



Tremex fuscicornis (Fabricius) New Pest Response Guidelines

Jesse A. Hardin

NCSU Center for Integrated Pest Management

USDA-APHIS-PPQ-CPHST-PERAL

APS NPDRS Workshop, April 16, 2013, Tysons Corner, VA

Guidelines Key Points

- Identification
- Lifecycle
- Hosts
- Distribution & Spread
- Pathways
- Survey
- Control
- Research Needs



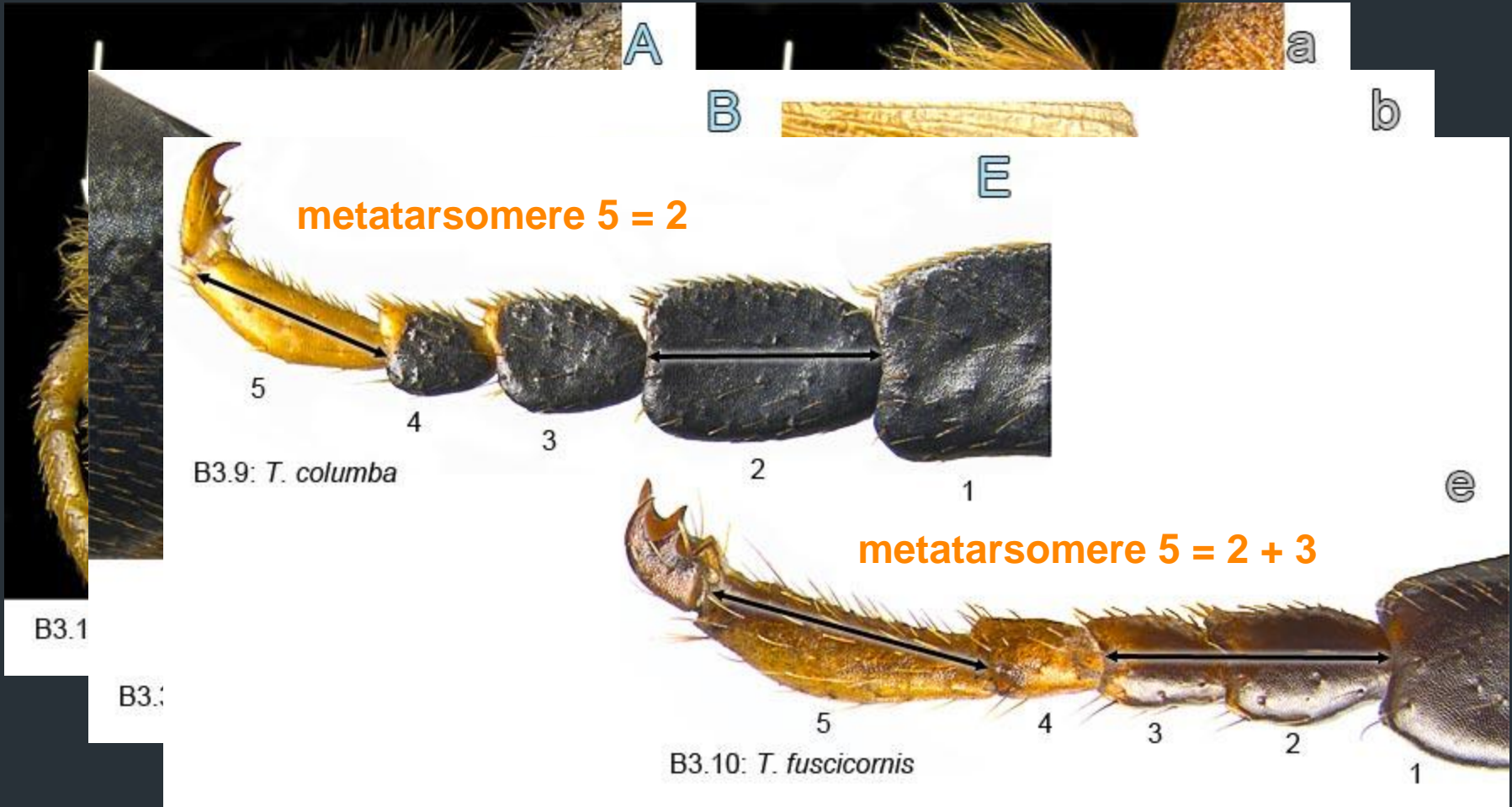
Joseph O'Brien, USDA-FS, Bugwood.org



Aida Baldini U. 2002

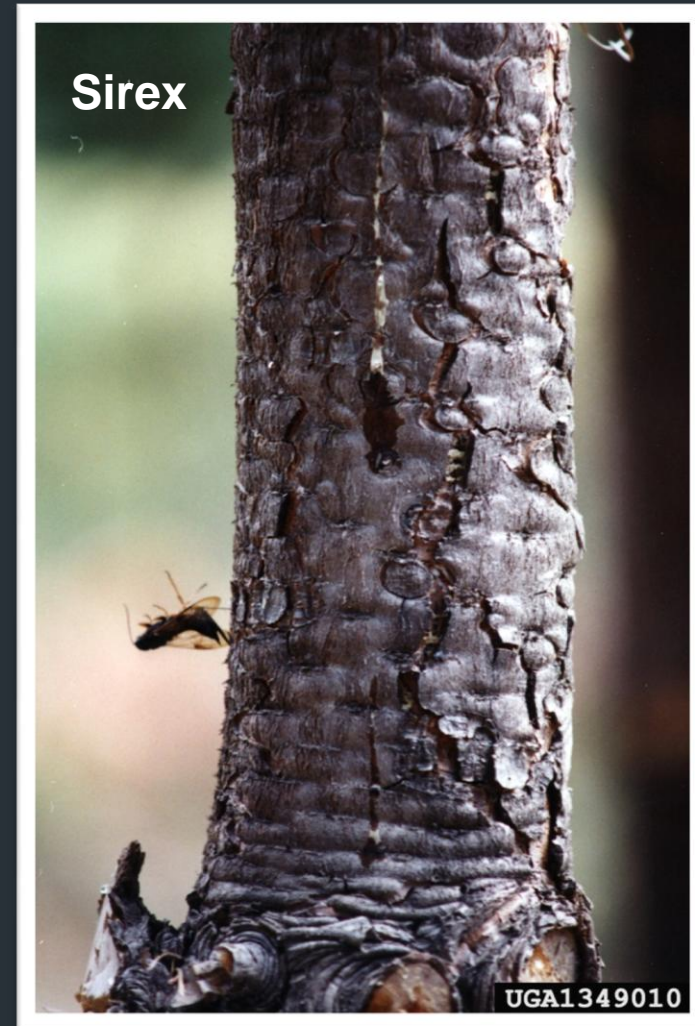
Identification [doi: 10.3752/cjai.2012.21](https://doi.org/10.3752/cjai.2012.21)

