

## SCIENTIFIC NOTE

***Opogona sacchari* (Lepidoptera: Tineidae),  
a New Pest of Pineapple in Hawaii****Adam E. Vorsino, Glen Y. Taniguchi, and Mark G. Wright**

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**Abstract.** This note is the first report of recent infestations of pineapple by *Opogona sacchari* in Hawaii. Brief notes on damage levels inflicted by *O. sacchari* on pineapple are reported.

*Opogona sacchari* (Bojer), commonly referred to as the banana bud moth, is frequently a pest of banana, sugarcane and ornamental crops in many tropical and sub-tropical regions (Davis et al. 1990). *Opogona sacchari* was originally reported from the Mascarene Islands in the Indian ocean by Bojer in 1856 (Davis et al. 1990). It was recently found in large numbers in the warmer regions of Japan and has been implicated as a major threat to both agricultural and endemic plants in the southern provinces of Guangzhou, Fujian and Hainan, China (Takahashi et al. 2000, Xie et al. 2000, Yoshimatsu et al. 2004). *Opogona sacchari* was accidentally introduced to Hawaii in the 1980's and was first collected and identified in the islands by B. Kumashiro of the Hawaii Department of Agriculture and D. R. Davis of the Smithsonian Museum of Natural History (Davis et al. 1990). It has since become a significant pest on Hawaii's ornamental plants and banana plantations (Davis et al. 1990), and was noticed in 1997 infesting both the fruit and planting material on all major pineapple plantations in Hawaii.

Currently the biology and the control options of *O. sacchari* on pineapple are being assessed. It has been observed that there are some similarities in *O. sacchari*'s feeding strategy on banana and pineapple; during early infestation, larvae feed on detritus and decaying plant material and eventually feed on the surrounding healthy tissue (Zimmerman 1978, Constantinides et al. 2003). This departs from the norm for most *Opogona* species in that *O. sacchari* feeds on living tissue on banana and pineapple (Davis et al. 1990).

On pineapple plantations, the levels of *O. sacchari* infestation vary with location, with the age of the plant, and with propagation material (A. Vorsino, unpublished data). The vegetative propagation material observed were those mainly used in Hawaii's pineapple industry, these include slips, suckers and crowns. Infestation levels on pineapple crowns range from 10–60% (A. Vorsino, unpublished data; M. Conway, Dole Foods, pers. comm.). The larvae stunt the growth, and eventually kill the planting material by boring through the planted base and apparently allow plant parasitic and pathogenic fungi and bacteria to enter the pineapple planting material. Also, when present on maturing fruit *O. sacchari* larvae bore into the rind causing gummosis, hardened carbohydrate based exudates, on the fruit surface. These exudates vary in volume, but usually depend on infestation levels and larval size (A. Vorsino, unpublished data).

Major infestations of *O. sacchari* appear to occur under optimal conditions (i.e. conducive soil moisture, age and type of planting material, temperature, relative humidity, limited insecticide usage etc.) and will probably be exacerbated by the elimination of Diazinon® as

a dipping agent and its mandatory reduction in foliar application as of August 2004 per 1996 FQPA directives. Infestation of the planting material by *O. sacchari* and the phytosanitary risks associated with its presence on the fruit pose a threat for the future of pineapple production in Hawaii. Current work on this problem is aimed at understanding the biology of *O. sacchari* on pineapple, and developing strategies for managing this pest.

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