



# Integrated Pest Management Issues

## Spruce aphid, *Elatobium abietinum*

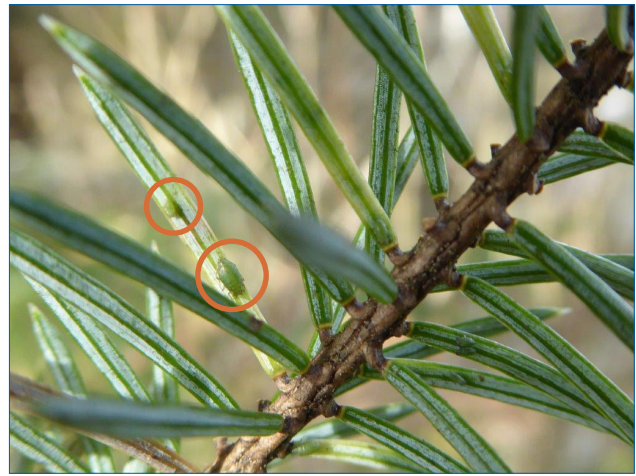
Spruce aphid is a non-native aphid originally from Europe that has been established in Southeast Alaska for decades and has previously been reported in coastal forests of Prince William Sound and Kodiak Island. More recently, the aphid has been confirmed in coastal areas of the Kenai Peninsula. Spruce aphid is a pest of spruce trees, particularly Sitka spruce. In Alaska, spruce in coastal areas and trees stressed by urban and landscape conditions are particularly susceptible to this aphid.

### Identification

Spruce aphids are small ( $1/16$  inch), soft-bodied insects. The aphids are green and usually wingless; however, a winged generation may be produced to facilitate spread.



Spruce aphid. Photo by USDA Forest Service, Southwest Region



Aphids on needles are easily camouflaged. Photo by Elizabeth Graham, USDA Forest Service, Alaska Region

### Feeding and Damage

Like other aphids, spruce aphids have sucking mouthparts, which are used to suck sap from the needles of trees. They feed primarily on older needles, causing them to turn yellow and brown and drop from the tree. Current year's needles are usually not damaged, though they may be fed on during population outbreaks. Spruce aphid is most active and damaging in late winter/early spring and also in the fall. Aphid activity tends to slow during summer.

Spruce aphid populations fluctuate according to weather conditions. Mild winters allow the aphids to rapidly build up large populations. Extended cold winter temperatures (below about 15°F) and sudden drops in temperature can help reduce aphid numbers.

### Detection and Monitoring

Early detection of aphid populations is important for managing this pest. Begin looking for aphids in mid- to late winter, particularly if the weather has been mild. Monitor weekly through the spring to note any new infestations and track populations. Sturdy, white paper may be useful in monitoring. Hold the paper under a branch and lightly tap the branch against the paper. Do this at several locations. If aphids are present, treatment may be warranted.



Spruce aphid damage to individual needles. Photo by Elizabeth Graham, USDA Forest Service, Alaska Region



Browning and defoliation of spruce trees as a result of aphid feeding. Photo by Garret Dubois, USDA Forest Service, Alaska Region

### Control

Spruce aphid is not usually a tree-killing pest; its damage is largely aesthetic. However, trees stressed by other factors in addition to aphid feeding are more susceptible to mortality, and significant needle loss can take years to recover from. Spruce aphid outbreaks do not tend to last more than a few years and several natural factors contribute to spruce aphid control.

Damage from feeding that occurs in the early spring is often not observed until later in the spring or summer. Monitoring for aphids early and planning control measures is important, especially in trees with a known history of aphid damage. Some control measures to consider:

1. Don't be a vector. Inspect any host material you may be moving to or from your property to help limit the spread of this pest.
2. Maintain or improve tree vigor. Provide supplemental water during spring and excessive dry spells, if possible, and prevent unnecessary injury to the trees.
3. Knock aphids off with a strong spray of water. This may need to be repeated and is best suited for smaller trees.
4. Apply a registered insecticide. There are several active ingredients that can be used on ornamental trees for the control of aphids. Common products include, but are not limited to, acephate, bifenthrin, azadirachtin, horticultural oils, and imidacloprid. Application methods vary for different products and include sprays, soil drenches, or stem injections. Some products may discolor needles or need to be applied repeatedly. ***Please read and follow all label directions carefully! Remember, the label is the law!***

If you are not familiar with or do not have the proper equipment to apply a product, consider hiring an arborist or tree care expert to assist you. Note that pesticides are subject to restrictions on application depending on weather and proximity to water. Because this pest is commonly found in coastal areas, follow any restrictions to application near bodies of water or warnings about impacts on fish, other aquatic animals, or any other non-target species.

### Additional information

UAF Cooperative Extension Service IPM program can assist with pest identification and control questions. Contact the IPM program at [www.uaf.edu/ces/ipm](http://www.uaf.edu/ces/ipm).

Green Spruce Aphid (*Elatobium abietinum*). Cone and Seed Insect Pest Leaflet No. 10. British Columbia Ministry of Forests and Range, Tree Improvement Branch, Saanichton, BC. Last accessed March 10, 2017, from [www.fgcouncil.bc.ca/PM-Factsheet10-Elatobium-abietinum.pdf](http://www.fgcouncil.bc.ca/PM-Factsheet10-Elatobium-abietinum.pdf).

For more information, contact:  
UAF Cooperative Extension Service IPM Program at [www.uaf.edu/ces/ipm](http://www.uaf.edu/ces/ipm).