Emerging Threats

2017 MIFPC Stakeholder Meeting

Robbie Doerhoff, MDC Forest Entomologist

Lawrence Barringer, PA Dept. of Ag

Invasive Tree Pests

- New damaging pest every ~2 years
- $1.7 billion per year
- Human-assisted movement is #1
- High risk species
  - Hard to detect during transport
  - Available host & habitat
  - Frequent introductions

Spotted Lanternfly

Lycorma delicatula

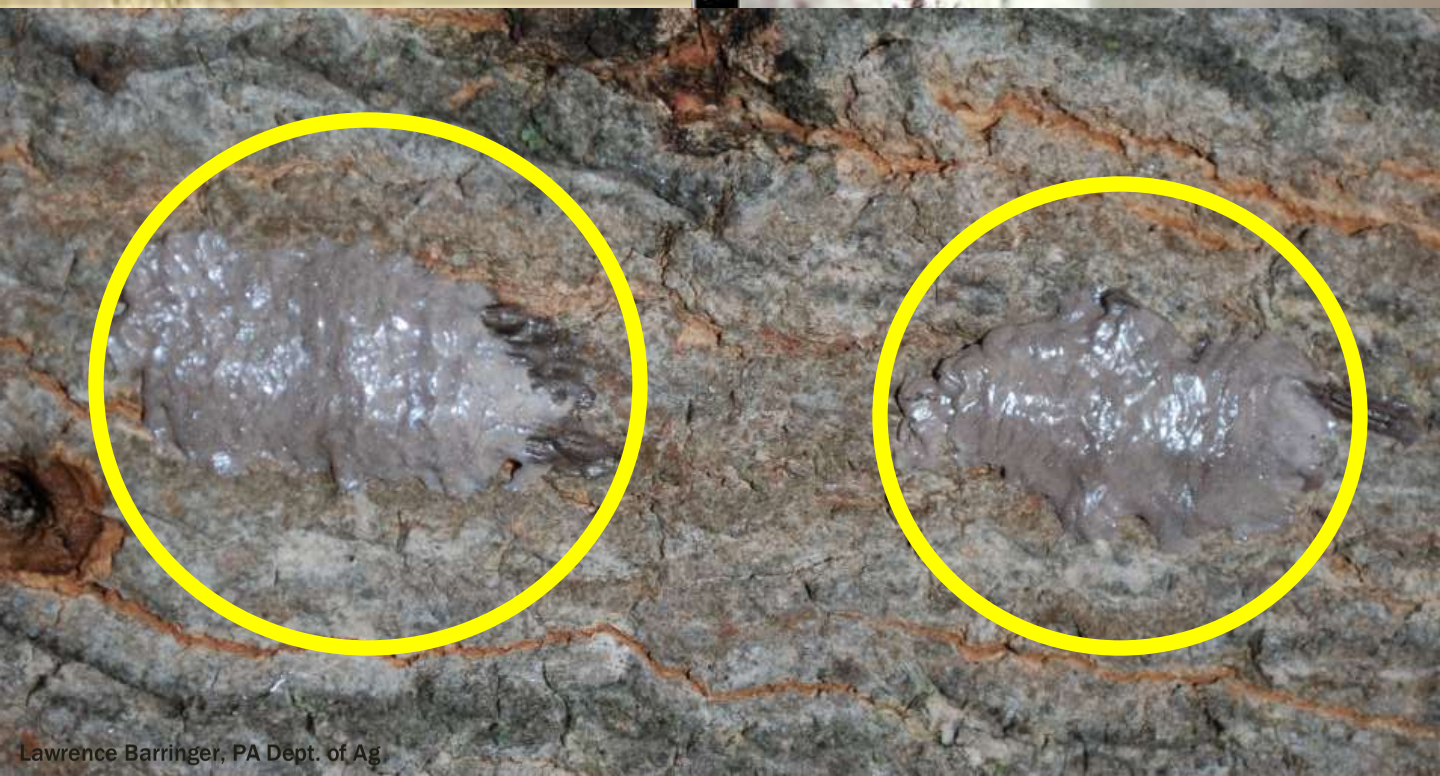
Photo by Thomas Shahan

