

## On the Establishment of the Cribrate Weevil, *Otiorhynchus cribricollis* Gyllenhal, in Hawaii (Coleoptera: Curculionidae)<sup>1</sup>

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A weevil new to the Hawaiian fauna has been discovered on the island of Hawaii, and I have identified the specimen submitted to me for examination as the widespread pest known as the cribrate weevil.

*Otiorhynchus*<sup>2</sup> *cribricollis* Gyllenhal (Figure 1).

*Otiorhynchus cribricollis* Gyllenhal, in Schoenherr, 1834, GENERA ET SPECIES CURCULIONIDUM 2(1):582.

*Brachyrhinus cribricollis* (Gyllenhal), of authors.

See C. Lona, 1936, COLEOPTERORUM CATALOGUS 148:165-166, for synonymy, bibliography, and notes.

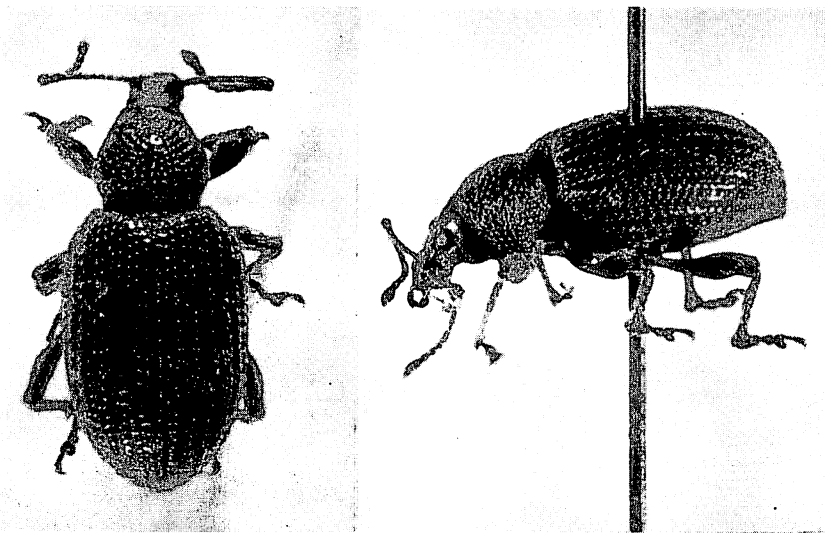


FIG. 1. *Otiorhynchus cribricollis* Gyllenhal, length 9.5 mm. (HSPA Photo.)

<sup>1</sup> Prepared during the tenure of National Science Foundation Grant G-18933, "Pacific Island Weevil Studies."

<sup>2</sup> I prefer to use the original spelling *Otiorhynchus* instead of *Otiorrhynchus* as amended by Gemming and Harold, 1871.

One adult was collected in association with larvae which were feeding in roots of "gobo" (*Arctium lappa* or great burdock) at Onodera Farm, near Kamuela, Hawaii, June 2, 1960, by Minoru Matsuura.

This broad-nosed weevil is a native of the Mediterranean region of Europe, from where it has been spread by man to various regions, including parts of America and Australia. It is probable that it was introduced to Hawaii from California. Albert Koebele, well-known early entomologist in Hawaii, first found the weevil in Australia at Adelaide in 1890, and it has since become a pest of economic importance there. It was found in California in 1928, and has become widespread in that state.

The larvae live in the soil where they feed upon the roots of many kinds of plants, and they pupate in cells in the soil. H. H. Keifer described the larvae in his paper "Some Pacific Coast Otiiorhynchid Larvae" [ENTOMOLOGICA AMERICANA 13 (new series):66, figs. 21, 22, 23, 36, 1933].

The adults, which are flightless, feed on the foliage and bark of plants of many families. Feeding results in semi-circular notches being cut out of the leaf margin to make a pattern somewhat similar to that caused by Fuller's rose weevil, *Pantomorus godmani* (Crotch), another immigrant broad-nosed weevil pest in Hawaii. The adults are nocturnal and during the day they usually secrete themselves in the soil beneath their hostplants. Reproduction appears by parthenogenesis (although it is said that males on occasion have been reported in Europe). The females may deposit 50 or more eggs in the soil beneath the hostplants. The adults frequently become numerous and cause considerable damage by feeding, but the weevils may not be seen unless searched for carefully, especially in the soil beneath the hostplants.

Essig (JOURNAL OF ECONOMIC ENTOMOLOGY 25:124, 1932) gave the following list of hostplants then known to him in California: *Chrysanthemum*, *Coreopsis*, *Eugenia*, *Fuchsia*, privet, rose, snapdragon, *Veronica*, and *Zinnia*. Olive and *Pyracantha* are other hosts, and many plant species can be added to the list.

Early notes on the species in California are given by A. C. Browne and H. H. Keifer in "A Contribution to Our Knowledge of *Brachyrhinus cribricollis*" [MONTHLY BULL. DEPT. AGRIC. CALIFORNIA 19(8):591-595, figs. 137-141, 1930]. A detailed account of the species in Australia is given by H. G. Andrewartha in "The Bionomics of *Otiiorhynchus cribricollis*, Gyll." [BULL. ENT. RESEARCH 24(3):373-384, figs. 1-3, 1933].

This weevil may become a widespread pest in Hawaii, and it will be interesting to follow its development in the islands.