

Nest Habitat Characteristics for the Coastal Cactus Wren



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Applied Plant Ecology

Coastal Cactus Wren

Campylorhynchus brunneicapillus ssp. sandiegensis

- Species of special concern due to habitat loss
(Dudek 2000)
- Need cactus for nests year round
(Anderson and Anderson 1957)
- Forage on bare ground and in shrubs for insects and lizards
- Goal: Effective restoration to encourage nesting



Site Selection



Site Selection



Nest Surveys



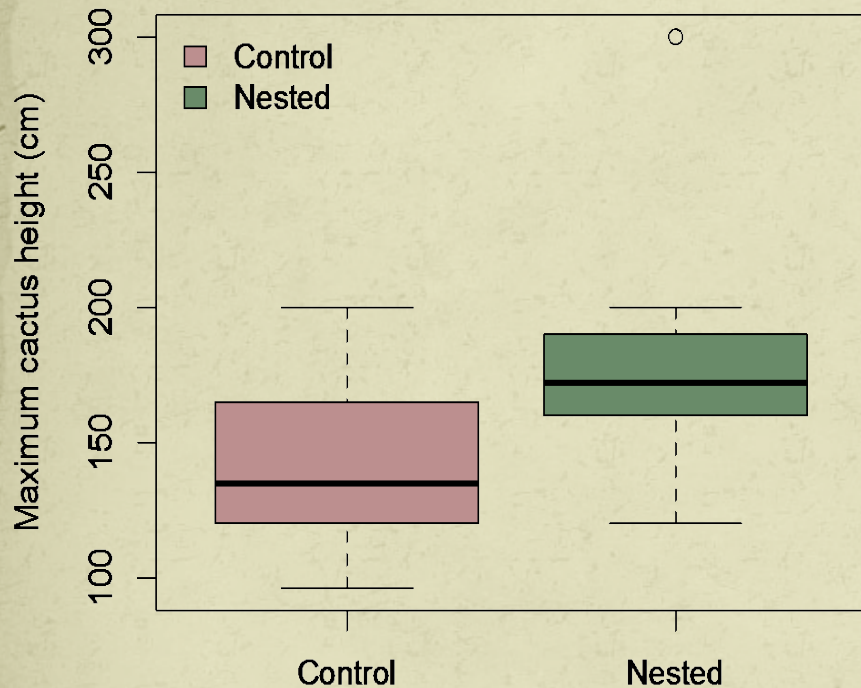
- Cactus characteristics
- Five 10m transects centered over the nest or control pad
- Distance to refuge

