associated with *F. retusa* fruit which has become established in Hawaii during the past few years. **J.W. Beardsley.**

**Current Distributional Status of Coptotermes formosanus Shiraki in Hawaii:** The following data are based on surveys made during 1976-1977. On Oahu the insect is widely distributed over the entire island and is beginning to appear in large numbers in the wet highland areas (upper Manoa, Nuuanu, and Wahiawa). Severe damage problems are predominate along the leeward and the windward coasts. Oahu is the most severely infested island.

On Kauai the pest is widespread in the Lihue area, and is present in

<sup>1</sup> Subsequently determined as *Prospalta dolorosa* (Walker), Sept. 1977 note.

Hanapepe and Waimea. This Island is second to Oahu in distribution and damage.

On the island of Hawaii the termite is well distributed in Hilo. Infestations were also found in the Puna (Paradise Park) area, and on the Hamakua coast, at Papaikou. At Kona the insect is spottily distributed in Kailua. One infestation has been reported from upper Kona.

On Maui the insect is spottily distributed throughout Wailuku and is also present in parts of Kahului and Waikapu.

On Molokai, infestations in Kaunakakai were found within a 200 yard radius of the harbor area. In Kalaupapa, active *C. formosanus* infestations were found within a 150 yard radius of the harbor. Infestations of *C. formosanus* on Molokai are apparently of recent origin (within the past 10 years). In addition, in Kalaupapa, *Incisitermes immigrans* (Snyder), was found in the timbers of the wharf. *Cryptotermes brevis* (Walker) was present in most of the buildings.

On the island of Lanai, an original infestation was reported in the Kaunalapau Harbor. A careful survey made recently failed to reveal any active infestations. A concerted control program initiated by the Dole Company in the late 1940's apparently was successful in eliminating the insect from the Island. **M. Tamashiro, J. Yates, P. Lai, R. Ito & E. Pang.**

**Eriophyes granati** (Canestrini & Massalongo): A heavy ingestion of the Pomegranate leaf curl mite was observed on a large pomegranate tree at Palolo Valley, Oahu by L. Nakahara on June 21, 1977. Identification was made by F.H. Haramoto, Univ. of Hawaii. This is a new state record. Jeppson, Keifer, and Baker (Mites Injurious to Economic Plants) state that "*E. granati* occurs throughout the Mediterranean region and has followed pomegranate plantings elsewhere in the world. The mite tightly rolls the leaves from the sides down onto the undersurface...so tightly (sometimes)... as to produce a nearly leafless appearance to the twig." **L. Nakahara.**

**Tephritidae, Dacus (Bactrocera) tryoni** (Froggatt): This Queensland fruit fly has been known in New Caledonia since at least 1958 and Tahiti since 1970. More recent collections by N.L.H. Krauss add the following new distribution records for *D. tryoni*: Society Islands: Huahine and Raiatea Islands, March 1972. Austral Islands: Tubuai, March 1977. **D.E. Hardy.**

**A Record of Predation by a Cockroach *Periplaneta americana* (L.) on a Termite, *Coptotermes formosanus* Shiraki, in Hawaii:** The American Cockroach, *Periplaneta americana* (L.) has been reported previously as a predator of termites in India (Annandale, 1910) and in Africa (Bowden and Phipps, 1967). Cockroach predation on termites has not been previously reported in the Hawaiian Islands although the cinereous cockroach, *Nauphoeta cinerea* (Olivier) has been recorded as a predator of the Pacific beetle cockroach, *Diploptera punctata* (Eschscholtz) (Illingworth, 1942 Fullaway and Krauss, 1945).

A large flight of the Formosan subterranean termite, *Coptotermes formosanus* Shiraki, occurred on the evening of 27 May 1977 in Honolulu. During this flight, 2 adult *P. americana* were observed actively pursuing and feeding on both alate and de-alate forms of the termite. The termites

appeared to be clustered around an incandescent light, and the cockroaches were feeding within the lighted area.

Although *P. americana* were observed using the antennae to knock flies out of the air (Cooke, 1968), in my observations, the antennae did not appear as important in seeking and procuring prey as perhaps were the eyes, palpi and mandibles. Numerous instances occurred with either the termites blundering into a cockroach antennae or the cockroach touching a termite with its antenna with no direct response from the cockroach. However, the cockroach would react immediately and grab the prey with the mandibles if the prey were directly in front of and within a distance of approximately 30 mm, or occasionally when a termite approached a cockroach from the rear and touched the palps while passing underneath. After grasping the prey with the mandibles, the cockroach would feed by vigorously and rapidly chewing the prey, usually consuming everything but the wings. During one 2 minute period, a cockroach was observed to consume 9 termites. A good summary of cockroach predation may be found in Roth and Willis (1960).

Literature cited:

- Annandale, N., 1910. Cockroaches as predatory insects. *Rec. Indian Mus.* 5(3):201-202  
 Bowden, J. and J. Phipps, 1968. Cockroaches (*Periplaneta americana* (L.) as predators. *Ent. Mon. Mag.* 103:175-176  
 Cooke, J.A.L., 1968. A further record of predation by cockroaches (*Periplaneta americana* (L.). *Ent. Mon. Mag.* 104:72.  
 Fullaway, D.T. and N.L.H. Krauss, 1945. Common insects of Hawaii. Tongg Publ. Co., Honolulu. 228 pp. 12 pl., 16 fig.  
 Illingworth, J.F., 1942. An outbreak of cockroaches, *Nauphoeta cinerea* (Olivier) in Honolulu. *Proc. Hawaii Entomol. Soc.* 11(2):169-170.  
 Roth, L.M. and E.R. Willis, 1960. The biotic associations of cockroaches. *Smithson. Misc. Coll.* 141:1-439, 37 pl. **Gordon M. Nishida.**

**Geckobiella** sp.: An unidentified species of *Geckobiella* (Ptergysomatidae) was recovered from specimens of the Southern Leaf-tailed Gecko, *Phyllurus platurus*, at the Honolulu Zoo. The lizards were shipped from Gosford, New South Wales, Australia, and had apparently been on display at the zoo for some time prior to discovery of the mites. **M. Lee Goff.**

**Aponomma** sp.: Specimens of ticks (Ixodidae) of the genus *Aponomma*, species near *undatum* Fabricius, were recovered from specimens of the Lace Monitor, *Varanus varius*, and the Eastern Blue-tongued Skink, *Tiliqua scincoides*, shipped to the Honolulu Zoo from Australia. The lizards had been on display for an undetermined period of time prior to discovery of the ticks. Species of *Aponomma* typically infest reptiles and are reported to be vectors of a hemorrhagic disease of reptiles. **M. Lee Goff.**

**Program:** John Farias, Chairman, Board of Agriculture, spoke on current problems in Agriculture and emphasized importance of entomology and agriculture in the state.

AUGUST

The 860th meeting of the Hawaiian Entomological Society was called to order by President-elect Ikeda at 2:05 p.m, August 8, 1977, in the Conference Room, Bishop Museum.

**Members Present:** Arakaki, Bianchi, Chang, Evenhuis, Goff, Hardy, Higa, Howarth, Ikeda, Joyce, Kitaguchi, Look, Nishida, Samuelson, Stef-

fan, J.A. Tenorio, J.M. Tenorio.

