

Insects from Rabbit Island

BY E. H. BRYAN, JR.

(Presented at the meeting of September 6, 1934)

Manana or, as it is better known, Rabbit Island, is a little islet lying a mile to the north of Makapuu Point, the eastern extremity of Oahu. It is 1,300 yards offshore at the nearest point. The island, which is composed of two eroded tuff craters*, is nearly circular in outline, a trifle over 2,000 feet in greatest diameter, and 361 feet high. The southern face and north point rise precipitously from the water. A crater depression occupies the more gentle northwest slope. The east slope forms the steep west wall of the second crater, the eastern half of which has been eroded away. The west slope is steep, but not precipitous, with a sandy beach around its foot. The rest of the beach is a nearly continuous wave-cut terrace, just a few yards wide except on the east, where the floor of the eastern crater has been leveled off by the waves to form a platform 400 feet wide and nearly 1,000 feet long, covered with splash pools.

The writer was one of a party of six who visited the island August 25 to 26, 1934. One of the party, Marie C. Neal, who had visited the island on three previous occasions, has compiled a list of twenty-one species of plants which she has observed growing on the island. All but two species were doing well at the time of our visit. The little wild tomato, *Lycopersicum esculentum* Miller, was the most abundant plant on the island, there being scattered patches on all the slopes. Tobacco, *Nicotiana tabacum* Linn., was also abundantly scattered on the northern slope of the highest peak. On the floor of the northwest crater and parts of the west slope were numerous bushes of the fish poison plant or ahuhu, *Tephrosia purpurea* (L.) Pers. The most continuous patch of vegetation was a grassy area on the lower west and southwest slopes, made up of bur-grass, *Cenchrus echinatus* variety *hillebrandianus* Hitchcock; pili grass, *Heteropogon contortus* Beauvois; two or three

* See C. K. Wentworth, Pyroclastic Geology of Oahu, p. 80: B. P. Bishop Museum Bulletin 30, 1926.

other grasses; and scattered bushes of *Waltheria americana* Linn., wild tomato, and ahuhu. The floor of the crater ranked next in density of vegetation, being fairly well covered with wild tomato vines, ahuhu, low *Portulaca*, and a small patch of tall sedge, *Cyperus pennatus* Lam.

LAND ANIMAL LIFE

The rabbits, which gave the island its popular name, are still present, living in holes, principally in the northwest crater. Three were seen. They are moderately large rabbits, seemingly in good condition, with quite short ears, and a little pompon tail, the hair of which is white at the base and the rest dark gray. The head and back are agouti-brown and gray, and the belly white.

Five species of birds were seen. The dominant bird on the island, present in thousands, in all stages from hatching egg to adult, was the noio or noddy tern, *Anous stolidus* (Linn.) It is curious that this is the only tern on Manana Island, while ten miles away, on Moku Manu, the sooty tern, *Sterna fuliginosa* Gmel. is the dominant bird, living in equally large numbers, with the noddy absent. A few wedge-tailed shearwaters or naukane, *Puffinus pacificus cuneatus* (Salvin), were seen in flight, with their young sharing the holes with the rabbits. A few iwa or man-o'-war birds, *Fregata minor palmerstoni* Gmelin, were seen in flight above the highest peak of the island, none on the ground. One flock of a dozen or so akekeke or turnstones, *Arenaria interpres* (Linn.), was seen flying in and out of the two craters; and two or three stray mynah birds, *Acridotheres tristis* (Linn.) were seen.

INSECTS

Twenty-five species of insects have been identified from the specimens brought back from Rabbit Island. Most of these were obtained by sweeping the various kinds of vegetation which were found. A few species were found in the camp equipment in the morning, after a night spent on the sandy beach. Several spiders, a small fly, and a species of flea found on the rabbits have not yet been identified. The following list probably represents but a part of the insect fauna, as no special effort was made on this trip to collect all the species.

HYMENOPTERA

MEGACHILIDAE

Megachile fullawayi Cockerell (det. by O. H. Swezey), 4 specimens, caught flying along the face of a low cliff near the beach on the west side, below the grassy area. One specimen has the underside of the abdomen covered with yellow pollen.