Nests: 20

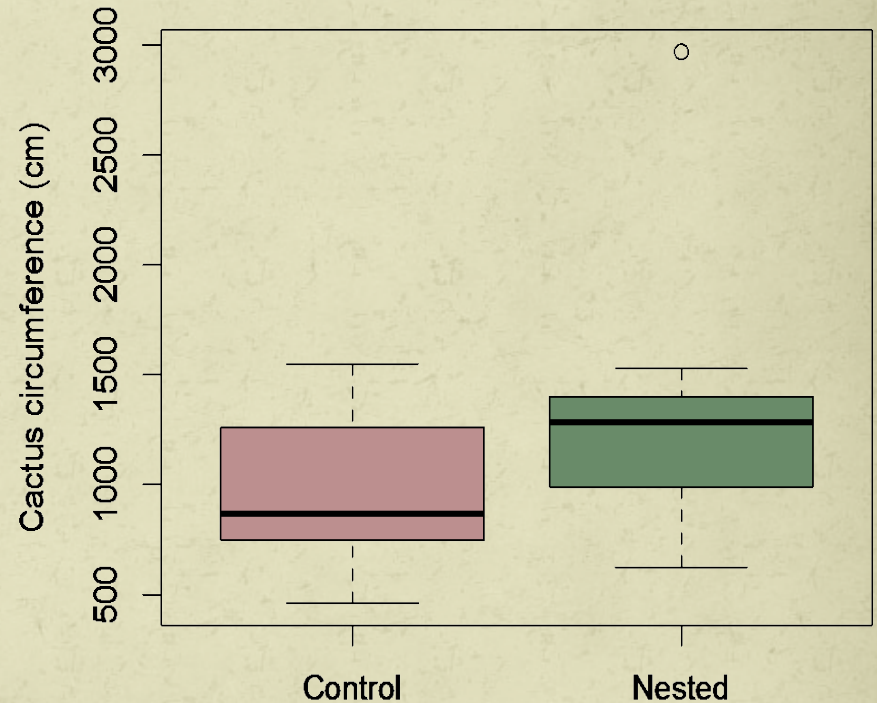
Controls: 20

Nests were found in larger cacti

Height



Circumference



Manova: $F_{(1,37)}=6.60$, $p=0.003$

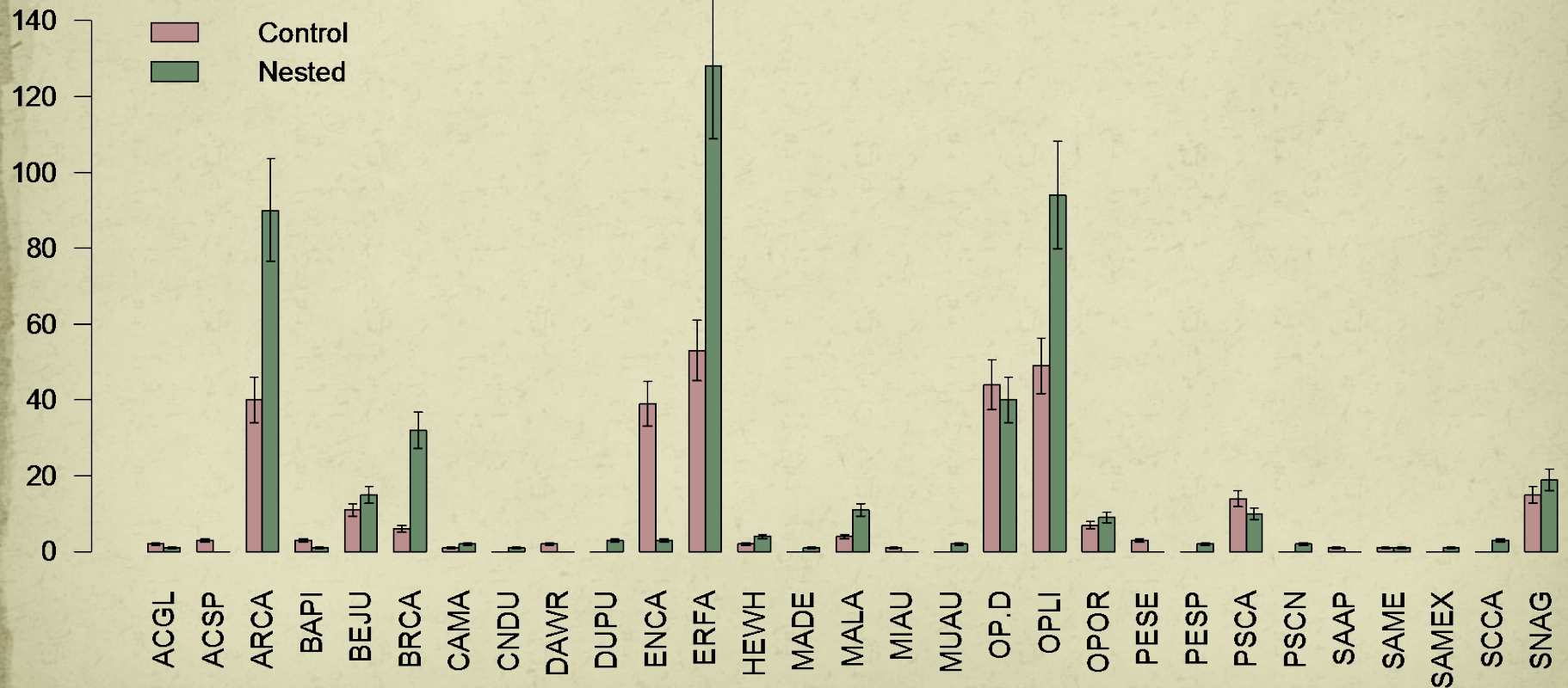
An open foraging area was typical at nested sites