- *T. columba* (native) v. *T. fuscicornis*



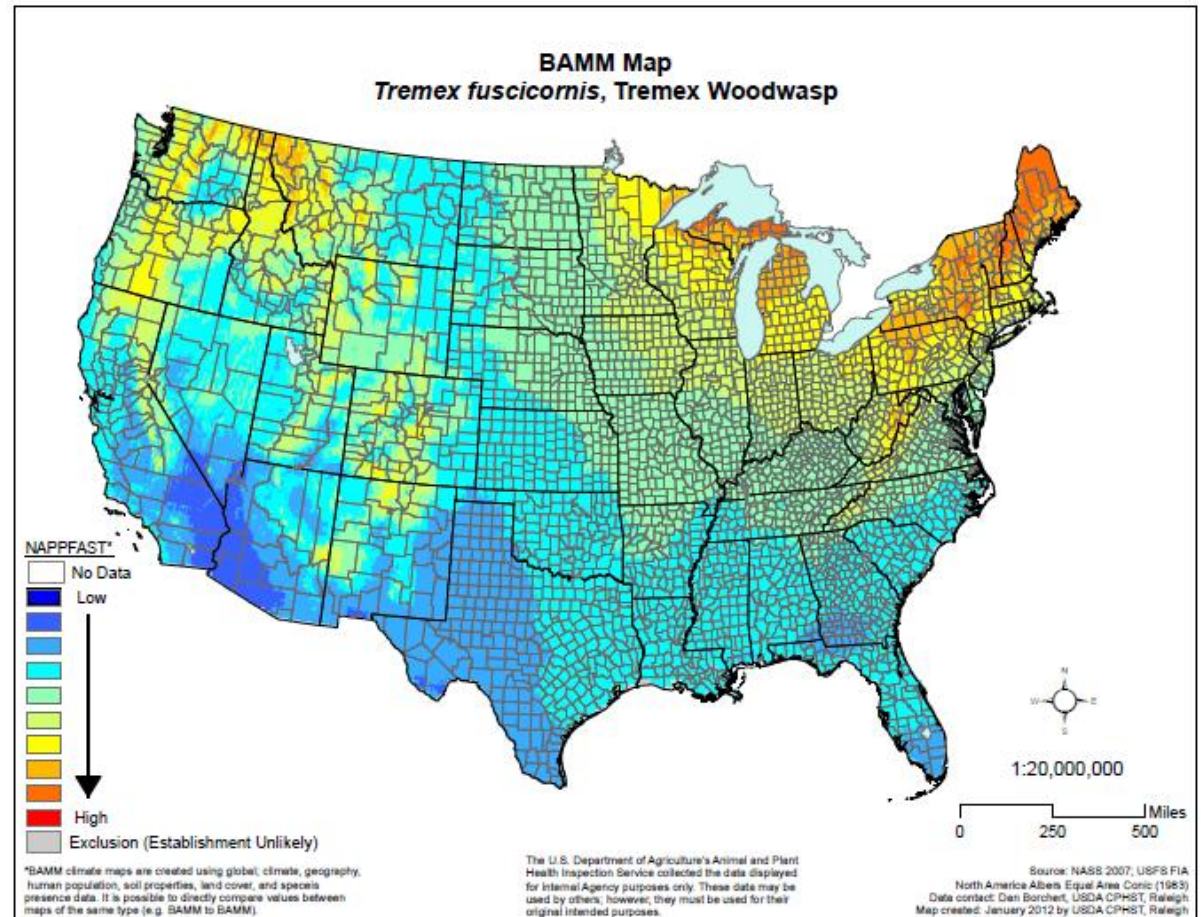
Lifecycle

- Eggs into cambium
 - oidia of symbiotic fungus
- Larval feeding galleries
 - consume fungal hyphae
- Adults emerge summer-fall
 - mating swarms, oviposit
- Attack weak trees
 - Chile: healthy?



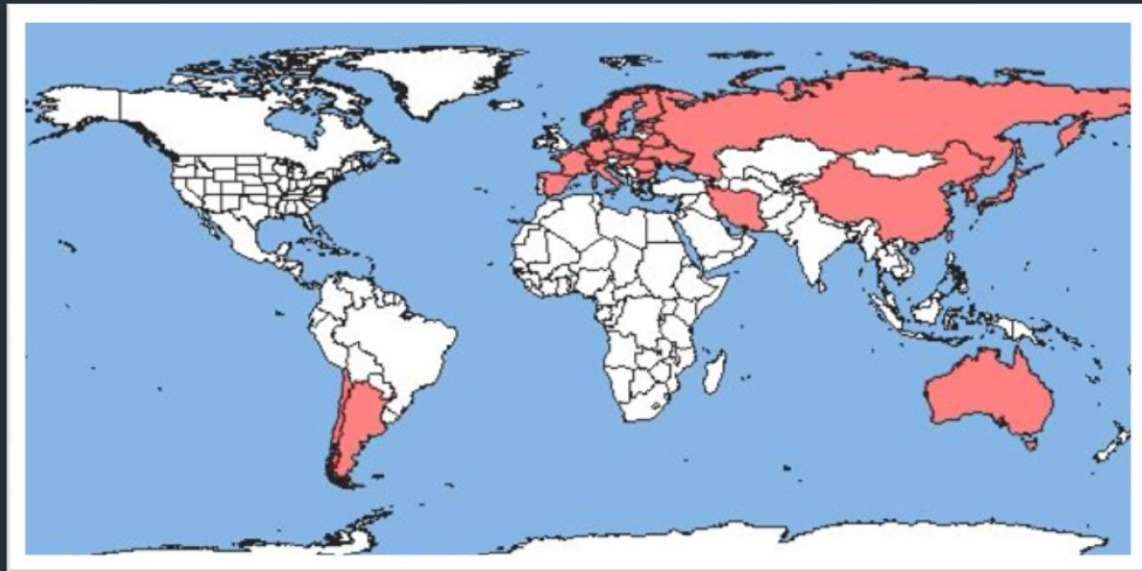
Main Hosts

- *Populus*
 - *Salix*
 - *Acer*
- T. columba:*
- Fagus,*
Malus,
Pyrus,
Juglans,
Pterocarya,
Robinia



Distribution & Spread

- Eurasia
 - Not economic pest
- Chile
(Baldini 2001)
- Argentina
(Landi *et al* 2011)
- Wooden crates
 - China?



