

# Apple Twig Borer (Grape Cane Borer)

The apple twig borer, *Amphicerus bicaudatus* (Coleoptera: Bostrichidae), also referred to as the grape cane borer, is a wood feeding beetle that is widely distributed from the eastern U.S. west to the Rockies.

## Identification



Apple twig borer adult  
(T.L. Galvan, U of MN)

Adults are elongate, approximately 0.5-1 cm long with a reddish brown to brownish black color. Larvae are white with brown head and about 1 cm long when mature.

## Biology & Life Cycle



Apple twig borer adult in a grape  
vine (T.L. Galvan, U of MN)

The apple twig borer overwinters as an adult within burrows made in live canes. As weather warms, they become active in late April and early May. Adults emerge in early spring and deposit eggs from April to June in the bark of grape vines. Young larvae burrow into the vine, usually to the pith, and tunnel along the stem, packing their frass behind them. Larvae mature and pupate in fall and early winter. Many pupae transform to adults in fall. Adults usually hibernate with head downward in larval galleries through winter. Some adults emerge in fall and move to new, living twigs where they burrow in and overwinter. There is one generation per year.

## Damage



Apple twig borer tunnel  
in a grape vine (E.C.  
Burkness, U of MN)

Vine damage occurs from mid-September into the fall season, when adult beetles burrow into live canes in search of overwintering sites. However, adult beetles can be found boring into healthy canes, which ultimately leads to cane death.

Feeding by the grape cane borer can reduce node survival and fruitfulness, the number of clusters per cane, and cluster weight. Their damage can also delay establishment of the training system in young vineyards.

Although damaged canes can be pruned out, this requires extra time and labor to accomplish. Also, because the damage is difficult to see, damaged canes are sometimes retained, thus contributing less to the overall yield.

## **Management**

### *Physical*

Infested branches, broken limbs, and all pruned material should routinely be collected and destroyed. Any wilted and dying branches with hibernating beetles should also be pruned and destroyed. In problem areas, favored wild hosts such as wild grape should be cut and destroyed.

The ATB population density that causes economic injury is relatively low, at approximately 3.6 destroyed buds per 50 grape vines, or 3-4 adults per 50 plants in the spring (Beiriger, 1988).

## **References**

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