

# Black twig borer

EXOTIC PEST – CALL THE EXOTIC PLANT PEST HOTLINE IF SUSPECTED

## What is the black twig borer?

The black twig borer (*Xylosandrus compactus*), also known as the shot hole borer or ambrosia beetle, is a serious pest of woody plants and shrubs. The borers are a non-host specific pest affecting over 200 plants including tea tree, citrus, eucalyptus, coffee, rubber, avocado, mango, macadamia and cocoa.

The black twig borer is classified as an exotic High Priority Pest of tea tree because of the high risk of it spreading to Australia and its potential to cause extensive damage if established.

The black twig borer is associated with the ambrosia fungus *Fusarium solani* which it introduces into infested trees for its larvae to feed on. The female beetles create pin-sized entry holes in young branches, twigs and seedlings. Once inside, females excavate spaces, known as galleries to lay their eggs in. This excavation, along with the introduction of the fungus, is the major cause of damage to the host. Infestation by one to three female borers is enough to kill the twig or branch.

## What do they look like?

Adult black twig borers are small, shiny, cylindrical beetles which are brown to black in colour. Females are 1.6mm long while males are half as long and cannot fly.

Eggs are extremely small (0.3-0.3mm), oval, white and translucent.

Black twig borer larvae are white and legless with a pointed posterior in young larvae. Older larvae have brownish heads and round posterior. The pupae are about the size of the adult and creamy white.

## What should I look for?

The best way to look for an infestation of black twig borer is by observing symptoms. Black twig borers spend most of their lives inside host plants. Females leave the galleries but are difficult to see because of their small size.

The galleries created by the borers kill young twigs within a few weeks and cause others to break under the weight of a developing crop, reducing growth and yield. Necrosis (death) typically begins at the entrance hole and extends to the tip of the branch or twig.



An adult black twig borer.

*Pest and Diseases Image Library, Bugwood.org*



Inspect woody stems for tiny entry holes made by the black twig borer.

*Scot Nelson, University of Hawaii at Manoa, Bugwood.org*



*Xylosandrus compactus* larvae feeding inside a branch gallery.

*Dr. Agr. Raffaele Giurato (Vittoria, RG)*

Branch flagging, where branches turn brown, wilt and die in a random pattern on the tree, is also a characteristic sign of black twig borer infestation.

If you notice flagging or dieback on the ends of individual branches, check for borer entrance holes (0.8mm) which are usually located on the underside of the twig or branch. Using a magnifying glass may make it easier to inspect for entrance holes.

### What can they be confused with?

The black twig borer can be confused with other ambrosia beetle species such as platypodid and scolytid borers. An expert will be required to identify a black twig borer infestation. Symptoms of wilting and dieback associated with black twig borer can be confused with stump death but can be differentiated by the occurrence of branch flagging.

### How do they spread?

The black twig borer spreads through the trade of plants and wood products. The borers are difficult to detect due to their concealed habitat and are known to be transported through infected bulbs, tubers, grains, seedlings, bark and wood products. Adult females can also fly short distances to previously unaffected trees.

### Where are they now?

The black twig borer most likely originated in tropical Asia and has since spread widely throughout Africa and North America. It is also present in Fiji, Madagascar, Papua New Guinea, Solomon Islands, Samoa, Brazil and Italy.

### How can I protect my plantation from black twig borer?

You can protect your plantation from black twig borer by regularly checking your property for the presence of new pests and diseases. Make sure you are familiar with common tea tree pests so you will be alert to the possible presence of exotic pests. To monitor for black twig borer check your crop regularly for borer holes in dead branches and symptoms such as flagging and dieback.



Tree showing flagging symptoms caused by the black twig borer.

*Scot Nelson, University of Hawaii at Manoa, Bugwood.org*



Branch flagging in a random pattern shows black twig borer damage on Carob tree.

*Dr. Agr. Raffaele Giurato (Vittoria, RG), EPPO*

**IF YOU SEE ANYTHING UNUSUAL,  
CALL THE EXOTIC PLANT PEST HOTLINE**

**1800 084 881**

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