Suggestions for Manuscripts

Manuscripts intended for publication should be submitted in duplicate (original and one carbon), typewritten in double or triple space, with ample margins, on one side of standard-sized (8½ by 11 inches) white bond paper. Pages should be numbered consecutively. Fragmentary sheets and slips pinned or pasted on are not acceptable. Footnotes should be numbered consecutively and inserted in the manuscript immediately below the citation, separated from text by lines; they should be used only where necessary. Correct names and references are the responsibility of the author and should be checked for accuracy.

Illustrations should be drawn to allow for one-half or one-third reduction to page size (4½ by 7 inches). Maps and sketches drawn to scale should have the scale plainly indicated. A complete list of figure legends and a duplicate print of each plate or figure are required to be submitted with the manuscript.

Tables and graphs should be used only where necessary, and omitted if essentially the same information is given in the paper. Graphs and figures should be drawn in India ink on white paper, tracing cloth, or light-blue cross-hatched paper.

Proof should be corrected as soon as received and returned to the editor with an abstract on forms provided. Additional costs to the Society for author's corrections in proof may be charged to the author. An order for reprints should be placed with the editor when proofs are returned. Fifty copies of reprints will be supplied by the Society to each author under certain circumstances.

Examination of articles in this issue will help to conform to the style of presentation desired.

PROCEEDINGS
of the
Hawaiian Entomological Society

VOL. XVIII, NO. 3 — FOR THE YEAR 1963 — JUNE, 1964

JANUARY 14, 1963

The 685th meeting of the Hawaiian Entomological Society was called to order by President Davis at 2:00 p.m., Monday, January 14, 1963, at Agee Hall, HSPA.

Members present: Abramovitz, Beardsley, Bianchi, Chong, Clagg, Davis, Fullaway, Hardy, Harrell, Joyce, Kim, Krauss, Laigo, Look, Madinger, W. Mitchell, Nakao, Nakata, Pemberton, Rainwater, Ross, Rutschky, Sasakawa, Sherman, Shiroma, Sugerman, Suehiro, Strandtmann, Tamashiro, Woolford, Yano, Yoshimoto, and Ziegler.

Visitors: Miss M. Delfinado, Mr. E. Ozaki, Miss D. Pascual, Mr. L. Sholdt, and Dr. I. W. B. Thornton.

Mr. John Harrell was unanimously elected to membership in the Society.

Mr. Nakao, for the pest survey committee, gave a summarized report for 1962 on insects of economic importance as well as beneficial insects introduced for their control. This report will be published and made available at a later date.

Mr. Fred Bianchi gave an interesting account of his experiences both as a tourist and as a consulting entomologist to Guatemala in September and October of 1962.

NOTES AND EXHIBITIONS

The following notes were presented by N. L. H. Krauss:

Brochymena quadripustulata (Fabricius): On December 13, 1962, W. Mitchell, George Funasaki, and N. L. H. Krauss visited the Masao Kaneshiro farm in Lualualei Valley, Oahu, and found many adults of this pentatomid bug under and in wooden boxes, cardboard cartons, under boards and in paper fertilizer bags in a shed, and under a nearby mango tree. No nymphs were seen and no bugs were observed on plants.

Langsdorfia rufitincta Dyar: The cossid caterpillar boring in stems and roots of *Lantana scorta* in the Jalapa area of Veracruz state, Mexico, previously listed (PROCEEDINGS[1] 18:135, 1962) as *Langsdorfia franckii* Hübner, has now been

[1] Throughout this publication, "PROCEEDINGS" refers to Proceedings of the Hawaiian Entomological Society.

Pakistan, gave an interesting resumé of the work being done in the field of biological control of insects by the Pakistan government.

