PHOTO CREDIT: ERIC R. DAY, BUGWOOD

The Spotted Lanternfly

BAY NOLAND-ARMSTRONG

The spotted lanternfly (Lycorma delicatula) is a plant hopper insect that is native to Asia and is thought to have been introduced to the United States in 2014. It feeds on the sap of a wide range of plants including grapes, fruit trees, and hardwoods, but the preferred host tree for adult lanternfly's are the invasive —and prevalent— tree-of-heaven (Ailanthus altissima). The abundance of these trees in the United States allows for this insect to easily proliferate.

Young lanternflies are small, flightless, and black with white spots. It is most common to see young lanternflies in the spring and summer, turning red with white spots before reaching adulthood in the fall. Adult spotted lanternflies are about an inch long and are capable of flight with their unique grey forewings and bright red hindwings, both of which are dotted with black spots.

During the fall, female lanternflies lay their eggs on any hard surface they can find, whether that be on tree trunks, firewood, rocks, vehicles, outdoor furniture, fences, etc. After laying a cluster of 1-inch long egg cases that look like seeds, the female covers them with a grey putty-like substance that dries to resemble cracked mud.

As Lanternflies eat, they secrete a sugary-sticky residue called honeydew. This honeydew may attract wasps, ants and other insects. It can also build up on surrounding surfaces and promote the growth of a black sooty mold.

Since first being found in Pennsylvania in 2014, the spotted lanternfly has spread to 18 states. The first confirmed sighting of a spotted lanternfly in Georgia was found this October in Fulton County and confirmed by the Georgia Department of Agriculture (GDA) in November. It is unknown at this point if this was just a stowaway from another infected state or if there is an established population in Georgia. Either way, lanternflies' feeding habits pose a serious threat to Georgia's natural ecosystem and agriculture industry.

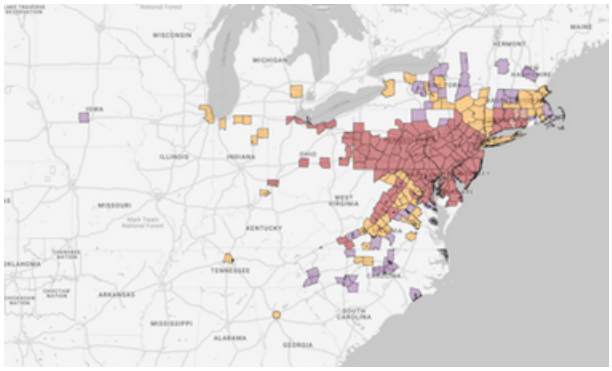
PHOTO CREDIT: (TOP RIGHT AND LEFT AND BOTTOM RIGHT): LAWRENCE BARRINGER, BUGWOOD

PHOTO CREDIT (BOTTOM LEFT): RICHARD GARDNER, BUGWOOD

PHOTO CREDIT (LEFT): RICHARD GARDNER, BUGWOOD
PHOTO CREDIT (TOP RIGHT, MIDDLE RIGHT): LAWRENCE BARRINGER, BUGWOOD
PHOTO CREDIT (BOTTOM RIGHT): KENNETH R. LAW, BUGWOOD

As far as predators go, Spotted Lanternflies' native predators are not present in North America, however numerous species of birds, chickens, praying mantises, and wasps have been found consuming them, which could prove beneficial for their control.

It is important to know what to do if you encounter a Spotted lanternfly: take a picture of it, kill it, and then report it to the GDA using this link: https://www.gainvasives.org/slf/report/ .



CURRENT DISTRIBUTION OF SPOTTED LANTERNFLY WITHIN THE USA BY COUNTY (CORNELL, NEW YORK STATE INTEGRATED PEST MANAGEMENT)

It is essential that any and all sightings are reported immediately after discovery and that the insects or egg cases are squashed.

To further prevent the spread of this pest, regularly inspect plants and trees for signs of them, and if you are traveling from any infected states check your clothes, shoes, and vehicles to prevent moving the pest. Other hard items that spend time outdoors like firewood, bricks, and trailers should also be inspected thoroughly for eggs. Consider inspecting any tree-of-heaven trees you see as they are the most likely place to find lanternflies.

