

Are These Bugs Boring Your Trees To Death?

Many insects feed on living or dead wood and are referred to as borers. In the process of feeding, borers weaken the plant, spread diseases and can severely reduce the landscape value, or life, of your most beautiful flowering trees and shrubs. There are five main types of borers in landscape and fruit trees: ambrosia beetles, bark beetles, roundheaded borers, flatheaded borers and caterpillar borers.

Ambrosia Beetles

Ambrosia beetles tunnel into the sapwood and heartwood of various dying, weakened or recently felled hardwood trees. Even vigorous trees may be attacked if there are wounds on the trunk or dead patches of bark.

When ambrosia beetles attack a tree, they bore straight into the sapwood and heartwood (sometimes 10 to 12 inches deep). Eggs are laid in the tunnel and the young larvae hatch and chew out small egg "cradles" that radiate from the adult tunnel like teeth on a comb. The larvae do not eat wood but feed on fungi which grow on the surface of the wood in the tunnels and egg cradles.

The adult beetles have special pouches in which they carry some of the fungi as they colonize new trees. Fortunately the fungi carried by the beetles does not cause serious harm to the plant. Healthy trees will normally recover from ambrosia beetles but trees under heavy stress may fail to recover.

Anything done to improve the vigor of infested plants will help with making them less susceptible to ambrosia beetles. Soil samples from under the declining plants will help guide the proper soil amendments (fertilizer and limestone). Mulching plants with 4 to 6 inches of pine straw or bark mulch will help to conserve water and keep the roots cooler.

Because ambrosia beetles are boring insects, they are impossible to kill once in the tree. However, infested trees can be treated with lindane, Dursban or Pageant to prevent additional insect infestation.

The black twig borer, *Xylodendrus compactus*, is one of the few ambrosia beetles which attacks healthy plants! This beetle is very small, dark and more or less oval in top view. It was first reported in Southport in 1991. The largest specimens are just over one-sixteenth inches long. Female beetles attack twigs or branches and bore into the pith (or if the twig is large, bore into the wood about half to one-and-one-half inches).

Black twig borers are capable of laying fertile eggs without mating. Males occur rarely and do not leave the brood chamber as males cannot fly. After the females bore into a twig, they form a small chamber in which the mostly female eggs are laid. The tiny grubs feed on the fungi which grow on the walls of the brood chamber.

The grubs pupate and then (if males happen to have developed) the new beetles mate before leaving the twig to infest new twigs. If the twig is small, only one female will attack it. If the twig is more robust, up to 20 females will attack it.

In the summer it takes about a month from egg to adult beetles. In the winter, development is much slower. The adults overwinter inside the damaged twigs. One of the fungi fed on by the beetles is *Fusarium*

solani. Infested twigs usually die back to a point below the brood chamber. Although the whole plant is not killed, the dieback of twigs can have considerable impact on the appearance of infested trees and shrubs. Over 224 plant species in 62 families are susceptible to the black twig borer.

If beetles are noticed attacking an ornamental plant, the plant should be sprayed with lindane or Dursban or Pageant to prevent further attacks. If the infestation is discovered in the spring, it may take several applications spaced out at 6-week intervals to completely protect the plants.

Bark Beetles

The black turpentine beetle typically attacks trees about 18 inches from the soil, but as the infestation progresses, the beetles go further up and down the tree. According to Dr. C. R. Jordan, an entomologist in Georgia, black turpentine beetles attack as far as 20 feet up the trunk. Pitch tubes of the black turpentine beetle are fairly large and are usually brownish whereas the pitch tubes of engraver beetles and the southern pine beetle are small and white.

Lindane, Dursban and Pageant are labeled for bark beetle control. Once the beetles infest a tree, spraying the bark will not kill those already inside, but it will prevent further infestation by additional beetles and may "save" the tree.

Roundheaded Borers

Roundheaded borers (longhorned beetle larvae) tend to infest trees and shrubs which are under stress or have died. The unusually dry summers we have had for the past few years have put a tremendous stress on woody ornamentals. The family of roundheaded borers is huge (20,000 species) so it is not surprising to see roundheaded borers infesting plants that are under stress.

The twig girdler, *Oncideres cingulata*, is a longhorned beetle that attacks hickory, pecan, elm, oak, honey locust, hackberry, poplar, basswood, dogwood, sourwood, and various fruit trees later in the summer. This beetle lays its eggs in a twig and then chews off the twig from the main tree.

The girdled portion of the branch soon dies and usually falls to the ground. Dozens of branches may be girdled and fall to the ground from heavily infested large trees. Such trees become ragged and unattractive. Collecting and burning of infested twigs and branches during the fall or winter is an effective method of control.

Flatheaded Borers

Flatheaded apple tree borers and other flatheaded borers are attracted to weakened trees, especially those with thin bark such as young apples, dogwoods, maples and others. Drought or defoliation or some other stress may cause trees to become susceptible to flatheaded borers.

Trees newly set out in the landscape may be particularly susceptible to flatheaded borers. Such trees should be protected by insecticides (Dursban, lindane or Pageant) during their first year or two in the landscape or the trunk should be wrapped in some sort of tree wrap to prevent the adults from ovipositing on the stressed trees.

Caterpillar Borers

Dogwood borer is a secondary

pest of dogwood which follows bark injury due to disease or physical damage on the trunk. String trimmers or lawn mowers often cause initial damage on the lower trunk.

The adult dogwood borer is a small black moth with white and yellow markings and is active in May, June and July. These moths lay their eggs on the bark of dogwoods with cankered or injured trunks, on injured pecan and on the twig galls of oaks. Sometimes most of the woody galls on oaks are secondarily infested with dogwood borer caterpillars. This tendency to oviposit on galls and wounds of various trees has led some entomologists to believe that only cankered or wounded dogwoods are susceptible to the dogwood borer.

However, there are plenty of nurserymen and landscapers who feel that the dogwood borer is a primary pest capable of attacking perfectly healthy bark. In early summer, tiny caterpillars hatch from the eggs and bore into the bark. Each larva consumes about 2 to 3 square inches of cambium as it tunnels around under the bark which causes ugly scars on the bark. The tunneling may kill large branches or small plants by girdling the cambium under the bark.

Dogwoods can be protected from further infestation by dogwood borers by spraying them with Dursban or lindane in late spring or early

summer. Only wounded and cankered areas on the bark need to be treated. There is not much use in spraying the healthy portion of

the trunk. Send your gardening questions or comments to the Plant Doctor, P.O. Box 109, Bolivia NC 28022.



PHOTO BY JENNE WARD

Scotts Earn Yard Honors

Ned and Mary Scott of 79 Calabash Drive received the June Yard of the Month award from Carolina Shores Garden Club. Their sculptured lawn features azaleas and potted geraniums, while well-groomed shrubs and flowers edge the front walk.

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