



Boxed In

Dan Gilrein, Extension Entomologist, Cornell Cooperative Extension of Suffolk County

With all the talk about boxwood blight recently folks are taking a second, and even third, look at their boxwoods. The good news is that most of what then comes into the Diagnostic Lab here in Riverhead, Long Island is NOT boxwood blight, but it is good to be sure. What we are seeing, however, are other kinds of usually relatively minor or less serious problems that people are now noticing, including insect, mite, disease and cultural or environmental problems. Some are questioning whether to plant boxwoods, given the specter of blight, but it remains popular and common in our landscapes, particularly given its deer resistance. Here is a rundown of some of the insects and mites associated with boxwoods and what might be done about them.

Boxwood leafminer

Boxwood leafminer, a type of fly, is by far the most troublesome insect on many boxwood cultivars. The larvae feed and overwinter within the leaves, emerging as adults around late May. Leaves appear yellowed and blistered. With the widespread use of susceptible varieties, like 'Green Velvet' and 'Green Mountain,' I expect we'll be seeing even more of this in the future, unfortunately, particularly since there are very acceptable resistant varieties available that can usually fill the same niche. Among the *Buxus sempervirens* group, leafminer-resistant cultivars include 'Handsworthiensis,' 'Varder Valley,' (both noted highly resistant), 'Newport Blue,' 'Memorial,' 'Pendula,' 'Pyramidalis,' 'Suffruticosa,' and 'Argenteo-variegata.' *B. microphylla* 'japonica' is also reported resistant and you may know of others from experience. Although boxwoods often tolerate even heavy infestation, at the expense of appearance, leafminers can be controlled by timing foliar applications when the adults are present, starting around 350 GDD₅₀ (late May) using an abamectin product (Avid or generic), imidacloprid material (Merit 2F or generic), TriStar or possibly M-Pede (we have not yet tested M-Pede but one arboretum uses it and results have been good). Aim for thorough coverage into the canopy and under foliage. Timing can be difficult for busy arborists with many properties, so summer



Boxwood leafminer injury view from top. Inset: Adult emerging © Dan Gilrein

foliar applications can be used but are less reliably effective using TriStar or imidacloprid. Unfortunately we found that azadirachtin products (Azatin, Molt-X, AzaGuard, etc.) and Avid have not worked as a summer treatment. Soil applications of imidacloprid can be used in late fall or early spring. We suspect boxwood leafminer infestations are sometimes directly associated with Volutella blight, a common fungal disease of boxwood, but have no proof of that.



Boxwood leafminer view of underside of leaves: comparison of TriStar-treated (at adult emergence) on left vs untreated infested foliage on right © Dan Gilrein

Boxwood mite

Boxwood mite, a kind of spider mite, leaves small, white lines or speckles on foliage. It is very common and most plants have at least a little. Usually damage is minor and doesn't always affect appearance significantly in landscapes, but for nursery plants even small amounts can be objectionable. I know of no studies on resistance to boxwood mite but there does seem to be some variation in susceptibility. The mites overwinter as eggs under leaves; a dormant-stage



Close up of boxwood mite damage © Dan Gilrein

horticultural oil application should clean them up—as with leafminer good coverage is a plus. Other miticides, including horticultural oil, Triact 70, M-Pede, Avid (or generic), Floramite, Shuttle-O, Akari or Sanmite can be used. TetraSan and Hexygon can be used early, before infestations are heavy. Avid is best on tender foliage. Even a

vigorous blast of water will probably knock numbers down in a pinch. Often plants showing damage will have no or few mites present, so check carefully before deciding on whether control is needed.



Boxwood mite damage on 'Winter Gem' boxwood © Dan Gilrein

Boxwood psyllid

Boxwood psyllid, a leafhopper-like insect, causes foliage to become cupped or twisted and stunted.

On 'Suffruticosa' at least, damage to landscape plants can be mild and not often noticed, but some cultivars are more severely affected. The insect overwinters as eggs stuck into buds and the nymphs emerge in mid-spring. The green adults appear



Boxwood psyllid adult © Dan Gilrein

starting late spring. *B. x 'Glencoe'* (Chicagoland Green), *B. microphylla* 'Fiorii,' *B. sempervirens* 'Arborescens,' and the hybrids 'Green Mountain' and 'Green Velvet' are noted partially resistant. *B. microphylla* 'Sunnyside,' *B. sempervirens* 'Suffruticosa,' *B. sinica* var. *insularis* 'Winter Beauty,' and hybrids 'Green Gem' and 'Green Mound' are noted as least preferred. Dormant-stage oil application, when used for other labeled pests, has been



Boxwood psyllid injury © Dan Gilrein

found effective. When nymphs are active foliar applications of TriStar, Merit (or generic), M-Pede, carbaryl, or horticultural oil can be used. Coverage may be difficult in spring, so products with some translaminar (TriStar, Merit) activity may be helpful.

Boxwood webworm (a.k.a boxwood leaf-tier)

Boxwood webworm is also known as boxwood leaf-tier, which describes what it does to boxwoods. From my observations the damage has never been apparent; while investigating disease-related dieback we have sometimes found the caterpillar or its signs among the fallen leaves within the canopy of affected plants. The rust-brown moth is a strange-looking creature, apparently designed for life in the naturally dense growth. It is a native insect and possibly has pachysandra as an alternate host. So far it doesn't appear to be causing any dieback or other noticeable damage.



The boxwood webworm moth (a.k.a boxwood leaf-tier moth) © Jason Dombroskie



Webbing from boxwood webworm. Inset: boxwood webworm larva © Dan Gilrein

Scales

Boxwood is a reported host to several scale insects, most notably oystershell, euonymus and Indian wax scales. The first two are relatively common on other hosts; Indian wax scale has been overwintering in some years now on Long Island and other parts of southeastern NY. However, I have yet to see any of these on boxwoods here. Boxwoods commonly experience dieback and stress from a number of known and unknown causes. Some I have observed include Volutella blight, snow breakage, physical damage from mowers or other activity, lack of or excess water, deep planting, herbicide applied to lower foliage from broadcast spreader turf application, and soil piled on roots from annual plant bed edging.

Editor's note: In addition to the above mentioned problems on boxwood, a disease called boxwood blight is also of concern.