PHOTO CREDIT (LEFT): EMELIE SWACKHAMER, BUGWOOD
PHOTO CREDIT (RIGHT): KENNETH R. LAW, BUGWOOD

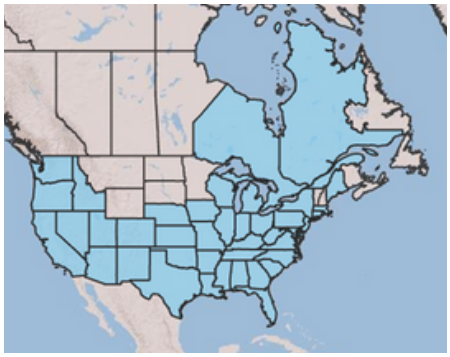
Tree-of-Heaven

IMIR ROBINSON

PHOTO CREDIT: ERIC R. DAY, BUGWOOD

Ailanthus altissima, commonly known as the tree-of-heaven, is a fast-growing deciduous tree native to China that matures at a height of 60 to 80 feet. Its compound leaves feature 10-40 lance-shaped leaflets, each with a distinctive gland at the base. When crushed, the leaflets and twigs emit a foul odor. Tree-of-heaven closely resembles native species like sumacs and black walnut trees, but the glands and its strong odor help distinguish it from these look-alikes.

Introduced to the northeastern United States in the early 1800s and to the West Coast by the mid-1800s, tree-of-heaven became a popular ornamental shade tree due to its high tolerance for drought, pollution, and poor soil quality. This widespread use persisted until the early 1900s.



USDA PLANTS DATABASE: TREE-OF-HEAVEN DISTRIBUTION

Unfortunately, the tree-of-heaven's adaptability, rapid growth, and competitive nature have contributed to its widespread presence across the United States. It is now found in 43 states, including Georgia.

Tree-of-heaven forms large clonal stands and spreads aggressively in disturbed forests, fields, and along roadsides. A single female tree can produce over 325,000 seeds annually. These seeds are contained within winged samaras—think helicopter seeds—that are easily dispersed by wind and rain over long distances.

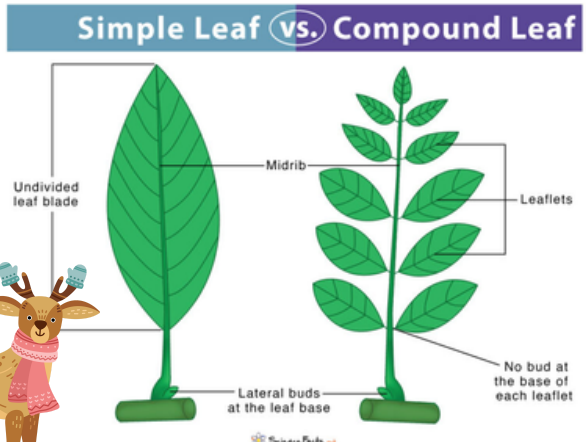


PHOTO CREDIT: ERIC R. DAY, BUGWOOD

PHOTO CREDIT: ANNEMARIE SMITH, BUGWOOD

Tree-of-heaven can spread even without producing seeds. It sends up root suckers at significant distances from the parent tree and readily produces stump and root sprouts when injured. This capability allows it to aggressively outcompete neighboring plants. Adding to its competitive edge, tree-of-heaven is allelopathic, meaning it releases chemicals, such as ailanthone, that inhibit the growth of nearby plants.

Tree-of-heaven poses significant threats to both built and natural environments. Its aggressive root system can damage sewer lines, sidewalks, and building foundations. In natural ecosystems, its ability to outcompete native plants jeopardizes biodiversity. These issues are further compounded by its status as the preferred host for invasive species like the spotted lanternfly.

One strategy to prevent the establishment of spotted lanternflies is to remove tree-of-heaven—but this is far easier said than done.

To effectively control tree-of-heaven, treatments targeting the root system with a systemic herbicide should be conducted from late summer through fall, during the period when the tree is actively transporting nutrients to its roots. Herbicides can be applied directly to the bark using a basal bark treatment or through small cuts along the stem in a process known as the "hack-and-squirt" method. A follow-up treatment in the second year may be necessary to ensure complete control.

Want to learn more? Penn State Extension offers excellent resources on managing tree-of-heaven. Check it out here: Penn State Extension – Tree-of-Heaven

PHOTO CREDIT: DAVID J. MOORHEAD, BUGWOOD

FOR SOURCES AND TO LEARN MORE CLICK HERE