



What are the implications of the discovery of *Geosmithia morbida* on *Stenomimus pallidus*?

*Geosmithia morbida* and associated cankers can occur in the absence of the walnut twig beetle or beetle-colonized bark.

**North Carolina**  
Fungus was isolated from small bark cankers on "TCD-symptomatic" walnut but not associated with WTB or WTB damage.

**Ohio**  
Fungus was isolated from small areas of discolored phloem tissue of branches from TCD-symptomatic walnut but "not clearly associated with beetle holes or galleries."

**Indiana**

A bark-colonizing weevil species can acquire *Geosmithia morbida*, but this is likely a "casual" relationship.

Lateral transmission of *G. morbida* by such weevils was suspected.

The low frequency of *G. morbida* occurrence on *S. pallidus* suggests "casual" relationship.

*Himatium errans*

*Stenomimus pallidus* is likely a "minor factor" in the epidemiology of TCD.

<i>S. pallidus</i>	<i>Pityophthorus juglandis</i>
<ul style="list-style-type: none"> <li>Widely distributed in Indiana,</li> <li>Low population density,</li> <li>Does not "mass attack" ??,</li> <li>Low frequency of <i>G. morbida</i> occurrence on the species ("casual"), and</li> <li>Not likely capable of the mass inoculation needed for TCD development.</li> </ul>	<ul style="list-style-type: none"> <li>Foci of occurrences in the eastern USA,</li> <li>Populations can build-up to high densities,</li> <li>Mass attacks / aggressive behavior,</li> <li><i>G. morbida</i> consistently associated with species ("symbiont"), and</li> <li>Capable of mass inoculation of black walnut.</li> </ul>

Survey and research responses to recent Midwestern finds of *G. morbida* / TCD

Brown Co., IN  
Butler Co., OH

### Indiana DNR Response



2014 TCD Trapping Survey  
Van Wert Co.  
Madison Brown County & Putnam Areas  
Blount County

Quarantined plantation  
Yellowwood State Forest





"Bait bolts" added to  
6 traps

### Indiana DNR Response

State-wide and along southeast border with Ohio

- Windshield surveys of black walnut being conducted in numerous cities,
- Gypsy moth trap tenders inspecting walnut near moth traps, and
- WTB lure-baited and small walnut bolt baited traps along lower IN – OH border.

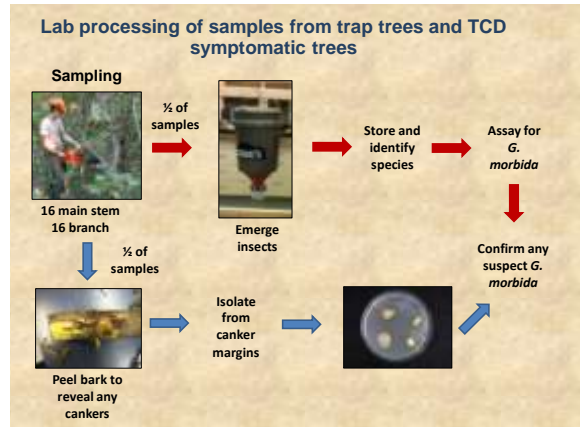


### Research and Development Response

Trap tree studies in Indiana and Ohio

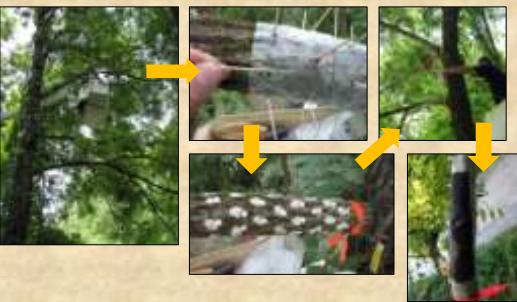



Potential insect vectors from  
TCD trees in Hamilton, OH



### Research and Development Response

Evaluate virulence of Indiana *G. morbida* isolates on non-stressed black walnut in the quarantined plantation.



### Summary

- The 2011 trap tree study in Indiana and Missouri yielded a wealth of useful information,
- The detection of *G. morbida* in Indiana raises important questions about our current understanding of the TCD complex, and
- Indiana DNR surveys and cooperative FS - university research have responded to the situation in Indiana and Ohio.

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