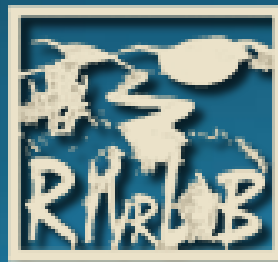


# Biocontrol of Cape Ivy

Kirsten Sheehy  
Tom Dudley  
Adam Lambert



RIVRLAB

RIPARIAN INVASION RESEARCH LABORATORY



San Diego Weed Management Area meeting, 06/06/19

# Cape Ivy, *Delairea odorata*

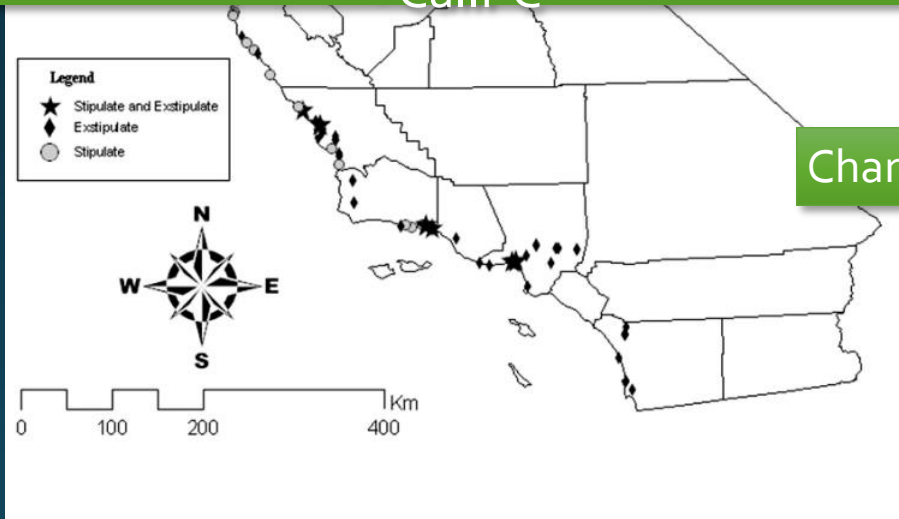
- Perennial, flowering vine
- Native to South Africa
- Brought to California in 1950's



