NEWS RELEASE

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Use of wasp to track EAB increases

NEWTOWN SQUARE, Pa. — As an ash tree killer edges closer to New England woods, forest health managers are expanding a promising technique to detect low-level pest populations earlier.

Arguably one of the worst forest pests in the United States, the emerald ash borer is native to China. The invasive insect was first detected in the Detroit, Mich. area in 2002. Since then it has killed many millions of ash trees across a huge swath of mid Atlantic and Midwest states.

EAB was first detected in Randolph, N.Y. in June of 2009 and more recently has been found in other parts of the state. In July it was spotted in Saugerties, just 25 miles from the Connecticut border. The half-inch-long emerald green insect is also found in southern Canada, just a few miles from Vermont's border.

There are currently four primary means for monitoring the presence of EAB. These include chemical attractant-baited purple traps set high in trees, ash trees with bark peeled off them to attract the insects, visual surveys and a program using native wasps.

The recently implemented wasp program sponsored by the USDA Forest Service uses the natural behavior of the native wasp *Cerceris fumipennis* to search for and prey upon EAB. The wasp actually preys on a wide variety of tree-inhabiting buprestid beetles, among them, EAB.

Using the wasps, trained professionals and volunteers search for active *C. fumipennis* colonies during warmer summer months. Next, they simply observe what beetles the wasps bring back as prey. If no EAB is brought to the colony within the first 50 tries, there is likely no EAB in the area.

There are two tricky parts to the program: finding colonies the first time and figuring out when they start to become active. The dates they emerge change each year and with each location.

"In 2009 we had a lot of wet, cool weather and as a result the wasps did not emerge until July. This year, we had warm, dry weather and they popped out by mid June," said Nate Siegert, a Forest Service entomologist in New Hampshire.

Today there are more than 240 *C. fumipennis* colonies in New York and New England identified through the program. The number continues to grow.

C. fumipennis colonies are resilient. A colony located one year will often return to activity the next.

“There are many more colonies to be found,” said Canadian Food Inspection Agency researcher Philip Careless. “New England and the mid Atlantic States are currently the best surveyed areas.”

Careless has been a leader in applying the *C. fumipennis* research to monitor for EAB in the United States and Canada. He is now developing a means to deploy mobile wasp colonies to search for EAB where there is no local colony available. Wasp farms are also in development.

Today the technique is considered very sensitive and reliable. “It’s gone from a cute phenomenon to a useful tool,” said Claire Rutledge, a Connecticut Agricultural Experiment Station entomologist. She is leading a separate Forest Service grant program to search for ways to accurately predict when individual colonies will become active each year.

Dr. Rutledge said a side-by-side comparison of wasps vs. purple traps in 2008 yielded remarkable results. The wasps in one colony caught as many EAB in one day as a purple trap yielded all summer long.

Forest health managers recently expanded the wasp EAB monitoring program beyond the Northeast to include survey efforts in Illinois, West Virginia and Delaware through a $153,000 Forest Service grant. Now, wasp watchers will keep track of all species of buprestids brought back to the colony, not just EAB. This will also help build an atlas of known buprestid species locations.

The EAB is not the only troublesome buprestid harming trees in our woods. Other invasive buprestids include the European oak borer (*Agrilus sulcicollis)* and the two-spotted oak borer *(Agrilus biguttatus).*

C. fumipennis has potential to detect these beetles in addition to EAB.

As the wasp monitoring program grows, so does the need for volunteers, said Dr. Rutledge. More identified wasp colonies require eyes in more locations looking for EAB. There are only so many forest health managers available.

The volunteers are mostly made up of people interested in trees and plants, she added. “We recruited in Connecticut through professional arborist meetings and garden clubs 23 volunteers who stuck through and did the training. We assigned them colonies near their homes. They’re beginning to mail the beetles in to me for identification. “

Careless said “citizen scientists” are important to the success of the program. “Volunteers can take this program much farther than a handful of entomologists,” he added.

On the Net: www.cerceris.info

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