

Lilac/Ash Borer*Order:*

Lepidoptera (butterflies and moths)

Family:

Sesiidae (clearwing moths)

Metamorphosis:

Complete

(egg-larva-pupa-adult)

Mouthparts:

Chewing in larvae and

siphoning in adults



Figure 1. Adult lilac/ash borers.

Lilac/Ash Borer, *Podesesia syringae* (Harris)**Management of Hardwood Borers of Trunks and Large Branches**

Jay D. Donahue and Michael J. Brewer¹

These insects can cause die-back of affected stems, or can weaken them so that they break off. The larvae chew into the branches and bore tunnels several inches long, feeding on the phloem tissues. Mated lilac/ash borer females lay eggs on the bark of lilac, ash and privet. Stressed and freshly pruned plants are most susceptible to attack.

Other clearwing moths, the metallic woodboring beetles/flathead borers, and the longhorned beetles/roundheaded borers, also commonly attack ornamental trees and shrubs, including poplar, willow, birch, apple, cherry, plum, rose, raspberry, currant, gooseberry, locust, and some coniferous trees. Generally, these borers are similar to lilac/ash borer in their damage and preferences for stressed plants and control.

Body Form

Egg: Eggs are laid on the bark of host plants, usually near wounds, and are unlikely to be noticed. The eggs are flattened and tan colored, measuring about 1/25 of an inch.

Larva: Caterpillars are cream colored with brown heads. They are about 3/4 of an inch long when mature. They live in tunnels inside the branches, which are about 3 inches long and about 1/4 inch wide when the larvae are mature.

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Adult: The moths look somewhat like wasps. The blackish fore wings are transparent between the veins and have a brown fringe of hair. The hind wings are transparent with yellowish veins. Their bodies are brown with yellow bands, and the wingspan is about 1 1/4 inch.

Life History

Adult lilac/ash borers emerge from the host from about late April to late June. The pupal skin is pulled part way out of the emergence hole by the emerging adult. After mating, the females lay eggs on the host's bark, preferring to lay them near fresh wounds or cracks in the bark. The lilac/ash borer's host plants are lilac, ash and privet. Poplars, currants, gooseberries, and raspberries are host plants of

other clear-wing moths.

After hatching, the larvae bore into the stems in lilac and privet and trunks and larger branches in ash, excavating tunnels and feeding throughout the summer. The borers spend the winter in the tunnels as

mature larvae. They complete their development in the spring.

Plant Injury

Infested stems and branches often wilt or die back. These stems are weakened and may break or, if they survive, become gnarled. Sawdust can usually be found below the tunnel's exit holes or at the base of the plant. Ash trunks are infested and young trees may die from the feeding of only one larva if the entire trunk is girdled.

Management

In most cases healthy lilac and ash plants are able to withstand minor infestations by lilac borers without loss of fitness. Plants under high stress are most likely to be attacked and to suffer damage by this insect. Choosing a site favorable to plant vigor will reduce attack. Increasing plant vigor by proper irrigation and fertilization also reduces damage caused by the borer. Cutting flowers may attract borers, but in general, the healthiest lilac plants with the best flowers are also the least likely to become infested. The proper time for shaping and thinning lilacs should occur after seeds have set, which avoids borer adults.

Wounds caused by lawn mowers or weed cutters attract the adult moths to ash trees. Once the larvae have tunneled into the wood, insecticide sprays will not be effective. Insecticides with systemic activity (those chemicals which move through the plant's conductive tissue) are less likely to be effective on lilac/ash borers and other hardwood borers, than on insects feeding on new growth.



Figure 2. Cross section of a lilac branch, showing tunnel made by lilac/ash borer.

Clearwing borer pheromone lures can be used to determine the specific time adults are flying in late spring and early summer. Insecticides should be sprayed on the trunks one week after the first moths are detected, and again one month after the first application, if many moths continue to be detected. These insecticide applications will minimize the number of eggs laid on previously infested, susceptible, plants and kill newly emerging larvae. Currently, “protectant” insecticides, such as chlorpyrifos or the pyrethroids, are available to the home owner for use against the lilac/ash borer and other hardwood borers. These products should be sprayed onto the trunk and larger branches until run-off.

Besides lilac/ash borer, other clearwing moths, metallic woodboring beetles/flat-head borers, and longhorned beetles/roundheaded borers may cause damage to ornamental trees in our area by boring into the wood of larger branches and trunks. Affected branches may be partially or entirely girdled through the living tissue, causing lessening health or death. Young trees may be killed in one season if the trunk is girdled. Like lilac/ash borer, other hardwood borers are not easily killed once the larva has penetrated into the plant, so control must be completed when the adult moths or beetles are present and before eggs hatch. Infestation is most likely when host trees or shrubs are stressed or unhealthy; management to improve and sustain plant health



Figure 3. Adult cottonwood borer: a longhorned beetle/roundheaded borer.

will reduce infestation and often allow the plant to tolerate some borer activity. Other management strategies are similar to those of lilac/ash borer, except pheromone traps are not available for beetles.

Sources of further information

Insects that Feed on Colorado Trees and Shrubs (PSIS-4) and *Management Recommendations for Insect Pests of Trees and Shrubs* (PSIS-5), are available from the University of Wyoming Bulletin Room, Merica Hall (phone 307-766-2115).

These guides provide information on the other hardwood borers not covered in this bulletin. Other guides on horticultural pests and their control, including lilac/ash borer, are available from various sources. University of Wyoming or Wyoming Department of Agriculture representatives may help locate literature.

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