



Semiochemical Lures:  
Coffee Berry Borer,  
*Hypothenemus hampei*





## Purpose

- To discover new chemical attractants and/or improve current lures that will increase trapping efficacy of the coffee berry borer.



# Coffee berry borer, *Hypothenemus hampei*

## Why Semiochemicals?

- Monitoring
- Control
  - Mass-trapping, behavioral disruption, attract and kill.
  - Component of IPM





# Coffee berry borer, *Hypothenemus hampei*

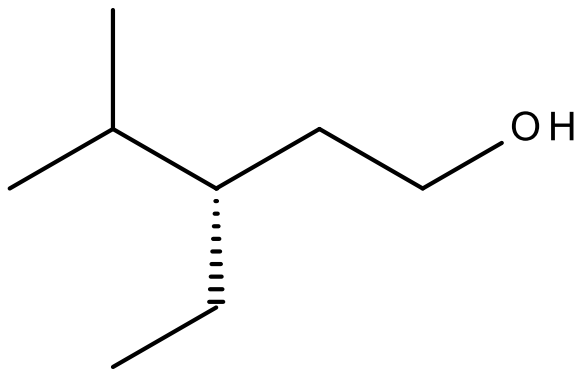
## Approach

- Mendesil *et al.*, 2009
- Pheromones of related scolytids
- Volatile collections
  - Headspace sampling, lab/field, plant parts/stages, solvent extracts.



# Coffee berry borer, *Hypothenemus hampei*

- Most compounds purchase
- Some synthesized



(S)-3-ethyl-4-methyl-pentan-1-ol





# Coffee berry borer, *Hypothenemus hampei*

- Volatile collections





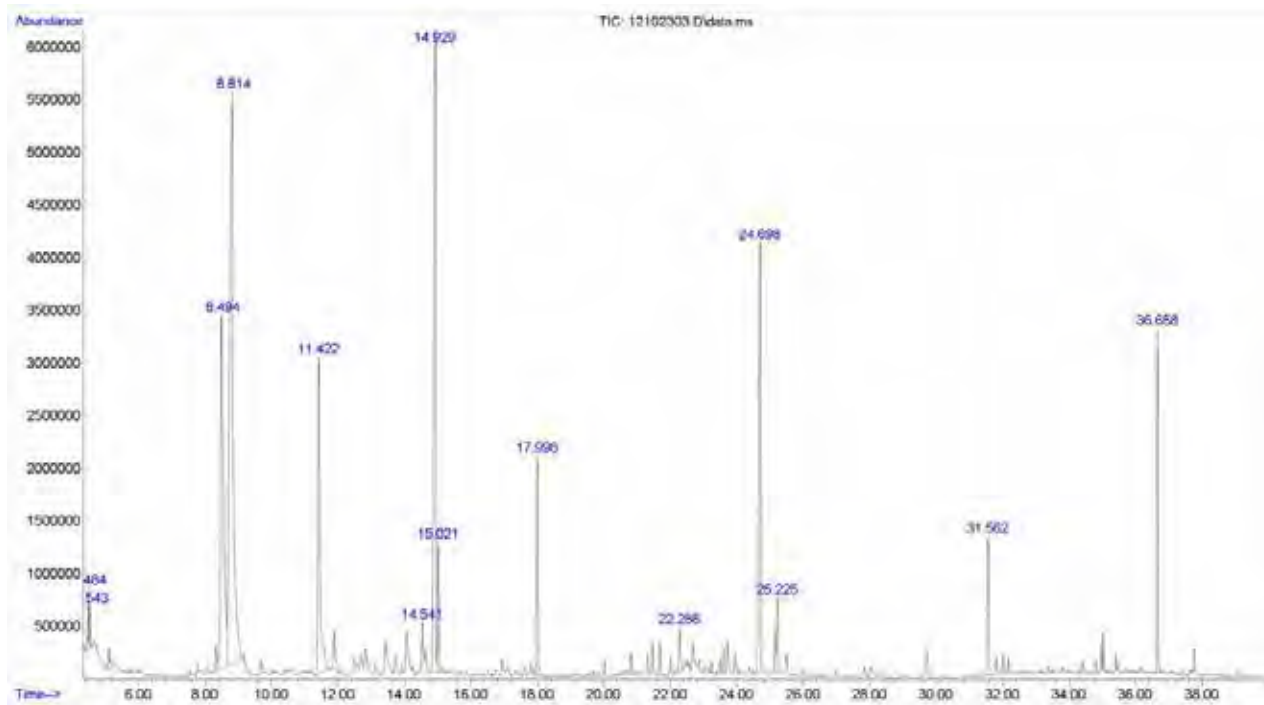
# Coffee berry borer, *Hypothenemus hampei*