NOTES AND EXHIBITIONS

Insect trap: Dr. Yoshimoto reported that an experiment was conducted with a commercial electric insect trap called "Spinsect," manufactured by AMPSCO Corporation, Columbus, Ohio, to see whether or not this trap could be used as standard equipment in field work. A week of testing gave favorable results; no damage seemed done to the smaller flying insects, but larger moths were slightly damaged by the rotating plastic screen fixed to the fan blades. The trap works on the principle of a suction trap and night-flying insects are attracted by the black light luminescence; then, as the insects approach the mouth of the trap, which is 10 inches in diameter, the fan draws the insects down into a plastic bag which holds the trapped insects at the bottom of the bag by air pressure created by the fan. The trap is operated on a 115 volt–60 cycle electrical current.

Dichomeris ianthes (Meyrick): For E. C. Zimmerman, J. W. Beardsley reported that the gelechiid moth discovered by Mr. Beardsley [See PROCEEDINGS 18(1):18, 1962] damaging alfalfa at Ewa in July 1961, has been identified as *Dichomeris ianthes* (Meyrick) (=*Hypsolophus ianthes* Meyrick, TRANS. ENT. SOC. LONDON, 1887:273). Hawaiian material supplied by Dr. Beardsley has been found by J. D. Bradley to be identical with the lectotype of *ianthes* in the British Museum (Natural History). The moth is known to be a pest of alfalfa, indigo, pigeon peas, and other legumes. The larvae are leafrollers, or leaftiers, and their attacks may cause severe defoliation. It is widespread from India, Ceylon and Burma, west and south of Egypt, eastern Africa, various islands in the Indian Ocean, and east and north through Malaysia to Formosa and Japan.

An account of the biology of the moth in India, with a colored plate showing all of the stages and characteristic damage, was published by Fletcher [(1920) 1921, MEM. DEPT. AGRIC. INDIA 6:89–91]. A more detailed report of the species in Hawaii will be included in the forthcoming volume on the Microlepidoptera in INSECTS OF HAWAII.

Corythuca morrilli Osborn and Drake: Dr. Mitchell reported that on March 13 while investigating an *Achaea janata* infestation on castor bean in the quarry at Moiliili, the tingid bug, *Corythuca morrilli* Osborn and Drake, was found breeding on a sourbush, *Pluchea odorata* (L.). The tingid is commonly found breeding on cocklebur, *Xanthium* sp., and the sourbush is a new host record in Hawaii for *C. morrilli*.

The following notes were presented by James Kim:

Nezara viridula smaragdula (Fabricius): This pentatomid bug was found damaging eggplant in Kaneshiro farm, Waianae Valley. The piercing-sucking effects of this bug cause the eggplant fruit to turn brown inside, leading to soft rot decay in several days.

Telenomus basalis Wollaston: A *Nezara* egg cluster found on a soybean leaf at McKinley High School, Honolulu, produced the above parasite. As no release of *T. basalis* was made in this area, it is believed that parasites released in the Department of Agriculture grounds have traveled to this locality. This is the first recovery of *T. basalis* in the state.

Trichopoda pennipes var. **pilipes** Fabricius: On April 5, 1963, one adult of this tachinid fly was captured and four others were observed by Mr. Davis at Ewa, Oahu feeding on ilima flowers. This is the first observation of flies that have emerged in the field. Our release of flies in the area was last made on February 20, 1963. A report in February of recovering in the Nuuanu area five parasitized *Nezara* with eggs of *Trichopoda* attached produced three puparia from which two flies emerged. Since then 18 parasitized adults of *Nezara* have been found.

The following notes and exhibits were presented by Harry Nakao:

Apanteles militaris Walsh: While investigating a heavy outbreak of cutworms, tentatively identified as *Agrotis dislocata* (Walker), at Waiakoa, Maui, on March 20, 1963, numerous cocoons of *Apanteles militaris* Walsh, determined by J. W. Beardsley, were noted. This is the first record of recovery for the island of Maui. *A. militaris* was released on Hawaii and Kauai in 1960 and recovered on Hawaii a year later. However, as it was not released on Maui, the parasite probably was carried over from Hawaii to Maui by air currents. It is unlikely that *Agrotis dislocata* is the host, since no *Apanteles* has been recovered from material being held in the laboratory. However, this material was heavily parasitized by tachinids.

