

New Jersey is preparing for an invasion of a tree-killing pest, the Spotted Lanternfly.

This insect attacks as many as 70 different tree and plant species including fruit trees and hardwoods.

Spotted Lanternflies can cause significant damage to trees by feeding on sap. This causes the tree to produce more sap which, along with the bug's own excrement, draws other insects like wasps and ants to feed and promotes mold growth. This can weaken the tree and eventually contribute to its death.

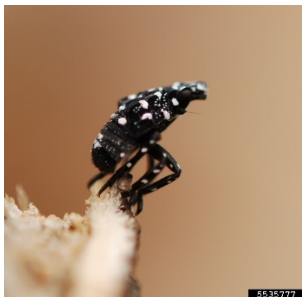
The bug doesn't just feed on trees, but a wide range of plants, including plants in pastures. There have been troubling reports of horses grazing in pastures, ingesting the bug, and depending on the number ingested, sicken or even die.

The Bug

It is native to China, India, and Vietnam and has been found in Japan and South Korea. It was first noticed in the US in Berks county Pa. in September 2014. In March 2017 six counties in eastern Pa. were under quarantine. As of March 2018 thirteen counties were under quarantine. It is spreading fairly quickly. The New Jersey Department of Environmental Protection put out an alert on social media for the insect in October of 2017 for residents to be on the lookout for the Spotted Lanternfly.

Spotted Lanternflies go through 5 stages of growth after hatching from eggs. The first 4 stages, called nymphs, are quite different. The young nymphs are black with bright white spots. The next stages of growth are similar, but the nymphs become larger. The 4th stage of Spotted Lanternflies, prior to adulthood, is vibrantly red with distinct patches of black and equally distinct bright white spots. The adult Spotted Lanternfly is a winged, flying leaf-hopper about 1 inch long. During this final stage of Spotted Lanternfly development, the insect has grey wings with dark black spots. When the Spotted Lanternfly opens its wings, one sees a bright red underwing with black wingtips. In our area eggs can be found from October through May. Nymphs are around from May through September and adults from July through November.

Spotted Lanternfly nymphs and adults cannot survive our winters and survive only as eggs. In late fall, adults will lay egg masses on host trees and nearby smooth surfaces like stone, outdoor furniture, vehicles, and structures. Newly laid egg masses have a grey mud-like covering which can take on a dry cracked appearance over time. Old egg masses appear as rows of 30-50 brownish seed-like deposits in 4-7 columns on the trunk, roughly an inch long.



Nymph Stage 1



Nymph Stage 4



Adult



Adult with nymphs

Egg cases



Adult with eggs and egg case

Some links to pages with descriptions and pictures of Spotted Lanternfly:

<http://forestinvasives.ca/Meet-the-Species/Insects/Spotted-Lanternfly>

<https://www.rodalorganiclife.com/garden/how-to-kill-spotted-lanternfly>

<https://entomologytoday.org/2018/02/26/spotted-lanternfly-states-urge-citizens-report-sightings-invasive-insect-hitchhiker/>

<http://treephilly.org/resources/invasive-pests/spotted-lanternfly/>

The nymphs feed on a wide range of trees and plants, but the adults appear to feed primarily on the *Ailanthus altissima* (Tree of Heaven) although there are reports that it might feed on willow and native wild grape or any smooth barked tree. It is thought that one way to control this pest is to remove most of the *Ailanthus*. Long term this might not work as the bug could adapt to feeding on other tree species. Research is ongoing and hopefully an effective way to control the bug will be found.

The Tree

Ailanthus was imported into the United States in 1784. It was initially valued as an urban street tree and was widely planted in the United States particularly around the Baltimore and Washington D.C. area. From these areas *Ailanthus* has spread and become a serious weed in urban, agricultural, and forested areas.

Ailanthus can reach heights of 80 feet and grow to 3 feet in diameter. The tree has smooth grey bark, stout, blunt, chestnut brown twigs, and a long compound leaf ranging in length from 1-4 feet with as many as 30 leaflets. The leaflets are smooth-edged except for 1-3 teeth near the base. Clusters of twisted papery seeds, called samaras, often hang on the trees over winter. The wood is soft, weak, coarse grained, and creamy white to light brown in color. All parts of the tree, especially the flowers, have a strong, offensive odor. *Ailanthus* is often found growing in clusters as new shoots grow from the roots.

This species is easily confused with some of our native species having compound leaves and many leaflets such as sumac, black walnut, and butternut. The leaf edges of all of these native trees have small teeth while those of *Ailanthus* are smooth. The foul odor produced by the crushed foliage and the scraped bark is also unique to *Ailanthus*.

Some links to pages with descriptions and pictures of *Ailanthus*:

www.missouribotanicalgarden.org/PlantFinder/PlantFinderDetails.aspx?kempercode=a847

<https://www.invasiveplantatlas.org/subject.html?sub=3003>

<https://www.ecolandscaping.org/05/invasive-plants/tree-of-heaven-an-exotic-invasive-plant-fact-sheet/>

<https://www.invasive.org/browse/subthumb.cfm?sub=3003>

What We Can Do

While the Spotted Lanternfly hasn't been found in our area yet, it is only a matter of time. As part of our Arbor Day celebration we would like to get a jump on this bug by identifying all the *Ailanthus* trees in the borough and surrounding area. The Shade Tree Commission is asking residents to let us know if you have seen the tree by emailing the location(s) to ShadeTree@AllentownBoroNJ.net. We will then

add it to our map. This will enable us to monitor them for the bug and also provide us with a readymade list of the trees for remediation if the bug becomes a serious pest in the borough.

You can view the current map of Ailanthus trees in the area by going to <http://allentownboronj.net/tindex.php?p=Ailanthus>.

If you think you've seen or collected a Spotted Lanternfly please report it to the New Jersey Department of Agriculture and the Department of Entomology at the Rutgers School of Environmental and Biological Sciences by emailing slf-plantindustry@ag.nj.gov and slanternfly@njaes.rutgers.edu and copy ShadeTree@AllentownBoroNJ.net . If possible, send a photo with the email.