

Tree & Open Space Commission, Newport, Rhode Island *
Information Bulletin #6 April 2012

Be on guard for

Unwanted Tree Insects & Diseases in Newport's Arboretum

By David W. Brown, Daniel T. Christina, and Scott D. Wheeler

We Newporters and our visitors much enjoy our unique treescapes—not just those elegant specimens along our avenues and in our parks, but also the taken-for-granted trees that are comforting features of our homes, neighborhoods, workplaces, daily exercises and errands, and personal memories. But a whole bunch of insects and diseases like our trees just as much, in their own ways. In this bulletin we highlight seven of the pests that bother Newport citizens or worry our arborists most. There are others that could hurt the health or appearance of your trees too.



Some pests are already here and bothersome, but may not harm your trees too much if you've been taking good care of them.

See page 3

But other pests in our neighborhood are serious, and need professional arborist attention.

See pages 4 & 5

And more pests are lurking nearby and could be devastating. If you signs of them, call our Tree Warden at 401-845-5802.

See pages 5 & 6

For some general tips and web links that can help you keep up to speed on tree pests, preventatives and treatments, see page 2.

* Members of the Tree and Open Space Commission are appointed by the Newport City Council to help the Tree and Parks Supervisor (who serves also as Tree Warden) shape policies, provide public information, and conduct special programs, as provided by City Ordinance Chapter 12.36, "Tree and Open Space Preservation and Protection." For more about the Commission, City tree planting programs, and other bulletins in this series, see www.cityofnewport.com >departments>public services>trees. Susan Ruf is the current Commission Chair, and Rob Currier is the Vice Chair. The Tree and Parks Supervisor, Scott Wheeler, can be reached at 401-845-5802 and swheeler@cityofnewport.com. He and the Commission welcome your suggestions for topics that would be useful to address in the future.

Some do's and don'ts about tree pest management...

Do keep an eye on your trees' health throughout the year. Better yet, 1) have a certified arborist monitor them, and 2) have a neighborhood tree watch that alerts everyone to bad pests and affords joint action.

Do pay heed, if you see some signs of unwanted tree visitors, like...

- Leaves with spots, or holes, or white cottony scale underneath
- Dark sticky stuff oozing from tree trunks (beeches especially)
- Holes drilled by insects in tree trunks
- Moths flying around nearby
- Inch worms on the bark
- Dark soot coming down from Lindens and others

But don't panic. Some insects and diseases can indeed be very bad for your trees and maybe Newport's urban forest as a whole. But others make trees ill and create a mess, yet may not be devastating if you provide good soil and moisture conditions that help those trees to rebound.

Do let the Newport Tree Warden know (email swheeler@cityofnewport.com, phone 401-845-5802) if you think you have evidence of a serious pest that has not been seen in Newport before.

Don't dump all sorts of chemicals onto your trees in hopes of keeping pests away. Many do not work. Some harm humans, pets, and beneficial insects. Many have bad residuals that may drain into Newport's harbor, sea surroundings, streams, and drinking water sources. ***Before you act, do study solid information or consult a qualified, environmentally minded specialist.*** Be cautious about sources that are trying to sell something. Try to devise a pest-management program that uses fewer chemicals, is effective, and uses your budget well.

Some useful web links...

www.newporttreesociety.org>[learn](#)>[abouttrees](#) The Newport Tree Society, which has an active program for enhancing Newport's unique "Arboretum," has links to useful sites about tree care and pest management.

www.ritree.org The Rhode Island Tree Council passes along alerts from USDA and RIDEM about pests needing special attention and provides tips for dealing with them. It sponsors Tree Steward courses for interested citizens.

www.uri.edu/ce/ceec/plantclinic URI at Kingston has a [Plant Protection Clinic](#). Send or take samples there. For \$10, they will identify insects, diseases or plant damage. See the [URI GreenShare Factsheets](#) for info about a variety of plant pests. Also, you can contact qualified volunteers at the [URI Gardening and Environmental Hotline](#)—phone 401-874-4836 or 1-800-448-1011, or email gardener@etal.uri.edu, M-Th, 9-2, Mar-Oct.


www.extension.umass.edu/landscape/fact-sheets Up-to-date fact sheets from UMass-Amherst about pests that attack trees and other urban plants.

www.na.fs.fed.us>[Urban & community Forestry](#) provides in-depth information about tree pests, current infestations and research, tree care, and related topics.

www.treesaregood.com This site of the International Society of Arboriculture provides reliable info about urban tree selection, care and pest management. Also you can see who are [ISA certified arborists](#) near us. (They have to pass special examinations and take regular update courses beyond having a routine RI arborist license.)

www.bugwood.org This site of the Center for Invasive Species and Ecosystem Health (U of Georgia) has many photos of insects and diseases that attack trees, as well as useful urban forestry links.