FORMICIDAE

Solenopsis geminata (Fabricius), race *rufa* Jerdon, the "fire ant," found abundantly in sweeping wild tomato and ahuhu.

Cardiocondyla nuda Mayr var. *minutior* Forel, a tiny species, found in sweeping ahuhu, pili grass, and about the roots of other plants.

BRACONIDAE

Glyptapanteles n. sp.? (det. by O. H. Swezey), swept from wild tomato.

BETHYLIDAE

Epyris extraneus Bridwell, (det. by O. H. Swezey), a parasite on the tenebrionid, *Gonocephalus seriatum*, was caught in sweeping wild tomato.

COLEOPTERA

COCCINELLIDAE

Scymnus kinbergi Boheman, swept from wild tomato and sedge.

Scymnus ocellatus Sharp (det. by O. H. Swezey), on wild tomato.

DERMESTIDAE

Dermestes cadaverinus Fabricius, larvae observed breeding in a dead bird, and specimens caught in camp equipment.

ELATERIDAE

Conoderus exsul (Sharp), found in camp.

CHRYSOMELIDAE

Epitrix parvula (Fabricius), the tobacco flea-beetle, swept from wild tomato.

TENEBRIONIDAE

Epitragus diremptus Karsch, swept from wild tomato and sedge.

Gonocephalum seriatum (Boisduval), in camp.

CURCULIONIDAE

Pantomorus godmani (Crotch), on sedge.

DIPTERA

DOLICHOPODIDAE

Paraphrosylus sp., a few specimens caught on moist rocks or about splash pools of salt water along the wave-cut terraces.

SYRPHIDAE

Ischiodon scutellaris (Fabricius), one specimen in the north-west crater.

SARCOPHAGIDAE

Sarcophaga fuscicauda Böttcher, among a bird colony on the wind-swept slope.

MUSCIDAE

Stomoxys calcitrans (Linn.), the stable fly, caught flying near camp, and seen on a dead rabbit.

CANACIDAE

Canace nudata Cresson, in vast numbers about moist rocks and splash pools on the wave-cut terrace.

HIPPOBOSCIDAE

Olfersia spinifera Leach, a single specimen, doubtless a stray from a frigate bird, caught near camp.

LEPIDOPTERA

PYRALIDAE

Hymenia recurvalis (Fab.), (det. O.H. Swezey), the "Hawaiian beet web-worm," swept from pili grass and wild tomato in the grass patch, west slope.

CRAMBIDAE

Talis homodora Meyrick, (det. O. H. Swezey), caught in grass patch.

HEMIPTERA

MIRIDAE

Engytatus geniculatus Reuter (det. O. H. Swezey), on wild tomato.

MYODOCHIDAE

Nysius sp. probably *delectus* White, on ahuhu, sedge, and wild tomato.

ORTHOPTERA

BLATTIDAE

Blatella germanica (Linn.), caught in camp.

GRYLLIDAE

Grylloides sigillatus (Walker), caught in camp.

Economic Entomology of the West Indies—A Review

BY E. H. BRYAN, JR.

(Presented at the meeting of March 1, 1934)

Dr. George N. Wolcott, entomologist with the Insular Experiment Station, Puerto Rico, has done a valuable service for tropical agriculture, both in the West Indies and elsewhere, by assembling into one volume what is known about the insect pests of the principal crops of the Antilles. The Entomological Society of Puerto Rico is also to be congratulated for assisting with the publication of such an extensive book.

In order to make the subject intelligible to persons not familiar with entomology, the first seven chapters discuss the anatomy, physiology, life history, and classification of insects, and their relations to their environment, and control. The rest of the book takes up in turn the insects associated with various crops. These are sugar cane and other grasses, cotton, sisal, coffee, cacao, coconut palms, citrus fruits, pineapples, bananas, papayas, mangoes, avocados, other fruits, tobacco and vegetables. There are numerous bibliographical references and a good index.