# Coffee berry borer, *Hypothenemus hampei*

- GC-MS

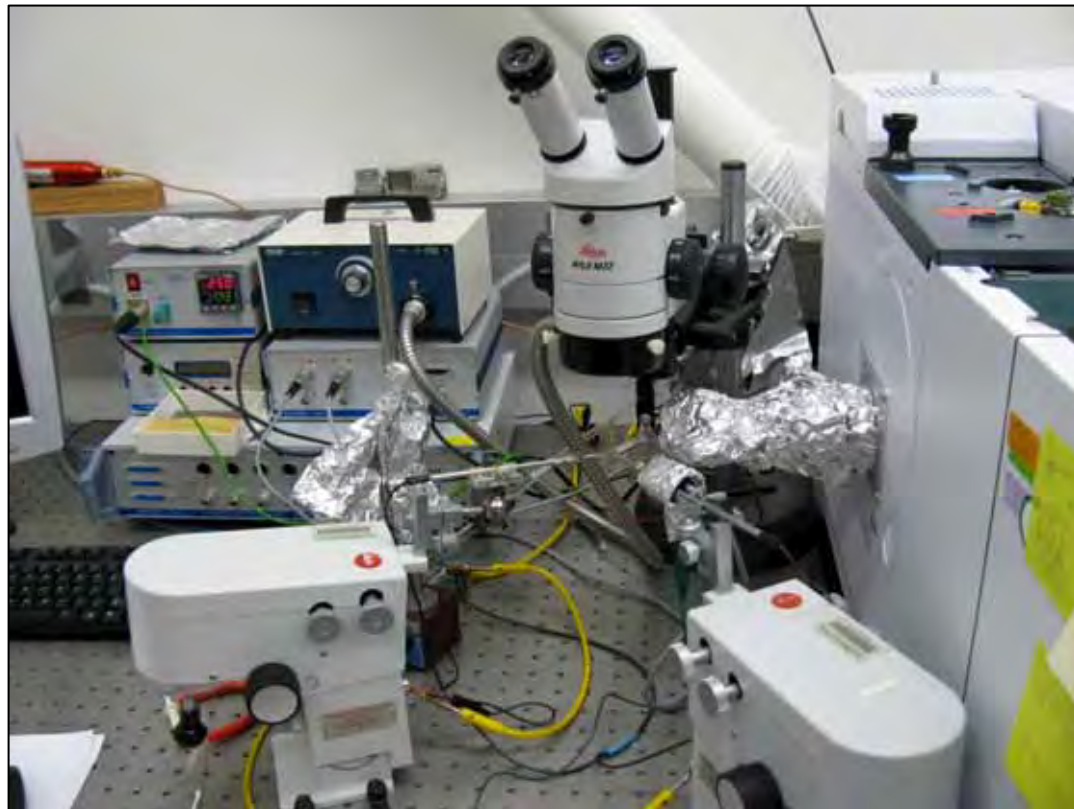






# Coffee berry borer, *Hypothenemus