**Visitors:** Mohammad Taiyab Khan and James M. Brennan

**New Business:** JoAnn Tenorio read a letter from Wallace Murdoch, Executive Director of ESA. He expressed appreciation for HES hospitality during the annual meeting in Honolulu, called attention to the rules which allow an affiliated society to publish brief entomological news and notes in the ESA Bulletin, and asked us to provide a listing of our 1977 officers for publication in the September Bulletin.

**Announcements:** Dr. Hardy announced that Loren Steiner, a long-time member of the Society, had died of a heart attack in June. It was moved and passed that a letter of condolence be sent to Mrs. Steiner.

#### NOTES AND EXHIBITIONS

**Vespa pennsylvanica** (Saussure): A single ♀ worker of this species was collected on 17 July 1977 in an open area at 350 m near the beginning of Aiea Loop Trail, Koolau Mountains, Oahu. It was foraging among the flowers of Lantana. The species is established on Kauai. The last report of this species on Oahu was made by Williams on 27 June 1936 (PHES 9:366, 1937). However, Dr. J.W. Beardsley has picked out a single specimen from the student collections at the Univ. of Hawaii in each of the last 3 years as follows: a worker, Kailua, 18.XI.1975, B. Aoyagi; worker, Hawaii Kai, 18.XI. 1976, D. Robinson; and presumably a queen although the pattern is intermediate, Waialua, 9.IV.1977, from flower, W. Kanoa. **F.G. Howarth.**

**Fourth of July Butterfly Count:** The Xerces Society sponsors an annual census of butterflies patterned after the Christmas bird count of the Audubon Society. Although this was the third count year elsewhere, our 17 July count was the first in Hawaii. Seven observers, G.A. and S. Samuelson, J.C.E. Riotte, E. and R.C.A. Rice, and N.C. and F.G. Howarth counted butterflies in selected areas within the same 15 mile diameter circle centered near the Pali tunnel as the Honolulu Christmas bird count. Unfortunately, the rainy, windy weather on 17 July accounted for the low numbers of butterflies seen. A fuller report of the count will be published in Wings, the newsletter of the Xerces Society. Eleven species of butterflies were censused as follows: larvae, *Erinota thrax* (L.)—3, adults, *Hylephila phyleus* (Drury)—13, *Papilio xuthus* (L.)—6, *Pieris rapae* (L.)—6, *Danaus plexippus* (L.)—14, *Agraulis vanillae* (L.)—39, *Vanessa tameamea* Esc.—2, *Lampides boeticus* (L.)—24, *Strymon bazochii* Godart—1, *Thmolus echion*—11, and *Vaga blackburni* (Tuely)—121 (a total of 3 larva and 237 adults). **F.G. Howarth.**

**Program:** Dr. M.L. Goff spoke on parasitope specificity in chiggers.

#### SEPTEMBER

The 861st meeting of the Hawaiian Entomological Society was called to order by Beardsley at 2:05 p.m., September 12, 1977, in the Conference Room, Bishop Museum.

**Members Present:** Arakaki, Beardsley, F. Chang, V. Chang, Evenhuis, Goff, Hara, Haramoto, Hardy, Higa, Howarth, Joyce, Lai, Look, Murai, Nakahara, Nishida, Samuelson, Su, J.M. Tenorio, Vargas.

**Visitors:** H. Megens, Tai Soo Chun, D. Sembel.

**Membership Committee:** Frank Haramoto proposed honorary mem-

berships for Clif Davis, Austin Morrill, Ray Joyce, and Bill Look. They were unanimously elected to honorary membership.

**Editorial Committee:** Jack Beardsley reported that the Proceedings for 1975, Vol 22(3), has been sent out to bid and 4 bids have been received; these ranged from \$5000-\$6000 for about 150 pages. Dr. Beardsley asked that the Society appropriate \$300 for preparation and typing of the Index for Vol. 22 and for typing of the Proceedings for 1976, Vol. 23(1). Dr. Hardy moved and it was unanimously passed that \$300 be appropriated for these purposes.

**New Business:** Dr. Beardsley asked Frank Haramoto to chair the nominations committee and appointed Stan Higa and Al Samuelson to serve as members.

#### NOTES AND EXHIBITIONS

***Prospalta dolorosa* (Walker):** It appears that the recently discovered immigrant noctuid moth which was reported as a new state record at the July meeting as *Perigea dolorosa* or *Platysenta dolorosa* (Walker) should be known properly as *Prospalta dolorosa* (Walker). The reasons for using this name were explained by Dr. E.L. Todd of the USDA Systematic Entomology Laboratory in a letter to Mr. Nakahara. Apparently the old world species previously placed in *Platysenta* should properly be placed in *Prospalta* Walker, and *dolorosa* is an old world form. The present combination was used by Warren in Seitz (Macrolepidoptera of the World) 3:218 (1911) and 11:344 (1937), according to Dr. Todd. **J.W. Beardsley.**

***Leucania* sp., probably *insecuta*<sup>1</sup> Walker:** Dr. E.L. Todd of the USDA Insect Identification Laboratory recently identified a male noctuid moth taken in a light trap at Hickam AFB on August 8, 1977, as *Leucania* sp. probably *insecuta* Walker. It appears that this species, which rather closely resembles the armyworm, *Pseudaletia unipuncta* Haworth has been present on Oahu for several years. The first local specimen, a badly abraded female, was taken by me from light trap material from Hickam AFB on October 23, 1973. No additional specimens were obtained until Aug. 8 of this year when the ♂ mentioned above and an additional female were found. Two more females were taken from light trap material from Barbers Point Naval Air Station during August. All of the specimens seen to date have been badly abraded and it is likely that additional battered specimens would have been overlooked.

Larvae of *Leucania* spp. generally are grassfeeding armyworms. *L. loreyi* (Duponchel) is another member of this genus which became established in Hawaii during recent years (Proc. Hawaii. Entomol. Soc. 22(1):23, 1975). Although these insects are potential pests of gramineous crops, they have not yet been implicated as economic pests here. It seems likely that the large complex of armyworm natural enemies already established in Hawaii may be holding these recent immigrant species under control.

In addition to differences in the genitalia, the new *Leucania* can be distinguished from *Pseudaletia unipuncta* in the adult stage by the possession of more definite narrow black longitudinal lines which extend to the outer edge of the forewing, and by the hind wings which are largely pale except for a relatively narrow dark area along the outer margin and on

<sup>1</sup> Subsequently determined as *L. striata* Leech.

the veins. In *P. unipuncta*, the hind wing is more extensively dark colored. *L. loreyi* averages slightly smaller than these two, and has the hind wings entirely pale. The forewings of the latter species are distinctively marked with a blackish longitudinal streak.

