Have you seen me?

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Figure 1. Spotted lanternfly

I am the **Spotted Lanternfly (*Lycorma delicatula*)**. I originated in Asia but I am now travelling in North America.

Now that we hopefully got your attention, the Canadian Food Inspection Agency (CFIA), we would like your help. We are calling on all nature observers to keep an eye out for this serious pest in Canada. It has been recognised as a potential threat to the grape, fruit tree and forestry industries in Canada. It was first detected in North America in Pennsylvania in September 2014 and has been slowly spreading in the US ever since. It may cross the US border into southern Canada soon. As it is not known to exist in Canada, spotted lanternfly was added to the regulated pest list in 2018 in an effort to prevent the introduction from infested areas. With your help we can manage the pest before it takes hold, making our efforts more likely to succeed and less costly.

Spotted lanternfly can be distinguished from all other native and naturalized insects (such as planthoppers and moths) in Canada by its unique colouration. It is commonly found on tree-of-heaven, an introduced plant in Canada. If you believe you have observed this species, please tag CFIA in the comments of your observation in iNaturalist using @cfia-acia or directly contact the Canadian Food Inspection Agency @ Canadian Food Inspection Agency / Agence canadienne d'inspection des aliments

Identification hints:

Adults are approximately 25 mm long and 12 mm wide. They have uniquely-coloured wings: the front

Figure 2. Spotted Lanternfly adult; Pinned with wings spread (Figure 1 and 2 pictures by D.G. Holden, CFIA).

wings are light brown/grey with black spots at the front and dark speckled bands near the back. The rear wings are red in colour and have black spots near the front and white and black bands at the back. (Figure 1 and 2)

Early stage nymphs are black with white spots. As the nymphs mature, they change colour, resulting in a characteristic red, black, and white-spotted pattern on later-stage nymphs (Figures 3 and 4).

Figure 3. Early-stage spotted lanternfly nymph (picture by Ekkehard Wachmann, used with permission)

Figure 4. Late-stage spotted lanternfly nymph (picture by itchydogimages, used with permission)

Newly laid egg masses are brown in colour and are covered in a grey, waxy coating (Figure 5). Older egg masses lose the coating, and look like seeds arranged in 4 to 7 vertical rows (Figure 6). Egg masses are approximately 25 mm long (Figure 5 and 6).

Figure 5. Newly laid spotted lanternfly egg mass (picture by Holly Raguza, Pennsylvania Department of Agriculture, Bugwood.org)

Figure 6. An old spotted lanternfly egg mass (picture by Lawrence Barringer, Pennsylvania Department of Agriculture, Bugwood.org)

Food Plants

The spotted lanternfly feeds on various plants throughout its development. Nymphs feed on a wide range of plant species, while adults prefer to feed and lay eggs on the introduced tree-of-heaven (*Ailanthus altissima*), also known as Chinese sumac or stinking sumac. Tree-of-heaven seems to be favoured so keep a closer watch on these trees. Other hosts include grape (*Vitis*), apples (*Malus*), plums (*Prunus domestica*), cherries (*P. avium*), peaches and nectarines (*P. persica*), apricots (*P. armeniaca*), and pine (*Pinus*). It also feeds on oak (*Quercus*), walnut (*Juglans*), and poplar (*Populus*). In Pennsylvania, adult spotted lanternflies have been found feeding and laying eggs on willow (*Salix*), maple (*Acer*), poplar (*Populus*), sycamore (*Platanus*), as well as on fruit trees, such as plum, cherry, and peach. In addition, they have been found on tulip tree (*Liriodendron*) and cork-tree (*Phellodendron*).

Location of Infestation Within Tree

Eggs are laid on smooth food plant and non-plant surfaces adjacent to food plants, such as bricks, stones, lawn furniture, vehicles and other structures. Eggs hatch in spring or early summer, and nymphs then disperse from their hatching site in search of a host. Feeding is communal, and the honeydew that the insects excrete can attract other insects such as bees and wasps. Adults develop in late July and focus their feeding on tree-of-heaven and grapevine (*Vitis vinifera*). Both nymphs and adults feed by sucking sap from young stems and leaves.

Nymphs and adults tend to congregate in large numbers on the host plant, either at the base of the tree or in the canopy. They are easiest to locate at dawn and dusk when they are migrating up and down the tree.

Distribution

The spotted lanternfly is native to China, India, Japan, Vietnam, and has been introduced to Korea where it is considered a pest. Reports in North America include the states of Pennsylvania, Connecticut, Delaware, Maryland, New Jersey, New York, Ohio, Virginia and West Virginia. It can disperse short distances through walking or flying, and it can be moved long distances through human-assisted transport of all life stages, especially egg masses.

Signs and Symptoms

Adults and nymphs feed on sap that they suck from leaves and stems of host plants. This causes sap to excrete from wounds ('weeping' wounds), which appear grey or black and can occur along the stems, branches or trunk of the tree (Figure 7). Weeping wounds are also caused by debris (frass) and honeydew build-up from the spotted lanternfly. This can attract other insects to feed on the tree. The spotted lanternfly was first discovered in Pennsylvania because of bees that had been attracted to the honeydew. These fluids can prompt fungal growth and lead to mould patches occurring at the base of the tree which may give off a fermented odour and cause the eventual death of the plant (Figure 8). Mould patches are yellowish-white in colour.

Figure 7. A weeping wound caused by spotted lanternfly feeding (picture courtesy of Lawrence Barringer, Pennsylvania Department of Agriculture, Bugwood.org)

Figure 8. A mould patch caused by spotted lanternfly feeding (picture courtesy of Lawrence Barringer, Pennsylvania Department of Agriculture, Bugwood.org)

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