

## Spotting Lanternflies

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I am all for bright and cheery Chinese lanterns, which as far as I know are harmless. The spotted lanternfly (SLF), which hails from China, is also bold and colorful, but causes significant harm. They are spreading faster than expected. For example, New York State went from zero SLF reported in 2017 to having eight counties report SLF in 2018, sometimes with hundreds of lanternflies found at a single site. It is a good bet that SLF will show up in southern Ontario and Quebec within the next few years.

Spotted lanternflies were first discovered in North America in September 2014 in Pennsylvania. Apparently they arrived on a shipment of stone from China. If we had only known the Keystone State was that short on rocks, I bet a lot of us would have sent some down there and saved all this grief.

If only it were a laughing matter. The spotted lanternfly is a significant pest of numerous hardwood tree species, especially maples and walnuts. It also loves grapes, all tree fruits, and many herbaceous plants. Should it become established in Canada, it would be a serious threat to maple producers and others.

Prolific breeders, SLF females produce gray, flattened egg masses. These foam-like blobs are likely how they stowed away on pallets of stone. The juveniles or nymphs look nothing like the adults. Black with white spots, they molt several times before maturing, becoming red in the last phase of their “childhood.”

Its name can be confusing since it’s called a fly, and the adult resembles a moth. Yet it’s neither – it is a hemiptera, related to walking-stick bugs and leafhoppers. Like all hemipteras, spotted lanternflies have piercing mouthparts, and they use these to great effect draining sap from plant tissue.

While some of the worst invasive pests such as Asian longhorned beetles and emerald ash borers have harmless native look-alikes, SLF is impossible to confuse any other insects. Here is a USDA description: “Adults are about an inch long by a half inch wide, with large, visually striking wings. Forewings are light brown with black spots in front and a speckled band at the rear. Hind wings are scarlet with black spots in front and white and black bars at the rear. Abdomen is yellow with black bars.”

If you’ve heard of tree-of-heaven or *Ailanthus* you know it’s an invasive weed-tree from Asia, one so pernicious that it makes boxelder look desirable. Unfortunately for us, lanternflies attack *Ailanthus* before any other species. I say unfortunately because SLF will feed on a tremendous range of hosts when it runs out of its favorite food. Since at the moment, *Ailanthus* is not known to grow in Canada outside of Toronto and a few other urban centers, the lanternfly would move right to desirable species without first showing up on tree-of-heaven.

Where *Ailanthus* does occur, it serves as an early-warning device since that’s where SLF will appear first. In addition, it is possible to use those trees to fight SLF. Infested *Ailanthus* are being treated with systemic insecticides that kill SLF that come to feed on it. If we do see an SLF infestation here, maples and fruit trees will be most at risk.

Penn State entomologists have taken the lead in researching SLF, and are working in conjunction with the US Department of Agriculture, and the Pennsylvania Department of Agriculture. Among other things, they want to identify its natural enemies such as predators, parasitoids and diseases. A parasitic wasp from China already holds promise as a natural SLF control agent, but needs to be thoroughly studied to be sure it does not pose a risk to beneficial native insects. Its release here is a long way off, possibly over a decade.

One bright spot is that two naturally occurring soil fungi are able to kill SLF under certain site conditions. *Batkoa major* is the more deadly, and a species in the genus *Beauvaria* also causes some mortality. Naturally there’s a great deal of research underway regarding these two organisms, so stay

tuned.

Without any effective controls on the horizon, we need to keep SLF out. It doesn't fly far, but its egg masses can be easily and inadvertently moved long distances. The female finds rusty metal a desirable egg-laying substrate, which makes its transport on the undersides of trucks, cars, and RVs all the more likely. Eggs are laid well into the late fall, and while the masses are shiny when fresh, over time they become more textured and harder to see.

The adults are also good hitchhikers, as they like to congregate on motor vehicles. Plus, later in the season they shelter, and will nestle into nooks and crannies of all sorts. A number of tractor-trailer loads of Christmas trees shipped to Rochester, NY turned out to be fraught with live SLF adults. One of the fears is that late-season adult SLF hitchhikers could well be mated females full of eggs.

Visitors to quarantined parts of Pennsylvania, New Jersey, Maryland or Virginia between June and December should thoroughly inspect their vehicles as well as any items they may have picked up or bought while away.

For up-to-date information on the spotted lanternfly, go to:

<https://nysipm.cornell.edu/environment/invasive-species-exotic-pests/spotted-lanternfly/>

If you think you may have found spotted lanternfly, contact the CFIA Plant Health Surveillance Unit at <http://www.inspection.gc.ca/plants/plant-pests-invasive-species/plant-pestsurveillance/eng/1344466499681/1344466638872>

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