



Hemlock Woolly Adelgid Look-Alikes



The threat

Michigan is home to an estimated 170 million Eastern hemlock trees which provide important habitat and protect against erosion along rivers and streams. Now, the hemlock woolly adelgid, a tiny, sap-sucking insect, is threatening Michigan's hemlock resource in both urban and forested areas.

Mistaken identity

Other, less damaging pests easily can be mistaken for hemlock woolly adelgid. This guide provides examples of common look-alikes to help you make an accurate identification before reporting your find.

Identifying hemlock trees

Hemlock woolly adelgid (HWA) only infests hemlock trees, so an important first step in identifying the pest is knowing how to recognize hemlock trees.



Conical Shape



Flat, evergreen needles with two white stripes on the under side



Small (3/4") cones

Identifying hemlock woolly adelgid (*Adelges tsugae*)

Hemlock woolly adelgid is an invasive species that is native to Asia and has been detected in Michigan. These small, aphid like insects suck sap from hemlock twigs and can ultimately cause tree death. They can be identified by their round, white ovisacs found at the base of hemlock needles on the underside of branches.



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Hemlock Woolly Adelgid

HWA is an invasive species that infests the Eastern hemlock. In spring and fall, adults spin ovisacs resembling the tips of cotton swabs to protect their eggs.



Distinctive rounded, white ovisacs of hemlock woolly adelgid are found at the base of hemlock needles.

HWA Look-alike

Elongate hemlock scale is a common pest of the Eastern hemlock. Hemlock scale crawlers create waxy secretions that build into a mass of tangled strands, giving the lower surface of infested needles a white appearance.



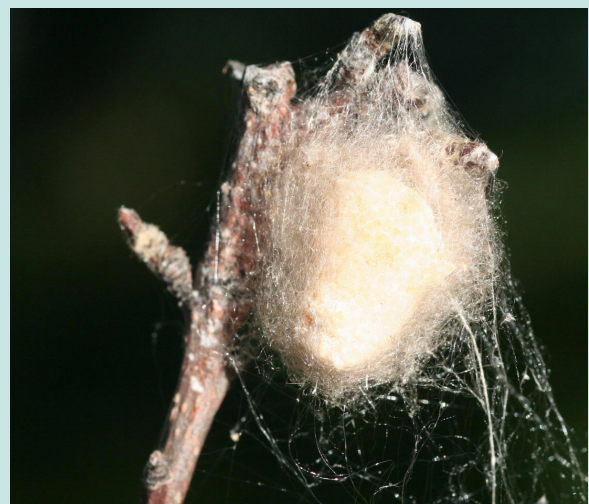
White strands of hemlock scale build up on the needle surface.

HWA ovisacs are round and white with a cottony texture.



One or many hemlock woolly adelgid ovisacs will be found at the needle base on a single twig.

Spider egg sac: Each species of spider creates a unique egg sac, so the shape and texture may vary.



One or more spider egg sacs may occur randomly on branches or twigs.

Hemlock Woolly Adelgid

HWA juveniles insert their long mouthparts into the hemlock twig to feed on the tree's starches. Once attached, they will remain in the same place for the rest of their lives.



Hemlock woolly adelgids form small, rounded ovisacs on the twigs of hemlock trees, at the base of the needles

HWA protect their eggs by spinning a white, waxy material around them.



Hemlock woolly adelgid ovisacs appear wool-like and are most obvious from late fall through early summer.

HWA Look-alike

Oak skeletonizer cocoon is a native insect that occurs throughout the Great Lakes region. The larval stages feed on the leaves of several species of oak trees.



Oak skeletonizers form white cocoons resembling ribbed grains of rice that may be found on branches, limbs, leaves or needles of any trees, or on nearby structures.

Spittlebug nymphs cover themselves with a protective frothy material that looks like human spittle.



Immature spittlebugs are readily recognized by the frothy white mass that surrounds them.

Hemlock Woolly Adelgid

HWA targets soft new growth, located where the needles meet the twigs.



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Hemlock woolly adelgid damage can result in yellow or brown needles, premature needle drop, reduced twig growth, dieback or tree death.

HWA Look-alike

Hemlock Needleminer larva have a pale, yellowish green body with a slightly orange brown head. Larva can feed on Eastern hemlock trees.



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Typical needleminer damage is characterized by six or more mined (translucent, light brown) needles tied loosely with silk.

HWA feed on the sap at the base of the needles, eventually causing the needles to die.



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Outside of their ovisacs, hemlock woolly adelgid aphids are nearly impossible to see without a magnifier.



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Mealybugs can be found on needles, leaves, or branches of many plant species. Mealybug movement may be visible.

Hemlock Woolly Adelgid

HWA feeds on the tree's stored starches, which are critical to the tree's growth and long-term survival.



In trees with heavy infestations of hemlock woolly adelgid, needles become dry and grayish in color, and many needles will drop from affected trees.

HWA Look-alike

Spider Mites pierce individual plant cells and remove the contents, leaving tiny, yellow or white speckles



Spider mites suck the phloem sap from the hemlock causing foliage to yellow, wilt, and fall from the tree prematurely.

Other possible look-alikes

- Hydro-seed mulch
- Dryer lint
- Drops of pine sap
- Wool from white pine aphids
- Beech blight aphids
- Beech scale from neighboring tree

If you believe you have found hemlock woolly adelgid:

- To avoid spreading HWA, do not collect samples of twigs or branches
- Take pictures of the infestation signs and symptoms and note the location.
- Contact the Michigan Department of Agriculture and Rural Development at:
1-800-292-3939 -OR-
MDA-Info@michigan.gov -OR-
- Report the infestation through the Midwest Invasive Species Information Network at:
www.misin.msu.edu

For more information please visit the Michigan Department of Agriculture and Rural Development's Hemlock Woolly Adelgid webpage at: www.michigan.gov/HWA

