

# Gardening Basics

## Pine Bark Beetles



"Southern pine beetle, *Dendroctonus frontalis*", Forestry Images, Erich G. Vallery

These three beetle species may be present in southern pine trees: **Black turpentine beetle** (*Dendroctonus terebrans*), **Engraver beetles** (*the Ips species*), **Southern pine bark beetle** (*Dendroctonus frontalis*). It is crucial to determine which type of beetle has attacked your tree because the first two don't usually kill the tree, but the southern pine bark beetle attacks pines of all sizes and can kill healthy trees.

Unlike wood-boring beetles, bark beetles do not bore into the tree's wood. They chew holes through the bark and feed and lay eggs between the bark and the wood, thus creating shallow tunnels under the bark called galleries.

**Black turpentine beetle's** adult is 1/4 to 1/3-inch long, dark brown or black, with a rounded abdomen.

It is attracted to pine sap that may be oozing from an injured tree. The damage they cause is similar to the engraver beetles and southern pine beetle; however, it typically does not cause rapid decline and death of infested trees. The pitch tubes (glob of resin) are found on the lower trunks or stumps of pines. The pitch tubes are large, greater than 1/2 inch in diameter, and the galleries under the bark are "D" shaped.

**Engraver beetle** species can usually be spotted by the presence of reddish-brown boring dust in the crevices of the bark. The pitch tubes, or globs of resin, will have a reddish-brown appearance because of the boring dust mixing with the resin. Engraver beetles tend to attack the flat bark plates of the tree. The brownish-red beetles make "H" or "Y" shaped galleries. Like the black turpentine beetle, the engraver beetle species typically does not cause rapid decline and death of infested trees.

Three species of engraver beetles vary in size and physical characteristics.

- *Ips avulsus* is the smallest *Ips* beetle being 1/8-inch long with four projections on the posterior of each elytron. This species tends to invade the upper portion of the tree.
- *Ips grandicollis* is the medium-sized bark beetle, which is about 3/16-inch long and has five projections on the posterior of each elytron. This species commonly invades the middle and upper trunk.
- *Ips calligraphus* is about 1/4-inch in length and has six projections on the posterior of each elytron. The beetle characteristically attacks the lower trunk.

**Southern pine bark beetle** can be detected by observing masses of pitch (pitch tubes) on the bark of dying pine trees, resembling popcorn. The adult beetles are tiny -- 1/16 to 3/16 inches. A small notch can be seen on the front of the head with a magnifying lens. They tend to attack the middle and lower trunk of trees, and their galleries are "S" shaped.

As noted earlier, the southern pine bark beetle can cause injury that results in rapid decline and death of the tree. Needles of infested pines will initially turn yellow, then red, and ultimately drop off. Masses of reddish-brown pitch (resin) appear on the bark, white dust from boring appears in the bark crevices, under the



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bark, and at the base of the trunk. The galleries girdling the tree thus interfering with its vascular system plus a heavy infestation of beetles cause the tree to die quickly.

## Prevention

Maintaining stress free, healthy trees is the best policy for preventing beetle attacks. Wounds of any kind and loss of vigor will attract bark beetles. Watering trees (slow and deep) is important to avoid beetle attacks. Remove any infested trees promptly and take care to avoid damage to other pine trees.

According to Texas A&M Forest Service, "During the fall, it is natural for pine trees to develop small "flags" of yellow and red needles scattered through the crown of the tree. Also, discoloration of the second year needles (needles away from the end of a branch) occurs in the fall and during drought stress. These needles may persist on the branches, and needles that drop from upper branches may lodge on lower branches. This tends to give the tree's foliage an off-color or unhealthy appearance. In addition, an entire branch in the lower crown (usually a bottom branch) may die in the fall of the year. This is normal and does not indicate that pine bark beetles are beginning to attack the tree. However, the casual observer may MISTAKENLY think the tree is succumbing to pine bark beetles."

## Treatment

A topical insecticide spray is the preferred method of treatment for pine beetles. Applying these insecticides is not practical or safe for a homeowner to attempt. If an infestation of pine beetles is suspected, contact a certified arborist to confirm and treat or remove and carefully dispose of any infested trees.

Find a certified arborist that works in your area by clicking this link for the International Society of Arboriculture website, using your zip code and 25 miles as filters when prompted: <https://www.treesaregood.org/findanarborist/findanarborist>

## Sources and Resources:

"Field Key to Beetles in Pines", Oklahoma State University Extension:

<https://extension.okstate.edu/fact-sheets/field-key-to-beetles-in-pines.html>

"Forest Health: Southern Pine Beetle or Pine Engraver or Ips Bark Beetle", Texas A&M Forest Service:

<https://tfsweb.tamu.edu/PineEngraverOrIpsBarkBeetles/>

"Forest Health: Prevention and Control of Pine Engraver Beetles", Texas A&M Forest Service:

<https://tfsweb.tamu.edu/PreventionAndControlOfPineEngraverBeetle/>

"Managing Pine Bark Beetles in Urban Forests", Alabama A&M and Auburn Universities Extension:

[https://www.aces.edu/wp-content/uploads/2020/07/FOR-2049-Managing-Pine-Bark-Beetles\\_070720L-A.pdf](https://www.aces.edu/wp-content/uploads/2020/07/FOR-2049-Managing-Pine-Bark-Beetles_070720L-A.pdf)

"Southern Pine Bark Beetle", Featured Creatures, UF|IFAS University of Florida:

[https://entnemdept.ufl.edu/creatures/trees/southern\\_pine\\_beetle.htm](https://entnemdept.ufl.edu/creatures/trees/southern_pine_beetle.htm)

"Southern Pine Bark Beetle", Texas A&M AgriLife Extension:

<https://texasinsects.tamu.edu/southern-pine-bark-beetle/>

## Images from Forestry Images website:

Southern pine beetle: <https://www.forestryimages.org/browse/subthumb.cfm?sub=24#>

Engraver beetles - *Ips* species: <https://www.forestryimages.org/search/action.cfm?q=ips>

Black turpentine beetles: <https://www.forestryimages.org/search/action.cfm?q=black+turpentine+beetles>