hampei*

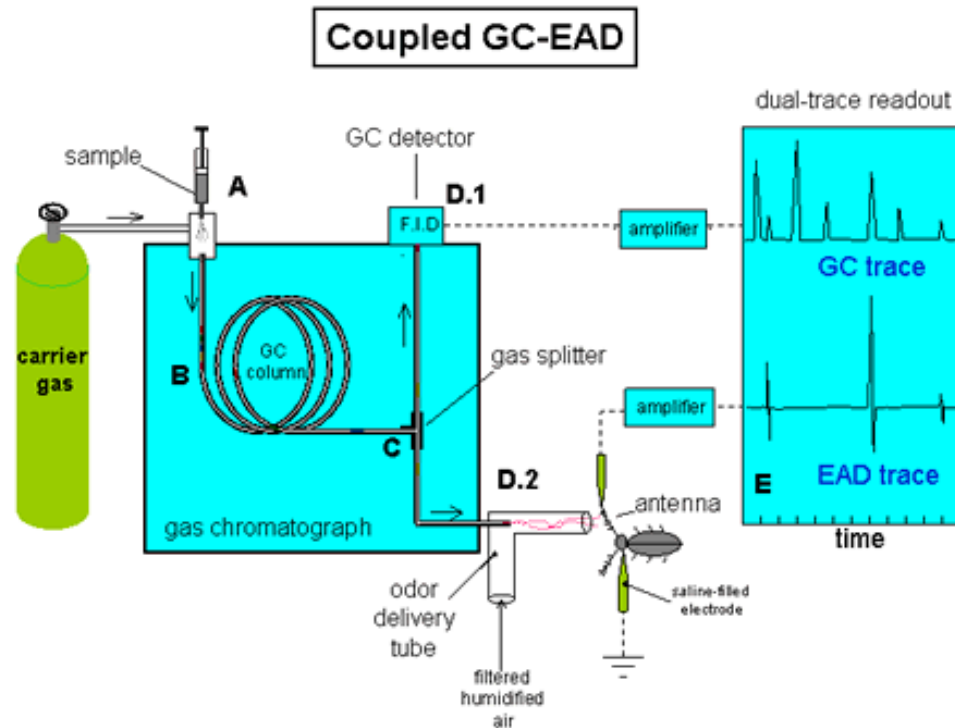
- GC-EAD





# Coffee berry borer, *Hypothenemus hampei*