Anova: $F_{(4,2154)}=10.0$, $p=0.001$

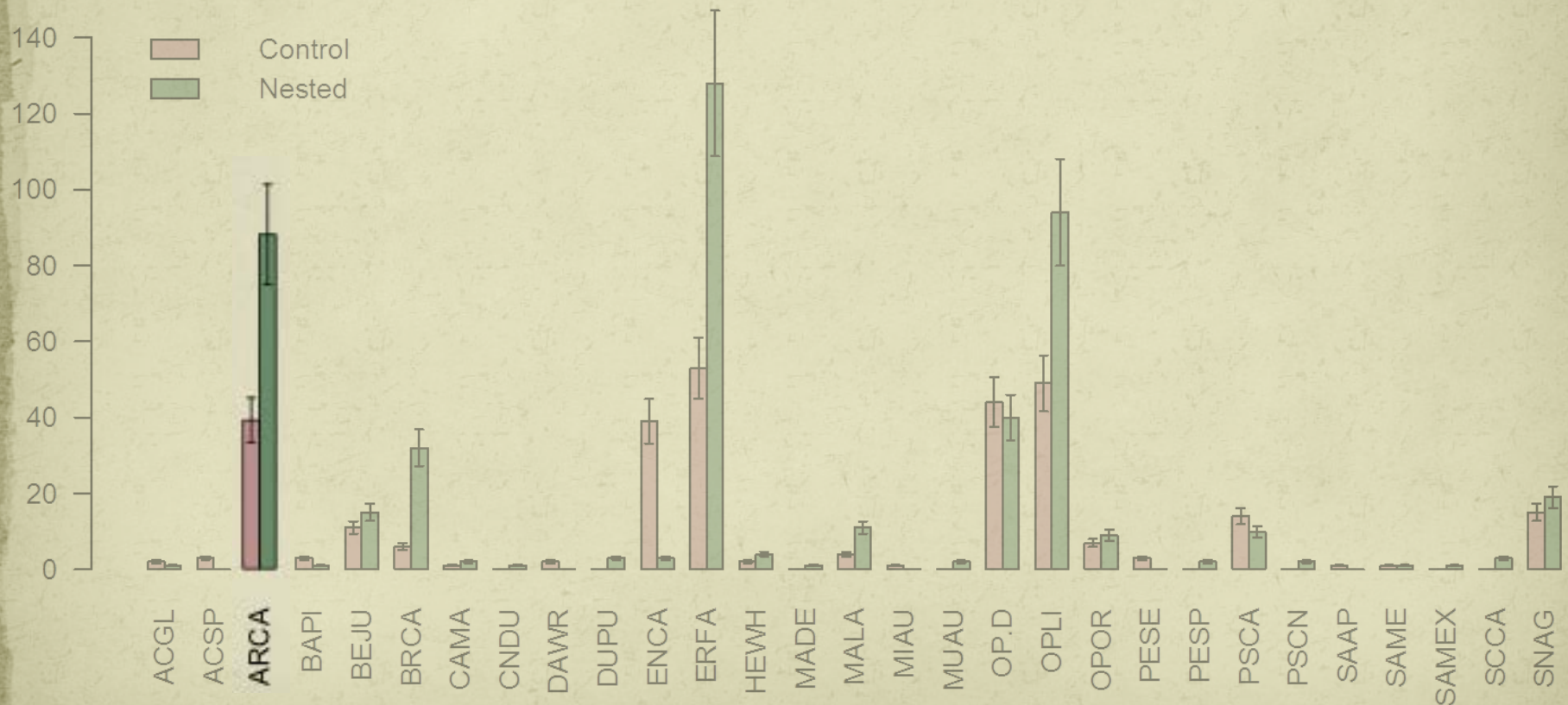


Species frequencies differ at nested and un-nested sites



