

How to Carry out Biosurveillance: Looking for Emerald Ash Borer with the Cerceris Wasp

The Maine Forest Service will provide the following equipment:

- 1-2 lightweight insect nets / group of wasp watchers
- golf tees and plastic collars to go over wasp nest holes
- plastic baggies containing a layer of tissue for the collection and storage of beetles
- a postage-paid box for the return of beetles to us at end of the summer
- a small sample of various native buprestid beetles to help you recognize wasp prey
- a sample of emerald ash borer (EAB)
- data collection sheets

Visit your site a minimum of 3 hot sunny afternoons during the month of July (August if necessary, but July is preferred) for beetle collection. Wasps hunt best on sunny days when the temperature is above 73° F or 23° C. The peak flight time is 11 am to 4 pm, so visit your site during this time.

At your site, walk around and roughly count the number of nests. Record this on your data sheet. This information will let us know how the wasps are doing over time.

Pick up all dropped beetles lying on the ground around the colony. Some of these may be dry and brittle, so handle carefully. Place these in a baggie and fill out the label, being sure to mark them 'dropped'.

Choose a group of nests in an area small enough for you (or your group) to watch. This may be between 25 and 80 nests, depending on the size of your group and how often you have done this. If you monitor fewer than 25 nests, the beetle collection will go slowly.

Place collars on the chosen nests. First, hold the collar at right angles to the ground with the flat edge across the centre of the hole. Sweep half of the loose mound of soil surrounding the nest to one side, and the other half to the other side. This will allow you to place the collar on bare ground rather than trying to balance it on top of a mound of excavated soil. Place one hole of the collar over the nest, and use the other hole to anchor it to the ground with a golf tee. If the ground is too hard to push in a golf tee, anchor the collar in place with a small stone.

Watch for wasps coming in with prey. You will soon be able to recognize the slow, heavy flight of a wasp with prey and the bottom-heavy silhouette. You have two options for collecting prey:

- 1) Gently net the wasp returning with prey. Use a lightweight net (mesh, not canvas), so you do not hurt the wasp. The shock of netting will usually force the wasp to drop her prey. If you see a beetle in the bottom of the net, open the net and let the wasp crawl out and fly away. If she has not released the beetle, through the net, gently pry it away from her with your fingers. Remember, she doesn't sting.
- 2) At the nest entrance, you will hear her buzzing as she tries to enter through the hole in the collar with her prey. Using your fingers, gently pry the beetle away from her.

Place these 'stolen' beetles in a separate baggie from the dropped ones and fill out the label. Collect up to 20 beetles in each visit to your site.

Fill out data sheet for that day.

Place the two labeled baggies of beetles in the mailing box and store in the freezer until the end of summer. Be SURE both baggies are labeled.

General Information:

We are asking you to collect 50 beetles over 3-4 (or more) visits to your site. If you are unable to collect all 50, mail in what you have by the end of the summer. A few beetles are better than none at all.

The month of July is the best time for biosurveillance, since that is when EAB is most active, but if you are unable to collect all 50 beetles in July, finish up in August.

If you find a small green beetle (looking like the EAB sample we gave) during your biosurveillance, please call or email me right away (contact information below). If EAB is found, it is essential we learn about it as soon as possible.

Thank you for your assistance!

For more information, see
www.cerceris.info or www.maine.gov/cerceris

If you have questions or concerns, please contact me:

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