**Hemlock Woolly Adelgid**

**Appearance**

**Adult**
- Brownish-orange, typically 0.8mm in length and oval shaped. Has long thread-like stylets used for feeding.

**Nymph**
- Brownish-orange, ranging from 0.4mm to 0.7mm long. Younger nymphs are called 'crawlers'.

**Life Cycle**

**Generation one**
- **Adult (sistens)**: emerge in early spring and produce up to 300 eggs.
- **Nymph (sistens)**: hatch in early to mid-summer, explore hemlocks searching for feeding location, feeds briefly, then becomes inactive.

**Generation two**
- **Egg (progrediens)**: hatch mid-spring.
- **Crawler (progrediens)**: emerge by early-summer, wingless adults lay up to 125 eggs in place and winged females disperse.
- **Nymph (progrediens)**: once attached to feeding location nymphs become immobile.
- **Adult (progrediens)**: reactivates in late fall and resumes feeding.

**Quick Facts!**

The waxy-woolly material, for which these bugs are named, is created by the nymph as it matures and is believed to provide protection from predators and the elements.

In the eastern U.S., all hemlock woolly adelgids (HWA) reproduce by parthenogenisis; an asexual form of reproduction where an egg can begin development without fertilization.

The winged progrediens females do not reproduce, because the spruce species needed for their reproduction does not exist in the eastern U.S.

HWA target hemlocks and have caused declines of this tree in over half of its natural range, spanning from Georgia to Maine, with concerns it will continue to spread.

Hemlocks provide important ecosystem services and habitat for many endemic species. Systemic insecticides have been an important tool for hemlock conservation.

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