

Insects and Other Arthropods from Laysan Island

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Laysan Island is located 790 nautical miles to the northwest of Honolulu in the Leeward Chain of the Hawaiian Islands. The island is shaped like a large oval doughnut, about a mile wide and two miles long, with a lagoon of brackish water in the center. From 1890 until 1904 the island was leased by the Hawaiian Kingdom to the North Pacific Phosphate and Fertilizer Company which worked the guano beds. Schauinsland (1899) visited the island in 1896 for three months and prepared a report on the plant and insect life. In 1903 the manager of the guano company brought in rabbits. These devoured all of the vegetation on the island except the tobacco plants and the few coconut palms. Without vegetation to hold the sand and to provide nesting sites, the large population of sea birds was threatened and three of the five species of endemic birds became extinct. In 1909 Laysan was incorporated, along with other islands in the Leeward Chain, in the Hawaiian Island Bird Reservation. The rabbits were killed off in 1923, or shortly thereafter, and the vegetation began to regrow (Bryan, 1942).

Insects were collected on the island by G. P. Wilder in 1905, (Perkins, 1905), by W. A. Bryan in 1911 (Dill and Bryan, 1912), by D. T. Fullaway in 1912 (1914) and again in 1923 with the Tanager Expedition. A summary of these records was given in a report of the Tanager Expedition by Bryan (1926). Gulick (1932) included Bryan's Laysan Coleoptera and Diptera lists in a discussion of the biological peculiarities of oceanic islands. No collections of insects have been made on Laysan since the regrowth of the vegetation.

In 1959 the author spent three days in April and eight days in July on Laysan collecting insects, observing the diurnal activity of the Hawaiian monk seal and photographing the vegetation. With limited time, a far from exhaustive survey of the insects was made, but a number of new records was obtained. Approximately 140 species of insects are here recorded from Laysan. Midway Atoll lies 360 nautical miles to the northwest of Laysan and has approximately 205 species (Suehiro, 1960). Most of the species from Midway not found on Laysan are scattered throughout the various orders. Undoubtedly further collecting on Laysan will uncover many more species. Records of the Mallophaga are more numerous from Laysan, with 18 species collected as a result of the work of several ornithological expeditions, compared with only 4 species known from Midway.

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The following list of insects and other arthropods from Laysan Island is a revision of Bryan's (1926), with the 1959 collections indicated by * and the name changes and sequence according to Zimmerman's INSECTS OF HAWAII (1948 *seq.*).

ARACHNIDA

ACARINA

Tetranychidae

**Brevipalpus obovatus* Donn.¹ (= *B. inornatus* (Banks)), determined by D. M. Tuttle; abundant on *Scaevola* and causing severe defoliation in some areas.

Trogasidae

**Ornithodoros capensis* Neumann, determined by C. Clifford; abundant on the ground near the lagoon, under dead albatrosses and under *Nama*.

Ixodidae

**Ixodes* sp., determined by C. Clifford; in ear of Laysan teal.

ARANEIDA

(Determined by W. J. Gertsch)

Tetragnathidae

**Tetragnatha vicina* Simon

Lycosidae

**Lycosa oahuensis* Keyserling

Therididae

**Menemerus bivittatus* Dufour

Scytodidae

**Scytodes striatipes* Koch

Coleosomidae

**Coleosoma floridanum* Banks

CRUSTACEA

ISOPODA

Species not identified.

¹ All species with * collected in 1959 and determined by A. Suehiro unless otherwise noted.

Scarabaeidae

**Psammodytes nanus* DeGeer = *Pleurophorus parvulus* Chevrolat

Cerambycidae

Clytus crinicornis Chevrolat

Chrysomelidae

*Specimens lost; associated with *Pluchea*.

Bostrichidae

*Specimens lost; adults abundant flying at sunset one evening, 50 swept from air in one minute.

Anthribidae

**Araecerus fasciculatus* (DeGeer)

Cuculionidae

Dryophthorus distinguendus Perkins

Dryotribus mimeticus Horn

Dryotribus wilderi Perkins

Macrancylus immigrans Perkins

Macrancylus linearis Leconte

Oodemus laysanensis Fullaway

Pentarthrum blackburni Sharp

Rhyncogonus bryani Perkins

Sitophilus oryzae (L.)

Scolytidae

Stephanoderes sp.

DIPTERA

(Determined by D. Elmo Hardy)

Stratiomyidae

**Brachycara latifrons* James; larvae under dead albatrosses.

Dolichopodidae

**Chrysosoma fraternum* Van Duzee

**Hydrophorus praecox* Lehman

Phoridae

Aphiochaeta scalaris Loew

Milichiidae

**Milichiella lacteipennis* Loew

Borboridae

**Limosina ferruginata* (Stenhammer)

Limosina venalicia (Osten-Sacken)

Geomyzidae

**Bryania bipunctata* Aldrich

Chloropidae

**Siphunculina signata* Wollaston

Ephydriidae

**Neoscatella sexnotata* (Cresson)