Because of genitalia differences Dr. Todd is not certain that our species is actually *insecuta*. The specimen will be sent to the British Museum where the types of *insecuta* and others synonymized with it by Hampson are located. **J.W. Beardsley.**

**Elasmus** sp.: At the November, 1976 meeting I exhibited a specimen of an undetermined species of *Elasmus* (Chalcidoidea: Elasmidae) taken in a light trap at the Honolulu International Airport. No additional specimens of this insect, a new state record, were seen until July 30, 1977, when a second female was taken in a light trap which I operate at my home in Kailua, Oahu. Since then I have collected two additional females, one taken at Hickam Air Force Base, Aug. 30, 1977, sweeping weeds, and the other from a light trap at Ewa, Oahu, on the same date. These collections indicate that the species is established on Oahu. **J.W. Beardsley.**

**Epichrysomalla** sp.: Dr. Zdenek Boucek of the British Museum has identified a Torymid wasp which is associated with fruits of Chinese banyan (*Ficus retusa*) on Oahu as *Epichrysomalla* sp. This wasp was reported previously as an undetermined genus and species of Torymidae, by me at the September 1975 meeting (Proc. Hawaii. Entomol. Soc. 22(3) in press). **J.W. Beardsley.**

**Schwarzella** sp.: Dr. Boucek also provided this determination for specimens of a chalcid wasp belonging to the subfamily Haltichellinae of the family Chalcididae. Although this chalcid has not been reported previously, it has been present in Hawaii for several years. The first specimens, a series of several males, were collected by Dr. V. Chang on Maui (no exact locality specified) on July 19, 1973, from an old stump infested with *Camponotus variegatus* (Fr. Smith), the carpenter ant. Additional males were collected by me on Oahu during 1974, and on Aug. 31, 1976 a series of 10, including two females, was taken sweeping *Ficus retusa* foliage at Barbers Point NAS, Oahu. Nothing is known concerning the habits of this species. **J.W. Beardsley.**

**Pseudomyrmex gracilis mexicanus** (Roger): The immigrant neotropical pseudomyrmine ant, *Pseudomyrmex gracilis mexicanus* (Roger), was reported for the first time in Hawaii on the basis of two de alate females collected by me at Kailua, Oahu, during September, 1976. During a six week period in late July, August and September, 1977, a total of 24 adult males of this species were taken in an ultraviolet light trap operated at the site in Kailua where the female specimens were collected. An additional de alate female was also taken crawling on a glass door at this location in late August. These captures furnish strong evidence that the species is established in the Kailua area, although, to date, no colonies or workers have been located. **J.W. Beardsley.**

**Hierodula patellifera** (Serville): Two specimens, an adult female and a half-grown nymph of the immigrant mantis, *Hierodula patellifera*, were collected during a detection survey at Hickam Air Force Base, Oahu on August 30, 1977. This mantis, which has been known from the island of

Kauai since 1924, has not been reported previously from any other part of the state. Another female, labeled; Pearl City, Oahu, III-6-1970, F. Fukuda; is in the University of Hawaii Collection, indicating that the species may have been present in the Pearl Harbor area for several years. **J.W. Beardsley.**

**Pharoscyms** sp.: Two specimens of a small coccinellid beetle recovered from a light trap at Barbers Point Naval Air Station, Oahu, Aug. 8, 1977, were determined by Dr. R.D. Gorden, USDA Insect Identification Laboratory, as *Pharoscyms* sp., possibly undescribed. This is a new state record. Four additional specimens of this beetle are in the U.H. Collection, all taken from light trap material by J.W. Beardsley. The first was taken at Ewa, Oahu, October 4, 1976. The other specimens are from Honolulu International Airport, Barbers Point NAS, and Ewa. Nothing is yet known concerning the habits of this species. It is about 2 mm long, generally black in color, and has two large orange spots on the dorsum of each elytron. The dorsum is pubescent, rather than smooth and shiny, as in the similar appearing *Sticholotis ruficeps* Weise. **J.W. Beardsley.**

**Calliephiates grapholithae** (Cresson): A female specimen of an ephialtine ichneumonid wasp, collected at Manoa Valley, Honolulu March 29, 1977 by N. Nagata was determined recently by Dr. R.W. Carlson, USDA Insect Identification Laboratory, as *Calliephiates grapholithae* (Cresson). This is a North American species which according to Muesebeck et al, 1951, Hymenoptera of North America North of Mexico (USDA Agric. Monograph No. 2) p. 188, occurs from the Atlantic Ocean to 100°W. longitude in the lower Austral and Austral zones and warmer parts of the Transition Zone. This reference lists a number of species of lepidopterous larvae as hosts, most of them species of Tortricoidea living in protected situations such as the codling moth, the oriental fruit moth, and the pecan leaf case-bearer. None of the recorded hosts are known to occur in Hawaii. However, evidence indicates that the species is established here. In addition to the female specimens submitted for identification, two females (Kailua, Oahu Oct. 10, 1976, J.W. Beardsley and Honolulu, Oahu, Jan. 15, 1977, M. Alexander) and a male (Kuliouou, Oahu; Oct. 23, 1976, G. Ross) are also at hand. **J.W. Beardsley.**

**Gelis** sp.: Dr. Carlson also identified a male specimen of a small ichneumonid, collected Aug. 8, 1977 from light trap material from Barbers Point NAS, Oahu, as *Gelis* sp. Two additional specimens, both males, were taken from the same light trap on August 16, 1977. Although female specimens are needed for further identification, this appears to represent another new state record. The only other *Gelis* sp. known from Hawaii is *G. tenellus* Say, a theletokous hyperparasite which has been reared from cocoons of various ichneumonids and chrysopids here. **J.W. Beardsley.**

**Program:** Dr. Earl Oatman, Professor of Entomology at Univ. CA., Riverside, spoke on pest management on tomatoes.

#### OCTOBER

The 862nd meeting of the Hawaiian Entomological Society was called to order by President Radovsky at 2:10 p.m., October 17, 1977, in the Conference Room Bishop Museum.

**Members Present:** Arakaki, Beardsley, Bianchi, Chang, Haramoto, Hardy, Higa, Howarth, Macion, Montgomery, Nishida, Radovsky, Rice, Riotte, Steffan, J.A. Tenorio, J.M. Tenorio.

**Visitors:** D. Sembel, and E.R. Oatman.

**Membership Committee:** Marian Chun, UH graduate student, was nominated and unanimously elected to membership.

**Editorial Committee:** Jack Beardsley informed the Society that we have accepted the bid of Pacific Printers for printing volume 22(3). Their bid was approximately \$4000, by far the lowest bid.

**Nominations Committee:** Frank Haramoto announced the slate of candidates for 1978 as follows: President-elect—Frank Chang & Bernard Sugarman, Secretary—Larry Nakahara & JoAnn Tenorio, Treasurer—Barry Brennan & Po-Yung Lai, Advisor—William Look & T. Nishida. No additional nominations were made from the floor. The committee will send out ballots in November.

**New Business:** Dr. Radovsky announced the planning for the Annual Dinner meeting. He appointed Dr. Ray Joyce to head the dinner committee and B. Sugarman to assist in making arrangements. The Secretary has sent out the announcement and reservation form for the dinner meeting to all members.

**Announcements:** Dr. Beardsley announced the death last spring of Dr. Blair Bartlett of Univ. of Ca., Riverside, a former HES member.

Steve Montgomery announced the death of E.P. Mumford, an honorary HES member who has also donated money to the Society. Steve was asked to draft a letter of condolence to Mrs. Mumford for the Society.

Frank Chang suggested that new Honorary Members should get official letters from the Society indicating that they have received this honor. Dr. Beardsley moved that the responsibility for nominating honorary members be given to the Membership Committee and anyone wishing to propose a person submit the name to the Committee for review. Motion was unanimously passed.

#### NOTES AND EXHIBITIONS

**Meigen's Book:** Dr. D.E. Hardy exhibited a book containing Wilhelm Meigen's colorplates of Diptera first published between 1790-1838.

**Amblyomma sparsum** Neumann: This is to exhibit and report on the determination of a tick specimen taken from a turtle by S.J. Kotake on July 23, 1976. The turtle came to Hawaii from California. In searching through the records of importation it was discovered that the Honolulu Zoo imported a "Mata Mata" turtle, *Chelys fimbriata*, from the Sacramento Zoo on July 21, 1976. It is thought that the tick must have come from this turtle.