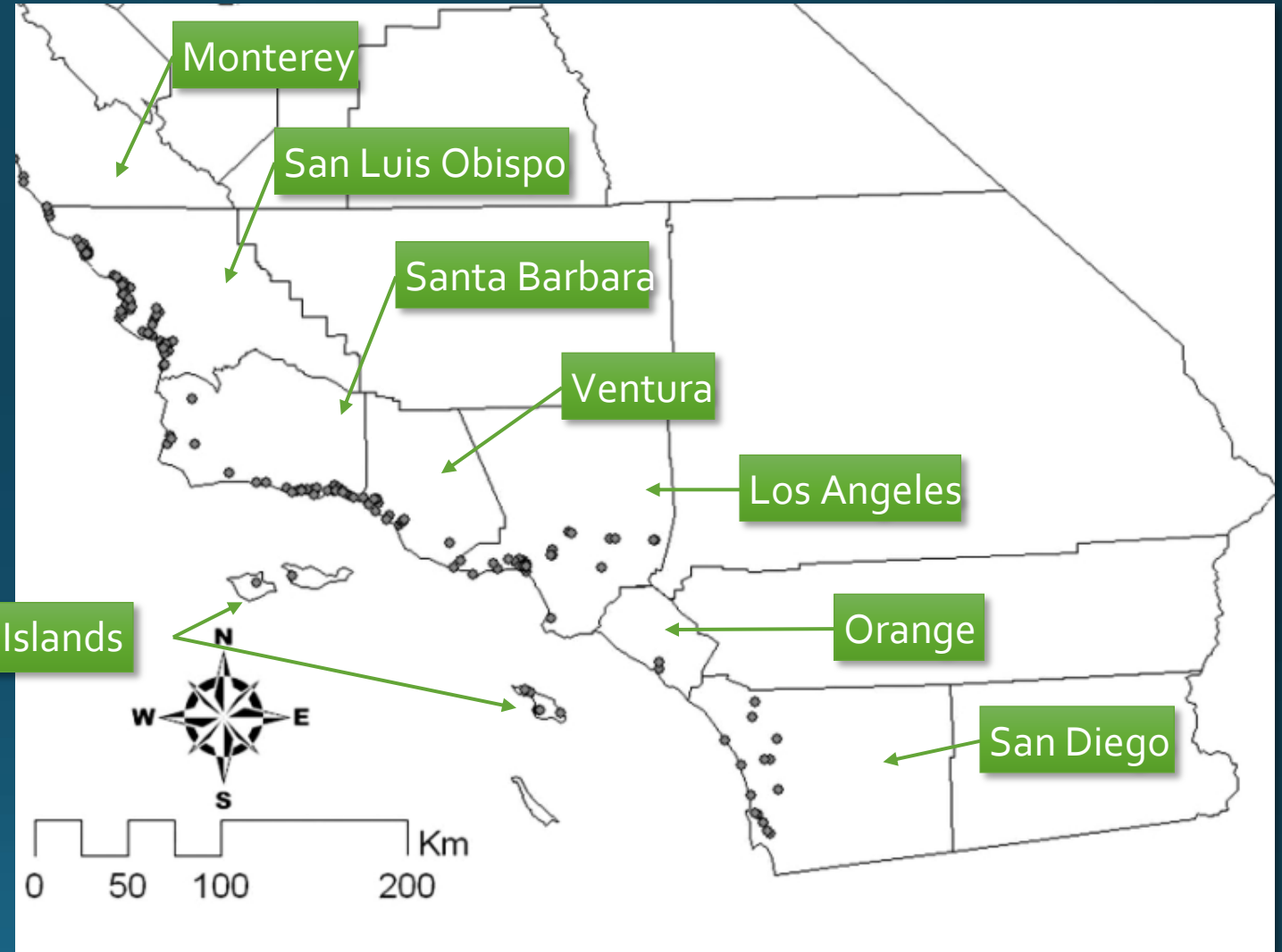
# Distribution

Cape Ivy currently  
occupies more than  
500,000 acres in  
California

- CalIPC



Channel Islands



Robison, R. & DiTomaso, J. M. Distribution and Community Associations of Cape Ivy (*Delawarea odorata*) in California. *Madroño* (2010).



# Cape Ivy

- Found primarily in wet areas
- Smothers vegetation
- Productive in winter
- Flammable when dry
- Spreads easily

Cape Ivy had 36% fewer native plants than plots that had not been invaded by Cape Ivy