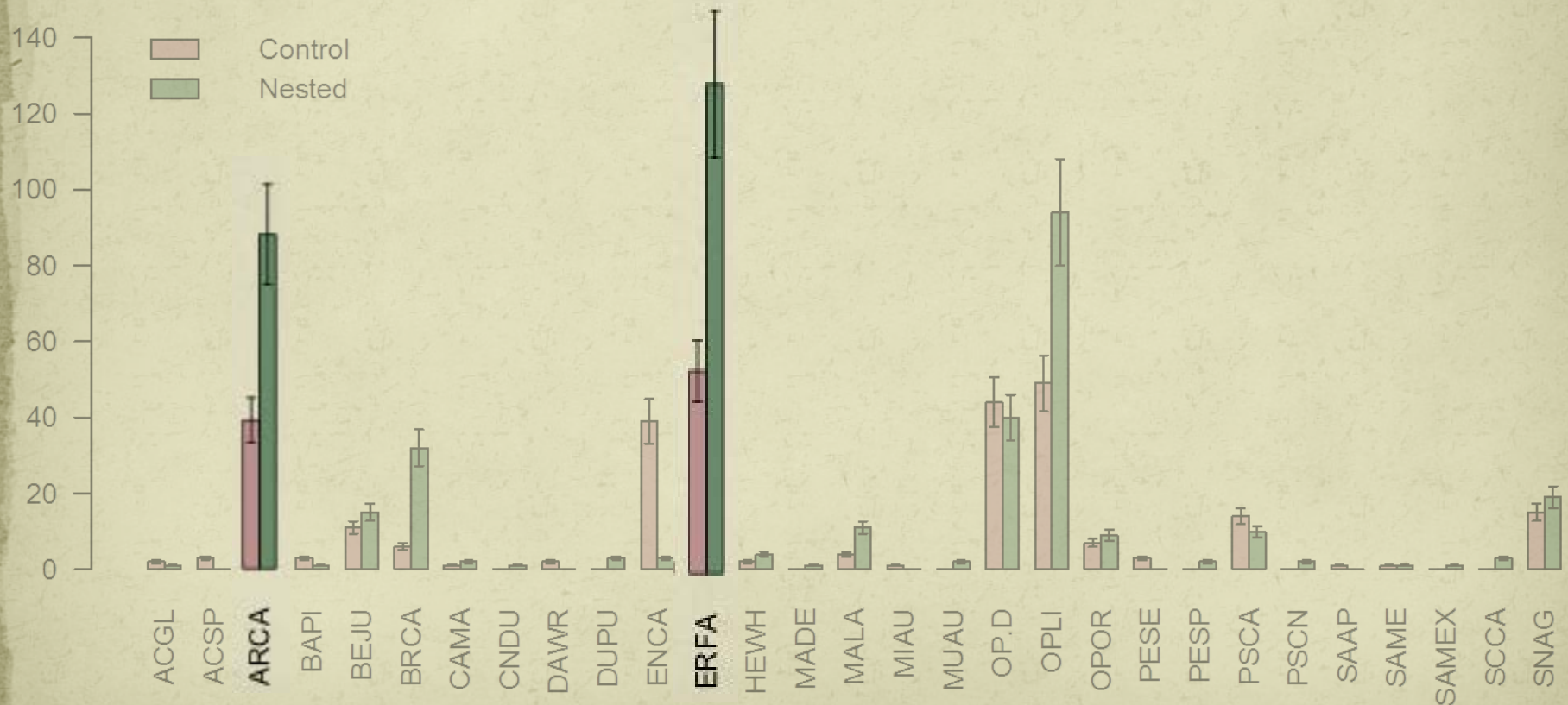
ZAP, log-link: $Z=2.124$, $p=0.034$

Species frequencies differ at nested and un-nested sites