Oregon Department of Agriculture

itchydogimages

5522641

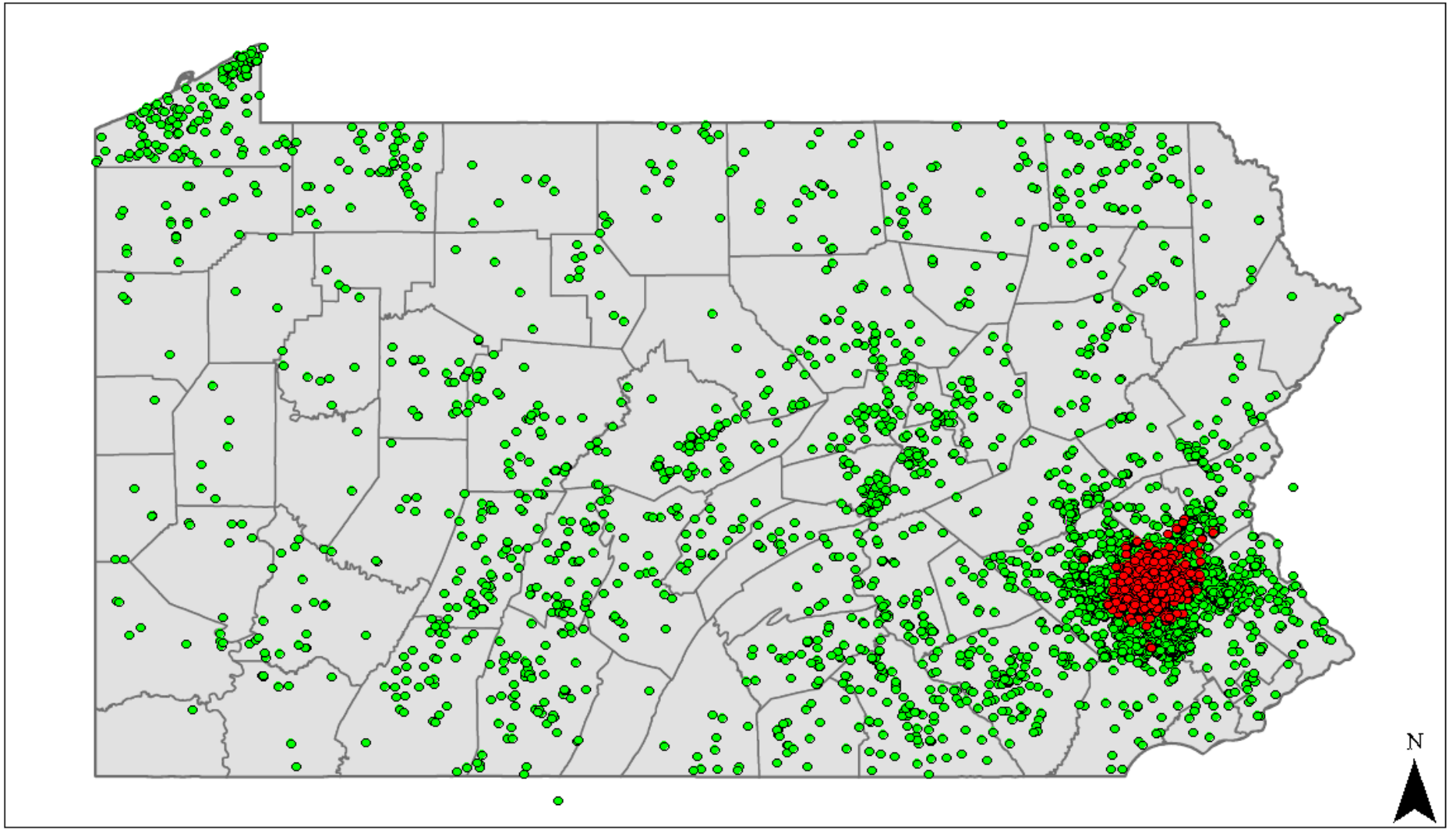
Lawrence Barringer, PA Dept. of Ag



Lawrence Barringer, PA Dept. of Ag

2014 -- 2016 Lycorma Detection Survey

Results through 15 November 2016



Spotted Lanternfly Presence

- Positive
- Negative

pennsylvania
DEPARTMENT OF AGRICULTURE

Redbay Ambrosia Beetle

Xyleborus glabratus

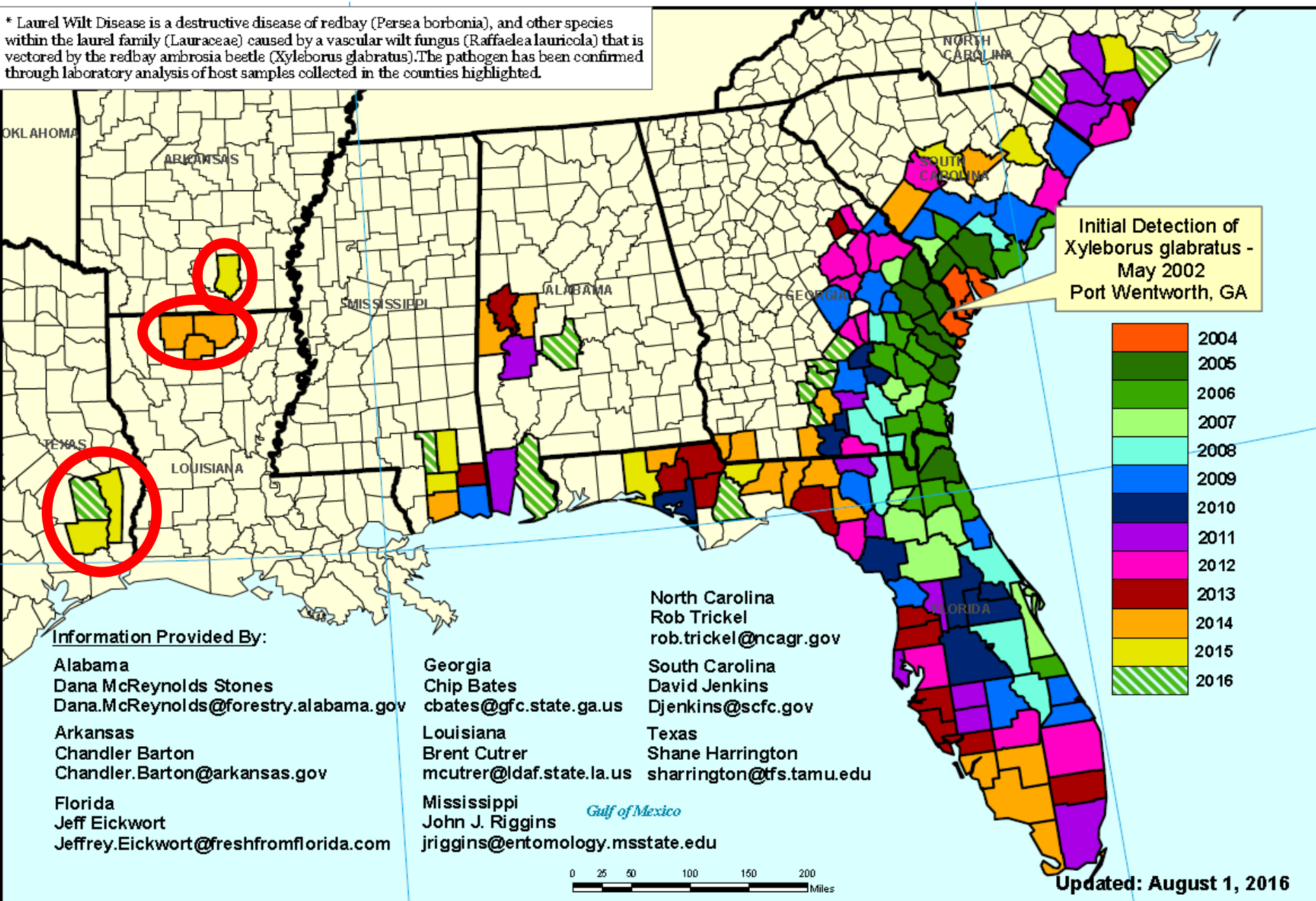
Actual length: 2mm

Sassafras with Laurel Wilt


UGA5005056

Distribution of Counties with Laurel Wilt Disease* by year of Initial Detection

* Laurel Wilt Disease is a destructive disease of redbay (Persea borbonia), and other species within the laurel family (Lauraceae) caused by a vascular wilt fungus (Raffaelea lauricola) that is vectored by the redbay ambrosia beetle (Xyleborus glabratus).The pathogen has been confirmed through laboratory analysis of host samples collected in the counties highlighted.