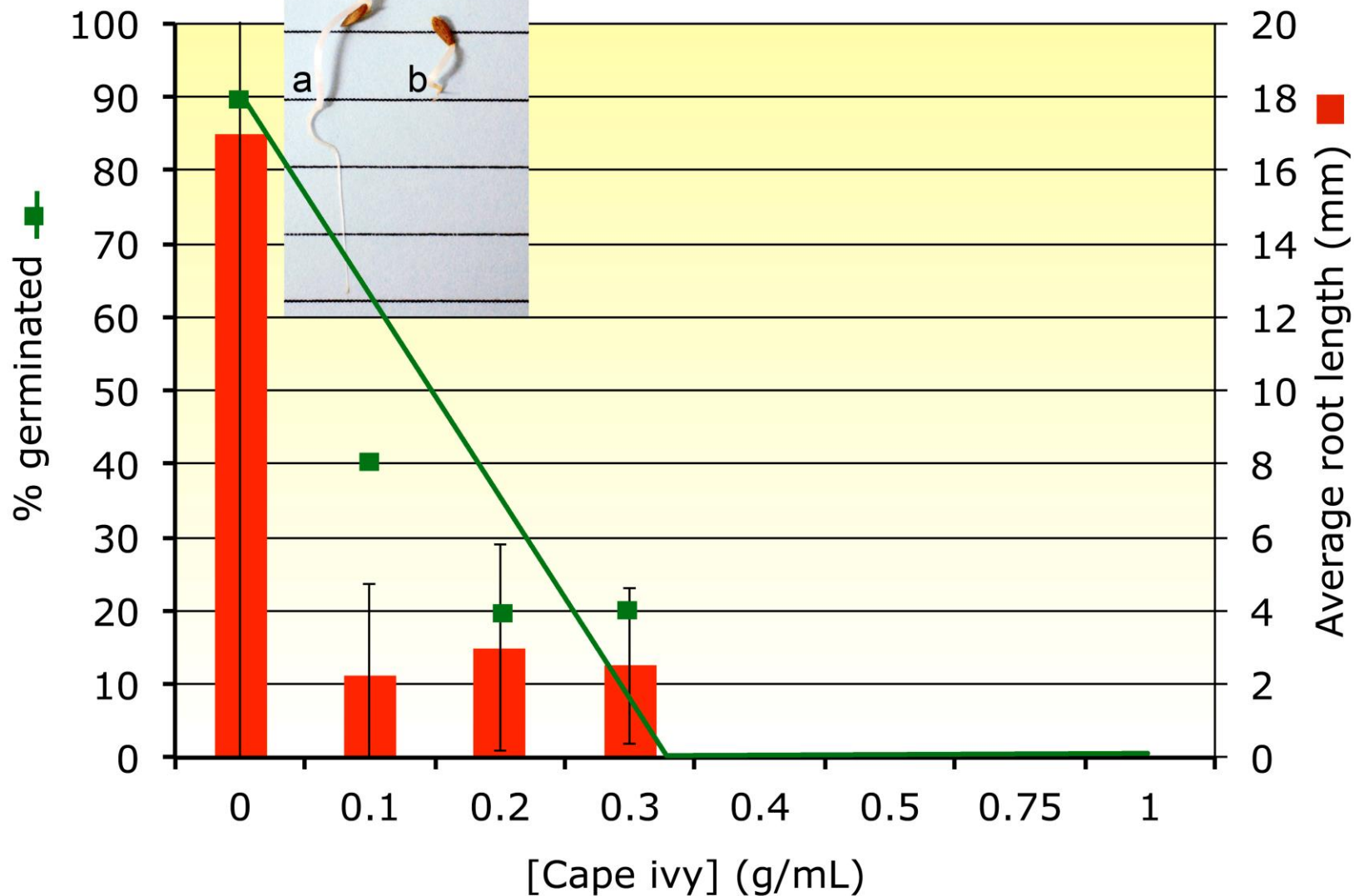
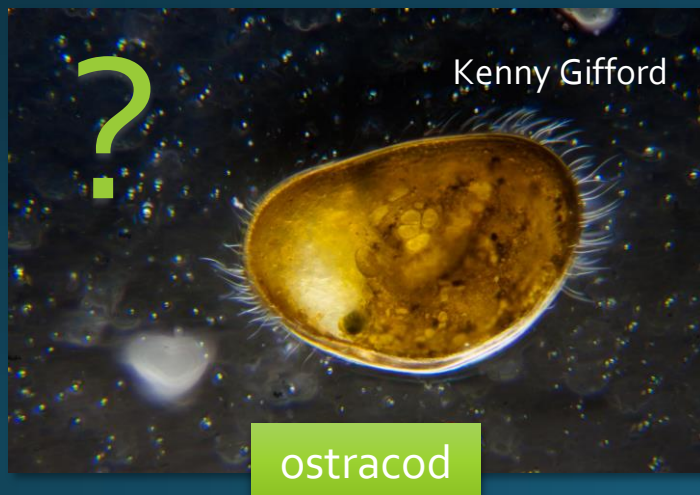
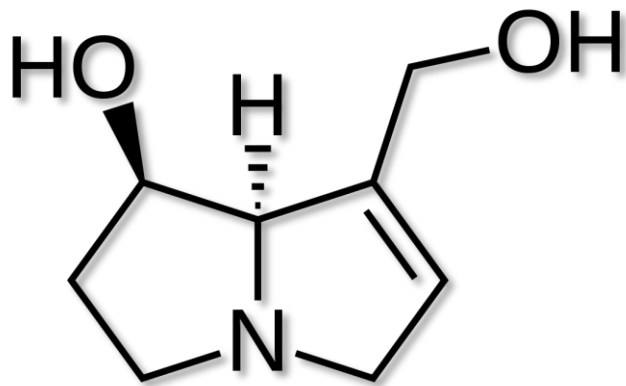
- Alvarez & Cushman (2002)