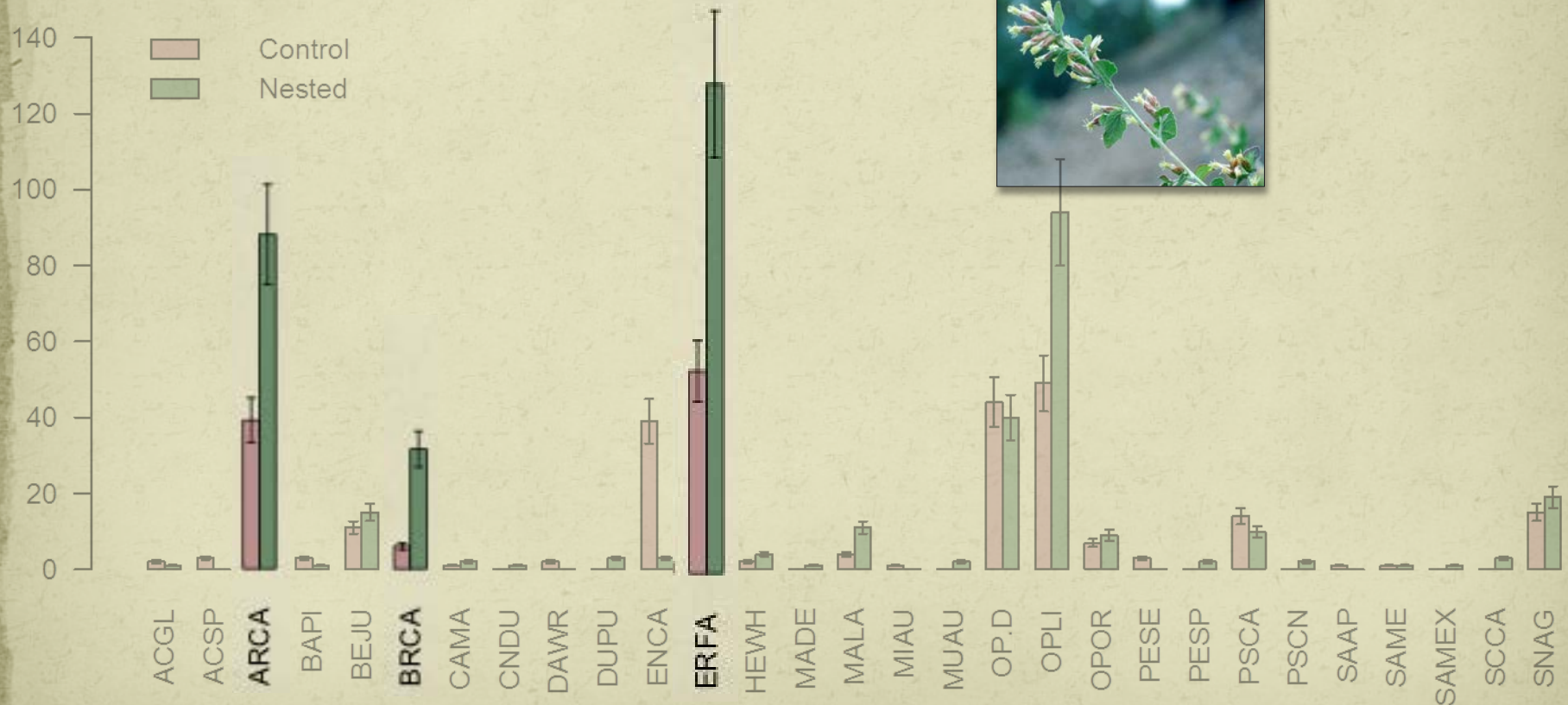
ZAP, log-link: $Z=2.124$, $p=0.034$

Species frequencies differ at nested and un-nested sites



