

The Seed Corn Maggot, *Hylemyia cilicrura* (Rondani), from the
Silversword Plant. (Diptera: Anthomyiidae)

By O. H. SWEZEY

In May of this year a silversword plant (*Argyroxiphium sandwicense*) was observed in a dying condition in the crater of Haleakala, Maui, by Dr. Frank R. Oberhansley, Superintendent of the Hawaii National Park and his assistant Mr. E. J. Barton. On examination of the plant, it was found that large numbers of maggots were present in the decaying basal portion of the terminal leaves. The plant was dug up and shipped to Dr. Harold St. John, Botanist at the University of Hawaii, with instructions to submit the insects to me for determination, as I had previously made a study of the insects associated with this plant. ("PROCEEDINGS" 8: 183-185, 1928.)

When the plant reached me for examination, only a few of the maggots and some pupae were to be found, but there was sufficient evidence that they had been very numerous and apparently the cause of the decayed condition of the basal portion of the closely-placed leaves surrounding the upper part of the stem of the plant, and also of the pith of this enlarged portion of the stem. The plant apparently had about reached the blooming stage, but the tip had died from some undetermined cause, and the presence of the numerous maggots would tend to the conclusion that they were involved.

A few flies issued early in June from the pupae which were found, and they were readily recognized as anthomyiids, of which family there are numerous native species whose habits have not been discovered. It seemed likely that this fly might be one of these species. On the other hand, this being the first observance of the silversword being attacked in this manner, might indicate the possibility that here was a recent immigrant that would become a pest on the silversword.

Not being familiar enough with classification of Diptera, I called on Dr. D. E. Hardy of the University of Hawaii for assistance, and by comparison with type specimens at the Bishop Museum he found that this silversword fly was not a native species, but was the immigrant "seed corn maggot", *Hylemyia cilicrura* (Rondani), another member of the Anthomyiidae. There was quite a series of specimens at the Bishop Museum which had been collected in various places in the Hawaiian Islands during the past 40 years. Dr. Hardy sent specimens to the U. S. National Museum for comparison with their collections, and Dr. C. W. Sabrosky verified the determination as *cilicrura*.

Thus it is not a new immigrant. Apparently it has not become an important pest in gardens, as there are meager records of its habits. It will be of interest to have attention given to its relation to the silversword to see whether there is any recurrence of its attack on the plants

in Haleakala. From what is known of its habits in infesting sprouting seedlings where there has been retarded germination and fermentation taking place in the cotyledons, and the fact that it has been reared from decaying plant parts and manure, it might be rated primarily as a scavenger.

The appended list of records from specimens in collections and records in the "PROCEEDINGS" of the Hawaiian Entomological Society will give Hawaii in 1905:

the history of *H. cilicrura* in Hawaii since its first collection at Kilauea,

- 1905, June, Kilauea, Hawaii (Collector not indicated, but the labels are in Terry's writing).
- 1907, July 29, Haleakala Crater, Maui (Terry).
- 1910, March, Kaimuki, Oahu (Swezey).
- 1911, Honolulu, Oahu, April 10 (Swezey) (Ex decayed banana in soil).
- 1915, Honolulu, Oahu, November 28 (Swezey).
- 1916, Honolulu, Oahu (Illingworth) (Bred in beet).
- 1917, June 27, Kilauea, Hawaii (Swezey).
- 1919, February 24, Kilauea, Hawaii (Swezey).
- 1919, Kokee, Kauai (Kusche).
- 1919, Waialae Nui, Oahu, December 21 (Bryan).
- 1921, February 27, Kaimuki, Oahu (Swezey).
- 1922, July, Oloa, Hawaii (Giffard).
- 1922, June 18, Waimea, Hawaii (Illingworth).
- 1923, Palolo, Oahu (Illingworth).
- 1925, Kilauea, Hawaii, August 6 (Bryan).
- 1929, January 25, Kawela, Molokai (Swezey).
- 1942, February 2, Honolulu, Oahu (Pemberton) (Ex stem of cucumber seedling).
- 1946, February 1, Palolo, Oahu (Wirth).
- 1950, May, Haleakala Crater, Maui (Oberhansley & Barton) (Ex decaying bases of leaves of dying silversword).

Incidentally, and having no connection with the injury to the above dying silversword plant, the following beetles and bugs were found among the adhering dead leaves:

- 1 *Labrocerus* sp. (Dermestidae).
- 1 *Cryptophagus* sp. (Cryptophagidae).
- 37 *Nysius terrestris* Usinger (Lygaeidae) (dead).