# Toxicity?

pyrrolizidine alkaloids



A. Koszis and C. Case. *Allelopathy and Biototoxicity of Cape Ivy Delairea odorata*, Biology Department, Skyline College, San Bruno, CA.



# Current Control of Cape Ivy





# What is biocontrol?



Biocontrol is the use of one organism to control another





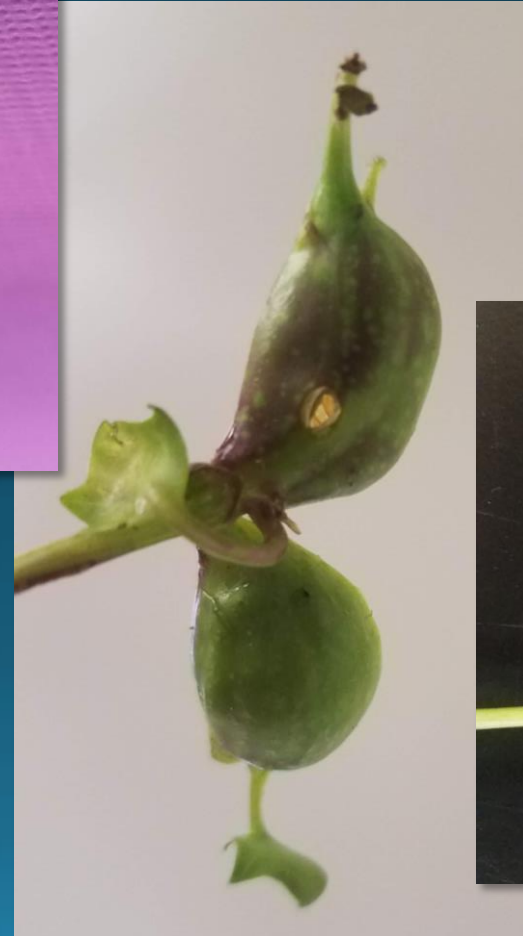
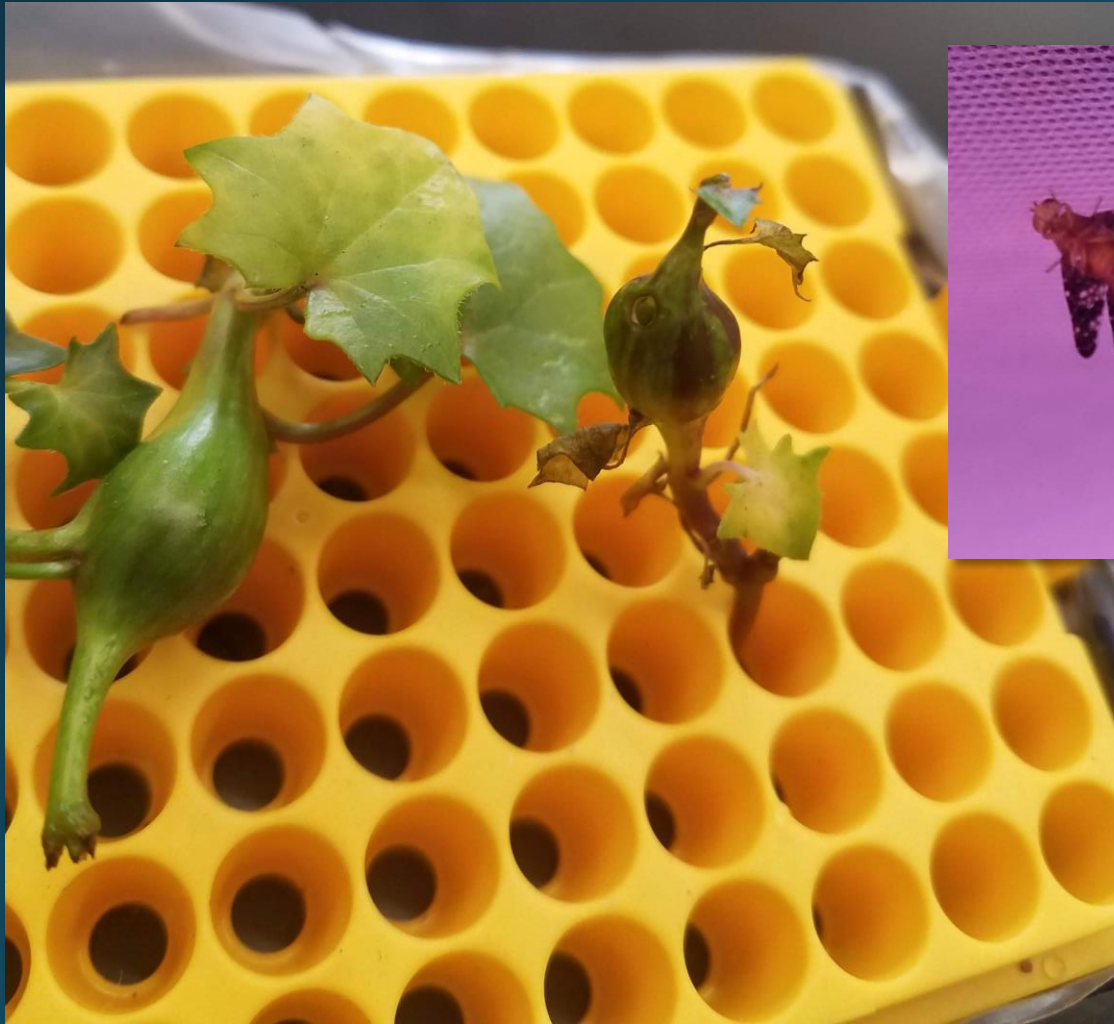
# The Biocontrol Process

