

Correlating reproduction with size structure and light levels in *Heliconia caribaea*

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Introduction

- Light is a limiting factor for understory plants¹
- Seedlings thrive in gaps; vegetative plants prosper in shade.²
- Light not always contributing in HELCAR inflorescences.³
- HELCAR have higher instances of reproduction in “high light” areas.
- HELCAR have larger size structure in “high light” areas.

Methods

- El Yunque National Forest, Puerto Rico
- “High” & “Low” light plots
- Light levels above and below plants
- Diameter, number of shoots and leaves recorded
- Number of bracts, indicating reproduction

Results

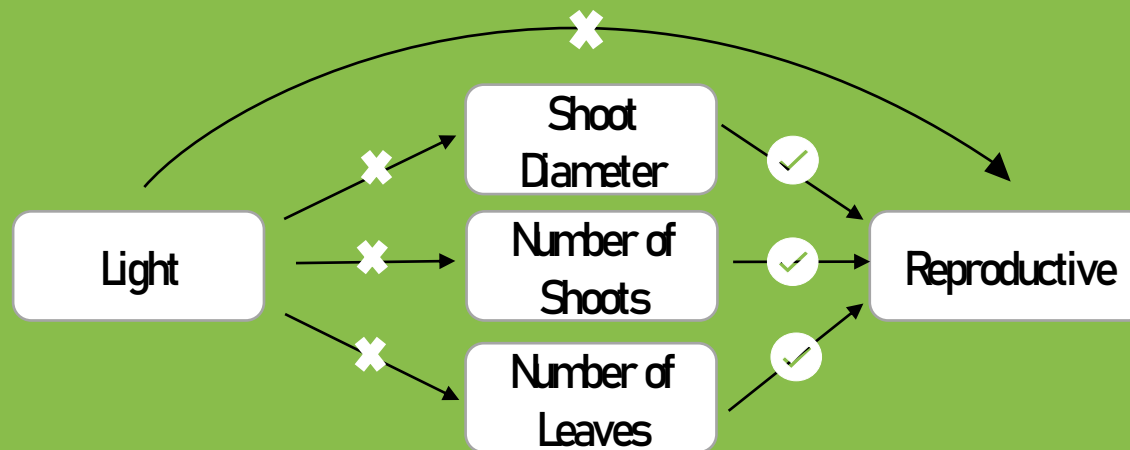
- No significant relationship with light levels.
- Significant relationships found between size structure and reproduction.

Discussion

- Research on these relationships important for understanding impacts of understory environments pre and post disturbance.

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In *Heliconia caribaea*, size structure found to correlate with reproduction as opposed to light levels.



Works Cited

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- ²Matlaga DP, Horvitz CC. Growth and survival across a gap-understory gradient: Contrast in performance of sexually vs. clonally produced offspring. *Am J Bot*. 2009 Feb;96(2):439–47. doi: 10.3732/ajb.0800138. Epub 2009 Jan 9. PMID: 21628199.
- ³Westerband, A. C., & Horvitz, C. C. (2015). Interactions between plant size and Canopy Openness INFLUENCE VITAL rates and life-history tradeoffs in two neotropical understory herbs. *American Journal of Botany*, 102(8), 1290–1299. <https://doi.org/10.3732/ajb.1500041>

