in the shade near Cairns with swarms of the beautiful Lampides caelestis, already mentioned.

### EXHIBITIONS AND NOTES.

Mr. Weinrich exhibited pupae and imagines of Volucella obesa, which he had observed breeding in the sisal juice. In the course of one-half to an hour's time perhaps 5,000 eggs were hid. Mr. Kotinsky referred to two species of Coccidae; one a Dactylopiine, the other an Aspidiothar which he had observed on manienie grass on Maui and Hawaii.

#### JULY 10th, 1905.

The seventh regular meeting of the Society was held in the usual place, Mr. Perkins in the chair.

Election of member-Mrs. Wm. Weinrich.

#### EXHIBITIONS AND NOTES.

Mr. Wilder exhibited some lichee nuts and a moth which had issued from one of these. Mr. Perkins stated that while he could not name the insect, he was sure that it is the same species that commonly infested leguminous pods on these islands. Mr. Kotinsky said he has bred this insect from the pod of Acacia furnesiana, commonly called Mimosa or "glue." Mr. Wilder also showed a collection of insects made in his yard. Mr. Terry exhibited a collection of the more common insects, both sexes of each species being represented, in order to show the characteristic differences between the sexes.

Mr. Perkins exhibited a collection of native bees and wasps to demonstrate what, in his opinion, is the ideal way of mounting those insects. The wings and legs were spread uniformly, the insects being pinned with short silver pins on strips of white-papered cork or specially prepared white fungus, raised high on a long and stout pin. The insects need never be directly handled, and could be examined perfectly both above and beneath with a strong lens. Brother Matthias stated that he has also been in the habit for some time of using fungus found on kukui trees in place of cork.

Mr. Perkins exhibited a Phasmid from Mexico; this insect looked so much like a bit of brown, crumpled up leat that even in the exhibition box great difficulty was experienced in recognizing that the object was an insect. He also exhibited two specimens,

one green, the other brownish, of a Phasmid from Fiji, the dorsal appearance of which resembled a leaf so perfectly that none but a trained eye could locate it in situ.

Mr. Swezey exhibited a series of the stages of Zelus peregrinus Kirkaldy from the egg to the imago and detailed the life-history and habits of this predaceous insect.\*

## AUGUST 3rd, 1905.

The eighth regular meeting was held on this date, Mr. Perkins in the chair.

## PAPERS.

Mr. R. C. L. Perkins presented a paper on "Food Habits of Native Hawaiian Birds." The following is a brief summary:

The Hawaiian Birds are classed according to their food-habits as follows:

- (1) Honey or nectar suckers; useful because pollinizers.
- (2) Beneficial fruit-eaters which spread the seeds without injuring them, and propagate the native plants.
- (3) Harmful fruit-eating birds, which destroy seeds they eat.
- (4) Eaters of injurious insects; beneficial.
- (5) Eaters of useful insects are practically unrepresented.

In the family *Drepanididae* there are 34 species on the Hawaiian Islands; 12 of these feed on nectar regularly; 2 are doubtful honey-eaters; 7 rarely eat honey, yet were seen eating it; they have honey-sucking tongues and are apparently leaving off the honey-sucking habit and are taking to insect-eating; 30 species eat noxious insects, certainly all of them feed their young on insects; most of these eat spiders which may be either beneficial or otherwise; 3 are beneficial fruit-eaters 3 are highly injurious fruit- or seed-eaters, yet these also eat caterpillars and feed them to their young, and are thus far beneficial; 2 species are indifferent.

Of the four Oo, 2 are chiefly honey-suckers, but also eat insects and one is chiefly an insect-eater; one is extinct. Most of these birds are now too rare to be of practical value.

Of the five thrushes, which are very fine songsters, four are largely fruit-eaters, but also devour insects; the fifth is an insect-

<sup>\*</sup> Since published in Bull. H. S. P. A. Ent. I, pp. 232-4. Pl. XVI figs. 1-3.

## PROCEEDINGS

OF THE

# Hawaiian Entomological Society

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(FOR THE YEAR 1905)



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