- Identify target organism (often exotic)
- Identify an enemy
- Test and petition for agent approval
  - Choice and No-choice trials
  - Petition the Technical Advisory Group (TAG)
  - USDA review and approval
- Introduce and establish agents



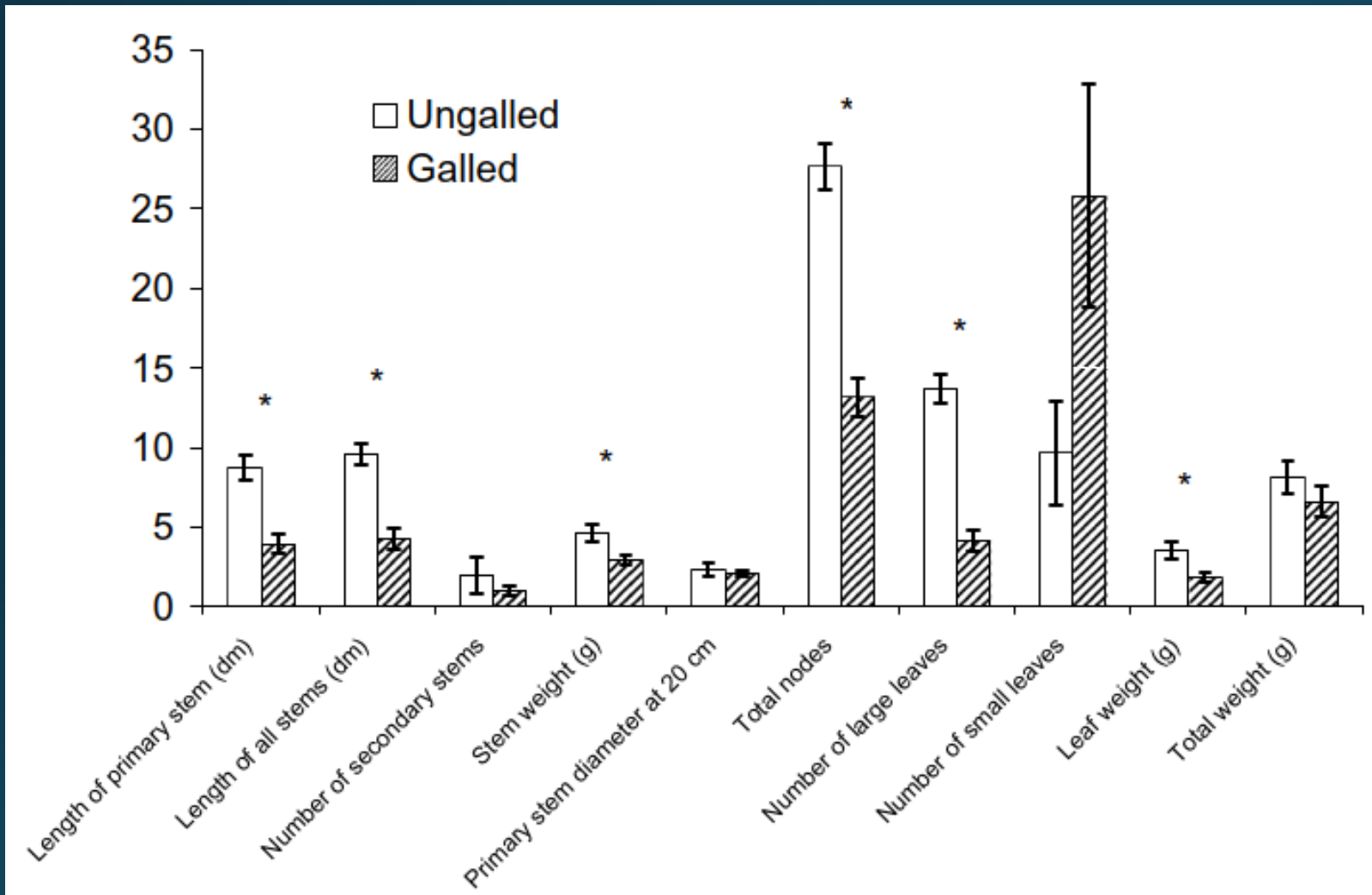


# Cape Ivy Fly, *Parafreutreta regalis*





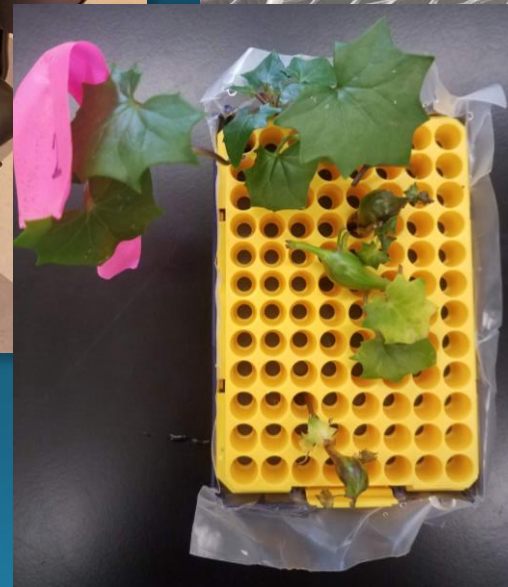
# The Cape Ivy Fly is an effective biocontrol



Balciunas, J. & Smith, L. Prerelease efficacy assessment, in quarantine, of a tephritid gall fly being considered as a biological control agent for Cape-ivy (*Delairea odorata*). *Biol. Control* 39, 516–524 (2006).



# Rearing methods for *Parafreutreta regalis*





# Mass Rearing





# Field Releases



- ground cover
- canopy cover
- number of flies
- galls produced



# Acknowledgements





# Questions?

Contact me at [kirstensheehy@ucsb.edu](mailto:kirstensheehy@ucsb.edu)