The tick is a representative of an African species determined as *Amblyomma sparsum* Neumann by Dr. Carleton M. Clifford, tick specialist of the Rocky Mountain Laboratory. The tick has a wide distribution, principally on land tortoises, throughout Central and South Africa. Efforts will be made to further trace the origin of this tick. **C.R. Joyce.**

**The Anthicidae of Kauai:** During a recent visit to Kauai, the author and his wife noted on several occasions numbers of anthicids on the inner sides of shop windows and adjacent walls. A series of the insects was

collected (2 mi. SE Lihue; 27-28 November 1976; D.K. & J.T. Young) and subsequently determined to be *Anthicus tobias* Marsuel (specimens deposited in the collection of the author as well as that of the Bishop Museum). To the author's knowledge this represents the first Hawaiian record of the cosmopolitan *tobias* outside Oahu, as well as the first anthicid to be recorded from the island of Kauai. A check through the collections of the Bishop Museum (by G.A. Samuelson) and the Hawaii Dept. of Agriculture (by S.Y. Higa) for additional unpublished records yielded but a single Kauaian anthicid, this having been identified as *A. floralis* (L.). Additionally, Dr. Samuelson was able to locate data cards on file at the Bishop Museum which listed *A. tobias*, *A. vexator* Werner, and *Thicanus annectens* (LeConte) from Kauai, though these records could not be confirmed by specimens. The *tobias* and *annectens* samples were recorded as having been taken in "salt marshes nr sea level."

The association of *A. tobias* with shop display windows leads me to suggest that artificial lighting served as the stimulus for attraction, an idea supported by other collection records which list the species as having been taken from light trap samples (Werner, 1961, 1966). Extensive baiting with cantharidin, a positive stimulus for the attraction of numerous species of anthicids (Chandler, 1976; Young, unpublished notes) proved fruitless in several habitat types on Kauai. The time and assistance of G.A. Samuelson and S.Y. Higa are gratefully acknowledged. **D. Young**, Mich. State Univ.

References cited: Chandler, D.S. 1976. Use of cantharidin and meloid beetles to attract Anthicidae (Coleoptera). Pan-Pac. Ent. 52:179-180; Werner, F.G. 1961. *Anthicus tobias* Marsuel, Another tramp species (Coleoptera: Anthicidae). Psyche 68:70-72; Werner, F.G. 1966. A key to the Anthicidae of Hawaii, with one new species (Coleoptera). Proc. Hi. Ent. Soc. 19:310-316.

**Leptynoptera sulfurea** Crawford: A single female of a psyllid new to the Hawaiian Islands was found by me in light trap material from Honolulu International Airport, collected September 14, 1977. The specimen was identified by me as a female of *Leptynoptera sulfurea* Crawford (see Tuthill, 1964, Insects of Micronesia 6(6):359 for an illustration of this psyllid). *L. sulfurea* was described from Amboina (1919, Philippine Jour. Sci. 15(2):147) and is also widespread in Mariana and Caroline Islands. The only known host is the kamani tree, *Calophyllum inophyllum* L. It is a fairly large psyllid with distinctively marked forewings, and greatly reduced hind wings. Three additional specimens were found in material from three separate light traps from Hickam Air Force Base, Oahu, collected on September 21. These specimens indicate that the species probably is established in the Hickam Field-Honolulu International Airport area. This is a new state record. **J.W. Beardsley**.

**Scotogramma trifolii** (Hufnagel): Dr. Beardsley exhibited a specimen of a noctuid moth, taken in a light trap at Hickam Air Force Base on October 15, 1976, which was identified by Dr. E.L. Todd, USDA Insect Identification Laboratory as *Scotogramma trifolii* (Hufnagel). This species which has not been previously reported in Hawaii is according to Dr. Todd, holarctic in distribution. As no additional specimens have been taken during the year since this one was collected, the species cannot be

considered to be established in Hawaii. **J.W. Beardsley.**

**Schistocerca nitens nitens** Thunburg: Mr. George Balazs, Univ. of Hawaii, Institute of Marine Biology, submitted an adult female specimen of the vagrant grasshopper, *Schistocerca nitens nitens* Thunburg, which he collected on Necker Island in the Leeward Hawaiian Island group on August 14, 1977. The specimen was determined by Dr. Beardsley. Mr. Balazs reported seeing numerous adults of this immigrant grasshopper on Necker and also on Nihoa Island. Necker is a confirmed new island record for *S. nitens*, but specimens from Nihoa are needed for confirmation. The possibility exists that large populations of this grasshopper could develop on these isolated leeward islands and cause serious damage to their vegetation. **J.W. Beardsley.**

**Meteorus** sp.: Dr. Beardsley exhibited two specimens of a braconid wasp which he has determined as a *Meteorus* sp. not previously known from Hawaii. Both specimens were collected in a light trap at Kailua, Oahu. The first was taken on July 22, 1977 and the second on October 8. The most common *Meteorus* species in Hawaii is *M. laphygmae* Viereck. *M. humilis* (Cresson) and *M. sp. near icterius* Nees are known to occur in Hawaii only on Maui. The species reported here is none of these, and apparently represents a recently established immigrant. **J.W. Beardsley.**

**Leucania striata** Leech: At the September meeting I reported on a newly discovered immigrant noctuid moth which had been determined by Dr. E.L. Todd, USDA Insect Identification Laboratory, as *Leucania* sp. probably *insecuta* Walker. At Dr. Todd's suggestion I sent a pair of specimens of this moth to Dr. Klaus Sattler at the British Museum, for comparison with the types of *L. insecuta* and related forms. Dr. Sattler has written to me concerning these specimens in a letter dated October 4, 1977 as follows:

"Mr. A.H. Hayes and I have examined your specimens, and believe they are *Leucania striata* Leech. Hampson synonymized *striata* with *insecuta* Walker. However, they appear to be distinct species.

Ogata's figures (Icones....) represent *striata* as Todd suspected. The genitalia figure is rather crude, but it agrees well enough with the type of *striata*. The clasper plate of your specimen differs slightly from that of the type. Without a proper taxonomic study it is difficult to say what the significance of this difference is. I suspect it merely means that the type and your specimens originated from different geographic areas.

According to our information, *striata* is known only from Japan."

The "Icones" reference mentioned above is according to Todd, Ogata in Esaki et al. 1958, *Icones Heterocerorum Japonicorum in Coloribus Naturalibus*, p. 90, Fig E, Pl. 91, fig. 1986.

