

Forest Pests: Insects, Diseases & Other Damage Agents

Hemlock Borer

Melanophila fulvoguttata Harris

Hanson, T., and E. B. Walker. [n.d.] Field guide to common insect pests of urban trees in the Northeast. Waterbury, VT: Department of Forests, Parks and Recreation.

Coleoptera: Buprestidae

Hosts: Hemlock is preferred, but eastern white pine, larch, balsam fir, and red, white and black spruce may also be attacked.

Evidence: Look for sloughing bark and woodpecker activity. As woodpeckers remove the outer bark, the red, inner bark is exposed. Piles of bark fragments may be found at the bases of affected trees as woodpeckers search for hemlock borers. Bark taken from damaged trees is likely to contain frass-filled galleries and D-shaped insect exit holes. Reduced growth, foliar thinning, and yellowing and other symptoms of stress may be seen.

Life Cycle: The borers overwinter as either larvae or pupae in earthen cells in the soil. Adults, which emerge in early spring, lay eggs through the bud sheath before buds swell. Upon hatching, the young larva feeds toward the tip of the shoot in the needle cluster. Later, it burrows into the shoot and tunnels towards its base. When mature (6-7 weeks), the larva crawls out of the shoot, burrows into the ground, and spins a thin cocoon. In more northerly regions, the insect may spend nearly two years in the cocoon.



a. Infestations by HEMLOCK BORER are often accompanied by sloughing bark and woodpecker activity.



b. Larvae of the HEMLOCK BORER construct frass-filled galleries as they bore into the cambium.



c. HEMLOCK BORER adults are metallic black with six orange or yellowish spots on their elytra.

Management: Since damage is rarely heavy in consecutive years, control measures are not usually necessary. However, repeated damage from this insect has resulted in unmarketable trees in some plantations. In a year

with normal to above normal temperatures, the borer does poorly on balsams that break bud early so it tends to attack late-breaking balsam fir or Fraser fir. Conversely, in years when cool weather slows bud development following adult emergence, damage to balsam tends to be similar to that of Fraser. In mixed plantations of Fraser and balsam, the insect shows a decided preference for Fraser fir during most years. Keeping trees healthy and tightly sheared, where appropriate, will help minimize damage caused by this insect. This pest is most prevalent in areas adjacent to native balsam fir stands.