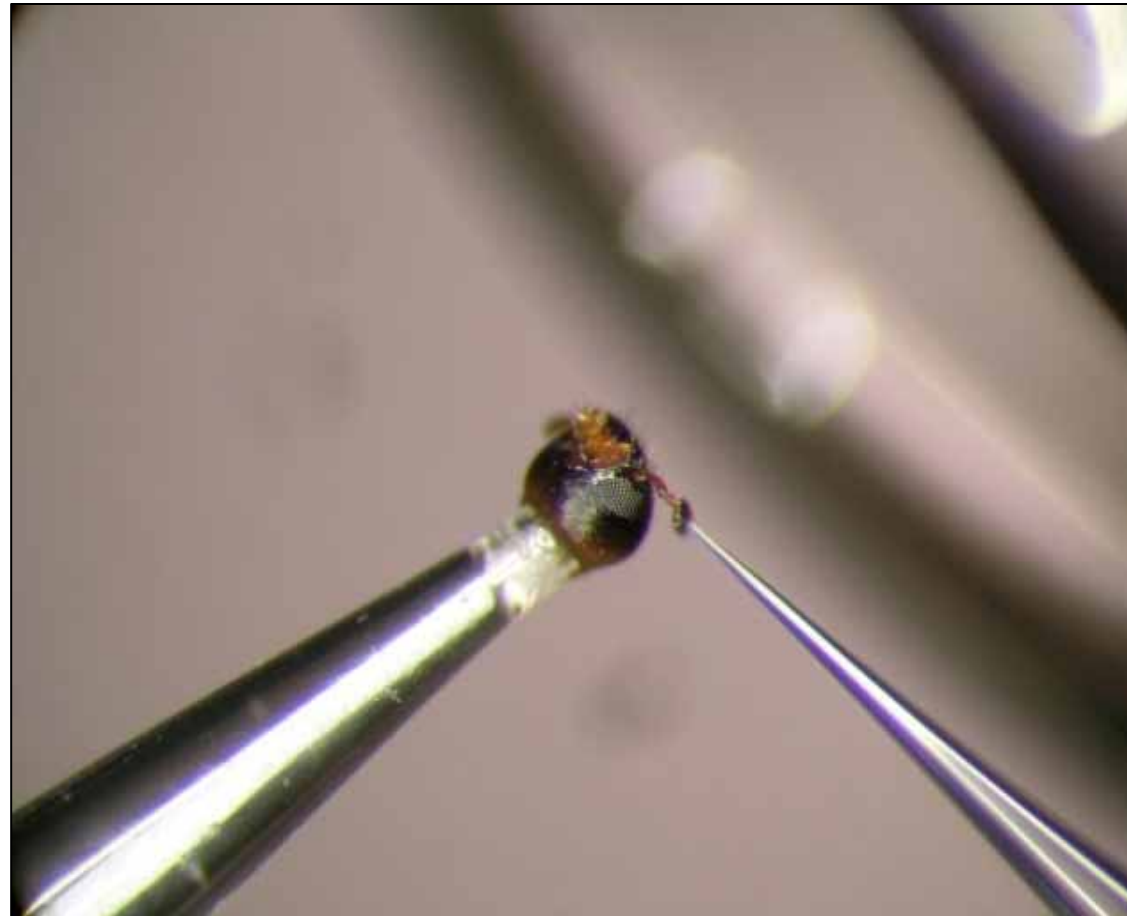
- GC-EAD





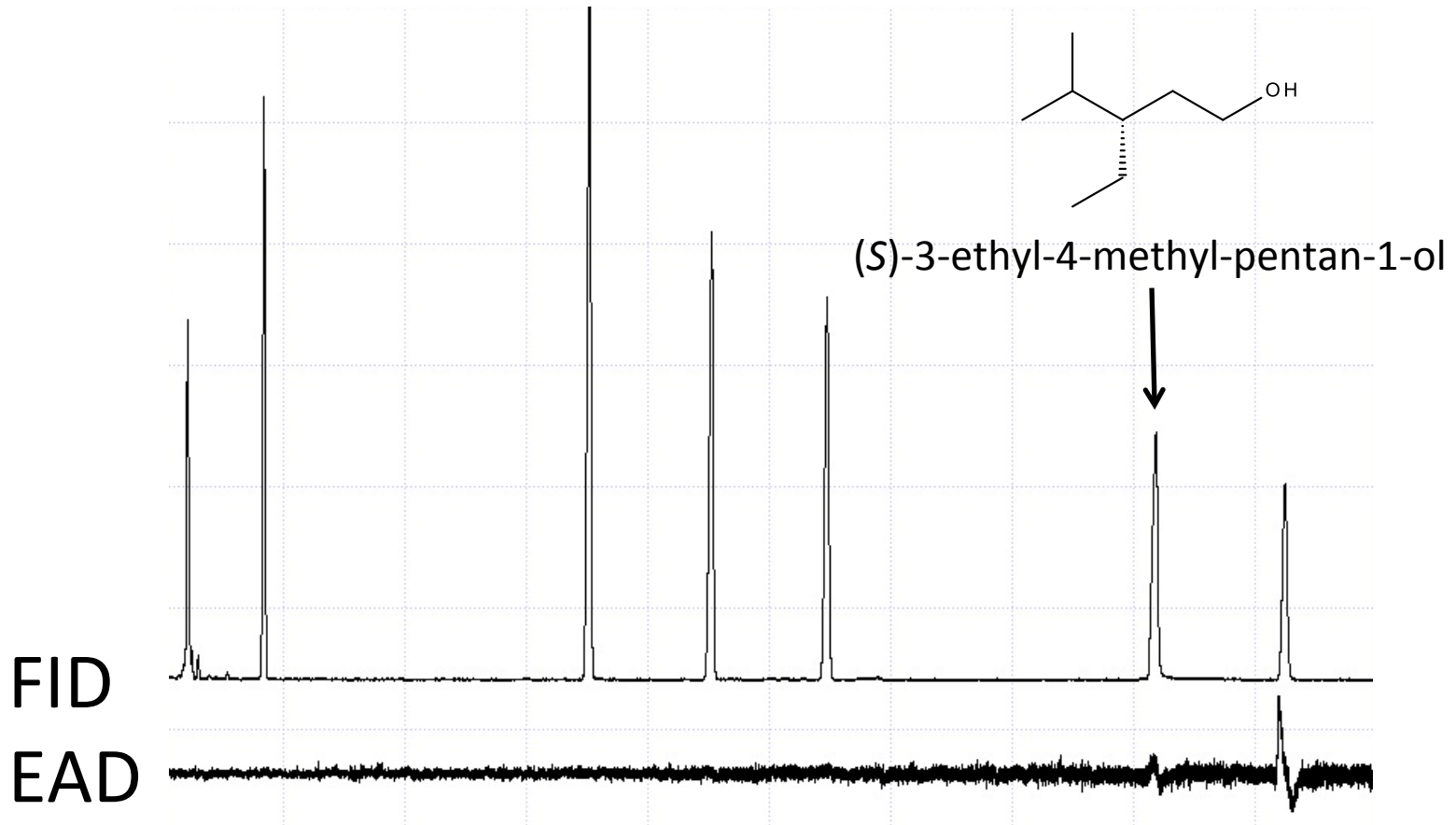
# Coffee berry borer, *Hypothenemus hampei*

