
Georgia Forestry Commission

Forest Health Fact Sheet



PINE BARK BEETLES

GENERAL INFORMATION

Pine bark beetles are small insects that kill pines by boring beneath the bark. Five common species are found in Georgia. These are (1) southern pine beetle (2) black turpentine beetle and (3) three species of *Ips* engraver beetles (Figure 1). Bark beetles are most active between March and September with limited activity on warm winter days. Two types of populations are generally recognized; endemic (low level) and epidemic (outbreak). Epidemic populations of southern pine beetles occur every 5-12 years and may be scattered over two-thirds of the State often involving 10-20 thousand individual spots. *Ips* outbreaks coincide with droughts. Pine beetle spots may range in size from one to many thousand trees depending on the species of beetle. During statewide epidemics vast areas of pine are killed and the monetary losses are estimated in the mil-

lions of dollars. Outbreaks in urban areas can be catastrophic often resulting in loss of forest cover and enormous costs to homeowners. Bark beetle outbreaks often follow behind hurricanes and ice storms.

***Ips* engraver beetles** prefer hot weather and will attack logging slash, decked logs and standing live trees damaged by lightning, fire, wind, ice, drought, disease and overcrowding. They are most active from June through September and kill trees in groups of 20 or less. *Ips* outbreaks begin and end abruptly.

The **black turpentine beetle** attacks fresh cut stumps and trees damaged by wind and ice, drought, logging and construction equipment and lightning. As the name implies, these beetles are highly attracted to the odor of pine resin from wounded trees.

Black turpentine beetles can become a chronic or yearly pest around new housing developments where pine trees are constantly being skinned and scraped by equipment.

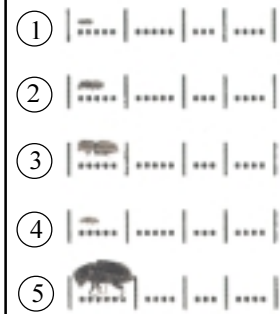
Southern pine beetles are less discriminating and attack healthy as well as weakened and damaged trees. They kill trees in groups of 10 to many thousand and are the most destructive of the pine bark beetles. Natural and planted and young and old stands may be attacked. Records of southern pine beetle epidemics in Georgia go back as early as the 1700's.

Many small, scattered **southern pine beetle** spots of 5-10 trees usually indicate the beginning of a serious epidemic. As the epidemic progresses, spot size may increase 10-50 fold. Southern pine beetle epidemics may carry over for several years.



← *Figure 1.*
From top to bottom:
Small southern pine engraver,
southern pine engraver,
six-spined engraver,
southern pine beetle, and
black turpentine beetle

Actual Scale 1" Scale



Recognizing Infested Trees

As bark beetles bore through the bark to reach the cambium layer, a reddish brown boring dust is produced and resin begins to flow to the outside of the tree to form globs of resin called pitch tubes. Pitch tubes vary in size, color and location on the tree depending on which bark beetles are involved. **Black turpentine beetle** pitch tubes are pinkish-white and measure about the size of a quarter to half-dollar. They occur in the bark

crevices between groundline and about six feet up the tree (Figure 2). **Southern pine beetle** pitch tubes are similar in color but considerably smaller (dime size). They too appear in the bark crevices from eye level up to mid-crown (Figure 3). **Ips engraver beetle** attacks do not always produce pitch tubes but when they are formed, they resemble those made by **southern pine beetles** but will mostly occur on the bark ridges rather

than in the bark crevices. Other external signs or symptoms of bark beetles in pines are dead and dying needles and sawdust-like boring dust at the tree base. The most definitive signs will be tunnels made under the bark by adult beetles of each species (Figures 4&5). Black turpentine beetle galleries are not shown because it is confined to the lower six feet of trunk and is seldom confused with Ips and southern pine beetle.



Figure 2. Black turpentine beetle pitch tubes



Figure 3. Southern pine beetle pitch tubes



Figure 4. Southern pine beetle galleries are S-shaped



Figure 5. Ips galleries may be single or branched

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“Frequently Asked Questions”

How do I know if my trees are currently infested with bark beetles?

Trees that still harbor beetles will be characterized by green to yellow needles, tight fitting bark (hard to remove from the tree when struck by a hatchet or ax) and soft gummy pitch tubes. There are exceptions to these and homeowners should seek the advice of a forester to be sure trees are still infested.

What are my options for controlling an “active infestation” of Ips and southern pine beetles?

Removal of infested trees is the surest way to get rid of **Ips** and **southern pine beetles**. Other options include complete saturation of the entire tree trunk with a recommended insecticide. Trees can be sprayed standing or after being cut and sectioned on the ground. The entire bark area must be sprayed to the point of runoff. Spraying standing trees in urban areas is not generally recommended due to the possibility of pesticide contamination to nearby bird feeders and baths, swimming pools etc. Another option is to fell trees and chip them on site and spread the chips for mulch. Infested trees should never be cut and stored on site for firewood unless the wood is covered with a plastic or vinyl tarp and sealed along the edges. From April to October infested firewood

should be covered for at least 35 days to insure the death of the beetles. During the cooler months from October to March, infested firewood should remain covered until after dogwoods have bloomed in the spring. **Remember, Ips and southern pine beetles** can complete a life cycle within 22-30 days respectively and control efforts must be done within this time frame.