Since *L. striata* was synonymized with *L. insecuta* by Hampson (1905, *Cat. Lepidoptera Phalaenae in British Museum*, 5:534), and apparently has not been resurrected from synonymy before now, its use here constitutes a renewed status for this name which should be credited to Hayes and Sattler. Reference citations for the original description of *L. striata* is: Leech, 1900, *Trans. Entomol. Soc. London* for 1900, p. 127 **J.W. Beardsley.**

**Pseudococcus** n. sp. on orchids: On October 22, 1976 Dr. Ron Mau encountered a heavy infestation of a mealybug on *Dendrobium* orchids at the Kohala Nursery, Kohala, Hawaii. Subsequently, specimens were submitted to me for identification. These proved to represent a species of *Pseudococcus* unknown to me. In May of this year I took specimens to Beltsville, Maryland for comparison with material in the USDA collection. I found two specimens, taken in quarantine from Australian orchids which appeared to be identical. In July while in London, I showed specimens to Dr. D.J. Williams, Coccid specialist with the Commonwealth Institute of Entomology who agreed with me that they represented an undescribed species. Williams has subsequently written to me that he has recently received additional specimens of this species collected on orchids in Queensland, Australia. He plans to describe the species as part of a revision of Australian Pseudococcidae on which he is presently working. This mealybug, as yet known only from the Kohala area in Hawaii, represents a new state record. **J.W. Beardsley.**

**Orthemis ferruginea** (Fabricius): A specimen of a libellulid dragonfly collected at Haleiwa, Oahu, March 27, 1977 by P. Lazo (a student in general entomology at Univ. Hawaii, Manoa) has been determined as *Orthemis ferruginea* (Fabricius) by Dr. O.C. Flint of the U.S. National Museum. This is a new state record. According to Smith and Pritchard (in Usinger, 1956, Aquatic Insects of California, p. 133) this is a neotropical species which reaches the southern border of the United States from California and Utah to Florida. Body color of adults is brown and red in life.

To date four specimens of this dragonfly are known from Oahu. The first was taken at Ewa, Oahu on 4 December 1976 by R. Ikano. Others were taken in March and April of this year at Waialua and Manoa, respectively. **J.W. Beardsley.**

**Euacidalia brownsvillea** Cassino: Between May and mid June 1977 F.G. Howarth collected 4 adults of this small gray geometrid in Kalihi Valley, Oahu. The specimens were determined by Dr. F.H. Rindge of the American Museum of Natural History as *Euacidalia brownsvillea* Cassino (Geometridae, Sterrhinae). Dr. Beardsley contributed that Dr. Klaus Sattler captured one specimen of this moth on Lanai in October 1976 and that Beardsley collected one at Kailua, Oahu in January 1977. Its range, larval hosts and biology are not known. These constitute new state and island records. **F.G. Howarth.**

#### **Biological Control Releases:**

A. Souring beetle project.

*Philothalpus analis* Gahan: This purposely introduced staphylinid for nitidulid control was released for the first time on the island of Maui. A total of 245 adults was released in a pineapple field at Haliu Maile on September 26, 1977. The initial State release of this predator was on Lanai where nearly 2,000 beetles have been released since April 1977. **Stan Higa.**

B. Agromyzid leafminers (*Lirionyza* spp.)

*Chrysocharis melaensis* Walker: This eulophid parasite was introduced from the USDA Beneficial Insect Research Laboratory, Newark, Dela-

ware in June 1977. Since July 20, 1977 five releases totalling approximately 1200 parasites have been released in Pearl City, Waimanalo and Kahuku, Oahu.

*Achrysocharella punctiventris* (Crawford): This eulophid was collected by R. Burkhart from cucurbit and tomato plants in Imperial Valley, California in May 1977. Since October 5, approximately 2,000 parasites have been released on the Waimanalo Experimental Farm. Identification was made by C.M. Yoshimoto, Bio-systematics Research Institute, Canada Department of Agriculture. **Stan Higa.**

*Pediobius acantha* (Walker): This eulophid was introduced from Israel (D. Gerling, Tel-Aviv University) in April 1977. An initial release of 500 parasites was made in Pearl City on Oct. 5. Identification was made by Z. Boucek, Commonwealth Institute of Entomology, London. **Stan Higa.**

*Opius* sp. (Braconidae): This wasp was collected by R. Burkhart from *Sonchus* sp. in San Diego, California in May 1977. An initial release of 300 parasites was made in Pearl City on Oct. 5. This species differs distinctly from *Opius* sp. introduced from Linares, Mexico in June 1976. Identification was made by C.F.W. Meusebeck, USDA Systematic Entomology Laboratory. **Stan Higa.**

#### C. Tomato Pinworm Project.

*Parahormius pallidipes* (Ashmead) This braconid was collected from tomato in Yuma, Arizona by R. Burkhart in June 1977. Identification was made by P.M. Marsh, USDA Systematic Entomology Laboratory. According to literature, this insect was once established in Hawaii, apparently an accidental immigrant, first reported by Fullaway in 1944. The Hawaii State Department of Agriculture has three specimens in its reference collection, the earliest collected in 1937 by Swezey and the most recent collected in 1943 by Fullaway. The initial re-introductory release of 30 parasites was made in Waimanalo on September 28, 1977. **Stan Higa.**

#### Parasite/Predator Recovery:

*Leucopis obscura* Haliday: A second recovery of 40 adults of this chamaemyiid predator, introduced from France in June 1976 for *Pinus pini* control, was made by N. Miyahara from infested pine sprigs collected at Polipoli, Kula Forest Reserve, Maui on August 23, 1977. The initial release of this predator was made in June 1976 and the first recovery of 12 flies on April 14, 1977 was reported by V. Tanimoto. A closely related species, *L. nigriluna* McAlpine, which was released and now established in Waimea, Hawaii was introduced into Maui in March 1977 but to date has not been recovered. **Stan Higa.**

*Phoracantha semipunctata* (F.): The Eucalyptus longhorn borer was first collected in Hawaii in 1965 and has been recorded from *Eucalyptus* on Oahu and Kauai. On March 8, 1977, a dead branch of brushbox (*Tristania conferta*) was collected from Kalepa Ridge, Kauai at 400' elevation. Both *P. semipunctata* and *Curtomerus flavus* ♀ emerged from this host material. This constitutes a new State host record for both Cerambycid species and a new county distribution record for *C. flavus*. A cursory review of the literature indicates that this may be the first record of the Eucalyptus longhorn borer attacking brushbox. **J.D. Stein.**

**Program:** Dr. Frank Chang spoke on "Is there a hormonal basis for

black color development in the last instar of the Oleander Hawk Moth, *Deilaphilia nerii*?"

#### NOVEMBER

The 863rd meeting of the Hawaiian Entomological Society was called to order by President Radovsky at 2:15 p.m., November 14, 1977, in the Conference Room, Bishop Museum.

**Members Present:** Beardsley, Bianchi, Chang, Goff, Hara, Haramoto, Hardy, Harris, Higa, Howarth, Ikeda, Joyce, Look, Macion, Megens, Montgomery, Nakahara, Nishida, Radovsky, Samuelson, Steffan, Stein, Su, Vargas.

**Visitors:** Earl R. Palmer, E.P. Legner.

**Membership Committee:** Lorna Arrita, U.H. graduate student was nominated and unanimously approved for membership.

**New Business:** Motion was made, seconded and carried that up to \$100 be made available for expenses for the annual dinner meeting.

#### **Papers Presented:**

A review of the Hawaiian aphids by J. Beardsley.

A revision of split-tarsus group of Hawaiian *Drosophila* by D. Elmo Hardy.

A review of the Haplothropini in Hawaii by Fred Bianchi and K. Sakimura.

#### NOTES AND EXHIBITIONS

**Trichrysis** sp.: Six specimens of a small cuckoo wasp, which appeared to be different from the two species previously known to be established here (*Chrysis extraniens* Rohwer and *C. fuscipennis* Brulle) had accumulated in the University of Hawaii collection. The oldest specimen was taken in May, 1964 by E.I. Uyehara, a student in general entomology at U.H. Manoa. All of the specimens were taken on Oahu. Two were submitted to the USDA Insect Identification Laboratory in August of this year and were determined by A.S. Menke as *Trichrysis* sp. This appears to be a new state record. Unfortunately, there are no host data associated with any of the specimens collected to date.

