

Box Tree Moth

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The box tree moth (*Cydalima perspectalis*) is an invasive species of lepidopteran in North America, native to East Asia. It was initially detected in Toronto, Ontario at the end of 2018. It has since been detected southward in several U.S. states, likely due to the shipment of infested materials. Box tree moth was first found in Europe in Germany during 2006 and within a decade had spread throughout most of the continent. This defoliating pest is most commonly found on boxwood (*Buxus* sp.) but has been reported feeding on evergreen or Japanese spindle (*Euonymus japonicus*) and burning bush (*Euonymus alatus*) among a few other minor hosts.

Description and Life Cycle

Box tree moth caterpillars are predominantly green to pale yellow with white and black striping and spotting along their bodies (Figure 1). Caterpillars spin a silken cocoon within the foliage when they are ready to pupate. The adult moths have two color forms, but most are white with brown coloration along the edges of the wings. A small proportion of moths are mostly brown with just two white spots on the top of the forewings, a characteristic present in both color forms (Figure 2).

Figure 1: Box Tree Moth Caterpillar

Photo credit: Didier Descouens, [Wikimedia](#)



The number of generations per year varies with regional and local climate conditions, but two to five generations are likely throughout North America. Caterpillars overwinter within the plant, and in

Figure 2: Adult box tree moths. Light morph (top) and dark morph (bottom)

Photo credit: Szabolcs Sáfián, University of West Hungary, [Bugwood.org](#)



warmer temperatures, may begin feeding in early to mid-spring. Monitoring has primarily been done in the northern invaded range where there is typically a short diapause (pause in development) between generations and a second flight of adults roughly two months later. Generations may overlap with caterpillar activity earlier and later in the year in southern areas where additional generations are possible.

Damage

Box tree moth caterpillars feed on the underside of foliage. As they mature, caterpillars skeletonize leaves—except for the midrib, which curls and remains on the plant (Figure 3). Severe defoliation can occur within one to two weeks depending on population density. Caterpillars have been reported to feed on bark when foliage is unavailable, which can cause girdling of main stems. Severe defoliation and girdling can lead to plant death. Additionally, caterpillars produce webbing which may bind multiple leaves together and further reduce aesthetics.

Figure 3: Caterpillar feeding damage

Photo credit: Ferenc Lakatos, University of Sopron, Bugwood.org



Control

Traps using sex pheromones can be a useful tool to monitor for pest presence in areas where box tree moth has become established. Effective treatment applications to manage this pest are available, but due to the speed at which severe, irreversible damage can occur, routine monitoring is paramount. Treatment timing is important and should target caterpillars while they are small. Please contact your Bartlett Arborist Representative to learn about management strategies.



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