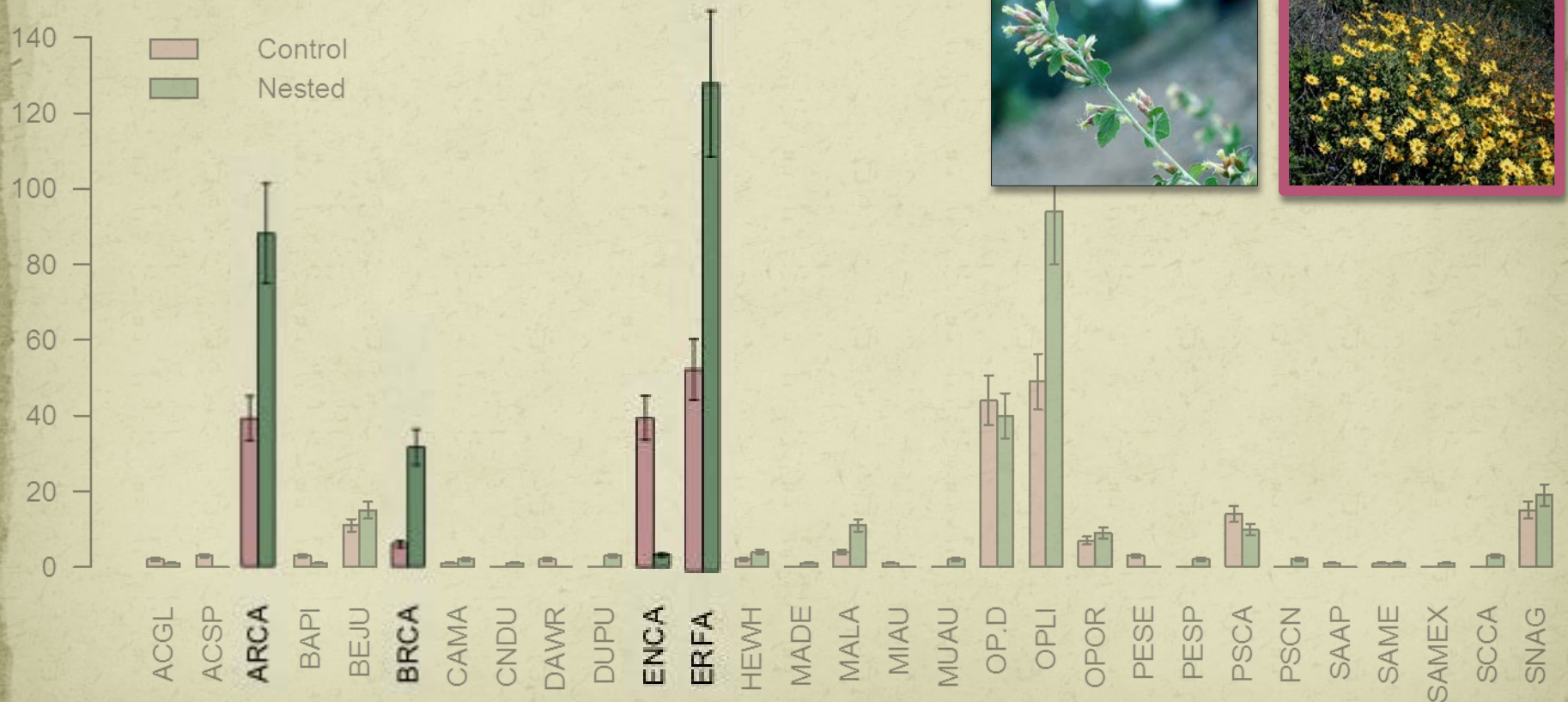
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Species frequencies differ at nested and un-nested sites