Cottony Maple Scale
Pulvinaria innumerabilis



Adults, by Eugene E. Nelson, Bugwood.org

Some Maples, Lindens, Beeches, Honeylocusts, Dogwoods, other hardwoods.

Causes sticky drip onto patios, cars, etc. Some leaf loss maybe. But well cared-for trees should survive and recover if they have decent soil and moisture conditions.

Spring

In June, scales lay white-cottony egg masses under leaves & on stems

Scales secrete honeydew, which attracts Sooty Mold Fungus that blackens leaves & stems

Eggs hatch June-Aug. Greenish-yellow crawlers feed on leaves.

If infestation is annoying, arborists can drench trees with insecticidal soap or horticultural oil to suffocate. Avoid pesticides with residues that kill helpful insects.

Summer

Autumn

Males emerge in Sept, mate & die. Females (tiny brownish scales) overwinter on branches, then start feeding by sucking on stems in Spring, then lay eggs.

Systemic controls can be applied to soil or injected in trees. Oils to smother can be sprayed in winter, but may harm Maples.

Winter

Brown Marmorated Stink Bug
Halyomorpha halys

Has recently spread to RI. Sucks/destroys many fruits & crops. May be attracted by ornamental fruit trees & gardens, then try to enter nearby buildings for winter warmth. Emits obnoxious odor when handled or threatened.

Photo from Penn State University

Spring

Old adult bugs lay yellowish eggs on leaf undersides


Summer

Nymphs become new adult bugs that feed on fruits & crops

Can try professional spraying, but hasn't worked well. Better to seal building cracks, vacuum bugs that show up. Researchers are working on attract-and-trap and biological approaches.

Autumn

The bugs congregate & seek warm places for winter




Steven Jacobs, PSU

Winter

Spring Summer Autumn Winter

Hemlock Woolly Adelgid
Adelges tsugae

Is killing many of our eastern Hemlocks. Causes gradual dieback of new twigs & needles by sucking carbohydrates and leaving toxins. Two generations per yr. Spread by wind, birds, & animals.


UGA3225077
Conn. Ag. Exp. Sta. archives, Bugwood.org

Spring generation>

Over-wintering generation>

Elongate Hemlock Scale, *Fiorinia externa*, is here also. It looks somewhat like HWA, but weakens Hemlocks less quickly and may even help divert HWA attacks.

Can try to smother with horticultural oil when temp is above freezing.

Tiny over-wintering aphid-like insects lay cottony egg masses.

Crawling nymphs hatch. Suck carbs from base of needles

Some new adults lay eggs.

Can try to smother with horticultural oil.

Crawlers hatch. Lie dormant on new growth during hot summer.

Waxy nymphs attach to young twigs. Start feeding in Oct. Become woolly adults during late Fall & Winter.

Can try to remove eggs & young nymphs by squirting foliage undersides with water. For large Hemlocks, professional applications of systemic insecticides into root zones or trunks may work. Natural predators (beetles, fungi, etc.) and resistant Hemlocks are being studied. Don't use N fertilizer near infested trees.

Spring Summer Autumn Winter

Turpentine Beetle
Dendroctonus
Black *D. terebrans*
Red *D. valens*

Have spread to New England from the South in recent years. Attacking and killing most types of pines in Newport.

Chemicals do not control these beetles very well. Best to cut down infected pines, carefully remove the tree material, and replace with other kinds of trees.

Adult beetles emerge from infected pines, fly to new trees, tunnel into lower trunks (leaving sappy "pitch tubes" outside), lay eggs in cambium layers.



Adult (black)
U of Florida




Larvae groups feed aggressively on cambium layers, creating fan-shaped patches (galleries) of chewed wood. A "blue-stain" fungus carried by the beetles and larvae may cause further damage. The larvae over-winter.





The over-wintering larvae become a new generation of beetles.