Eucelatoria armigera (Coquillet): Adults of this tachinid fly, from Dr. Gordon Dun, Senior Entomologist, Department of Agriculture, Stock, and Fisheries, Papua, New Guinea, were identified by Dr. Hardy. They were reared from geometrid larvae and attempts are being made to propagate this tachinid from *Achaea janata* (L.) and *Anacamptodes fragilaria* (Grossbeck) here.

Mr. Krauss presented the following notes and exhibitions:

Tropisternus lateralis binotatus Walker: An adult of this hydrophilid beetle was collected in a rain puddle on a dirt road at Makua, Oahu, on April 4, 1963, and numerous adults were found in a temporary stream in Lualualei Valley, Oahu in March. The determination was made by Paul J. Spangler, U.S. National Museum.

Coriscus pilosulus (Herrich-Schaeffer): An adult of this coreid bug, identified by J. W. Beardsley, was collected on the weed *Bidens pilosa* at Luluku, Kaneohe, Oahu on March 20, by C. J. Davis.

Scadra rufidens (Stål): An adult of this reduviid bug, determined by J. W. Beardsley, was collected in Bingham Tract, Honolulu, Oahu on March 26, by Sun Fo Wong, State Department of Agriculture entomologist. This insect, known from the Philippines, Guam, and Palau, is discussed and illustrated by Wygodzinsky and Usinger [B. P. BISHOP MUS., INS. MICRONESIA 7(5):282, fig. 26, 1960].

Sciara (Lycoriella) hardyi Shaw: These gnats were abundant and annoying

pests in houses at night in Waianae and on Pamoa Road, Manoa, Oahu during March. Identification was made by D. Elmo Hardy.

Milichiella lacteipennis (Loew): A dozen or so of these small milichiid flies were noted on and flying about a live nymph of *Nezara viridula smaragdula* (F.) on a plant in Lualualei Valley, Oahu, on March 27. Harry Nakao has observed what was apparently this same fly about adult *Nezara* which appeared to be injured.

Typhlops braminus (Daudin): One of these small snakes was found under a stone at Makua, Oahu on April 4. This snake has been found in various parts of Honolulu, at Aiea, near Pearl Harbor, Barbers Point and Lanikai on Oahu. It was taken at Lahaina, Maui in 1956 and Lihue, Kauai in 1960. The first specimens collected in the islands were found by Paul Gantt on B. P. Bishop Museum grounds in January, 1930 (J. Slevin, 1930, COPEIA, 4:158).

Cryptoblabes aliena Swezey: Dr. Rutschky reported that he and C. Kawanishi observed a light infestation of larvae of this pyralid in macadamia blossoms on young trees in the seedling orchard of the Waimanalo, Oahu, Experimental Farm of the University of Hawaii. The larvae lightly webbed the blossoms together and fed on them. Exuviae were found in the webs along with scats. Macadamia has not been reported to be a host plant, although the insect, because of its general habits, might be expected to feed upon macadamia blossoms. No aphids or other sucking insects were found associated with the larvae. Identification was made by Dr. D. Habeck.

Haematopinus quadripertusus Fahrenholz: According to Dr. Joyce, the "cattle tail louse" has apparently not previously been reported from Hawaii. During the first week in April some specimens from cattle at Waimanalo, Oahu, were submitted to the Hawaii Department of Agriculture which were determined as this species. This louse may have been present in Hawaii for some time but not recognized since it is readily confused with the short-nosed cattle louse, *H. eurysternus* (Nitzsch). The male of the tail louse is distinguished by a row of four large pustulated bristles on the genital plate, whereas *eurysternus* has six much smaller ones. The species was described from *Bos* species from South Africa (Fahrenholz, 1916, ARCHIV NATURGESCH., A, 81:19). In the early fifties it was present in the United States from Florida to Texas.

Chalybion bengalense (Dahlboun): E. S. Shiroma reported that K. L. Maehler and Wallace Chun observed a specimen of this sphecid wasp in Hilo, at the old Kokosui brewery, on February 6, a new record for the island of Hawaii.