Pathways

- Wood materials
 - Shipping crates
 - Chile, crates found
 - AQAS data
 - 1 *T. fuscicornis* (CA)
 - ~20 *Tremex* sp.
 - Mostly China
 - Italy (tiles, marble: with wood)



US DOD

Control

- Cultural
 - Eradication
 - Shredding
- ~~Pheromones~~
- ~~Insecticides~~
- Trap trees
- Biological Control
 - Parasitoids
 - E.g. From *Sirex noctilio*



Biocontrol of *Siricidae*

- Parasitoids: *Rhyssa*, *Ibalia*, *Megarhyssa*



Biocontrol of *Sirex*

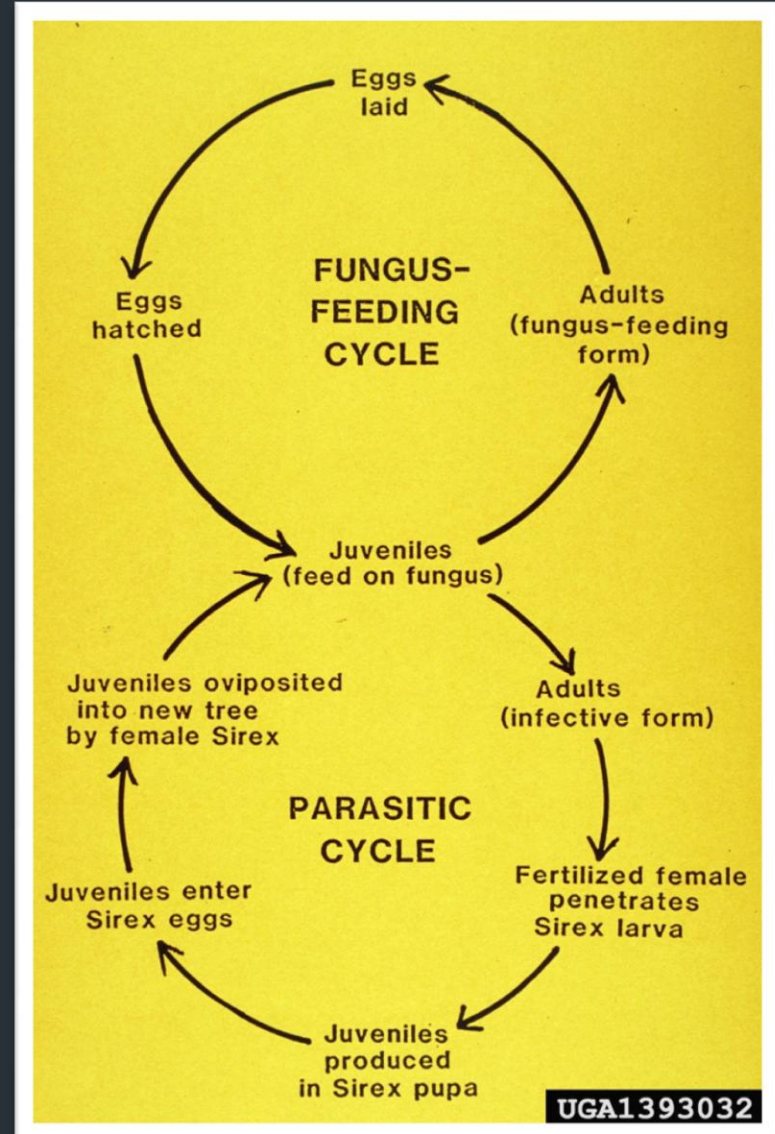
- Tylenchid nematode:
- *Deladenus siricidicola*



Dennis Haugen, Bugwood.org



E. Erin Morris



Dennis Haugen, Bugwood.org

Obligate fungal mutualism

Tremex

- *Cerrena unicolor*
- Polyporales:
Polyporaceae



Sirex

- *Amylostereum areolatum*
- Russulales:
Amylostereaceae



Research Needs



Goulet & Boudreault

- Recent ID details:
 - Schiff *et al.* 2012, CJA1 (online key: July 2012) 300p.
- Trapping (trap tree) methods
- Fungal-nematode relationship
 - Biological control

Contributors

- Kathy Kamminga
- Karen Maguylo
- Gary Cave (USDA-APHIS-PPQ-CPHST-PERAL)
- Susan Ellis (USDA-APHIS-PPQ-PDEP)
- Lynn Evans-Goldner (USDA-APHIS-PPQ)

- Photos: Torbin Nielson, Denmark
 - Henri Goulet, Catherine Boudreault (ID photos)