The Muesebeck Catalog of Hymenoptera of North America (USDA, Agric. Monograph 2) lists *Trichrysis* Lichtenstein as a subgenus of *Chrysis* Linnaeus. Apparently it has been more recently accorded full generic status. **J.W. Beardsley.**

**Appolonius** sp.: In February of 1976 W.C. Gagne reported the presence in Hawaii of *Appolonius* sp., a lygaeid bug, on the basis of one single adult (Proc. Hi. Ent. Soc. 23(1):5). Since that time additional collections were made indicating that the species may be well established on Oahu. One specimen was found in the collection of a student in general entomology at U.H. Manoa in June 1976, labeled: Waimanalo (Oahu) 12-IV-76, N. Iha collector. No further specimens were seen until August of 1977 when Dr. Beardsley found a pair in light trap material from Barbers Point N.A.S., Ewa, Oahu. Two additional specimens were taken from Barbers Point N.A.S. light trap material on November 2, 1977. Dr. J.L. Herring of the USDA Insect Identification Laboratory confirmed the identity as *Appolonius* sp. Dr. Herring wrote that *Appolonius* contains six

described species but that several undescribed species are also represented in the U.S.N.M. collection. The genus is known from India, Ceylon, the Philippines and southern Sudan. Little is known about the food preferences or habits of these lygaeids, **J.W. Beardsley.**

**Iridomyrmex glaber** (Mayr): Dr. Beardsley reported that on August 30, 1977, while a part of an insect survey and detection team, he had collected eight worker specimens of a small black ant, which appeared to be new to Hawaii, at Hickam A.F.B., Oahu. Specimens sent to the USDA Insect Identification Laboratory were identified as *Iridomyrmex glaber* (Mayr), by Dr. David R. Smith. This is a new state record.

*I. glaber* was described from specimens collected at Sydney, Australia (Mayr, 1862, Verh. Zool.-Bot. Ges. Wien 12:705) and is known also from New Zealand (W.L. Brown Jr., 1958, Acta Hymenopterologica 1:40-41). It is a part of a species complex which, according to Brown, contains several forms which may be only geographical races of *glaber*. These include *I. itoi* Forel from Japan and *I. sorsoris* Mann from Fiji. In Australia *I. glaber* "usually lives in open savannah woodland areas where it nests under stones, in old dry logs, in hollow trees, and so on. It is often found in gardens and similar domestic situations where it may be conspicuous because of the files it forms on tree trunks, the workers ascending and descending in their search for honeydew and small insects." This ant should be considered to be a potential pest. **J.W. Beardsley.**

**A flightless female of Panaphelix sp.:** On 24 August 1977 I collected a large flightless tortricid moth on the Waikamoi Flume Trail above Olinda, E. Maui, at about 1300 m elevation. The specimen was shaken from an *Astelia* sp. clump into an insect net. It ran freely around inside the net in an effort to escape, and fluttered or jumped only feebly when dropped or touched. It was watched and prodded for some time, but it did not attempt to fly. The specimen was kept alive in a plastic vial and further attempts were made at night and the following day to coax it to fly, with negative results. It seemed heavy with eggs so after ovipositing it might have been able to fly weakly. No other specimens were found even though what was presumed to be old feeding damage of the larvae on *Astelia* was locally common.

The moth closely resembles *Panaphelix asteliana* Swezey known only from Oahu and reared by Swezey from *Astelia*. But compared with *P. asteliana* the wings are significantly reduced. Further, the apex of the forewing is subacute, not square ended as in *P. asteliana* and most other tortricids. **F.G. Howarth.**

**Perkinsiella saccharicida** Kirkaldy and **Tytthus mundulus** (Breddin): The sugarcane leafhopper was taken to Peru from Hawaii in 1959. It was transported in untreated sugarcane cuttings obtained surreptitiously in Hawaii by visiting Peruvians. It did not attain economic importance in Peru, but prior to 1967 it appeared in the plains of Guayaquil, in Ecuador, and became one of the most important sugarcane pests of that region. Hawaiian Agronomics, a consulting firm with ties in Ecuador, attempted to introduce *Tytthus mundulus* from Hawaii in 1967 and 1968 to control the pest. That effort failed because material of *Tytthus* provided by the Entomology Department of the Hawaiian Sugar Planters Ass'n. did not

reach Guayaquil in viable condition. Although the leafhopper continued to exact a heavy toll, no further attempts were made to introduce any of its enemies until the current year, 1977.

In May and June of this year I sent two more lots of living *Tytthus* to a large sugarcane plantation near Guayaquil. These failed to arrive in viable condition. I then hand-carried a third lot, which I released in the fields of the plantation, Ingenio San Carlos, on August 24. The lot consisted of 81 adult *Tytthus* and more than 600 nymphs of various ages, most in sound health. At this time I do not know whether *Tytthus* has become established.

The material of my three shipments was collected from corn (*Zea mays*) heavily infested with the corn leaf hopper, *Peregrinus maidis* (Ashmead) on the island of Kauai, and of note is the fact that not a single individual of *Cyrtorhinus lividipennis* Reuter was seen in any of the corn plantings examined by me on Kauai. In contrast, *lividipennis* was found in abundance at about the same time in the large corn plantings at Kahuku, on Oahu.

Although *Peregrinus maidis* is supposed to be of ubiquitous occurrence on the American continent, I did not find it in any of the small corn plantings I examined in and near Ingenio San Carlos, Ecuador, during August 1977. Its place appeared to be taken by the sugarcane leafhopper, *P. saccharicida*. **F.A. Bianchi.**

#### **New host and insect locality records from Hawaii Volcanoes National Park:**

1. Citrus swallowtail, *Papilio xuthus* L.: Three chrysalises of the citrus swallowtail were found on *Fagara* (= *Xanthoxylum*) *dipetala* nursery stock by Chris Zimmer and Gar Clarke, National Park personnel, on October 12, 1977. Three adults emerged on the 18th and 19th. Considerable foliar damage by the caterpillar was observed. This constitutes a new host record for *P. xuthus* in Hawaii. *F. dipetala* is an endangered plant species of Hawaii Volcanoes National Park.

2. Oriental stink bug, *Plautia stali* Scott: This immigrant stink bug was found on fruiting hoi-kuahiwi, *Smilax sandwicensis* at Sulfur Banks rim on September 15, 1977. *P. Stali* was first discovered on Oahu in 1968 and by 1975 was recorded on all major islands.

3. The black witch, *Ascalapha odorata* (L.): A single specimen of an apparently newly emerged moth was found in the Research Center hallway, Hawaii Volcanoes National Park on October 18, 1977. Although primarily a lowland insect, *A. odorata* has been trapped at Mt. Kaala, Oahu (1219 m elevation) and has been appearing in Kilauea vicinity with greater frequency. It is suspected of feeding on *Acacia koa* or related native hosts in Hawaii Volcanoes National Park. The nearest major host, monkeypod, *Samanea saman* occurs at Pahala, about 22 miles from Kilauea. **C.J. Davis.**

**Diptera Catalog:** Dr. D.E. Hardy exhibited the final issue (Vol. III) of "A Catalog of the Diptera of the Oriental Region," Univ. of Hawaii Press, 854 pp.

