

Trionymus rostellum Lodbell in Hawaii (Homoptera: Pseudococcidae)

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The common grass-infesting species of *Trionymus* found in the Hawaiian Islands has gone for many years under the name of *T. insularis* Ehrhorn. Recently, a second species, *T. rostellum* Lodbell, was found to be widespread on Oahu. The presence of *T. rostellum* in the Territory was first discovered when it was found infesting a grass, *Zoisia* sp., in the quarantine greenhouse of the Territorial Board of Agriculture and Forestry in Honolulu during March, 1955. Specimens from this source were identified by Dr. Harold Morrison, and it was at first thought that the mealybugs might have been present on the grass when it arrived in Honolulu from Maryland. However, it now appears probable that the infestation originated here.

A study of specimens of grass-inhabiting *Trionymus* available in local collections has revealed that *T. rostellum* has been present in Hawaii for many years. Most of the slides seen had been determined by various local entomologists as *T. insularis*. The oldest specimen of *rostellum* found was one collected by O. H. Swezey on *Cynodon dactylon* (L.) Persoon, at Kaimuki, Oahu, on February 17, 1916. This had been determined by Ehrhorn as *Trionymus insularis*, n. sp.

It is impossible to tell from Ehrhorn's description of *insularis* whether he had *rostellum* or another species before him. *T. insularis* is discussed and figured by Ferris (1948). Ferris states, however, that he did not see the type material. His figure of the species is based on material from Kauai, whereas the type material was collected on Mauna Loa, Hawaii. It therefore appeared possible that Ehrhorn's type might have been the same as *rostellum*. However, Dr. Morrison, who has kindly examined Ehrhorn's type slide for me, finds that although poorly mounted, Ehrhorn's specimens appear to agree with the concept of *insularis* presented by Ferris. In addition to the type material from Hawaii, Ehrhorn mentions that the species had been collected on *Cynodon dactylon* at various localities on Oahu. Except for the specimen of *rostellum* from Kaimuki, misidentified as *insularis*, I have seen no Oahu specimens studied by him.

I have examined specimens of *Trionymus rostellum* (misidentified as *T. insularis*) collected at various places on Oahu from 1916 to 1930, by O. H.

Swezey on *Cynodon dactylon* and *Panicum torridum* Gaudichaud. In addition, I have seen specimens of this species collected at Mapulehu, Molokai, in 1931 by Swezey, and at the same locality on sugar cane in 1937 by Amy Suehiro. Recently, I have collected this mealybug at widely scattered localities on Oahu on various grasses, principally *Cynodon dactylon* and *Eleusine indica* (L.) Gaertner, and at Lahaina, Maui, on an unidentified grass. Mr. F. A. Bianchi has provided me with bunch-grass infested with this species which he collected at Pohakuloa, Hawaii, September 1, 1956, at about 6,000 feet elevation.

The predominant lowland grass-inhabiting species of *Trionymus*, on Oahu at least, appears to be *T. rostellum*. Considerable collecting on that island has failed to turn up *T. insularis*. The only examples of what seem to be the true *insularis* which I have seen are a slide-mounted specimen in the Bishop Museum collected at Keanakolu, Hawaii, October 29, 1952, by C. P. Hoyt on roots of bunchgrass, and a specimen which I collected on *Deschampsia australis* Nees at about 7,000 feet elevation, on Haleakala, Maui, September 1, 1956.

Several species of hymenopterous parasites are recorded as having been reared from *Trionymus insularis* in Hawaii. In view of the confusion which has existed with respect to that name, these records should be considered questionable. I have reared *Anagyrus swezeyi* Timberlake and *Marietta graminicola* Timberlake from *T. rostellum*. In each case the identity of the host was established by studying the mummies from which the parasites emerged. A mummy mounted on a point with a paratype of *M. graminicola*, and presumably the host from which that specimen emerged, was found to be *rostellum*, not *insularis* as labeled. I have also reared specimens of *Thysanus dactylopii* (Ashmead) and a species of *Pseudaphycus* from grass infested with *rostellum*. The *Pseudaphycus* has not been recorded previously in Hawaii, and probably is undescribed, according to Mr. P. H. Timberlake. Predators which have been found associated with infestations of this mealybug on Oahu are *Scymnus debilis* LeConte, *Scymnus* sp. near *dorcatomoides* Weise, *Diomus* sp., and *Gitona perspicax* (Knab).

With properly prepared slide-mounts *T. rostellum* can be separated easily from *insularis* by the presence in the former of a small, round circulus and dorsal tubular ducts. Both these features are lacking in *insularis*. In addition, *insularis* possesses multilocular disc pores on both dorsum and venter. These pores are restricted to the venter in *rostellum*. *T. rostellum* is figured by Ferris (1950) under the name of *T. vallis* Ferris, which he later synonymizes with *rostellum*. It has been collected in Louisiana, Mississippi, and California.

In life, females of *Trionymus rostellum* are grayish-pink in color and are usually lightly covered with powdery wax. Generally, they are found beneath the basal or sheath portion of grass leaves where these are rather closely appressed to the stems. Mature females tend to be elongate and average

about 3 mm. in length. They are oviparous and produce a loose cottony egg-sac. Winged males, presumably *T. rostellum*, have been reared from infested grass.

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