

Insect Fauna of a Coconut Tree

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The records of insects given here are based on observations of insects associated with an 8-year-old coconut tree standing at the back of my lot at 2044 Lanihuli Drive in Manoa Valley, Honolulu.

Apis mellifera L. The common honey bee was very abundant collecting nectar and pollen from the flowers every time that there was a new inflorescence.

Omiodes blackburni (Butler). The notorious coconut leafroller. A native moth which was first observed, or recorded, by Dr. Wm. Hillebrand, at Lahaina, Maui, in the 1860s. In the "Flora of the Hawaiian Islands," which was the result of his botanical observations during his residence in Honolulu, 1851-1871, in discussing the coconut and how vigorously it thrives at this latitude, he says: "... For a number of years, however, its leaves have been subject to the attacks of a moth which deposits its eggs in the folds of the leaf-segments. Before the caterpillars have entered the pupa stage, the young leaves are literally reduced to shreds, which gives to the trees a sad appearance and creates in the occasional visitor the impression that they live under unsuitable climatic conditions." One could infer from this that here was an introduced immigrant pest from some unknown region where it was a pest on the coconut. However, in the literature on coconut insect pests, to which much attention has been given, this particular moth is not mentioned as occurring outside of the Hawaiian Islands. From the fact that this moth is often found infesting the native *Pritchardia* palms when planted at low elevations, it is presumed that these trees could have been the original host-plant where they occurred in the mountain forests.

My coconut tree has had only slight infestation by this moth. Some of its parasites: *Zaleptopygus flavo-orbitalis* (Cameron) on the caterpillars, and *Brachymeria obscurata* (Walker) on the pupae. There are a number of other parasites which are usually present and keep the pest well checked in most localities in the Hawaiian Islands, but they were not present on my tree.

Agonoxena argaula Meyrick, is a recent immigrant moth from Samoa or Fiji, where it occurs on leaves of coconut and other palm trees. It was first observed on coconut leaves in Honolulu in 1948. It is a small moth, and its caterpillars feed on the underside of the leaflets under a slight web, and produce numerous narrow dead spots where they have eaten off the parenchyma, leaving the upper epidermis. The leaves of my tree are decorated with thousands of these dead spots, but the tree seems to be thrifty. A parasite: *Brachymeria agonoxenae* Fullaway was introduced

from Samoa in 1948. I have reared it commonly from the pupae of this moth.

Decadarchis minuscula (Walsingham), is a native moth which I have reared from caterpillars found among the mess of a mealybug infestation.

Rhabdoscelus obscurus (Boisduval), the sugar cane borer, has sometimes been found in the base of the petioles. A tachinid parasite: *Microceromasia sphenophori* (Villeneuve) destroys some of the borer grubs.

Diocalandra taitensis (Guerin), is another weevil whose larvae are abundant in the petioles of the leaves, especially towards the base.

Scholastes bimaculatus Hendel. I have observed this otitid fly about, but there have not been any coconuts for it to infest; they are accustomed to breed in old decaying or rat-eaten nuts on the ground.

Pheidole megacephala (F.). Very populous colonies of this ant are located among the accumulation of decaying fibrous material at bases of the leaves.

A number of scales are abundant, as follows:

Phenacaspis sandwicensis (Fullaway), is a white scale which occurs on the leaves, especially where leaflets are closely folded together. The following parasites were reared: *Arrhenophagus albipes* Girault; *Aspidiotiphagus citrinus* (Craw); and the predaceous ladybird beetle *Lindorus lophanthae* (Blaisdell).

Diaspis boisduvalii Signoret, is a white scale occurring in quite considerable patches on the trunk and base of petioles. The parasite: *Plagiomerus diaspidis* Crawford was reared; and the little black ladybird beetle: *Telsimia nitida* Chapin was feeding on the scales.

Chrysomphalus ficus Ashmead, is a circular reddish scale occurring on the leaves. There were two parasites on it: *Aphytis chrysomphali* (Mercet) and *Aspidiotiphagus citrinus* (Craw). The ladybird beetle: *Curinus coeruleus* (Mulsant) was also present.

Pseudococcus palmarum (Ehrhorn), is a mealybug occurring on the leaves, especially where the folds of leaflets are in close contact.

Pinnaaspis buxi (Bouché), is a very small scale that has been destructive to the coconut trees at times in Hilo, Hawaii, and at Hanalei, Kauai. *Telsimia nitida* Chapin was introduced from Guam in 1936 and checked these infestations. I have not seen *P. buxi* on my tree, but the little ladybird beetle was found feeding on *Diaspis* scales there.