**Program:** Dr. J.W. Beardsley spoke on the "Mealybug problem in Zaire, Africa."

DECEMBER

The 864th meeting of the Hawaiian Entomological Society, the annual dinner meeting, was held at Tripler Officers Club on Dec. 14, 1977 at 6:30 p.m. Dr. Ray Joyce served as master of ceremonies for the occasion which featured a steak and lobster dinner.

**Members Present:** Haramoto, Howarth, Hardy, Beardsley, Sherman, Joyce, Oatman, Ito, Chang, Radovsky, J.M. Tenorio, Sakimura, Ikeda, Toyama, Harris, Goff, Megens, Sugerman, Lauret, Look, Rice, Chun, Arita, Hara, Mau, Gressitt, Bianchi, Riotte, Evenhuis, Steffan, Montgomery, Furumizo, Ota, Brennan.

**Visitors:** Twenty-two spouses and other guests were informally introduced.

The regular order of business was suspended. Franklin Chang gave the financial report. Frank Haramoto announced the officers for 1978 as follows:

- President-elect ..... Franklin Chang
- Secretary ..... JoAnn M. Tenorio
- Treasurer ..... Barry Brennan
- Advisor ..... Toshiyuki Nishida

**Presidential Address:** Frank Radovsky gave his presidential address, a talk and slide show entitled "Choosing a career—the fascination of Entomology."

Following the presidential address Ernie Harris and Fred Bianchi said a few words in memory of 3 long-time members of HES who passed away during the year: Walter Carter, Lauren Steiner and E.P. Mumford. Minoru Tamashiro announced that he is soliciting nominations for the C. W. Woodward Award given by the Pacific Branch for outstanding contributions by members serving that branch.

## NEW IMMIGRANT RECORDS FOR THE YEAR 1977

The following species were reported in the Hawaiian Islands for the first time during 1977, or earlier, on the dates recorded in the text. Species marked with an asterisk were taken from recently imported zoo animals so may not be established. Those marked by a dagger are considered to be doubtfully established as these records are based on single collections (Editor).

## CHANCE IMMIGRANTS

	Page
✓ <i>Agraulis vanillae</i> (L.) (Nymphalidae) ..... <i>Lepidoptera</i>	155
✓ <i>Coelopa (Fucomyia) stejneri</i> Aldrich (Coelopidae) ..... <i>Diptera</i>	156
✓ Family? New genus, Diptera .....	156
✓ <i>Fornax samoensis</i> Fleutiaux (Eucnemidae) ..... <i>Coleoptera</i>	157
✓ <i>Pseudogonia rufifrons</i> (Wiedemann) (Tachinidae) .....	157
✓† <i>Melinda pusilla pusilla</i> (Villeneuve) (Calliphoridae) .....	160
✓ <i>Odontomyia regisgeorgii</i> Macquart (Stratiomyidae) .....	160
✓ <i>Xyleborus interjectus</i> Blandford (Scolytidae) .....	161
✓ <i>Spangbergiella quadripunctata</i> Lawson (Cicadellidae) .....	161
✓ <i>Parlatoria fluggeae</i> Hall (Diaspididae) .....	162
✓ <i>Furchadaspis zamiae</i> (Morgan) (Diaspididae) .....	162
✓ <i>Asterolecanium pseudomiliaris</i> Green (Asterolecaniidae) .....	163
✓ <i>Coelostoma</i> sp. (Hydrophilidae) .....	164
✓ <i>Latrodectus mactans mexicanus</i> Gonzalez (Theridiidae) .....	165
✓ <i>Cerataphis palmae</i> (Ghesquiere) (Aphididae) .....	166
<del>✓ <i>Fletcherana</i> sp. (Geometridae) .....</del>	<del>166</del> <i>end.</i>
<del>✓ <i>Agriolimax reticulatus</i> (Muller) (Limacidae) .....</del>	<del>167</del> <i>not correct</i>
✓ <i>Sterra</i> sp. (Geometridae) .....	169
✓ Gen. & sp. ? (Geometridae) .....	169
✓† <i>Blatta orientalis</i> L. (Blattidae) .....	169
✓ <i>Argiope bruennichi</i> (Scopoli) (Araneidae) .....	170
✓ <i>Prospalta dolorosa</i> (Walker) (Noctuidae) .....	173
✓ <i>Aeolothrips nasturtii</i> Jones (Aeolothripidae) .....	173
✓ <i>Sycophila</i> sp. (Torymidae) ..... <i>Hymenoptera</i>	173
✓ <i>Eriophyes granati</i> (Canestrini & Massalongo) (Eriophyidae) .....	174 <i>mites</i>
✓* <i>Geckobiella</i> sp. (Ptergysomatidae) .....	175
✓* <i>Aponomma</i> sp. (Ixodidae) .....	175
✓ <i>Leucania striata</i> Leech (Noctuidae) ..... <i>Lepidoptera</i>	177
✓ <i>Schwarzella</i> sp. (Chalcididae) ..... <i>Hymenoptera</i>	178
✓ <i>Pharoscygnus</i> sp. (Coccinellidae) .....	179
✓ <i>Calliephiates grapholithae</i> (Cresson) (Ichneumonidae) ..... <i>Hym.</i>	179
✓ <i>Gelis</i> sp. (Ichneumonidae) ..... <i>Hym.</i>	179
✓ <i>Leptynoptera sulfurea</i> Crawford (Psyllidae) .....	181
✓† <i>Scotogramma trifolii</i> (Hufnagel) (Noctuidae) .....	181
✓ <i>Meteorus</i> sp. (Braconidae) .....	182
✓ <i>Pseudococcus</i> n. sp. (Pseudococcidae) .....	183
✓ <i>Orthemis ferruginea</i> (Fabricius) (Libellulidae) ..... <i>Odgnata</i>	183
✓ <i>Euacidalia brownsvillea</i> Cassino (Geometridae) ..... <i>Lepidoptera</i>	183
✓ <i>Trichrysis</i> sp. (Chrysididae) ..... <i>Hymenoptera</i>	185
✓ <i>Iridomyrmex glaber</i> (Mayr) (Formicidae) ..... <i>Hymenoptera</i>	186

25 - 1 - 3

## BENEFICIAL INSECTS PURPOSELY INTRODUCED

	Page
<b>Cothonaspis</b> pos. n. sp. (Cynipidae) .....	159
<b>Opius</b> sp. (Braconidae) from Mexico .....	165
<b>Philothalpus analis</b> Erichson (Staphylinidae) .....	183
<b>Achrysocharella agromyzae</b> (Crawford) (Eulophidae) .....	171
<b>Chrysocharis malaensis</b> Walker (Eulophidae) .....	183
<b>Achrysocharella punctiventris</b> (Crawford) (Eulophidae) .....	184
<b>Pediobius acantha</b> (Walker) (Eulophidae) .....	184
<b>Opius</b> sp. (Braconidae) from San Diego, CA. ....	184
<b>Parahormius pallidipes</b> (Ashmead) (Braconidae) .....	184

