

Southern Pine Engraver (*Ips*) Beetles in Your Backyard

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Imagine that you decide to cut down a few pine trees in your yard, possibly because they are leaning a little too close to your house and you are concerned about damage to your house during a severe wind-storm. You cut the trees down in early spring prior to the start of hurricane season. Because of cost and other priorities, you leave the trees where they've fallen. In late fall of that year, or in early spring of the following year, you notice that the needles in the upper crowns of the live standing pine trees next to the felled trees have turned yellowish green and red. These symptoms indicate that the trees are dying.

Upon closer inspection of the bark on these trees, you notice pin-shaped holes, brown dust, and resinous pitch tubes. When you peel back the bark, you find white grub-like larvae and etchings on the wood (Y or X-shaped), and possibly some blue staining in the sapwood. Your trees have been attacked by southern pine engraver beetles (*Ips* beetles). The pine engraver beetles first colonized the felled pine trees, producing many beetles in a short period of time. Pine engravers can complete their lifecycle in as little as 30 days with up to six generations per year in Georgia. It is quite likely that so many beetles were produced that they attacked the surrounding live pines for lack of other downed trees or large branches. The odors from the felled trees, as well as from those under attack, probably brought in even more beetles from elsewhere.

There are three main species of pine engraver beetles in Georgia (*Ips avulsus*, *Ips calligraphus*, and *Ips grandicollis*) with a fourth species (*Ips pini*) found occasionally in eastern white pine in the

north Georgia mountains. All adult *Ips* beetles are brown or black in color and cylindrical in shape. A characteristic feature of pine engravers is that the rear end of the beetles appears to be “cut-off” with 4, 5, or 6 spines on both the edges of the “cut-off”, as depending on the species. The small southern pine engraver (*Ips avulsus*) is the smallest species (2.3-2.8 mm in length) with four spines on each side of the “cut-off”. The largest engraver beetle is the sixspined ips (*Ips calligraphus*) at 3.5-6.5 mm with six spines per side. In between the two species, we have the eastern fivespined ips (*Ips grandicollis*) at 2.8-4.7 mm with five spines per side, and the pine engraver (*Ips pini*) at 3.5- 4.5 mm with four spines per side.

Unlike their aggressive cousin, the southern pine beetle (*Dendroctonus frontalis*), infestations by pine engraver beetles are usually short-lived (2-3 yrs) and limited to spots of 10-15 trees. Pine engraver beetles simply do not survive as well in live, standing trees as do southern pine beetles that can cause widespread mortality. When beetles first attack a tree, resin is produced in large quantities to prevent the beetles from gaining entry, resulting in the characteristic pitch tubes first noticed on attacked trees. Once beetles overcome these defenses, they kick out brown sawdust through their entry holes as they excavate tunnels throughout the phloem tissue just under the bark. Each male usually has 3-4 females in his gallery with each female laying eggs along tunnels, resulting in the “X” or “Y”- shaped etchings on the wood.

Sanitation is the main tactic in dealing with pine engraver beetles in urban areas. Efforts should focus on the removal of all infested trees that show signs of beetle attacks including any recently downed pine trees and large branches. Application of insecticides on the surrounding residual trees can be used to protect remaining trees until beetle infestation collapses. To prevent further occurrences, home-owners should remove large branches and trees downed by wind-storms in a timely manner, particularly during periods of extensive drought or following severe lightning storms. Slash piles should be minimized and construction activities should be conducted in efforts to minimize soil compaction and maintain soil moisture content. You should start planning for new trees under your existing ones. Having trees of different ages and species can help minimize the extent of damage in the future.

If you suspect that you have an infestation of pine bark beetles on your property, contact either the county extension agent or Georgia Forestry Commission personnel. They will provide confirmation of the problem, and guidance with appropriate control and suppression programs.

Additional Literature:

Douce, K.G. 2008. Pine bark beetles. URL: <http://www.barkbeetles.org/pbb/pbbpub.html>.

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Price, T. 2005. *Ips* engraver beetles. URL: <http://www.forestpests.org/gfcfacts/ipsengraver.html>.

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