



NCDA&CS

Plant Industry Division Plant Protection Section

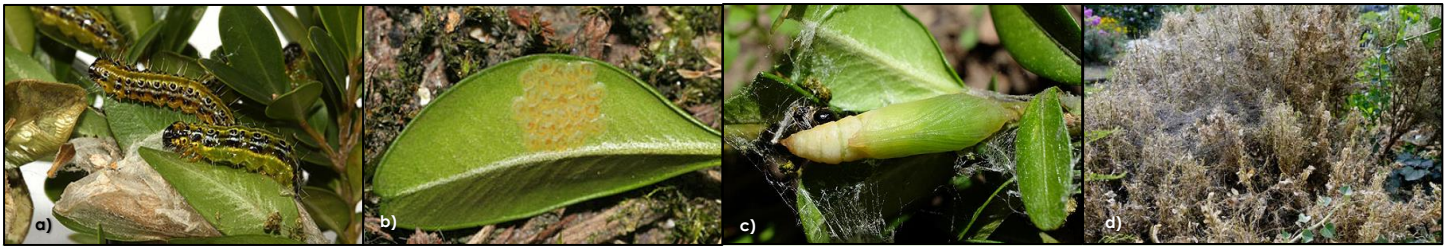
PEST WATCH

Box Tree Moth

Cydalima perspectalis (Walker, 1859)
(Lepidoptera: Crambidae)



Box tree moth (*Cydalima perspectalis*; BTM) is native to Asia and was first detected in North America in Ontario, Canada in 2018. This invasive insect has since been found in the United States in parts of New York, Michigan, Massachusetts, and Ohio. **This pest is not known to occur in North Carolina, but early detection is critical to protect North Carolina landscapes and nurseries.**



Above: Box tree moth adults, actual size (Photo by Cosmin Mancu via shutterstock.com); a) Box tree moth caterpillars and webbing (Photo by Matteo Maspero & Andrea Tantardini, Centro MiRT - Fondazione Minoprio [IT].); b) Eggs laid on underside of leaf (Photo by Walter Schön, www.schmetterling-raupe.de/art/perspectalis.htm); c) Box tree moth pupae removed from protective webbing (Photo by Ilya Mityushev, Department of Plant protection of the Russian State Agrarian University - Moscow Timiryazev Agricultural Academy); d) Feeding damage (Photo by Colette Walter, http://www.lepiforum.de/webbbs/images/forum_2/pic13983.jpg); Adult box tree moths in e) light form & f) dark form (Photos by Szabolcs Sáfián, University of West Hungary, Bugwood.org); g) Adult melonworm moth, a common look-alike of BTM that lacks the white crescent mark on the forewing (Photo by Mark Dreiling, Bugwood.org)

HOSTS:

The box tree moth caterpillar feeds primarily on boxwood species (*Buxus* spp.). Heavy feeding may kill the host plant. It has also been observed feeding on *Euonymus* spp. and orange jessamine (*Murraya paniculata*) in its native range once boxwood in the vicinity are completely defoliated.

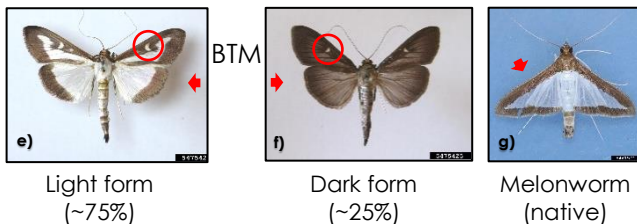
IDENTIFICATION:

Adult box tree moths have a wingspan up to 1.5" and do not fold their wings much when resting. Most adults have white wings and body with a brown margin, though dark forms that are mostly brown may be found. Both can be distinguished from melonworm moths (a native look-alike) by the white crescent mark on their forewing margin.

Caterpillars are green with a black head. They will develop black stripes with white spots as they age and reach up to 1.5" before pupating. Young larvae use webbing to secure themselves between leaves to overwinter.

SIGNS AND SYMPTOMS:

Box tree moth caterpillars chew on the leaves of boxwoods. Early feeding causes "window-paning" on the underside of the leaf before chewing to the midrib and finally the bark. Larvae produce webbing as they feed. Round frass stuck in the webbing can help rule out spider mite feeding. **Box tree moth should be easy to recognize because there are no other pests that defoliate boxwood in North America!** Pale yellow eggs with a fish-scale appearance are laid in clusters on leaves. Pupae surround themselves with silk and develop between host leaves. Leaves stuck together may have a hibernarium hiding a tiny caterpillar through winter. Feeding begins in March and 2-5 generations are possible through late October.



WHAT TO DO:

Collect a specimen: If you suspect you have found Box Tree Moth please collect a specimen and report it to badbug@ncagr.gov. We will assist you with specimen submission.

Take a picture: If you aren't sure if what you're looking at is BTM you can submit a photograph to badbug@ncagr.gov, or contact your local plant pest specialist (see contact information on back).

Report a find: When reporting a potential find to badbug@ncagr.gov, please include the location & date of the find and a size reference (e.g. a quarter) when submitting a photo.

Box Tree Moth Detection



Early Instar Damage



Early Instar Caterpillar



Hibernaculum/ Hibernarium (overwintering caterpillar)



Pupae



Late Instar Damage/Freshly Molted

Photos by Cody LaDuke, New York State Dept. of Agriculture and Markets

NC Department of Agriculture & Consumer Services
Plant Industry Division – Plant Protection Section

For updated information and to locate your regional Plant Pest Specialist, please visit our website at www.ncagr.gov/plantindustry or call (919) 707-3730