Conotelus mexicanus Murray: In checking through interception records, Wallace Chun, Inspector in Charge, Plant Quarantine Division, Port of Hilo, reports that this nitidulid beetle was first intercepted in Hilo on December 7, 1957 by Inspector James I. Mason. Since that time it has been intercepted on 14 different occasions in cut flowers from Hilo. The first Hawaii island record was reported by Mr. Bianchi on June 21, 1960, from the Pahala area (PROCEEDINGS 18:323, 1961).

MAY 13, 1963

The 689th meeting of the Hawaiian Entomological Society was called to order by President Davis at 2:05 p.m., Monday, May 13, 1963, at Agee Hall, HSPA.

Members present: Anderson, Chong, Davis, Fullaway, Funasaki, Habeck, Hamilton, Hardy, Huang, Kamasaki, Kawanishi, Kim, Laigo, Look, McKeand, W. Mitchell, Ozaki, Pemberton, Rutschky, Samuelson, Sasakawa, Sherman, Shiroma, Steiner, Strandtmann, Suehiro, Tamashiro, and Thistle.

Visitors: Dr. H. G. Sengbush, New York University, and Mr. W. G. Hart, USDA Fruit Fly Laboratory.

Dr. M. A. Ghani was unanimously elected to membership in the Society.

Dr. Sherman announced that Dr. Dale H. Habeck is leaving Hawaii to join the faculty of the University of Florida, Gainesville, Florida. Dr. Habeck expressed his regrets at leaving the islands and the fellowship of the Society.

Mr. G. A. Samuelson, B. P. Bishop Museum, gave an interesting talk, illustrated with color slides, on his collecting trip to the Kermadec Islands. These islands are located between North Island of New Zealand and Tonga, and are uninhabited except for the main island of Raoul where weathermen are stationed. His collecting of over 10,000 insects was done mainly on Raoul Island.

NOTES AND EXHIBITIONS

Cryptophlebia ombrodelta (Lower): D. C. Hamilton reported that on April 3, an apparently heavy infestation of this olethreutid moth was noted in *Bauhinia* sp. seeds pods on Iolani Palace grounds, a new host plant record for this moth. Other new state host records for this insect from interceptions made by Federal Plant Quarantine Inspectors are: *Euphoria longan*, *Litchi chinensis*, *Phaseolus vulgaris*, *Pithecellobium dulce*, and *Poinciana pulcherrima*.

Cue-lure as fruit fly attractant: Mr. Steiner reported that cue-lure (4-(p-methoxyphenol) 2-butanone), which was synthesized in 1957 by the Pesticide Chemicals Research Branch of the Entomology Research Division, Agriculture Research Service, USDA, has an odor similar to flowers of the orchid *Dendrobium superbum*, and is the best lure developed to date for the male melon fly (*Dacus cucurbitae* Coquillet). It was found highly attractive to *D. ochrosiae* in the Mariana Islands (1960–1963): to *D. distinctus* Malloch, *D. obscurus* Malloch, *D. psidii* Froggatt, to a new species near *D. psidii* on Tutuila, American Samoa, in August, 1962; and to *D. passiflora* Froggatt at three locations on Viti Levu, Fiji, in March 1963. All exposures were made in plastic (Steiner) traps. Identifications of the Samoa collections were by D. E. Hardy; *D. passiflora* was identified by B. O'Connor. Dr. Alan W. S. May, Brisbane, Queensland, has advised Mr. Steiner that he has found cue-lure attractive to more than 10 species of Queensland tephritids including the Queensland fruit fly, *D. tryoni* Froggatt. This lure has been supplied to entomologists working in many fruit fly areas around the world and is proving to be an effective detection tool for a large number of species.

Cactoblastis cactorum (Berg): Dr. Tamashiro observed a cytoplasmic polyhedrosis virus infecting *C. cactorum* (Berg) on Oahu. This disease was present in epizootic form during April. Collections of *C. cactorum* made at Waahila