

Granulate Ambrosia Beetle

Xylosandrus crassiusculus

Host Plants

- Callery pear
- Chinese elm
- Crapemyrtle
- Dogwood
- Fig
- Goldenraintree
- Magnolia
- Maple
- Oak
- Ornamental cherry
- Peach
- Persimmon
- Plum
- Redbud
- Silverbell (*Halesia*)
- Snowbell (*Styrax*)
- Sweetgum
- Tulip poplar and many others

Description

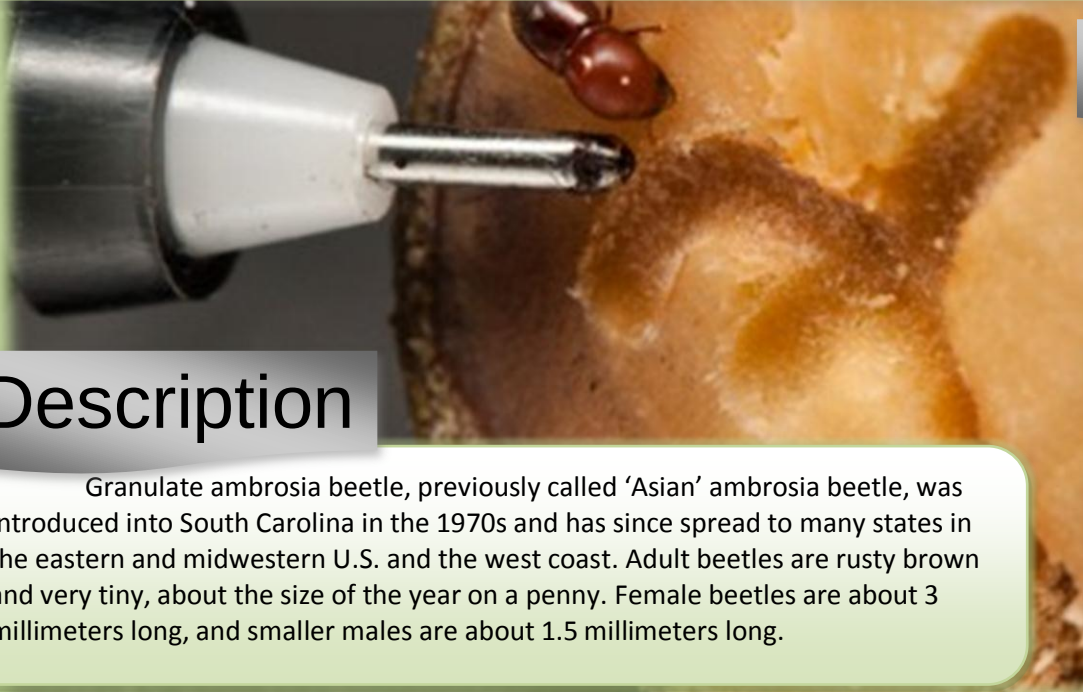
Granulate ambrosia beetle, previously called 'Asian' ambrosia beetle, was introduced into South Carolina in the 1970s and has since spread to many states in the eastern and midwestern U.S. and the west coast. Adult beetles are rusty brown and very tiny, about the size of the year on a penny. Female beetles are about 3 millimeters long, and smaller males are about 1.5 millimeters long.

Life Cycle

The first generation begins with flights of adult beetles that emerge from surrounding woods beginning in February and peaking in April and June. Adult female beetles bore into small branches and trunks of trees, excavate tunnels, lay eggs and produce a brood. Toothpick-like strands of boring dust are extruded from the 1 millimeter diameter holes. During this process, the female beetles also introduce an ambrosia fungus on which both adults and larvae feed. Larvae are white, legless and "C" shaped. It takes about 55 days to complete one generation in Middle Tennessee. There are two or more generations in the South. In Kentucky, data from a one-year, statewide trapping program suggest that there may be multiple generations; however, the toothpick extrusions are detected only in the early spring. Eggs, larvae, pupae and adults are found together rather than in individual tunnels or chambers. Offspring of the first generation emerge June to August.

Monitoring

The easiest way to spot a granulate ambrosia beetle infestation is to look for the toothpick-like strands of boring dust protruding from trunks in the spring or piles of sawdust at the base of the trunk. Another visible symptom of trees under attack is wilted foliage. Trees are most susceptible to this pest right before they emerge from winter dormancy, usually in March. Using Ethanol-baited traps (ultra-high-release) is a good way to monitor when beetles become active so that protective sprays can be applied.



Damage Symptoms



Symptoms of infestation include wilting, branch dieback and reduced growth. Closely inspecting the trunk of infested trees will reveal 1 millimeter holes in the bark. Young trees often die, but established trees can sometimes survive when treated.



Integrated Pest Management

CULTURAL CONTROL

The granulate ambrosia beetle attacks healthy trees as well as stressed and damaged trees. Evidence shows that stressed trees are preferred. Researchers suggest moving attacked container plants to the perimeter to act as trap plants to lessen the damage to the rest. After three to four weeks, burn all infested plants. Traps deployed with ultra-high-release ethanol lures can be used to detect flight of granulate ambrosia beetles. Insecticide sprays timed with the appearance of beetles in traps are effective at preventing infestations.

CHEMICAL CONTROL

Please refer to http://eppserver.ag.utk.edu/redbook/sections/trees_flowers.htm for the most up-to-date recommendations.

Resources

Photo credits: Amy Fulcher, University of Tennessee; Lyle Collins, <http://southerntrillium.com>; A. Mayfield, FDACS; Jason Oliver, Tennessee State University; and Shauna Switzer, University of Kentucky Nursery Scout

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