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Pest Alert

United States
Department of
Agriculture

Forest Service

Northeastern Area

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MONTHLY ALERT

MONTH

ITEM #

Aug 94

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Possible New Introduction European Spruce Bark Beetle

Adults of the European spruce bark beetle, *Ips typographus* (L.) (Coleoptera: Scolytidae), recently were collected in pheromone-baited traps at the Port of Erie, Pennsylvania. There is no evidence that this species is established in the United States, but the detection signifies a threat to North American forests. In its native range of Europe and Asia, the spruce bark beetle is one of the most serious pests of spruce. The beetle prefers Norway spruce but also attacks other spruce. It occasionally feeds on fir, pine, and larch.

Life History

Adults fly in the first warm days of spring, traveling up to 10 miles or more in search of a suitable host. The beetles prefer recently dead, diseased, or weakened trees, especially those damaged by storm and drought. During outbreaks, however, the beetles attack and may kill healthy trees. Adults bore into the trunk and construct tunnels under the bark where they mate and lay eggs (Fig. 1). In 2 to 5 weeks, these same adults may exit the first host, fly to another tree, construct new tunnels, and lay more eggs. Larvae feed and pupate under the bark. Adults overwinter in forest litter and in the bark of host trees. There are 1 to 3 generations a year, with two being common in most of Europe.

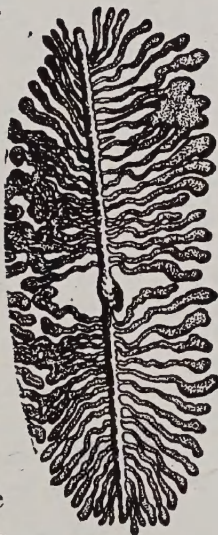


Figure 1.
European spruce
bark beetle
larval tunnels.

Damage and Detection

The European spruce bark beetle carries several fungi pathogenic to conifers. The most serious of these is a blue stain fungus, *Ophiostoma polonicum* Siem., which is capable of killing healthy trees. This fungus eventually interferes with the upward flow of water in the tree, resulting in wilted foliage. Diseased wood is stained with blue streaks, which markedly reduces its commercial value.



Figure 2. European spruce bark beetle, side view.

Surveys for European spruce bark beetles should concentrate on recently fallen, weakened, or diseased spruce, especially Norway spruce. Red-brown dust in bark crevices, numerous round (exit) holes, or small pitch tubes extruded from the bark can be evidence of these or other bark beetles. Adults can be attracted to the pheromone Ipslure. Large populations of bark beetles can sometimes be detected from a distance by one or more areas of red-topped trees.

Recognizing the Beetle

The following features will aid in recognizing the European spruce bark beetle:

- Beetle is cylindrical, red-brown to brown and 4.2-5.5 mm long (Fig. 2).
- Concave posterior portion of abdomen (declivity) has four teeth on each side (Fig. 3, 4).
- Tooth 2 is nearly equidistant from teeth 1 and 3 (Fig. 3, 4, 5).
- Tooth 3 is knobbed (capitate) in both sexes (Fig. 5).
- Concavity at posterior of abdomen is dull, without large setae (Fig. 6).

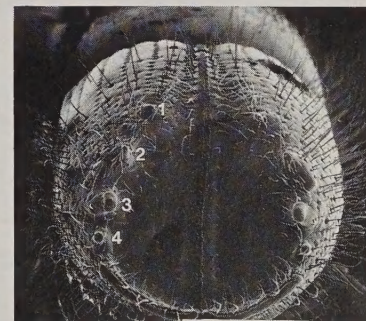


Figure 3. Concavity of posterior abdomen of European spruce bark beetle, rear view, showing four pairs of teeth.

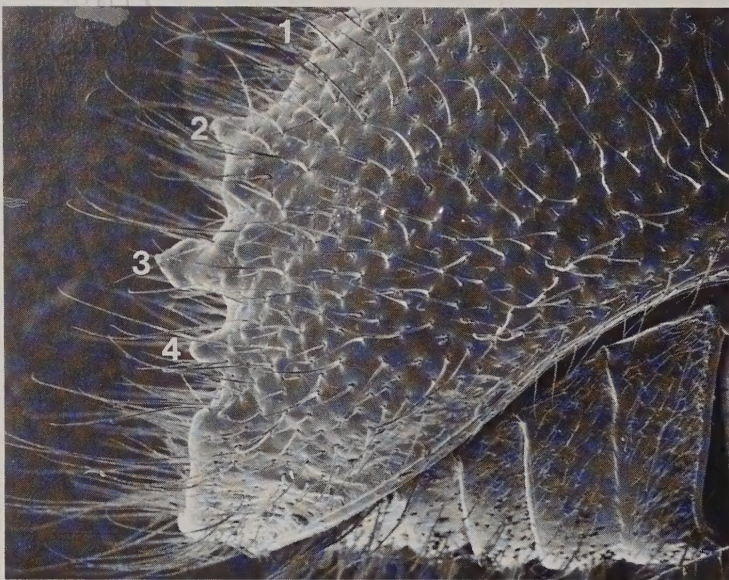


Figure 4. Posterior abdomen of European spruce bark beetle, side view, showing four teeth.

Adults of the spruce bark beetle are similar to some of our native *Ips* species. In the Northeastern United States, the Pine engraver beetle, *Ips pini* (Say), is a common scolytid that resembles the European spruce bark beetle. The pine engraver differs in that it is smaller (3.3-4.3 mm long); the posterior concavity of the abdomen is shiny (Fig. 6); tooth 2 is distinctly closer to tooth 3 than to tooth 1 (Fig. 7); and only the male has a capitate tooth 3 (Fig. 7). On the female pine engraver, tooth 3 is conical and similar to teeth 2 and 4.



Figure 5. Concavity (dull) of posterior abdomen of European spruce bark beetle.



Figure 6. Concavity (shiny) of posterior abdomen of pine engraver, rear view.

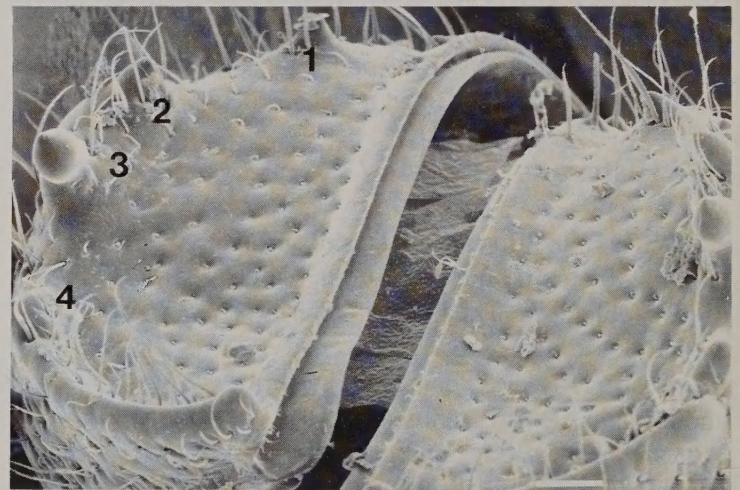


Figure 7. Concavity of posterior abdomen of male pine engraver, rear view, showing tooth 2 close to tooth 3.

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Anyone recognizing this insect or its damage should contact:

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