What are my options for controlling black turpentine beetle infestations?

The **black turpentine beetle** is the only pine bark beetle that is confined to the lower six to ten feet of tree trunk. Except in extreme situations, the beetles do not mass attack trees as do the **Ips** and **southern pine beetles**. Rather, they tend to build up over a period of weeks thus allowing time for control by homeowners and landowners. Spraying the lower ten feet of trunk with a recommended insecticide can effectively control **black turpentine beetles**.

Do I need to remove trees that are already dead? (Those with brown needles or no needles.)

Dead trees from which bark beetles have emerged may harbor beneficial insects such as the checkered beetle. If dead trees are no threat to property, humans, or pets, they can be left standing to provide homes for

checkered beetles and cavity nesting birds. Be sure dead trees are away from property lines, powerlines, houses, cars and children’s play areas. Stay away from dead trees on windy days as they often lose branches and upper trunk sections from the swaying.

Can I protect my healthy trees with an insecticide before pine beetles get them?

Healthy trees that are near an **Ips** or **southern pine beetle** infestation can be protected if the entire trunk area (bottom to top) is treated with a recommended insecticide. This requires expensive equipment capable of thrusting the insecticide up to tree top level. In urban areas where bird baths and feeders, swimming pools, cars and people are often present, spraying standing trees is not a good idea. Although it’s effective in preventing bark beetle attacks, it is often impractical. Many tree companies offer to spray standing pines up to a height of about ten feet. This is only effective against the **black turpentine beetle** and will not provide protection against **Ips** and **southern pine beetles**. Also, many tree companies advertise the injection of systemic chemicals to control or prevent bark beetles. Most research tends to discredit the use of systemic injections for bark beetle control or prevention. Stay with the proven methods even though they may be more costly and labor intensive.

Will chips from recently ground pine trees attract pine beetles to my yard?

Yes and no! The **black turpentine beetle** is justly named because it is highly attracted to the odor of fresh pine tree resin. Sometimes green pine chips may heighten the possibility of a black turpentine beetle attack and to a lesser extent attacks from the other bark beetles. To be safe, pine chips should be used only in and around hardwood areas.

Must I have the stumps ground when I remove an infested tree?

Black turpentine beetles love the smell of fresh pine resin and a green stump is a prime target for them. Stump grinding is preferred when green pines are cut. If not, the stumps should be sprayed with a recommended insecticide unless there are no more pines left in the yard.

Does pruning attract pine bark beetles?

It is best to prune pine trees when pine beetles are inactive. Pruning trees between November and February is preferred to spring and summer pruning. If pruning can't be postponed, the pruning wounds should be coated with a tree wound dressing to reduce the possibility of a bark beetle attack. Climbing spurs used by many tree surgeons and arborists when pruning can attract pine beetles. If pine beetles are on the rampage it is best to

delay any pruning until the outbreak subsides. This would apply to powerline pruning as well.

What should I do if my neighbor has trees infested with pine bark beetles?

It is always a good practice to be aware of bark beetle activity or tree lightning strikes in your neighborhood or area. Pine bark beetles can devastate neighborhoods or woodlands and do not respect property lines. Quick action to rid an area of beetles is a must.

What are my responsibilities toward my neighbors if I have an active bark beetle infestation on my property?

Once you have been educated to the potential hazard of your infestation spreading to nearby properties, you may be liable for negligence by failing to remove the beetle hazard(s). Neighbors need to work together to solve a community problem.

Are there any federal and state tax relief options for homeowners and timber owners plagued by pine bark beetles?

Yes! The IRS recognizes the **southern pine beetle** as a casualty agent. This means homeowners and timber owners can minimize losses provided they document and report the losses in an appropriate manner approved by the IRS.

Generally, homeowners can have the property appraised with and without the trees (those killed by beetles). The depreciation in property value due to missing trees is the amount of the casualty allowed by the IRS. Timber owners may qualify for an involuntary conversion. Under this rule, landowners forced to salvage killed trees may be able to reinvest the income into "like-kind" property within 3 years and postpone taxes. Homeowners and timber owners need to refer to IRS publication 547, Casualties, Disasters and Thefts. This publication is available free of charge by calling 1-800-TAX-FORM.

What type of assistance does the Georgia Forestry Commission provide to homeowners in dealing with pine bark beetles?

The Georgia Forestry Commission provides technical assistance to any homeowner/landowner or neighborhood association upon request. During community wide or statewide beetle outbreaks, a GFC representative can provide a program to citizens about how to recognize and control pine bark beetles. It can also publicize and coordinate community wide suppression activities by training various tree companies, arborists and timber harvesters on proper control procedures. As a state agency it does not remove trees nor provide financial assistance to citizens for tree removal. Contact the Georgia Forestry Commission by calling your local county office or 1-800-GA TREES.