NAME CHANGES AND CORRECTIONS IN  
NOTES AND EXHIBITIONS SECTION

Previous name	Changed to	*Reason	Page
<i>Chrysocharis</i> sp.	<b>C. giraulti</b> Yoshimoto	D	159
<i>Conioscinella</i> sp.	<b>Meijerella flavisetosa</b> Sabrosky, 1977	ND	160
<i>Chlorops</i> (sens lat.) sp.?	<b>Chloropsina citravora</b> Sabrosky, 1977	ND	161
<i>Chrysocharis ainsliei</i> Crawford	<b>C. clarkae</b> Yoshimoto	CD	165
<i>Allograpta cubana</i> Curran	<b>A. radiata</b> (Bigot)	S	171
<i>Mesograpta marginata</i> (Say)	<b>Toxomerus marginatus</b> (Say)	CC	171
<i>Ischiodon grandicornis</i> (Macquart)	<b>Simosyrphus grandicornis</b> (Macquart)	CC	171
<i>Eumerus marginatus</i> (Grimshaw)	<b>Eumerus figurans</b> (Walker)	S	171
<i>Volucella (Ornidia)</i> <i>obesa</i> (Fab.)	<b>Ornidia obesa</b> (Fab.)	CC	171
<i>Volucella dracena</i> Curran	<b>Copestylum chalybescens</b> (Wiedemann)	CD	172
<i>Volucella tricineta</i> Bigot	<b>Copestylum hoyae</b> (Curran)	CD	172
<i>Volucella tamaulipana</i> Townsend	<b>Copestylum tamaulipana</b> (Townsend)	CC	172
<i>Eristalis (Lathy.) aeneus</i> (Scopoli)	<b>Eristalinus aeneus</b> (Scopoli)	CC	172
<i>Eristalis arvorum</i> (Fab.)	<b>Eristalinus arvorm</b> (Fab.)	CC	172
Undet. Genus & sp. of Torymidae	<b>Epichrysomalla</b> sp.	CD	178

\* S = synonym; D = determined; ND = newly described; CD = corrected determination;  
CC = correct combination

## MEMBERSHIP 1977

### HONORARY MEMBERS

S. Au	M. Chong	K.L. Maehler
J.W. Balock	C.F. Clagg	A.W. Morrill, Jr.
H.A. Bess	C.J. Davis	*E.P. Mumford
F.A. Bianchi	C.R. Joyce	K. Sakimura
E.H. Bryan, Jr.	C.B. Keck	*L.F. Steiner
E. McC. Callan	N.L.H. Krauss	P.H. Timberlake
*W. Carter	W.C. Look	K. Yasumatsu
Q.C. Chock		
* deceased		

## OFFICERS AND COMMITTEES FOR 1977

### ELECTED OFFICERS

President .....	Frank J. Radovsky
President-Elect .....	James K. Ikeda
Secretary .....	JoAnn M. Tenorio
Treasurer .....	Franklin Chang
Advisor .....	Ernest J. Harris
Advisor (Past President) .....	John W. Beardsley, Jr.

### STANDING COMMITTEES

Editorial .....	C.R. Joyce, Editor G.A. Samuelson, Co-Editor
Finance .....	George Funasaki, E.J. Harris, Minoru Tamashiro Dick Tsuda, Business Manager Franklin Chang, Treasurer
Program .....	J.W. Beardsley, Stan Higa, Joaquin Tenorio James Ikeda, Chairman C.R. Joyce, Wally Mitchell
Membership .....	Franklin Chang, Chairman Joaquin Tenorio, George Kitaguchi Larry Nakahara, Tom Lauret
Science Fair .....	Asher Ota, Chairman W.A. Steffan
Liason .....	Frank Howarth, Chairman Steve Montgomery, Ken Kaneshiro
Common Names .....	Joaquin Tenorio, Chairman James Ikeda, Dick Tsuda Stan Higa, Ed Shiroma

### ACTIVE MEMBERS

W.B. Andrews, Jr.	P. Conant	K.S. Hagen
K.T. Arakaki	R.T. Cunningham	M. Hanaoka
L.H. Arita	N.M. Esguerra	M.M. Hapai
J.W. Armstrong	N.L. Evenhuis	A.H. Hara
J.W. Beardsley, Jr.	S. Fluker	F.H. Haramoto
P.F. Bellingier	J.K. Fujii	D.E. Hardy
B.M. Brennan	W.K. Fujii	E.J. Harris
R. Burkhart	M.S. Fujimoto	S. Higa
F. Chang	G.Y. Funasaki	A.D. Hinckley
V. Chang	R.T. Furumizo	Y. Hirashima
L.M. Chilson	F.M. Gatmaitan	F.G. Howarth
M.R.Y.S. Chun	M.L. Goff	J.K. Ikeda
M. Conant	J.L. Gressitt	R.I. Ito

- P. Jackson  
 L.T. Kaichi  
 M.W.Y. Kam  
 H. Kamasaki  
 K.Y. Kaneshiro  
 H. Kaya  
 R.M. Kobayashi  
 G. Kitaguchi  
 R.E. Koga  
 M.A. Kohn  
 G.H. Komatsu  
 H.T. Kumabe  
 B.R. Kumashiro  
 R.K. Kunishi  
 P.Y. Lai  
 T.H. Lauret  
 C.Y.L. Lee, Sr.  
 J.R. Leeper  
 C.S. Lin  
 N.K. Lind  
 E.A. Macion  
 F.L. Madinger  
 H. Makino  
 S. Matayoshi  
 R.F.L. Mau  
 F.L. McEwen  
 E. McMahan  
 W.C. Mitchell  
 N. Miyahira  
 S.S. Miyake  
 D.H. Miyashita  
 S.L. Montgomery  
 J.P. Mowry  
 W.P. Mull  
 R. Muniappan  
 K.T. Murai
- T.G. Myles  
 P.Y. Nakagawa  
 S. Nakagawa  
 L.M. Nakahara  
 S. Nakahara  
 G. Nakamura  
 H.K. Nakao  
 R. Namba  
 B. Napompeth  
 I.M. Newell  
 G.M. Nishida  
 T. Nishida  
 W.R. Nowell  
 E.R. Oatman  
 K. Ohinata  
 F.J. Olson  
 A.K. Ota  
 E.T. Ozaki  
 E.L. Pang  
 R.P. Papp  
 B.D. Perkins, Jr.  
 L. Pinter  
 D.L. Pribble  
 F.J. Radovsky  
 H.I. Rainwater  
 C.P. Ralph  
 E.S. Raros  
 E.A. Rice  
 R.C.A. Rice  
 J.C.E. Riotte  
 M.M. Ross  
 C.W. Rutschky, III  
 G.A. Samuelson  
 S.C. Sanidad  
 P.W. Schaefer  
 E.L. Schneider
- J.L. Sharp  
 M. Sherman  
 L.K. Shimoda  
 E. Shiroma  
 W.E. Sieker  
 R.D. Spadoni  
 W.A. Steffan  
 J.D. Stein  
 T.H. Su  
 D.Y. Suda  
 D.T. Sugawa  
 B.B. Sugerman  
 J.M. Takara  
 G.H. Takei  
 M. Tamashiro  
 A. Tanabe  
 Y. Tanada  
 N. Tanaka  
 G.Y. Taniguchi  
 V.M. Tanimoto  
 J.A. Tenorio  
 J.M. Tenorio  
 K.K. Teramoto  
 G.M. Toyama  
 D.M. Tsuda  
 R.I. Vargas  
 W.H. Watanabe  
 R.N. Williams  
 W.W. Wirth  
 T. Wong  
 K. Yano  
 J.R. Yates, III  
 C.M. Yoshimoto  
 D.S. Yoshioka  
 E.R. Yoshioka  
 E.C. Zimmerman