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## **Citizen Scientists Fight Killer Beetle**

They're small. But they're hungry, and they're marching across New York State and the Northeast leaving a swath of devastated viburnum shrubs in their path.

Fortunately, researchers at Cornell have joined forces with gardeners, youth and other "Citizen Scientists" to help fight this invasive pest, the viburnum leaf beetle.

A small tree or shrub, viburnums flourish throughout the Northeast. Native species grow in old fields and forests, while imported varieties are versatile landscape plants. Some common viburnums include American cranberry bush, arrowwood, Chinese snowball bush, hobblebush, and wayfaringtree.

The viburnum leaf beetle pest first came to New York from Canada in 1996, causing serious damage to plantings in the Rochester area. Originally from Europe, the beetle faces few natural enemies here, and is spreading quickly across central, western and northern New York, as well as the Southern Tier and parts of neighboring states. Eventually, the insect is likely to spread throughout the eastern states and beyond.

The pest's eggs hatch in late April or early May and the larvae feed on the shrub's leaves. "The larvae are voracious eaters, and can completely defoliate the plants," says Dr. Paul Weston, a woody plant pest specialist in Cornell's Department of Entomology. Defoliated viburnums often grow new leaves. "Then later in summer the adults can come back and strip the plants bare again," says Weston, who warns that repeated defoliation over several years can weaken and kill viburnums.

In 2003, Weston teamed up with more than 200 Citizen Scientists from six states and two Canadian provinces. They reported via the project's website where the beetle was active and what species the pest attacked. "I'm thrilled with the involvement we had last year. It was a rousing success," says Weston. "I'm hoping that we'll have even more Citizen Scientists reporting beetle sightings this year."

Citizen Scientists confirmed the presence of the pest in their counties, and identified a new county in Pennsylvania where the pest may have invaded. They also found three more species of viburnums that are susceptible to infestation. Cornell Cooperative Extension staff in the Albany area also beetles in Albany and Rensselaer Counties that hitchhiked in to the area on nursery stock imported from previously infested regions.

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In his lab at Cornell, Weston is researching biological control agents that might help reduce viburnum leaf beetle damage without resorting to pesticides. He's found several insects that prey on viburnum leaf beetles, including a stinkbug, several species of lady beetles, and lacewings. He hopes to evaluate these natural controls in field settings soon.

The most effective means of controlling viburnum leaf beetle is pruning and destroying twigs infested with egglaying sites any time from October through early May, or a carefully timed spray after confirming that larvae are present in early May, says Weston. For more information on identifying beetles and preventing damage, see the project's website at: <u>www.hort.cornell.edu/VLB</u>, where you'll also find information about joining the Citizen Science effort.

"We're excited about this project because it involves ordinary citizens in gathering valuable information that can help keep this pest from ravaging our landscapes," says project coordinator Lori Bushway, a Senior Extension Associate in the Department of Horticulture.

"You don't have to be a horticultural expert to participate," she adds. "Even if you've never heard of this pest before, our website can help you quickly learn to identify it . And if you can order a book online, you have the computer skills you need to use the online forms to report your observations."

"We hope to learn a lot that will help us protect these viburnum species," says Weston. "But just as important, we hope to apply what we learn about this pest to other exotic and invasive pests." With the growth in global trade and travel, such pests will pose even more problems in the future, he adds. One pest, the Asian longhorned beetle, is a grave concern now in the New York City metro area and Long Island.

Bushway plans to work with Citizen Scientists on other projects in the future, including having gardeners share information about the best-performing vegetable varieties and having homeowners report which trees thrive under different environmental conditions.

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