

## Boiling it Down

by Winton Pitcoff

# A Future Without Maple?

## The threat of the Asian longhorned beetle

**M**aple producers recognized the threat of the Asian longhorned beetle (ALB) early, watching their woods carefully for signs of the destructive pest and educating their customers to be on the lookout for the insect that poses a dire threat to hardwood forests, and to the maple syrup industry in particular. That kind of effort has been critical to containing the bugs, but hasn't entirely eliminated the danger posed should they spread to heavily wooded areas where eradication would be challenging, and the potential for the loss of vast amounts of sugar bush is real.

The ALB is a shiny black beetle with white spots on its back; it can be anywhere from 0.75 to 1.5 inches long. Its black and white striped antennae are typically twice as long as its body, and its feet have a blue tinge. The ALB lives in, feeds on and destroys hardwood trees, preferring maple in particular. It has no natural predators.

These insects bore perfectly round holes about 0.5 inch in diameter into their host trees and lay their eggs just under the surface of the bark. When the larvae hatch, they bore farther into the tree. Eventually, the

### Asian longhorned beetle

(*Anoplophora glabripennis*)

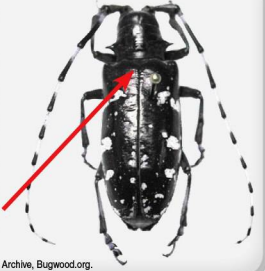
$\frac{3}{4}$  –  $1\frac{1}{2}$  inch long

Shiny black, bright white spots

Long antennae, banded

black and white

Black scutellum

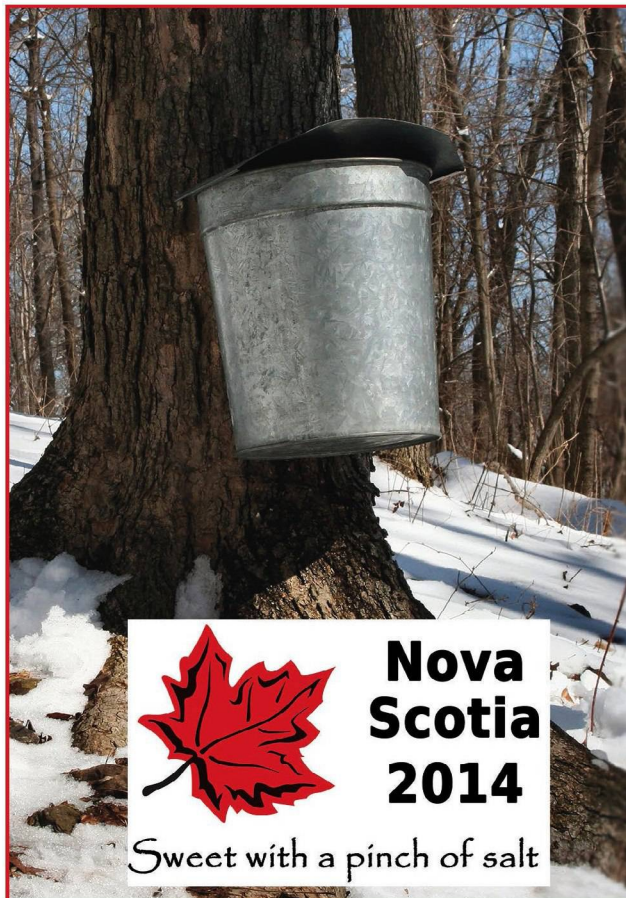


Asian longhorned beetle: Pennsylvania Dept. of Conservation and Natural Resources - Forestry Archive, Bugwood.org.

Graphic courtesy of Massachusetts Introduced Pests Outreach Project, <http://massnrc.org/pests>.

impacted branch or trunk begins to show signs of decay, with loose bark and dead branches. Ultimately, the entire tree dies.

The ALB came to the U.S. from China, Korea and Japan, where it is common. It's believed to have traveled in the wood used to make shipping pallets and crates. Regulations are in place that require wood packaging materials to be treated before they can be imported into the U.S., but inspection capacity is limited. As a result, the ALB has escaped "into the wild" a number of times: first in New York City in 1996; later in Chicago; in Worcester, Massachusetts, in 2008; and in Ohio in 2011. Since it tends to arrive via shipping materials, the ALB is most often



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found in ports and urban areas; however, it's the potential spread to heavily wooded areas that's of greatest concern.

Since nothing natural can contain the spread of the ALB—birds don't eat them and the cold doesn't kill them—aggressive human intervention is required to contain outbreaks. Once the ALB has infested a tree, there's no saving it; it must be cut down and chipped or burned to avoid spreading any remaining eggs or larvae. Surrounding trees are often treated chemically, usually with imidacloprid, a neonicotinoid insecticide. Fortunately, the ALB doesn't travel very far in looking for new hosts, but since the insect prefers to remain high in tree crowns, it can be many years before an infestation is discovered.

Also critical to controlling ALB infestations are quarantine zones set up in areas where the insects have been found. Landscapers, foresters and loggers are subject to fines if they're found transporting logs out of the quarantine zone, and "Don't Move Firewood" campaigns ([www.dontmovefirewood.org](http://www.dontmovefirewood.org)) discourage individuals from moving wood for home heating or camping. Most important is convincing people to report their sightings—the mentality of "I think I saw them in my woods, but I don't want to tell anyone because then they'll come and cut all my trees down" is common, but can only result in more widespread, more devastating ALB outbreaks.

The largest infestation in the U.S. took place in Worcester. Though the insect was discovered in 2008, it was estimated that the ALB had been in the trees for as long as 10 years already. Since that discovery, more than 30,000 trees in the area have been destroyed, and another 200,000 chemically treated prophylactically. More than 2.5 million trees in the area have been surveyed in an effort to keep the ALB from spreading to the surrounding woodlands, and a 110-square-mile quarantine zone has been imposed.

Public awareness campaigns, including billboards and other broad advertising, have been coordinated by state and federal agencies, and trainings have been offered to arborists, foresters and landscapers on how to spot and report ALB. Since this outbreak was the first to be close to actively tapped sugar bush, sugar makers and the state producers' association also got involved, working to educate as many people as possible about the threat and how to help contain it.

For sugar makers, the ALB is a dire threat. Not only could the insects wipe out maple forests throughout the Northeast, but there is also concern that trees treated chemically to ward off the bugs will be permanently contaminated and no longer yield usable sap. Researchers are investigating how long the chemicals remain in the trees and at what concentrations they

can be found in the sap, but at this point maple producers should not tap trees treated with imidacloprid.

Sugar makers can help contain the ALB threat by learning how to spot the bugs, closely monitoring their woodlands, and educating their customers so they will remain aware as well. Each outbreak that has occurred so far has been caught thanks to the watchful eye of a person who just happened to have learned about what to look out for through a public education campaign. The U.S. Department of Agriculture offers spotter cards that can be distributed with syrup to customers; a

smartphone app is available to help identify the ALB and other invasive insects (<http://masswoods.net/outsmart>); and websites run by the USDA (<http://asianlonghornbeetle.com>) and states like Massachusetts (<http://massnrc.org/pests/alb>) and Ohio ([www.agri.ohio.gov/topnews/asianbeetle](http://www.agri.ohio.gov/topnews/asianbeetle)) also offer great resources for sugar makers, foresters and anyone who wants to help protect the maple syrup industry from these pests. **F**

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