ZAP, log-link: $Z=2.124$, $p=0.034$

Wrens build a safe height above surrounding vegetation



Mean Height from Resident Cactus

Mean Height from Resident Cactus

Mean Height from Resident Cactus

Mean Height from Resident Cactus

Mean Height from Resident Cactus



Shrub

Shrub

Shrub

Anova: $F_{(1,28)}=4.66$, $p=0.03$

Elderberry and Laurel Sumac: interchangeable refuge?

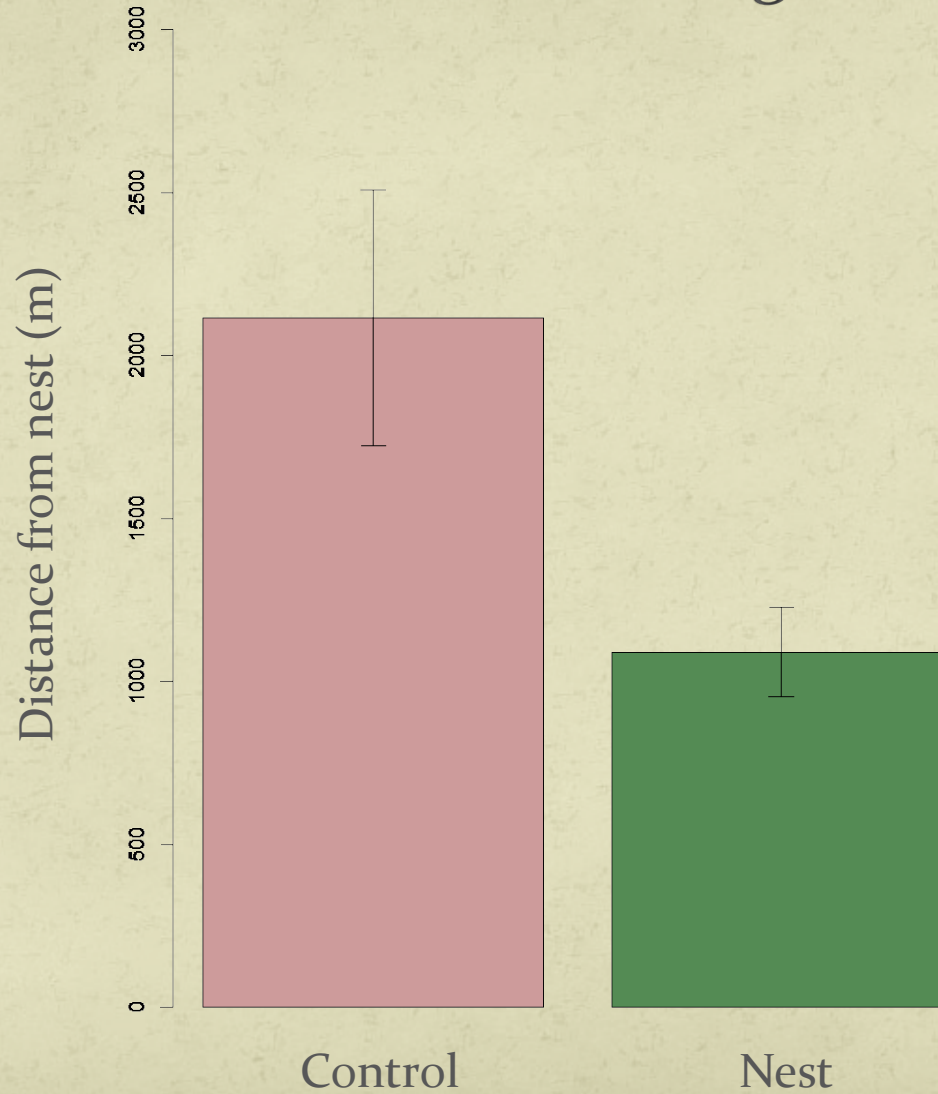


Photo Credit: Rosa Chung

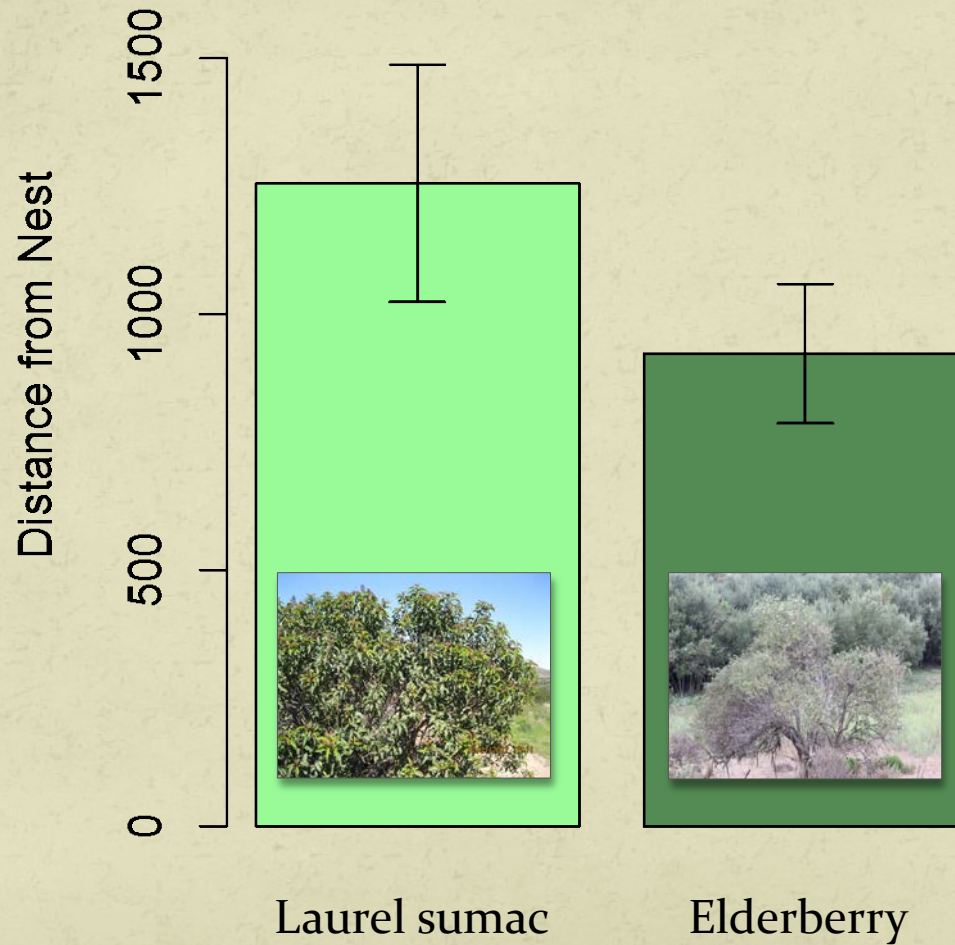


Photo Credit: Ryan Brown

Elderberry and Laurel Sumac: interchangeable refuge?



Elderberry and Laurel Sumac: interchangeable refuge?





Main conclusions

- Tall cacti within a large cactus patch afford maximum protection from predators
- Some shrub species are more common near nests, other species are avoided
- Refuge species often in close proximity

Restoration considerations

- Ensure that favored shrubs are planted and managed to maintain preferred heights
- Control grass cover to provide bare ground for foraging
- Not limited to sites containing Elderberry as a refuge, utilize Laurel Sumac as a potential alternative
- Regional habitat preferences need consideration