Information Provided By:

Alabama
Dana McReynolds Stones
Dana.McReynolds@forestry.alabama.gov

Arkansas
Chandler Barton
Chandler.Barton@arkansas.gov

Florida
Jeff Eickwort
Jeffrey.Eickwort@freshfromflorida.com

Georgia
Chip Bates
cbates@gfc.state.ga.us

Louisiana
Brent Cutrer
mcutrer@ldaf.state.la.us

Mississippi
John J. Riggins
jriggins@entomology.msstate.edu

North Carolina
Rob Trickel
rob.trickel@ncagr.gov

South Carolina
David Jenkins
Djenkins@scfc.gov

Texas
Shane Harrington
sharrington@tfs.tamu.edu

Updated: August 1, 2016

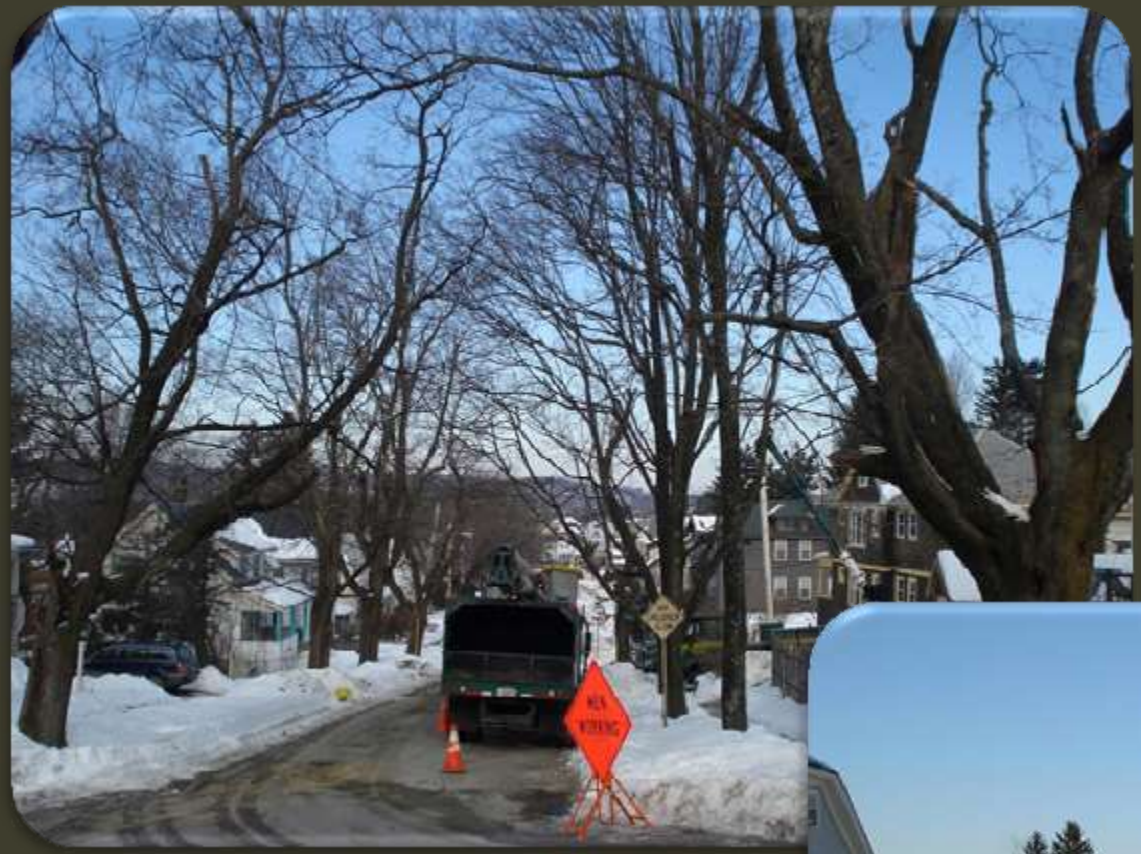
Asian Longhorned Beetle

Anoplophora glabripennis

Melody Keena, USDA Forest Service, Bugwood.org

Why care about ALB?

- Can attack healthy trees
- Host trees: ≥12 genera
- Urban trees: ~35% loss ($669 million)
- Eastern forests:71 billion trees ($2 trillion)
- Huge impacts on wetland ecosystems
- Eradication is possible but costly



Before...

...after!

ALB host trees

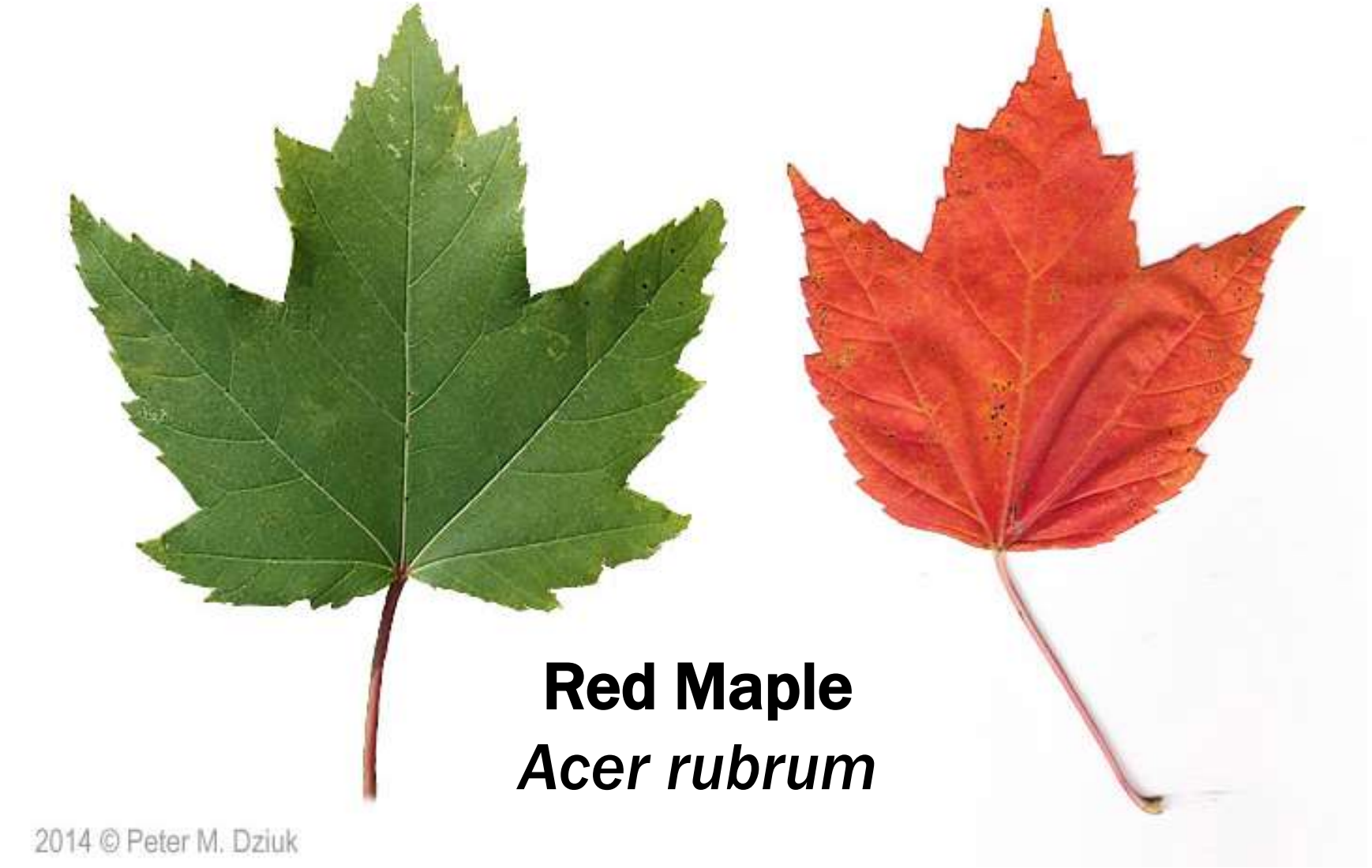
Preferred hosts

- Maple & boxelder (*Acer*)
- Buckeye & horsechestnut (*Aesculus*)
- Willow (*Salix*)
- Elm (*Ulmus*)

Good hosts

- Birch (*Betula*)
- Sycamore & planetree (*Platanus*)

ALB loves red maple!



