



Recognizing Box Tree Moth in Virginia

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Introduction

Box tree moth (BTM), *Cydalima perspectalis* (Walker), is a destructive pest of boxwood (*Buxus* spp.). Native to Asia, BTM spread to Europe in 2006 and into Canada in 2018. BTM was found in New York in 2021, Michigan in 2022, and Ohio in 2023. It has not yet been found in Virginia. BTM feeds on all species of *Buxus*. Boxwood is a favored ornamental and a staple evergreen shrub cultivated in the US horticultural trade. This fact sheet was developed to help you identify BTM and some of the insects that could be mistaken for it in Virginia.

Recognizing BTM

Adult BTM has two color forms: one strongly marked with white (Fig. 1) and a less common dark phase (Fig. 2). The adult wingspan measures 40-45 mm (about 1.5-1.75"). Both the white and dark forms have small "comma" or moon-shaped marks on the forewings.



Figure 1. Adult box tree moth (Szabolcs Sáfián, University of West Hungary, Bugwood.org).

Many different caterpillars have stripes on their bodies similar to those found on BTM larvae (Fig. 3), but not many caterpillars feed on boxwood. Any green, black, yellow, and white striped caterpillars defoliating boxwood shrubs should be considered suspicious as possible BTM.



Figure 2. Dark form of the adult box tree moth (Szabolcs Sáfián, University of West Hungary, Bugwood.org).



Figure 3. Caterpillar of box tree moth (cropped from original image by Hauke Koch, CC BY-NC 4.0, 40773138 iNaturalist).

Feeding Damage

Young BTM caterpillars strip the lower leaf tissue of boxwood leaves. As they mature, the caterpillars may remove all the leaf tissue except for the midrib of the leaves, which characteristically curls as it dries out (Fig. 4). BTM caterpillars can quickly defoliate a hedge, and large populations resort to feeding on young twigs and bark when the foliage is gone. This can result in plant dieback as the twigs are girdled, or in death when damage is severe. BTM caterpillars produce abundant, messy silk webbing that collects dead leaves and caterpillar excrement over time.



Figure 4. Box tree moth damage (cropped from original image by Gertraud Seiser, CC BY-NC 4.0, 193171869 iNaturalist).

Boxwood webworm, also known as the boxwood leaftier moth (*Galasa nigrinodis*), is a dingy grayish-brown caterpillar that also ties boxwood foliage together with silk to make a messy shelter. Damage by boxwood webworm is usually limited to the interior of a boxwood shrub and not widespread throughout boxwood plantings. The adult moth is small and reddish brown with large tufts of scales on the legs.

Possible Look Alikes

Adult moths in the genus *Diaphania* may be the closest look alike to the white form of BTM found in Virginia. Both pickleworm (*Diaphania nitidalis*; Fig. 5) and melonworm (*Diaphania hyalinata*; Fig. 6) are tropical moths that migrate northward in the eastern US each year, usually arriving in Virginia in late summer or early fall. Adult pickleworms have yellowish markings with a large splotch on the forewings; the thorax behind the head is solidly brown (Fig. 5) unlike the white phase BTM (Fig. 1).

Adult melonworms have a broad pearly-white triangle spanning both the fore- and hindwings (Fig. 6). They do not have a “comma” shaped mark seen on BTM (Figs. 1 & 2). The adult wingspan of pickleworm measures about 3 cm (about 1”). The wingspan of melonworm is smaller, about 2.5 cm (1”). Both are somewhat smaller than adult BTM. *Diaphania* spp. larvae do not resemble BTM larvae and prefer feeding on cucurbits such as melon, squash, and cucumber.

There are numerous species of dark colored moths found in Virginia that could be mistaken for the dark form of the box tree moth. Suspect dark colored moths should be broadly triangular in shape and

without any bands, stripes, or bold patterns on the wings (Fig. 2). Look for the white “commas” on the forewings as seen on BTM (Fig. 2).



Figure 5. Adult pickleworm moth (*Diaphania nitidalis*) (Natasha Wright, Braman Termite & Pest Elimination, Bugwood.org).



Figure 6. Adult melonworm moth (*Diaphania hyalinata*) (Mark Dreiling, Bugwood.org).

Questions?

For more information, see the VCE publications [Box Tree Moth](#) and [Box Tree Moth in the United States](#). Should you suspect you have seen BTM in Virginia, please contact your local [Cooperative Extension office](#). Photos of the insect and/or damage would be helpful, as would collecting the caterpillars or adults for identification.

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