Pitch tubes,
USDA Forest Service

Gallery
Idaho Dept of Lands

	Spring	Summer	Autumn	Winter
<p>Winter Moth <i>Operophtera brumata</i></p> <p>Has spread here in recent years. Likes Oaks, Maples, Lindens, Cherries, many others. Female moths produce inchworm-like larvae that feed on buds and leaves.</p> <p>Healthy, well watered trees can survive moderate defoliation attacks.</p> <p>Photos by Milan Zubrik, Forest Research Institute, Slovakia, Bugwood.org.</p>	<p>When about 55°F, pale green larvae hatch from eggs. Crawl or "balloon" on silken threads up onto buds & leaves. Feed until mid-June.</p> 	<p>Drop to ground, pupate in the soil.</p>	<p>If late winter temp >45°, dormant oil to smother may help, but hard to reach all.</p>	<p>Winged brownish male moths flock to lights. Wingless females lay eggs that over-winter in tree bark crevices.</p> 
	<p>Arborists are trying special insecticides, natural predators, sticky trunk wrappings with mixed results for heavy infestations.</p>			

	Spring	Summer	Autumn	Winter
<p>Asian Longhorned Beetle <i>Anoplophora glabripennis</i></p> <p>A <u>serious threat</u> to many hardwood tree species! Has devastated urban forests near Worcester MA & elsewhere. No good way to control except to monitor carefully & cut down infected trees.</p> <p>RI has quarantines against importing logs, fire wood, lumber, tree stock, etc. from ALB-infected places.</p> <p>If you think you see ALB here, call our Newport City Tree Warden at 401-845-5802 or the toll-free USDA ALB hotline at 866-702-9938.</p> <p>Photos by Melody Keena, US Forest Service, & Kenneth Law, USDA-APHIS, via Bugwood.org.</p>	<p>Overwintering larvae pupate at various times & become beetles.</p> 	<p>Large beetles exit from trunks via O-shaped holes. They eat tender tree parts ... mate ... then chew oval pits into the bark of same tree, or nearby trees, & lay eggs.</p> 	<p>Large larvae hatch at various times & grow. Feed by burrowing deeply into tree sapwood. Coarse frass & ooze show up outside their entrance pits.</p> 	

	Spring	Summer	Autumn	Winter
<p>Emerald Ash Borer <i>Agrilus planipennis</i></p> <p>Has been moving toward New England. Now in Upstate New York.</p> <p>Larvae of this metallic-green beetle girdle trees by eating on sapwood within trunks. Infested trees often die within 3 years.</p> <div style="border: 1px dashed black; border-radius: 15px; padding: 10px; margin: 10px 0;"> <p><i>States are relying mainly on quarantines against transport of ash logs, fuel wood &, nursery stock. Arborists can use some systemic insecticides to help prevent infection. Parasitic wasps & fungal pathogens are being evaluated.</i></p> </div> <p>Photos by David Cappaert, Michigan State University, Bugwood.org</p>	<p>Larvae pupate beneath bark, become beetles.</p> 	<p>Beetles exit to bark surfaces via D-shaped holes. They feed on leaf edges, then lay eggs in bark crevices.</p> 	<p>Eggs become larvae. They chew into bark & feed on layers beneath, creating S-shaped chambers & sawdust-like frass.</p> 	<p>Larvae overwintering beneath bark attract woodpeckers.</p> 

The seven pest profiles in this bulletin blend various sources of technical information with the authors' backgrounds. Dave Brown is a retired agri-resource economics professor and outreach educator who has background in plant and soil sciences, and who has served as a Commission member and chair. Dan Christina has a BS degree in horticulture, is Assistant Grounds Manager at Blithewold Mansion, Gardens & Arboretum in Bristol, and is a Commission member. Scott Wheeler is an ISA certified arborist who, besides his roles in Newport since 1994, has BS and MS degrees in urban forestry and park management, and commercial tree-care experience.

Especially if you are a professional who is working with tree-pest problems in and near Newport, we would appreciate your telling Scott Wheeler about needed corrections and updates. He is at 401-845-5802 and swheeler@cityofnewport.com.

The other bulletins in this series are also at www.cityofnewport.com. They include:

#1 Clear low branches and shrubbery from walkways, streets and signs

#2 Don't top trees!

#3 The path to planting perky trees

#4 So if you like Newport's magnificent beeches ... then please help take good care of them

#5 Our Newport trees as atmosphere helpers and carbon bankers