- GC-EAD





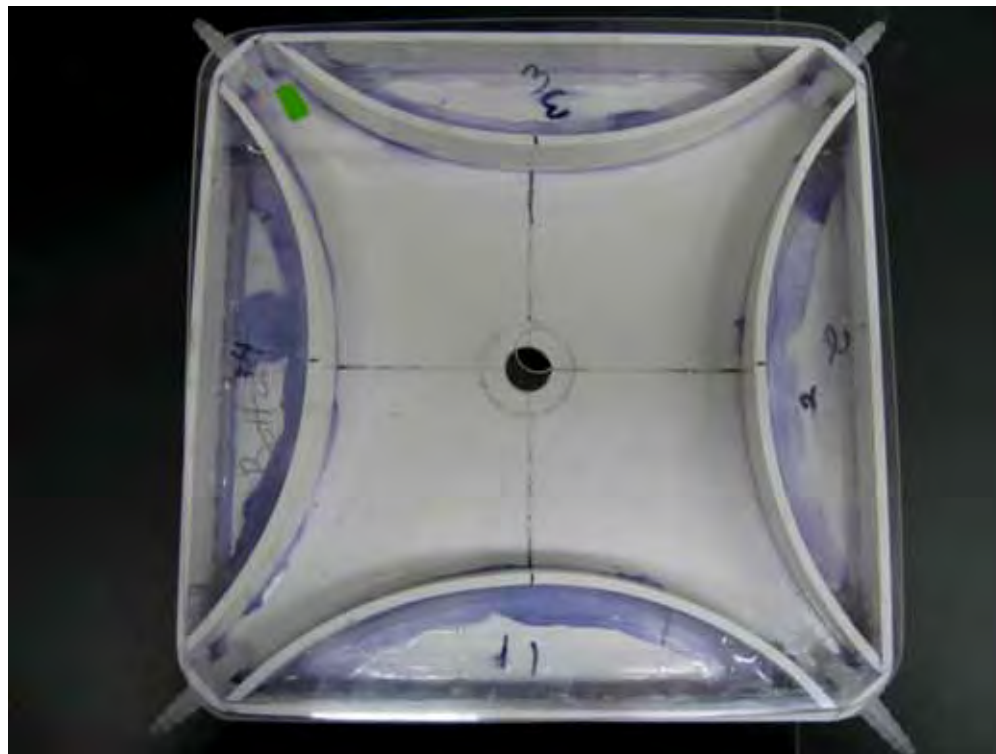
# Coffee berry borer, *Hypothenemus hampei*





# Coffee berry borer, *Hypothenemus hampei*

- Bioassay





# Coffee berry borer, *Hypothenemus hampei*





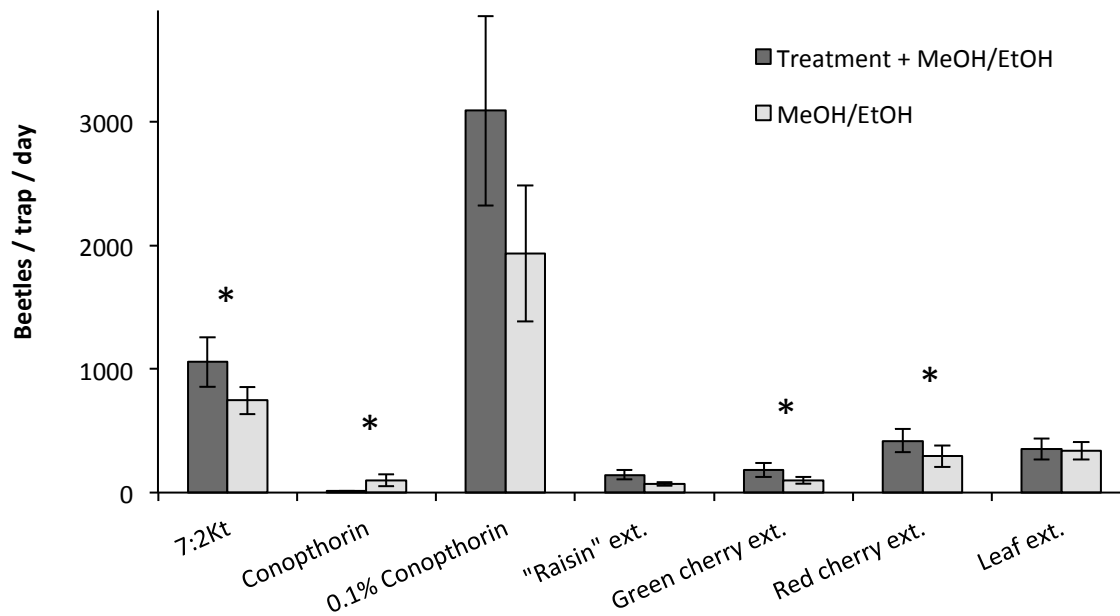
# Coffee berry borer, *Hypothenemus hampei*





# Coffee berry borer, *Hypothenemus hampei*

- Field testing
  - Highly variable
  - Paired traps







# Mahalo

- Personnel

- Lori Carvalho
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- Dominick Skabeikis
- Glenn Asmus
- Nathan Derstine
- Yu Nakane

- Funding

- Hawaii Department of Agriculture





# Questions?