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Spotted Lanternfly, *Lycorma delicatula* (White) (Hemiptera: Fulgoridae)

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Origin & Distribution

Spotted lanternfly (SLF; Figs. 1 & 2) was first detected in Virginia in 2018. SLF is native to China and is also found in India, Japan, Korea, and Vietnam. Researchers believe SLF likely arrived from Asia through commercial trade, possibly two years earlier than when it was first detected. SLF continues to spread through Virginia and the eastern U.S. It is highly invasive and can spread rapidly when introduced into new areas. The invasiveness of SLF is attributed to its wide host plant range and a lack of natural enemies in invaded areas.

Figure 1. Adult spotted lanternfly (D. Pfeiffer, Virginia Tech).

Figure 2. Spotted lanternfly (Lawrence Barringer, Pennsylvania Dept. of Agric., Bugwood.org).

Reporting SLF

There is no need to report spotted lanternfly in Virginia if you find it in a location already known to be infested. If your location isn't marked on the map, please contact your local Virginia Cooperative Extension office to report your sighting of SLF.

Description

First through third stage nymphs are wingless and black, with white spots on the body and legs (Fig. 3). The fourth and last nymphal stage develops bright red patches over the body but still has black legs and white spots (Fig. 4).

Figure 3. Young spotted lanternfly nymphs (Ansel Oommen, Bugwood.org).

Figure 4. A mature spotted lanternfly nymph Lawrence Barringer, Pennsylvania Dept. of Agric., Bugwood.org).

Adult SLF are approximately 1 inch (2.54 cm) long and 0.5 inch (1.27 cm) wide (Figs. 1 & 2). The legs and head are black. Unfed adults have small, dark abdomens. After feeding, the adult abdomen is yellow with broad, black bands. The forewings are light gray with black spots, while the wingtips have a reticulated pattern of black rectangular blocks outlined in gray (Figs. 1 & 2). The hind wings are banded white and black with black spots on a bright red patch (Fig. 1). At rest, adult SLF hold their forewings tented over the body (Fig. 2). The wings may appear pinkish due to the red on the hindwings showing through the lighter forewings.

SLF egg masses (Figs. 5 & 6) measure about 1-1.5 inches (2.5-3.8 cm) long and 0.5-0.75 inch (1.3-1.9 cm) wide. Newly laid egg masses have a shiny gray, waxy protective coating (Fig. 5). Older egg masses can lose this protective coating, exposing the seed-like eggs (Fig. 6). Egg masses contain 30-50 grayish-brown eggs laid end to end in four to seven vertical columns (Fig. 6).

Figure 5. Freshly laid spotted lanternfly egg masses (Pennsylvania Dept. of Agriculture, Bugwood.org).

Life Cycle

SLF has a single generation each year and overwinters in the egg masses. Eggs hatch in late April and early May. Nymphs progress through four instars before adults appear in July. Adults are abundant in August and begin laying eggs in September. Egg laying continues through November until the onset of cold temperatures kills any surviving adults. Egg masses can survive cold temperatures below 0°F.

Figure 6. Spotted lanternfly egg masses (Emelie Swackhamer, Penn State University, Bugwood.org).

Signs and Symptoms

Newly emerged nymphs disperse from egg masses and feed on a wide range of plant species. Nymphs are most often observed on leaves and branches of host plants. Look for nymphs on smaller plants and vines during the summer (Fig. 3). Nymphs are active and easily jump several feet to avoid capture.

Nymphs and adults typically gather in large numbers on host plants (Figs. 3 & 7). While they may become especially active at dusk or night as they migrate up and down the trunk of the plant, they are often conspicuous in midday as well. Adult SLF are found on tree trunks, stems, and sometimes near leaf litter at the tree base. Although winged, adults are better jumpers than flyers, and they prefer to move up trees by walking. Adults favor feeding on tree-of-heaven (TOH, *Ailanthus altissima*) and grapevine (*Vitis vinifera*). In the fall, adult SLF focus on TOH as a host for feeding and egg laying,

although females will lay eggs on other trees (Fig. 5) or on any smooth vertical surface, natural or man-made.

Look for adults starting in mid-July. Mating and oviposition can be observed from evening to night from mid-September to November. Look for egg masses on tree trunks, fences, rocks, lawn furniture, storage sheds, and other smooth surfaces from October to early spring. Egg masses have been found on the lower side of large branches, many feet up the main trunk of a tree.

Figure 7. Spotted lanternflies on a tree (Louise Bugbee, USDA APHIS PPQ, Bugwood.org).

SLF is a phloem feeder, sucking sap from trunks, stems, and leaf petioles. Heavy feeding can cause wilting of leaves and young branches. Reduced photosynthesis due to SLF feeding weakens the plant and leads to branch dieback, thinning crowns, and, eventually, host plant mortality. Heavy feeding can also cause the plant to weep or ooze sap, which ferments and produces a disagreeable odor. Oozing sap will leave a wet, grayish-black trail down the trunk.

SLF excretes large volumes of honeydew, a sugar-rich fluid that covers plants and the ground underneath infested plants. Fresh honeydew often attracts other sugar-seeking insects such as yellow jackets, hornets, bees, ants, and flies. Honeydew supports the growth of sooty mold that covers leaves and blocks photosynthesis, weakening the plant and leading to its death. Blackened soil and even patches of yellowish-white mold can form at the base of an infested tree. Fermented honeydew has a sour, vinegary smell.

Quarantine & Status

The Virginia Spotted Lanternfly Quarantine was repealed in March 2025. However, some states still maintain spotted lanternfly quarantines and require businesses shipping from Virginia to have a valid spotted lanternfly permit. Existing Virginia permits are no longer valid now that the quarantine was repealed, but valid permits can be obtained through Pennsylvania's Spotted Lanternfly Permit Training for Businesses Program. Contact the Plant Industry Services at the Virginia Department of Agriculture and Consumer Services for more information.

Management of SLF

Removal and destruction of SLF egg masses and tree banding might reduce nymphal populations, but these methods are not likely to eradicate SLF. For chemical recommendations against SLF around the home, consult the current Pest Management Guide for Home Grounds and Animals.

Special precautions should be taken to avoid spreading SLF egg masses into other areas. Check any lawn furniture, grills, playground equipment, storage containers, and landscaping materials for egg masses before moving these items outside of infested areas. Remove and destroy any egg masses found.

Management of TOH is important to limiting populations of SLF, but it must be approached carefully because TOH will resprout heavily if it is simply mowed or cut down. Consult your local Virginia Cooperative Extension office for information on effective management options for removing TOH.

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