

The Spotted Lanternfly (*Lycorma delicatula*) is an invasive insect native to China, India, and other parts of Southeast Asia. It was first found in the U.S. in Berks County, PA in 2014, in a shipment of landscape stone. It is now well-established in Readington Township. Hunterdon County is one of eight NJ counties under quarantine for the lanternfly in 2020, and within quarantine zones, there is no need to report sightings of this insect to state agencies. The quarantine of Hunterdon County means people should check their cars, RVs, as well anything being moved, like patio furniture, firewood, and lawn equipment before leaving the quarantine zone. Hitchhiking by the Spotted Lanternfly (SLF) is the primary means of moving it to new locations.

The concern for this insect is that the number of plant species on which it feeds is enormous – 70 species or more. Yet, as of 2020, there is little evidence that SLF is a tree killer. The exceptions are grape vines, hops, and perhaps some fruit trees. Vines are a favorite, including poison ivy. The SLF is harmless to people and does not intentionally enter houses.

The SLF is not a fly but a planthopper, which leaps so quickly and far that they are hard to catch. It is also known as a fantastic hitchhiker because of its ability to hold onto many surfaces and is easily transported at any stage in its life cycle by cars, trucks, and almost anything else that can be moved.

Spotted Lanternfly has four stages of its life cycle: four nymphal stages (ie., instars) and one adult stage. In the first three nymphal stages, which begin when the eggs hatch in about May, the insect is about the size of a deer tick and is a pretty black and white. These nymphs will feed on the sap (phloem) of almost any plant, particularly if it is succulent: new twigs on trees, stems of garden plants, and young vines. The fourth instar is a striking bright red, with black and white spots, with developed wings, and is larger than the first three stages. More than one stage can be present as they develop from spring into early summer.

Adults appear in about July, developing into August, and are about as big as the end of a thumb. Their wings are a faded pink with black spots. When they hop or when they're killed, their wings spread and reveal bright red bands on the hind set of wings.

All four stages have sucking mouthparts, and feed on the woody parts of plants rather than the fruit or leaves, sucking out the sugary sap. The adults suck so much sap that they excrete large volumes of sugary substance called "honeydew." A tree with a heavy SLF infestation can produce a substantial, audible honeydew "rain" onto plants and objects below.

As the honeydew falls on leaves and plants below, they become very shiny and sticky, attracting a fungus delightfully called Black Sooty Mold that blocks photosynthesis and can therefore kill those plants. Steps, walks and patios can become dangerously slippery. The honeydew also attracts stinging insects that love the sugary substance.

As adults, the SLF seems to narrow its feeding preferences. The Tree of Heaven, or *Ailanthus altissima*, is the main host. Both tree and insect come from the same parts of Asia. *Ailanthus* trees are characteristic of disturbed sites, such as along highways, in dumps, and on abandoned farms.

They lay eggs from about September into early winter on any smooth surface, such as tree bark and rocks, but including man-made items like vehicles, yard furniture, farm equipment, or stored boats. Egg masses have up to 50 eggs laid in rows under a waxy coating that, especially as it dries, makes it difficult to detect.

Killing the SLFs at any stage of their life cycle is always recommended. Several approaches are commonly used:

(1) Scraping egg masses off surfaces and disposing of them. This is unlikely to make a difference in the population.

(2) Placing yellow sticky bands around tree stems to catch the nymphs as they go up and down the tree. The problem with this is that the adults don't stick as well, and also what is called 'by-catch': the birds, squirrels and beneficial critters that get caught and killed.

(3) Spraying pesticides on an entire home landscape. This can also kill most if not all beneficial insects along with the SLFs. The SLF is also highly mobile and usually extremely numerous, and will often appear again shortly after treatment.

(4) Monitoring and treating only certain plants at certain times in a true Integrated Pest Management approach. This is promising, but expensive, requiring at least weekly inspections and treatments throughout the growing season.

(5) The 'trap tree' approach, in which all *Ailanthus* female trees (the ones with orange-ish flowers in August) and most male trees are cut down and the stumps treated with herbicide to prevent the aggressive re-sprouting the tree is known for. The remaining *Ailanthus* trees are treated with a systemic pesticide (most commonly Dinotefuran). As the adult SLFs feed on this tree, they die, and continue to do so throughout the rest of the season. It is an effective treatment, but only on treated trees. It is not likely to reduce the population of SLF significantly, especially if the SLF can substitute other tree species in its life cycle.

(6) Employing natural biocontrols: some show promise, specifically two native fungi, that might someday help control the SLF population, but they are not currently in common use. Entomologists are investigating predatory insects from the native range of the SLF, but their introduction in the U.S. is likely to be years away.

To sum up, the Spotted Lanternfly is an unpleasant pest to have around your property, but, with notable exceptions, is more a nuisance than a threat to the life of your trees and landscape plants.



Later Nymph Stage



Full Adult

