

Reserve your spot today!

We have a limited supply of survey backpacks to loan out across the state. If you know a group of young people who would make great Junior Inspectors, please contact us to order your curriculum and reserve survey backpacks. In order to participate, each group must have a responsible adult leader and internet access.



Email us at invasives@clemson.edu with the following information:

- Leader name(s)
- Phone number and mailing address
- Affiliation / group name
- Number of Junior Inspectors
- Preferred program date(s)



Who we are. What we do.

The Department of Plant Industry, a part of Regulatory Services in Clemson University's Public Service and Agriculture, helps prevent the introduction of new plant pests into South Carolina as well as the spread of existing plant pests to non-infested areas.

Plant pest surveys, inspections, quarantines, control and eradication programs are among the tools used to safeguard the state's agricultural and natural resources.

We strive to engage the public through education and outreach programs. Active civilian participation is key to early detection and rapid response activities.

Visit our website for more information about our programs and to learn how to recognize and report invasive species.

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www.clemson.edu/invasives



A partnership to protect your agricultural & natural resources.

Clemson University

Junior Invasive Inspectors Program



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PUBLIC SERVICE AND AGRICULTURE

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Inspect to protect.

Plants, animals and diseases are introduced to new environments, on purpose and by accident, everyday. Some of these **exotic** or **non-native** species have characteristics that allow them to outcompete or destroy the native species. These animals, insects, plants and/or diseases that threaten our environment and threaten human health are **invasive species**.



Invasive species spread quickly once they are introduced into an area. Monitoring our forests with

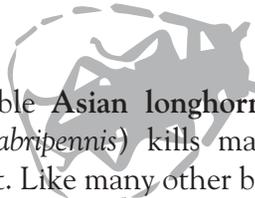
early detection and rapid response programs is the best way to protect our trees from invasive pests. As Junior Inspectors, middle school youth conduct forest pest surveys to assess the health of host trees such as maple, walnut, ash, oak, and beech, and look for signs and symptoms of the target pests.

Junior Inspectors will learn about:

- Invasion biology and pathways of introduction
- Tree and insect identification
- Symptoms of decline and signs of infestation
- Using GPS units to report location data



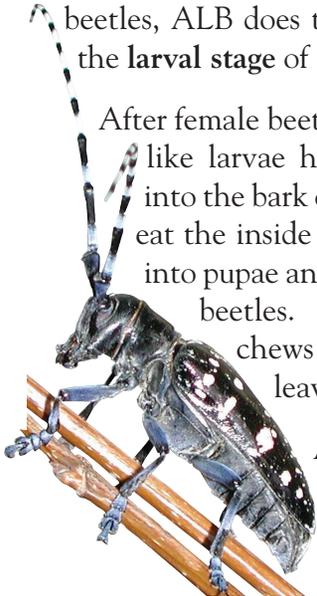
Spot the stripes.



The large and noticeable **Asian longhorned beetle** (*Anoplophora glabripennis*) kills maple trees from the inside out. Like many other bark beetles, ALB does the most damage during the **larval stage** of its life.

After female beetles lay their eggs, worm-like larvae hatch and eat their way into the bark of a host tree. The larvae eat the inside of the tree as they grow into pupae and then mature into adult beetles. The adult ALB then chews its way out of the tree, leaving a **large, oval hole**.

An adult beetle has **black and white striped antennae** that can be longer than its body!



Fungus among us.

Walnut twig beetle (*Pityophthorus juglandis*) is the tiniest beetle Junior Inspectors may find. They may be **smaller than a grain of rice**, but these beetles are still killing walnut trees just next door in North Carolina!



These tiny bark beetles live in the small branches at the tops of walnut trees and carry a deadly fungus. Wherever the beetles crawl around in the bark, the fungus begins to grow into a **canker**, like an infected wound. The infection spreads until the tree dies from **thousand cankers disease**.



A killer family.



Junior Inspectors look for three exotic invasive beetles in the Buprestidae family. All three have similar body shapes and life cycles, resulting in characteristic D-shaped exit holes.



Egg

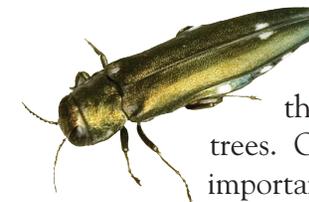


Larva



Adult exiting

Emerald ash borer (*Agrilus glabripennis*) kills ash trees. The shiny green EAB was first detected in Michigan in 2002 and has since spread all the way to Georgia and North Carolina! Look for the metallic green color of the EAB.



Oak Splendor Beetle (*Agrilus biguttatus*) has never been found in the U.S., but it kills oak trees. Oaks are very common and important trees in South Carolina, so we have to watch out for beetles that like to eat them! OSB has two white spots, one on the inside edge of each wing cover.

Gold Spotted Oak Borer (*Agrilus auroguttatus*) is another pest on oak trees. GSOB has only been detected in California, but it can easily move on wood products like lumber and firewood. Look for six gold spots on the GSOB's wing covers.



The silhouettes are the actual size of each pest.