Honolulu Sept. 6th for Japan for the purpose of bringing back living parasites of *Chilo simplex*.

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## OCTOBER 4, 1928

The 273rd meeting of the Hawaiian Entomological Society was called to order at 2:30 p.m. at the Experiment Station, H. S. P. A., by President E. H. Bryan, Jr. Other members attending were: Messrs. Ehrhorn, Giffard, Illingworth, Swezey, Willard, and Williams. The following visitors were present: Mr. Hubert W. Simmonds, Government Entomologist of Fiji; Mr. Bernard Trouvelot, Entomologist for the Ministry of Agriculture in Paris, France; Mr. Q. C. Chock, Board of Agriculture and Forestry.

The minutes of the 272nd meeting were read and approved as corrected.

Mr. O. H. Swezey, Editor of the Proceedings of the Hawaiian Entomological Society, reported that the Proceedings for the year 1927 had been published and distributed. Upon motion by Mr. Ehrhorn, a unanimous vote of thanks was extended to Mr. Swezey for his efficient services as Editor of the Proceedings.

The president reported that he had received a check from the Hawaiian Sugar Planters' Association to be used in payment for the printing of the Proceedings for 1927.

Upon motion by Mr. Giffard, it was unanimously voted that the secretary should notify the trustees of the Hawaiian Sugar Planters' Association that the Hawaiian Entomological Society at its 273rd meeting had unanimously passed a resolution extending the thanks of the Society for their continued interest in our work, and for their generosity in paying for the printing of our Proceedings.

Mr. H. W. Simmonds in replying to an introduction by the president said: First I wish to express my deep appreciation of the more than kind welcome which I have received on all hands since my arrival here. Turning to the subject of Entomology in Fiji, I will not touch upon any of our economic problems, but will speak about a very interesting purely scientific matter which I have come across during the course of my work in the islands.

This has to do with the widely distributed butterfly *Hypolimnas bolina* Linn. This butterfly, as you are doubtless well aware, is found from India to Easter Island, and Fanning Island in this di-

rection, whilst recently it has spread to Madagascar. Throughout this wide range the males are similar, varying only slightly in size, but the females are extremely variable, although certain forms are characteristic of certain areas. In India the female is highly mimetic and it is this form which has reached Madagascar. Nowhere, however, has the butterfly developed such a wide range of variation as in the Fijian group, although, even here, certain islands have distinctly characteristic types. The matter however of which I wish to speak is one of sex. When in the Society Islands, I found that males were apparently greatly in excess of females. I say apparently because, upon breeding, I found that the sexes were approximately equal and the apparent excess of males was brought about by a number of females somewhat approaching the males in appearance and thus escaping notice. In certain islands of the Fijian group, the sexes appear to be equal, but in others, the opposite condition to Tahiti occurs, the females seemingly to enormously exceed the males. This also applies to part of Samoa.

In order to test this and also to obtain variation data, I caught a number of wild females and induced them to oviposit in captivity. These females were mostly caught on the island of Viti Levu, one of the islands where the females so largely exceed the males. I have however obtained one all female family from the island of Vanua Levu. When my first brood emerged, to my surprise, they were all females, and this state of affairs was repeated in the whole of the 16 wild females from which I bred that year. During the two following years I was away from Fiji and unable to continue the work, but in 1926, I again took it up. At this time I was successful in obtaining two families from wild Viti Levu parents simultaneously, one of which was all females, the other mixed. From these, using the males from the mixed family, or at times wild males, I was able in one case to carry the all female family to (speaking from memory) the seventh generation without producing a single male, although males from the mixed family paired with one of their own sisters produced both sexes. Mathematically this state of affairs should lead to the extermination of the race and may possibly account for the passing of some of the powerful organisms of the past.

Mr. Swezey then asked as to the present position of the moth *Levuana iridescens* Beth.-Baker in Fiji, to which Mr. Simmonds

briefly replied that except in three small areas it had completely cleared up.

Mr. Trouvelot gave a short talk in which he outlined the tentative plans for the next International Congress of Entomologists to be held in Paris, France, in 1932.

NOTES AND EXHIBITIONS

*Chilo simplex* (Butl.).—Mr. Rust reported that the Board of Agriculture and Forestry had just received from Kauai, some rice straw infested with this stem borer. He stated that the straw came from Huleia, about six miles from Lihue. It was evident from discussion that followed, that this insect had only recently reached Kauai. It was noted that several entomologists have made careful surveys of rice fields on Kauai during the past several months, and had found no signs of the borer. Several theories were advanced as to how this insect had been transported from Oahu to Kauai since there is a strict quarantine on the Inter-Island movement of rice straw from Oahu.

*Coptotermes formosanus* Shiraki.—Mr. Ehrhorn exhibited some Ohia paving blocks from the Honolulu Iron Works store room, Queen St., showing attack by this termite. He stated that it was not generally known that termites would feed on this hard wood.

*Diabrotica soror* Lec.—Dr. Illingworth exhibited a specimen of this chrysomelid that he found crawling on California vegetables in a local grocery store. He stated that the waste material from this store was taken to a local piggery near vegetable gardens where this insect might easily become established. This instance shows how injurious insects may be imported in shipments of vegetables regardless of the thoroughness of plant quarantine inspection.

*Eopenthes parvulus* Shp.—Mr. Van Zwaluwenburg reported that Mr. E. H. Bryan on June 24 collected on the Pupukea trail at an elevationof 1400 feet, 10 adult Eopenthes on Scaevola. Of these nine are males and agree with Sharp's description of *E. marginatus;* the single female in the lot is *E. parvulus* Sharp. The finding of the two species associated together on the same host adds force to Sharp's suggestion that "*marginatus* . . . is at present a doubtful

species. It may prove to be a variety of the male of *E. parvulus.*" The male of *parvulus* has never been recognized; the possibility is strong that *marginatus* is really the male of that species.

*Fourth International Entomological Congress.*—Mr. Swezey gave a very interesting account of the International Congress of Entomology which he had attended at Ithaca, N. Y., Aug. 12-18. He outlined the program of the meetings and mentioned some of the prominent entomologists present, both from America and foreign countries. He also described the excursions provided for those in attendance and outlined the interesting phases of some of these excursions.

*Vermileo opacus* (Coq.).—Mr. Swezey exhibited larvae of this dipteron of the family Lamphromyiadae collected by him in Yosemite Valley, Calif., in June, 1928. The peculiar interest in them being their habit of living in pits in dry dust similarly to the pits of antlion larvae. Dr. W. M. Wheeler had called attention to their presence in the valley, and Mr. E. O. Essig was studying them at the Museum in the Park. The pits of this dipteron were very numerous in many places in the Park, in dust beneath projecting rocks at the side of trails; dusty places at base of large tree trunks; and other dry bare places where the ground was not tramped on. Sometimes there were a few antlion pits in the same places. These were a little larger, being broader in proportion to their depth. A few small long winged flies were obtained as they were found hovering over or alighting on the dust where the pits were located, and it is presumed that they are the adults belonging to the larvae in the pits.

*New Zealand Coleoptera.*—Mr. Bryan exhibited a collection of New Zealand beetles received at the Bishop Museum from Mr. Albert E. Brookes, Qkania, Matamata, Waikato. He read a portion of a letter from Mr. Brookes which said that a specimen of the Hawaiian weevil *Oodemas oblongum* Perk., and one or two Carpophilus had been captured in New Zealand.

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## NOVEMBER 1, 1928

The 274th meeting of the Hawaiian Entomological Society was held at 2:30 p. m. at the Experiment Station, H.S.P.A. President E. H. Bryan in the chair. Other members attending were: