USDA Forest Service
U.S. DEPARTMENT OF AGRICULTURE

New in Town

An Emerging Wood Boring Pest

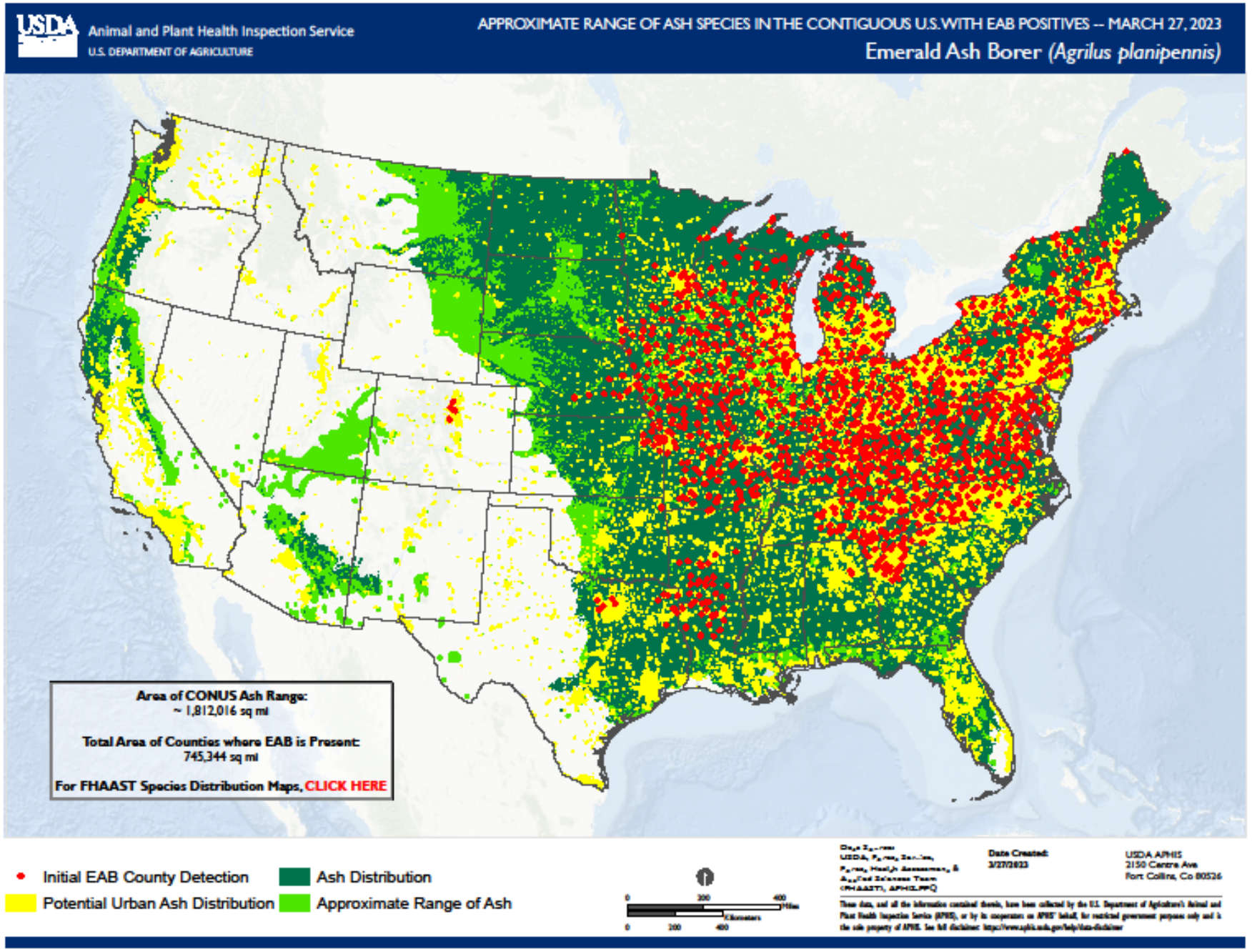
Emerald Ash Borer (EAB)

Agrilus planipennis

Intro to North America

- Native to China, Mongolia, North Korea, South Korea, Taiwan, and Russia
- Detected in North America's Great Lakes Region in 2002, thought to have arrived in wood pallets
- Today infests 36 states
- Spread to the western US by human movement of firewood and packing material

Toledo, Ohio early 2000’s. Left, pre-infestation in 2006. Right, post infestation in 2009.
Photo courtesy of Dan A. Herms


USDA
Animal and Plant Health Inspection Service
U.S. DEPARTMENT OF AGRICULTURE
APPROXIMATE RANGE OF ASH SPECIES IN THE CONTIGUOUS U.S. WITH EAB POSITIVES -- MARCH 27, 2023
Emerald Ash Borer (Agrilus planipennis)
Area of CONUS Ash Range:
~ 1,812,016 sq mi
Total Area of Counties where EAB is Present:
745,344 sq mi
For FHAAST Species Distribution Maps, CLICK HERE
Initial EAB County Detection
Ash Distribution
Potential Urban Ash Distribution
Approximate Range of Ash
Date Created:
3/27/2023
USDA APHIS
2150 Centre Ave
Fort Collins, Co 80526

California native *Fraxinus* Hosts:

California ash
(*F. dipetala*)

Oregon ash
(*F. latifolia*)

Dwarf ash
(*F. anomala*)

Velvet ash
(*F. velutina*)

- White fringe tree (*Chionanthus virginicus*)
- Cultivated olive (Olea spp)

Known Alternative Hosts:

White fridge tree
(*Chionanthus virginicus*
Chionanthus henryae)

Cultivated Olive
(*Olea europa*)

Ornamental Oleaceae plants commonly found in landscapes:

Jasmine – *Jasminum spp*

Lilac – *Syringa vulgaris*

Forsythia – *Forsythia spp*

Privet – *Lingustrum spp*

* Thus far are not known to be hosts but the potential is there

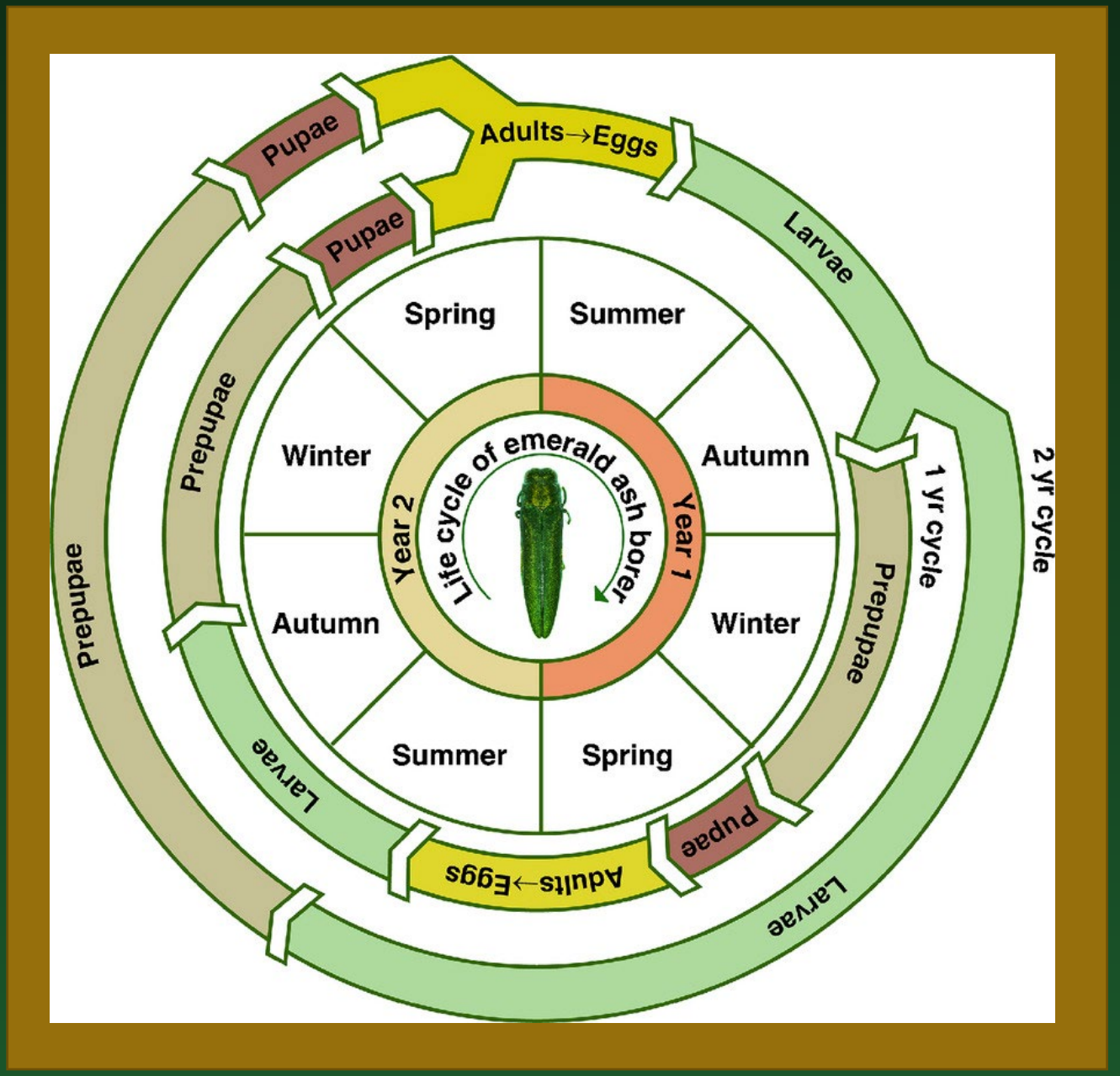
Lifecycle:

Adults feed on foliage prior to depositing eggs in bark grooves

Capable of either 1 or 2 year lifecycle depending on latitude

Overwinter as Larvae

Adults fly May - August



Adults:

About 0.5 inch long
Metallic Green
Bronze undertones

Larvae:

About 1 inch long
2 spines end of abdomen
Hairpin

Where to find larvae:

Beneath the bark in the cambial tissue of host trees

Serpentine galleries

“D” shaped exit holes

Trapping for EAB:

Purple prism traps

Green Lindgren funnel traps

- (Z)-3-hexanol lure

Chemical Management:

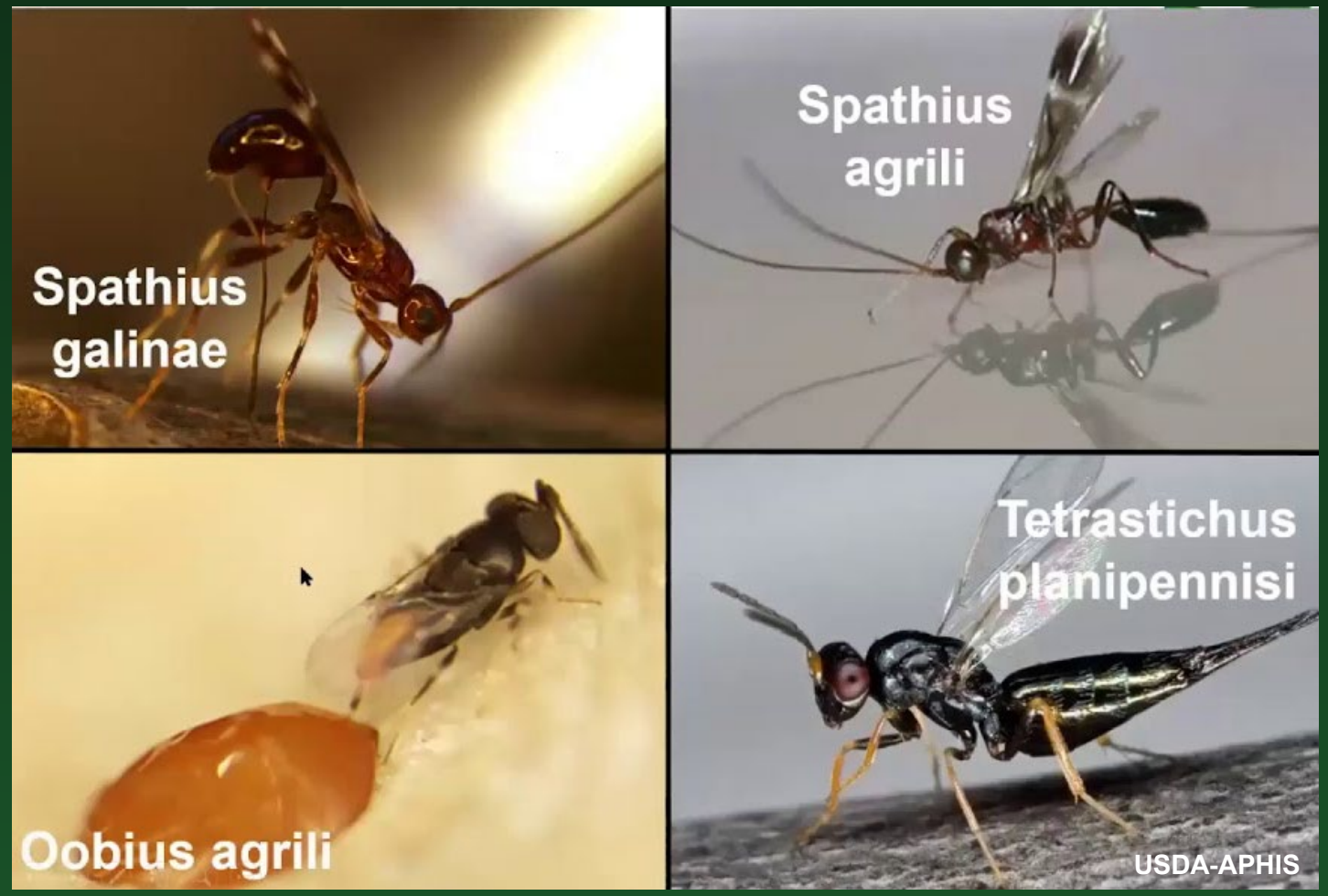
- High value trees, high value areas
- Preventative
- Treat trees in proximity to infestations, not trees already infested

Carbaryl – cover spray (bark)
Imidacloprid - systemic
Emamectin benzoate – systemic

Photo: Livingston CO Sherriff

Biological Control:

- Four species of parasitoid wasp targeting eggs and larvae
- Ongoing biocontrol efforts have been successful in the southeastern US
- Data on host specificity point to little to no risk for native insects



Removal:

Remove infested trees

DO NOT move cut logs

Cover with plastic sheeting or expose to direct sunlight

Chipping (2.5 cm)

Current efforts in research:

1) Understanding host resistance

2) Building better trees

3) Finding and breeding resistance

4) RNAi – biopesticide

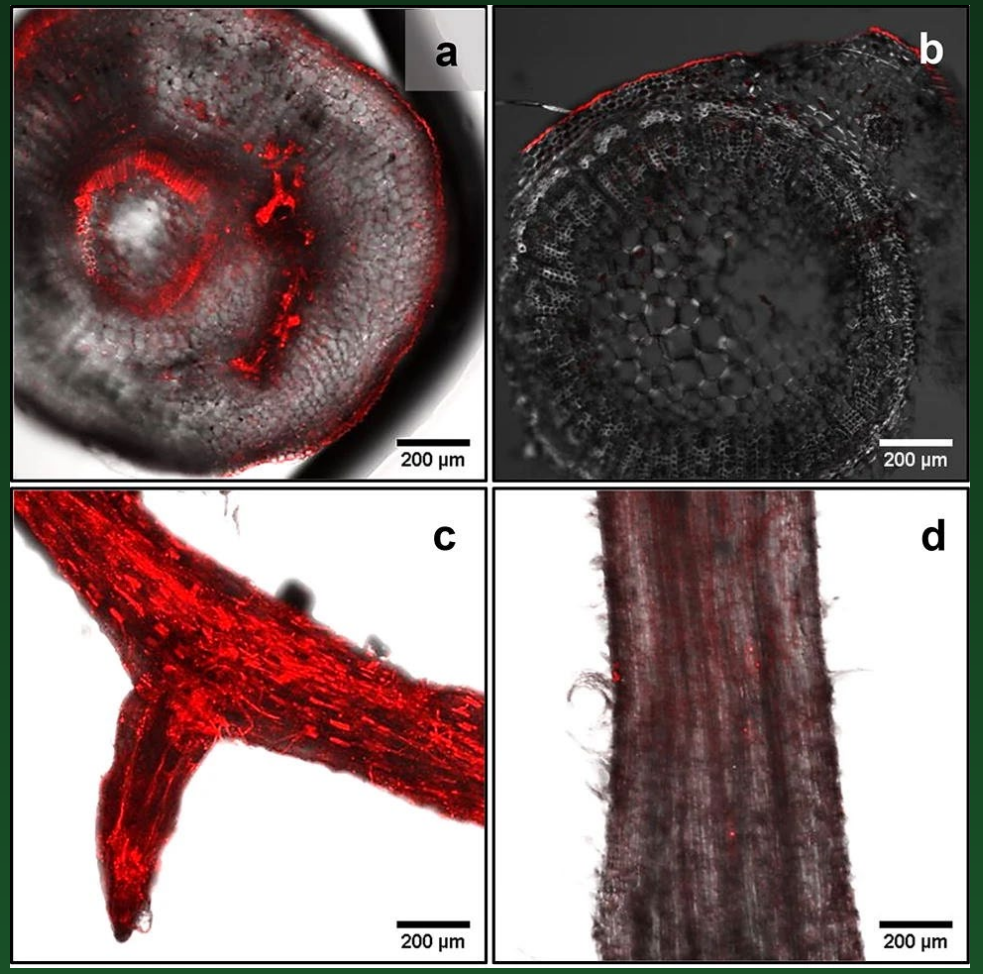


Image: F. Pampolini 2020

Additional Resources:

USDA EAB Program info:

https://www.aphis.usda.gov/aphis/ourfocus/planthealth/plant-pest-and-disease-programs/pests-and-diseases/emerald-ash-borer

Trapping:

https://www.aphis.usda.gov/plant_health/plant_pest_info/emerald_ash_b/downloads/eab-survey-guidelines.pdf

https://www.aphis.usda.gov/plant_health/plant_pest_info/emerald_ash_b/downloads/eab-trapping-protocols.pdf

https://www.aphis.usda.gov/plant_health/plant_pest_info/emerald_ash_b/downloads/eab-trapping-materials-list.pdf