



Pine Bark Adelgid

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Introduction

Pine bark adelgid, *Pineus strobi* (Adelgidae: Hemiptera), is a native insect found throughout North America wherever its pine hosts grow. The aphid-like insect is hidden under characteristic threads of a cottony or wool-like material (Fig. 1). Originally associated with the native range of its principal host, eastern white pine, pine bark adelgid has been transported outside of its historical range through the movement of infested eastern white pine or other pine hosts.



Figure 1. Pine bark adelgids (Larry R. Barber, USDA Forest Service, Bugwood.org).

Description

Adelgids resemble aphids but have shorter antennae. The short legged, black colored, teardrop-shaped insects live under a white woolly mass they secrete for protection. Pine bark adelgids settle at the base of needles (Fig. 2) and on the bark of small twigs, branches, and trunks of their pine hosts (Fig. 3). When populations are high, the woolly masses coalesce into large patches on the branches or trunk (Fig. 1) that may appear whitewashed (Fig. 4). The woolly material persists for some time after insect dies.



Figure 2. Pine bark adelgid (Tom Coleman, USDA Forest Service, Bugwood.org).



Figure 3. Pine bark adelgid and ladybird beetle predator (Eric Day, Virginia Tech, Bugwood.org).

Habitat

The pine bark adelgid is native to eastern North America, occurring principally throughout the native range of eastern white pine. This insect is also found on Scots and Austrian (or black) pines.

Life History

Overwintering immature pine bark adelgids begin feeding and secreting wool during the first days of warm weather in the spring. They develop to adults in April to May and begin laying eggs. Eggs hatch into mobile crawlers, which can move to other parts of the host tree or be blown to new trees. Crawlers

settle on the host, feed, and mature into winged or wingless adelgids. Wingless adelgids remain on the host and reproduce repeatedly. Winged adelgids can disperse to new trees. Five generations of pine bark adelgid a year have been recorded as far north as the Lake States. In the southern US, all life stages can be found together at the same time, making it difficult to determine how many generations occur in one year.



Figure 4. "Whitewashed" trunk of a pine infested with pine bark adelgid (Steven Katovich, Bugwood.org).

Damage

Adelgids feed on tree trunks by sucking sap from the phloem tissue. Small nursery stock, ornamental trees, and trees in landscapes can be heavily attacked. The whitewashed appearance of heavily infested trees may be objectionable (Fig. 4), but permanent damage is rare if the trees are otherwise healthy. Pine bark adelgid is not a significant pest in plantations of eastern white pine, where repeatedly infested mature trees apparently suffer no serious harm.

Control in Christmas Trees

Treat Christmas trees for pine bark adelgid only if damage such as yellowing, witches brooming, or sooty mold occur. Use dormant oil in late winter

before bud break. Avoid applying fertilizer, as nitrogen can foster population growth in this insect.

Control in Forest and Ornamental Trees

Since pine bark adelgid rarely causes permanent damage to healthy trees, little research has been done on managing the insect. Application of insecticides to the trunk of transplanted large pine stock is recommended before the trunk is wrapped. Dormant oil, insecticidal soap, and carbaryl are some materials recommended for pine bark adelgid. Consult the [Pest Management Guide for Horticultural and Forest Crops](#) (VCE Pub 456-017) for scouting practices for pine bark adelgid, additional insecticide recommendations, and information on proper application methods.

Ornamental trees with pine bark adelgid should not be treated with insecticides unless the trees show physical decline such as yellowing and stunting due to the infestation, and not simply just the presence of the insect. Many natural enemies feed on pine bark adelgid, including ladybird beetles (Fig. 3), lacewings, and hover flies. Tooth-necked fungus beetles in the genus *Laricobius* (Coleoptera: Derodontidae) and silver flies in the genus *Leucotaraxis* (Diptera: Chamaemyiidae) are specialized predators helping to keep populations of pine bark adelgids in check.

If pesticide applications are necessary, refer to the section on "pine bark adelgid" in the current version of the [Pest Management Guide for Home Grounds and Animals](#) (VCE Pub 456-018) for recommendations. Insecticides should be applied in April or May and repeated 2-3 weeks later. Avoid applying fertilizer, as nitrogen can foster population growth in this insect.

Revisions

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