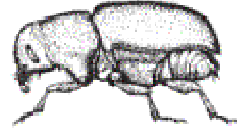


Ips Beetles

Ips Beetles are bark beetles that damage pine and spruce trees. Several species of ips beetles occur in Crystal Lakes. They are small (1/8 to 3/8 long), reddish-brown to black and have a pronounced cavity at the rear end, which distinguishes them from the mountain pine beetle and other bark beetles.

Adult mountain pine beetle. Note gradually curved wing.



Adult ips beetles have a pronounced cavity at the rear end.



Ips beetles are not as destructive or aggressive as the mountain pine beetle. Each ips species generally attack only one species of pine or spruce with a couple of exceptions. Normally ips beetles limit their attacks to trees that are in decline including the following:

- Newly transplanted trees
- Trees with root injuries caused by construction
- Trees surrounded by large breeding populations of ips beetles



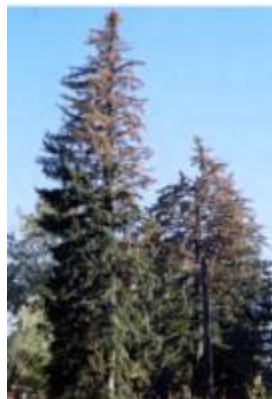
Adults winter under the bark or in surrounding litter at the tree base and begin to attack weakened trees in the spring. Initially the male enters the tree, constructs a cavity then produces pheromones to attract females. After mating, females (usually three) excavate egg galleries off the central chamber. The tunnels appear as a “Y” or “H” shaped pattern. Eggs are laid along the gallery and young larva soon hatch and begin tunneling smaller lateral galleries that lightly etch the sapwood. Two to four generations of these beetles usually develop each year.

Symptoms of an ips beetle attack are:

1. Yellowish or reddish brown dust in bark crevices or around the base of the tree. This is caused when the adult ips beetles enter the tree and tunnels.



2. Parts of the tree discolor (fade) and die when the larva tunnel. This symptom may be limited to parts of the tree, such as a single branch or the top. Infestation by beetles does not necessarily mean the whole tree will die, but over time, attacks may progress as later generations “fill” the tree and then ultimately the host can die.



3. Small round holes in the bark of infested trees indicate the beetles have completed development in that part of the tree and the adults have exited. The presence of these holes peppering the bark show the beetles have moved to another part of the same tree or to neighboring trees.

4. Woodpecker's presence may also indicated bark beetle activity. Woodpeckers often remove the bark in an effort to obtain this food source. This habit results in ragged holes or patches of missing bark on the tree.

To prevent ips beetle attacks use the following practices:

1. Thin existing trees or plant new trees to allow optimal growing conditions as the tree matures.
2. Avoid root injuries caused by mechanical damage and compaction.
3. Remove freshly cut material that results from thinning or pruning (slash) from the vicinity of valuable trees. Slash should be chipped, debarked or scattered to allow for rapid drying.
4. Do not store cut firewood near susceptible trees.
5. Applying permethrin or carbaryl insecticide. Insecticide applications are not needed unless the ips beetles pose a serious threat to healthy trees. A rule of thumb when deciding if insecticide treatments are needed is to survey for infested groups of bark beetle infested trees (as determined by dead foliage) within sight of the living trees in question. If it is determined that applying an insecticide is necessary, the following procedures should be followed:
 - Apply the insecticide prior to adult beetle infestation. Wintering ips beetles begin emerging as daytime temperatures consistently reach 50 F to 60 F.
 - Since ips beetles can have multiple, overlapping generations and lifecycles two treatments (early spring and summer) may be needed to protect trees during high-risk conditions.
 - Apply the insecticide at the labeled rate to provide at least three months control of ips beetles.
 - Do not spray insecticides near water or during windy conditions.
 - Follow the manufactures directions.

The above information was obtained from the Colorado State Forest Service.

See <http://csfs.colostate.edu/pdfs/Ips.pdf> for additional information.