

Our Native Insects Can Be Useful in Detecting Emerald Ash Borer Infestations By Priscilla Titus



Native wasp nests like this one provide a means of more quickly and efficiently locating Emerald Ash Borer infestations in New York.

By now, most folks who are interested in the health of our region's forests have heard of the Emerald Ash Borer (EAB) and the grave threats this introduced beetle poses to our ash trees. This bright metallic green beetle was first discovered in Michigan in 2002, after it was presumably transported from Asia in wooden packing materials. Adult female beetles lay eggs in bark crevices of ash trees. When the eggs hatch shortly thereafter, the larvae begin feasting upon the cambium layer under the bark, the part of the tree that transports nutrients and water

from the roots to the shoots and leaves. Eventually the cambium layer is so damaged that it no longer functions and the tree dies. As the larvae mature, they exit the tree through small D-shaped holes in the bark and begin to breed and lay new eggs. Most trees die within two to four years of becoming infested.

In June of this year EAB was discovered near the town of Randolph in Cattaraugus County. In response to the detection, the New York Department of Environmental Conservation immediately established an Incident Command Center at DEC's Little Valley sub-office and destroyed 39 infested trees. Ongoing efforts to monitor for the presence of the EAB include the placement of approximately 6,000 baited insect traps throughout the state, 1,200 of which were placed within and surrounding the infested area. The traps, which you may have noticed, are bright purple triangular structures that are hung from the branches of trees. In addition to the traps, a visual survey for infested trees and inspection of 55 logging sites, lumber mills, campsites and firewood producers in the region has been completed. Unfortunately, these efforts are time-consuming and expensive, and the purple traps catch many other insects that are not the focus of the effort.

Recently, I learned of a new method of EAB monitoring using bio-surveillance, in which the activities of one organism provide information about another organism. This method consists of monitoring the activities of a native wasp, *Cerceris fumipennis*. This is a solitary wasp that stings and paralyzes buprestid beetles, of which EAB is a member, and places them in its underground nest to serve as food for its larvae. By watching the nests of these wasps, monitors can see if they

are collecting EAB in the vicinity. Preliminary studies of this method in Canada have shown that the wasp's EAB detection skills were much more effective than human efforts at finding EAB.

Recently, SUNY-ESF graduate student Warren Hellman joined the team of interested parties in the effort to determine if there are undetected populations of EAB in New York by monitoring the ground-nesting wasp's activities. Hellman is also seeking volunteers to help find and monitor *Cerceris* nest sites throughout the state. The wasp nests are fairly easy to identify by the half-inch wide entry hole that is surrounded by side-castings. Nests may be clustered together in a colony of up to 500 individual nests. The wasps are one half to three quarters of an inch long with dusky brown wings and one yellowish stripe on the second segment of the abdomen. Female wasps have three yellowish spots on the face.

The wasps are most often found nesting in full sun in open areas of hard-packed sandy soil surrounded by woody habitat suitable for their buprestid beetle prey. Often they are associated with somewhat disturbed sites compacted by human activity, such as baseball diamonds, parking areas, infrequently used dirt roads, roadsides, foot paths and the soil around campfire pits. If you notice ground-nesting wasp sites that fit this description, you can carefully peer into the hole to see if a wasp is peeking out, or you can watch to see if a wasp enters the hole. It is important to realize that this native wasp is *not known to sting humans*, even when handled. If you think you have found a *Cerceris* wasp nest, please contact Warren Hellman by email at atmospherical5@hotmail.com. If possible send a digital photo of the nest along with your email. For more information on the *Cerceris* wasp, please see http://www.cerceris.info/wasp_watcher.html.

In addition to the potential usefulness of this method in detecting and containing EAB in order to protect our forests, I am once again amazed at how important all the seemingly small pieces of our watershed are in creating the wonderful functioning system we enjoy.

The Chautauqua Watershed Conservancy is a local, private not-for-profit organization supported primarily by membership donations and grants from private foundations. Its mission is to preserve and enhance the water quality, scenic beauty and ecological health of the lakes, streams and watersheds of the Chautauqua region. It is the only locally-based not-for-profit organization actively conserving important habitats, scenic sites and watershed lands in the county. It takes a preventive approach to address lake algae and plant problems. For a list of upcoming events go to <http://www.chautauquawatershed.org/> or call 664-2166.