

Cornell releases predator beetle to battle hemlock pest

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Laricobius nigrinus. Photo: Ashley Lamb, Virginia Polytechnic Institute and State University

(PhysOrg.com) -- Cornell researchers released a well-studied beetle predator to test its ability to ward off a hemlock-killing aphid-like insect.

Hemlock woolly adelgids (HWA) -- aphidlike insects that have destroyed stands of hemlocks throughout the East Coast -- were first identified in hemlocks in the central Finger Lakes in summer 2008 and then in trees in Cornell Plantations' natural areas in early spring 2009.

To battle the hemlock-killing insects, a team of entomologists has released one of the adelgids' [natural predators](#) as a local case study. Specifically, researchers from Cornell, the U.S. Forest Service (USFS) and University of Massachusetts-Amherst released 900 *Laricobius*

nigrinus [beetles](#) into a stand of adelgid-infested hemlocks on Cornell Plantations land near Lansing and at two other sites on Seneca Lake.

L. nigrinus beetles are native to the Pacific Northwest, where the black, 3-millimeter-long beetle keeps HWA in check by preying on them. As HWA spread through the Northeast, the insects flourished and decimated hemlocks, since no natural predators lived in the region. HWA avoid predators by growing in the winter. But *L. nigrinus* beetles have synchronous life cycles with the HWA, and they feed and grow during winter.

"It's important to reassure people, the release of this beetle is not haphazard," said Mark Whitmore, a Cornell forest entomologist in the Department of Natural Resources. "People have been studying *L. nigrinus* for a long time and have established that it will feed only on adelgids and successfully reproduce only on a diet of HWA."

The Lansing site was ideal for the case study, the researchers said, since the hemlocks there are only lightly infested with HWA, and there are many hemlocks to sustain a long-term study.

Volunteers trained to identify adelgids by Whitmore and Cornell Plantations staff discovered the Lansing site last spring. The site will be left untreated with pesticides for 10 years to study how well the *L. nigrinus* beetles become established, said Todd Bittner, director of natural areas.

If the experiment proves successful the researchers expect the population will take two to three years to build to levels where they can be readily detected.

Cornell natural areas staff will continue to survey Cornell Plantations, train volunteers and research strategies for stopping the spread of

adelgids, Bittner said.

Provided by Cornell University ([news](#) : [web](#))

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