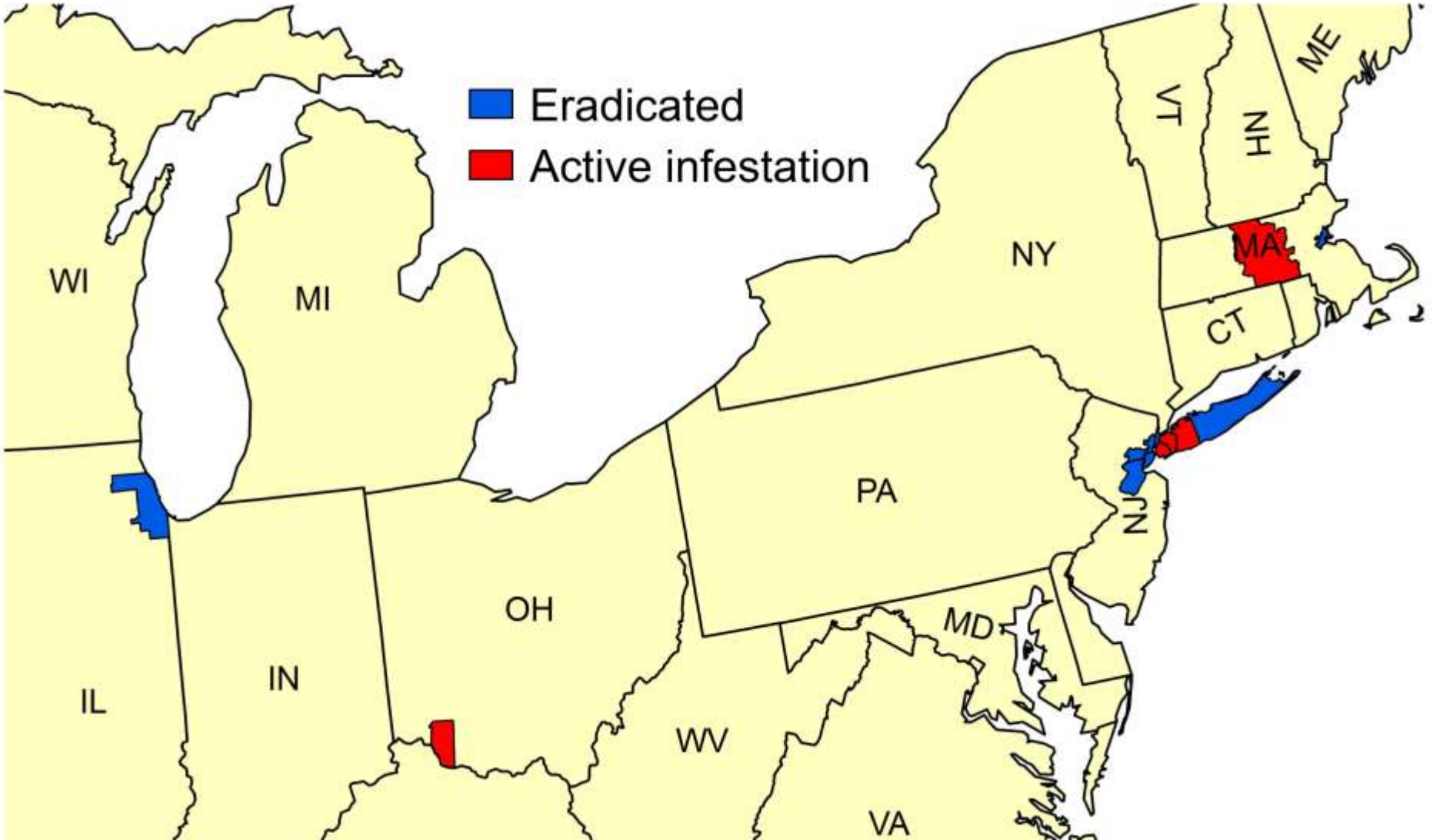
Red Maple

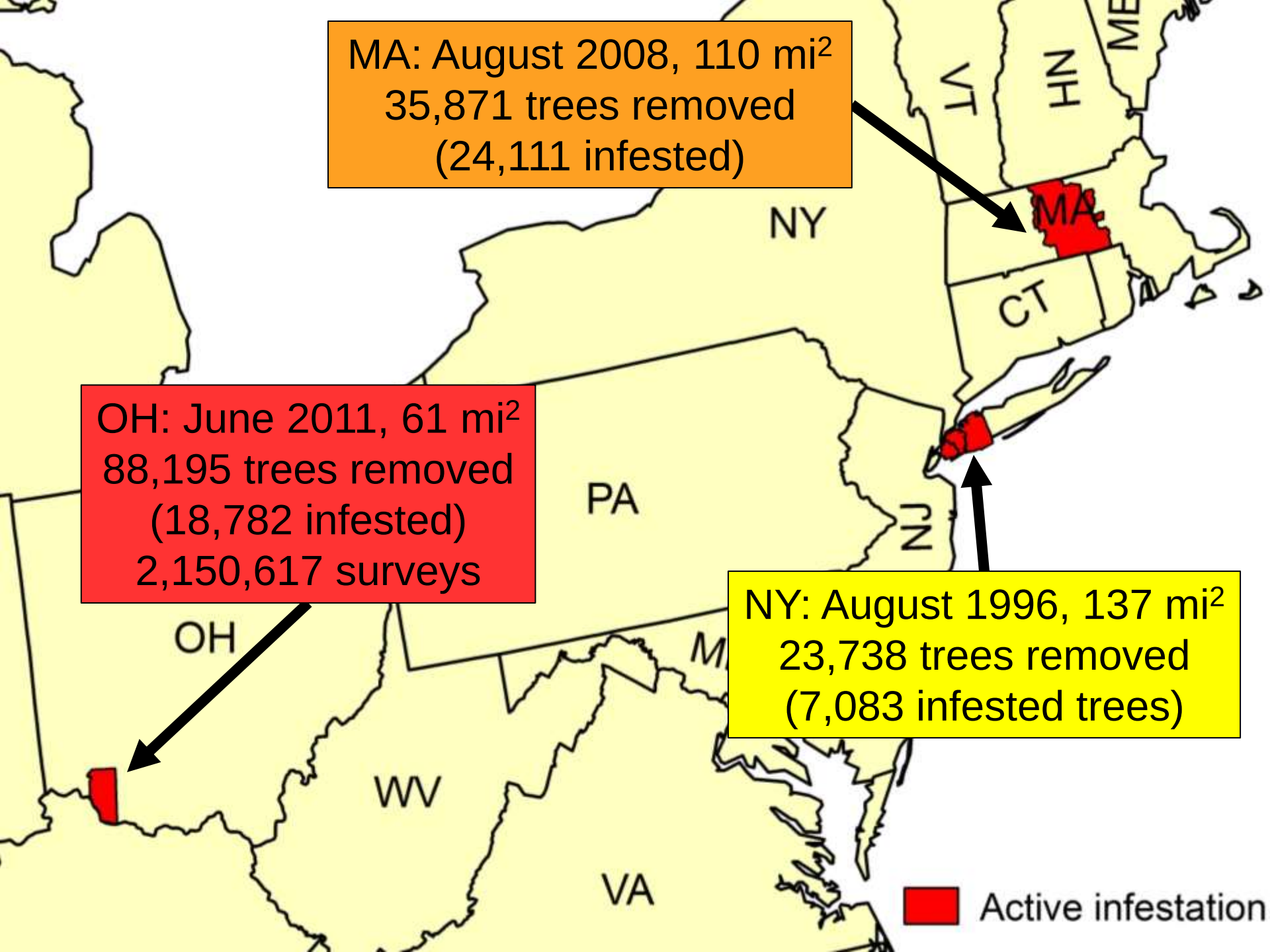
Acer rubrum

How does ALB move?

- Inside wood
  - Pallets
  - Crates
  - Yard waste
  - Firewood
- Can fly but prefers to walk!

Where has ALB been found?




MA: August 2008, 110 mi²
35,871 trees removed
(24,111 infested)
OH: June 2011, 61 mi²
88,195 trees removed
(18,782 infested)
2,150,617 surveys
NY: August 1996, 137 mi²
23,738 trees removed
(7,083 infested trees)
NY
PA
OH
WV
VA
MA
CT
VT
NH
ME
Active infestation

How does ALB kill trees?

Young larvae eat phloem tissue.

How does ALB kill trees?

Older larvae tunnel into heartwood & destroy structural integrity.


Exit holes
LIBERTY
2000


Exit hole
5476354

Frass collects in branch crotches

Frass collects at the base of trees

Females chew egg sites


Egg sites

Multiple generations of ALB infestation!

Be on the lookout!

- New pests can arrive at any time
- Identify your trees & watch for issues
- Report abnormal tree damage
- Report unusual insects

Report invasive forest pests!

MO Dept. of Agriculture

573-751-5505

Forest.Health@mdc.mo.gov

Hotline: 866-716-9974

MU TreePests Website:

treepests.missouri.edu