

Abstract

On St. George Island, FL, *Heterotheca subaxillaris* is a plant present on both the foredune and backdune sections of the sand dunes. Given that the foredune is much more disturbed than the backdune, we ask the following question: are there differences among *H. subaxillaris* individuals on the foredune with regards to seed production? We believe that plants on the foredune will produce more disk type seeds, as they are more efficient for dispersal.

Introduction

There exist drastically different habitats on St. George's sand dunes; one key difference is that the foredune is prone to greater disturbances than the backdune. *Heterotheca subaxillaris*, a North American flowering plant, has been recorded in abundance on the island. *H. subaxillaris* produces two types of seeds: disk florets, which can disperse across distances, and ray florets, which take root where they fall. Given that these seeds are adapted to different situations, it is plausible that plants in different locations would produce each type in different amounts.

Methods

At the tip of the island, collected approximately 10 fruiting flowers and 10 fresh flowers from *subaxillaris* plants on both the foredune and backdune for a total of 40 flowers.



Under a microscope, used forceps to remove seeds from fruiting flowers and record the number of both disk and ray florets.



Graph the proportion of disk florets in a boxplot and compare graphs between foredune/backdune

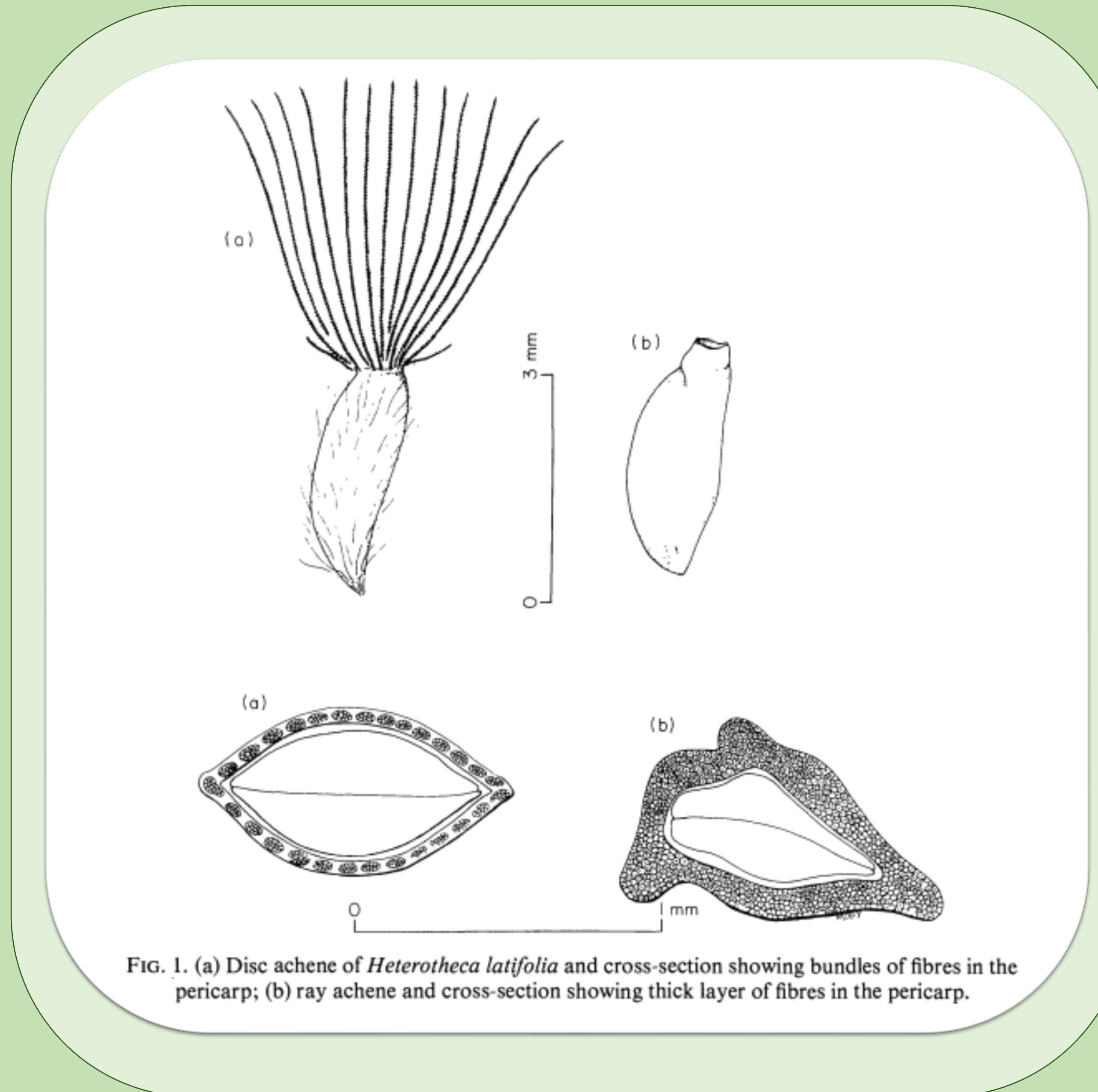


FIG. 1. (a) Disc achene of *Heterotheca latifolia* and cross-section showing bundles of fibres in the pericarp; (b) ray achene and cross-section showing thick layer of fibres in the pericarp.

Results and Conclusion

Though there is not enough data for our results to be significant, we were able to identify patterns:

- Flowers on the foredune produced more disk florets
- Flowers on the foredune produced fewer ray florets
- Flowers on the foredune seem more variable

This may be because seeds are more likely to survive when dispersed to less-disturbed areas. However, a larger sample size is needed to verify or nullify this pattern.

References

Venable, D. L., and D. A. Levin. "Ecology of Achene Dimorphism in *Heterotheca Latifolia*: I. Achene Structure, Germination and Dispersal." *The Journal of Ecology*, vol. 73, no. 1, 1985, p. 133., <https://doi.org/10.2307/2259774>.

