

INVASIVE SPECIES & EXOTIC PESTS

European Grapevine Moth

Lobesia botrana

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The European grapevine moth is a small moth native to southern Italy. This grapevine moth has spread throughout Europe, parts of Africa and the Middle East, and has recently established in Chile. The primary and favored host of European grapevine moth is the grape plant, but it will also feed on the flower buds and fruits of a variety of other plants such as blackberry, currant, and gooseberry.

Concern

European grapevine moths can potentially damage crops throughout the growing season as each successive generation feeds on different parts of the host plant. In Europe, the pest is of considerable economic importance. With a value of about \$67.9 million, New York's grape crop would incur significant economic consequences if the European grapevine moth were introduced into our region. In 2009, European grapevine moth was found in several counties in California, instigating a quarantine of the area lifted a few years later after the insect could no longer be found.

Description

Adult moths are small, with body lengths of 0.24 to 0.3 inches and wingspans of 0.4 to 0.5 inches. The forewings are tan/cream in color, with mottled patches of gray, brown, or black. Hindwings are gray with a fringed border. Eggs are laid singly, and vary in color from white when first laid, yellow when developing, having a black cap when ready to hatch and clear when hatched and empty. Mature larvae reach lengths of 0.5 to 0.6 inches with body color ranging from light green to brown. There are generally three generations per growing season.



Adult female European grapevine moth on leaf. Photo: Jack Kelly Clark, courtesy University of California Statewide IPM Program



Earlier stages of European grapevine moth larvae are tan to yellow-brown (top). Later stages become dark colored (bottom). Photo: Jack Kelly Clark, courtesy University of California Statewide IPM Program



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Damage

In each successive generation, the larvae target different parts of the host plant. The first generation feeds on the flower buds and flower clusters, while second generation larvae feed on green berries, hollowing them out leaving only the skin and seeds. Third generation larvae cause the greatest damage by webbing and feeding inside mature fruit, contaminating clusters with excrement. Damage caused by the European grapevine moth may lead to Botrytis bunch rot and other rots.

For More Information

European Grapevine Moth, *Lobesia botrana*: Provisional Guidelines. 2011. L. G. Varela, F. Zalom, and M. Cooper. UC IPM Online, University of California, Statewide Integrated Pest Management Program. <http://www.ipm.ucdavis.edu/EXOTIC/eurograpevinemoth.html>

European Grapevine Moth (*Lobesia botrana*). 2012. USDA Animal and Plant Health Inspection Service. http://www.aphis.usda.gov/plant_health/plant_pest_info/eg_moth/index.shtml



Pupa of European grapevine moth inside its silken cocoon. Cocoon opened to reveal pupa. Photo: Jack Kelly Clark, courtesy University of California Statewide IPM Program



Feeding by larvae of European grapevine moth results in contamination of bunches with webbing, frass, and fungal infections. Photo: Jack Kelly Clark, courtesy University of California Statewide IPM Program