

Grape berry moths

What are grape berry moths (European grapevine moth and American berry moth)?

The European grapevine moth (*Lobesia botrana*) and the American berry moth (*Polychrosis viteana*) are both grape berry moths. The moths' larvae feed on grape flowers and fruits, causing direct damage as the larvae penetrate the berry and hollow out the grapes, leaving only the skin and seeds.

What do they look like?

The European grapevine moth is about 5 mm long and has a light brown body, with grey to brown irregular patches on the wings. Young larvae are yellowish-green with a dark brown head and are about 1 mm in length. When mature, larvae are about 10–15 mm long and vary in colour from light yellowish-green to pale brown, with a yellowish-brown head.

The American berry moth is about 6 mm long and has a brown body, with grey-purple bands across the wings and cream and brown spots near the wing tips. Young larvae have a cream body and dark brown head. When mature, the larvae are 10 mm long and become green, then purple with a light brown head.

The only accurate method to effectively identify between the two grape berry moths is laboratory dissection of the genitalia or genetic sequencing.

What should I look for?

Both species of grape berry moth cause nearly identical symptoms. However, it is the larvae, rather than the adult grape berry moths which are responsible for the majority of the damage to grapevines. Adult females lay eggs on individual grapes, blossoms and stems. Young larvae feed on blossoms or berries, often webbing together entire clusters.

Mature larvae then tunnel into berries and feed inside, leaving a hollowed-out berry with only the skin and seeds. At harvest, severely infected bunches may contain several larvae, and many of the berries may be completely hollowed and have an unhealthy appearance. Damage is compounded by secondary infection of rot pathogens, such as grey mould (*Botrytis cinerea*).



European grapevine moth adult with grey to brown irregular patches on wings

T. M. Gilligan and M.E. Epstein, TortAI, idtools.org



American berry moth adult showing purple bands on wings

T. M. Gilligan and M.E. Epstein, TortAI, idtools.org



European grapevine moth on a grapevine leaf

Monica Cooper, University of California

How do they spread?

Adults are highly mobile and can rapidly move between host plants. Larvae can be transported through infested fruit and grapevine material.

Where are they now?

The American berry moth is present throughout North America. The European grapevine moth is present throughout Europe, central and southern Russia, central Asia, the Middle East, northern and eastern Africa, Argentina, Chile, and the United Kingdom.

How can I protect my vineyard from grape berry moths?

Inspect all plant material prior to planting for the presence of pest infestation. Check your vineyard frequently for the presence of new pests and investigate any sick grapevines for unusual symptoms. Make sure you are familiar with common grapevine pests so you can tell if you see something different. Keep records of anything unusual and ensure all staff and visitors adhere to on-farm biosecurity and hygiene practices.

If you see anything unusual, call the **Exotic Plant Pest Hotline** on **1800 084 881**.

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European grapevine moth webbing around an emerging grape bunch

Monica Cooper, University of California



Infected grape bunch; note the affected berries where the larvae have penetrated the berry and hollowed and dried out the grape

Fritz Westover, Texas A&M University



Both grape berry moths are internal feeders on grape berries

Edward Hellman, Texas A&M University