

Seed of Rare Wetland Native May Store Well After All!

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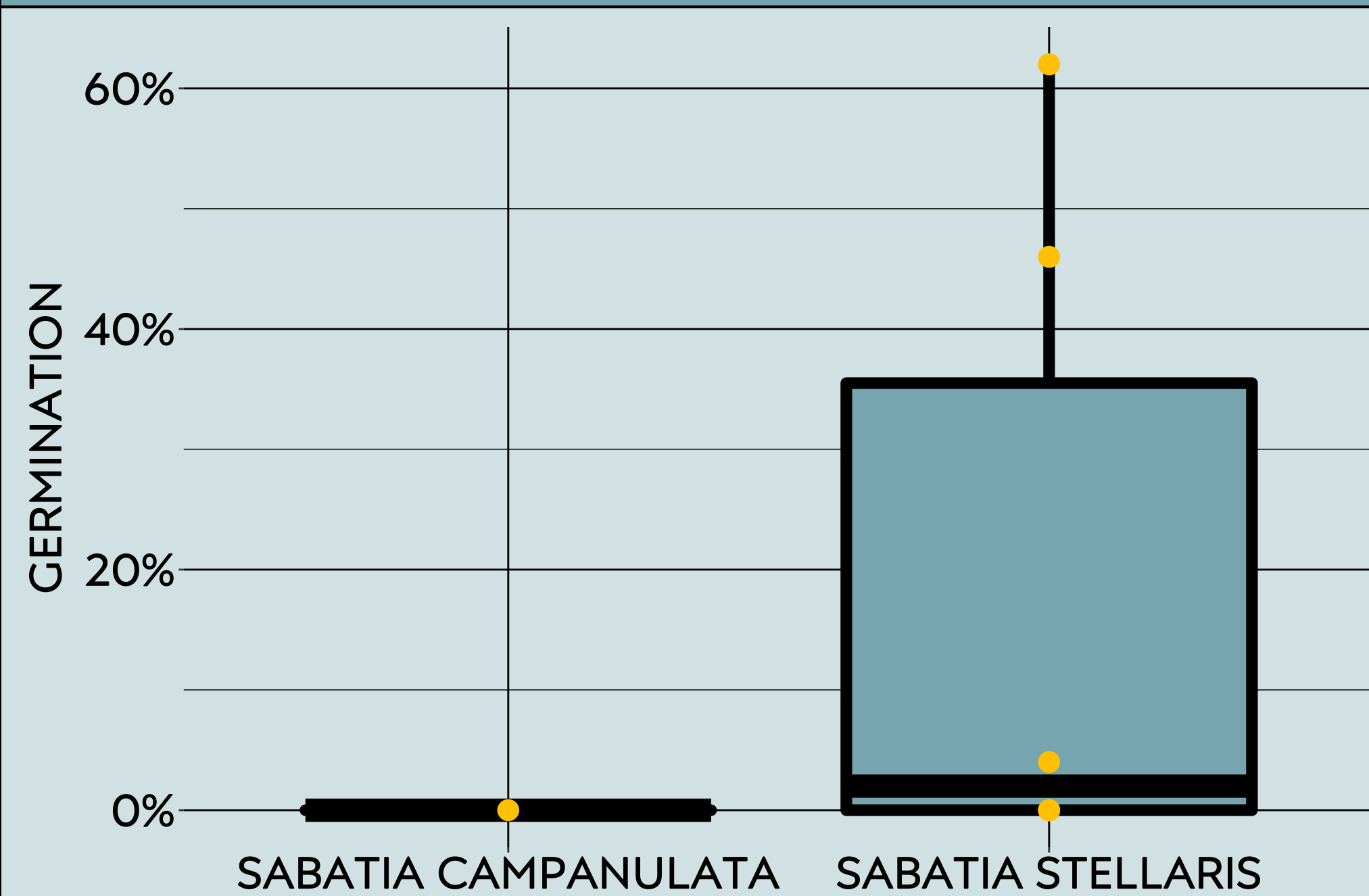


Figure 1. *Sabatia campanulata* did not germinate in our 2018 propagation studies of *Sabatia* spp. in our seed bank.



Sabatia campanulata is extremely rare (S1) and endangered in Massachusetts. Threats to this species include habitat loss, competition with invasives, predation by herbivores, and inbreeding depression.

Acknowledgements

Cover photo by Jonathan Coddington. Thank you to the PLANTS grant for funding my conference attendance and to Ed Petcavage for funding my internship.

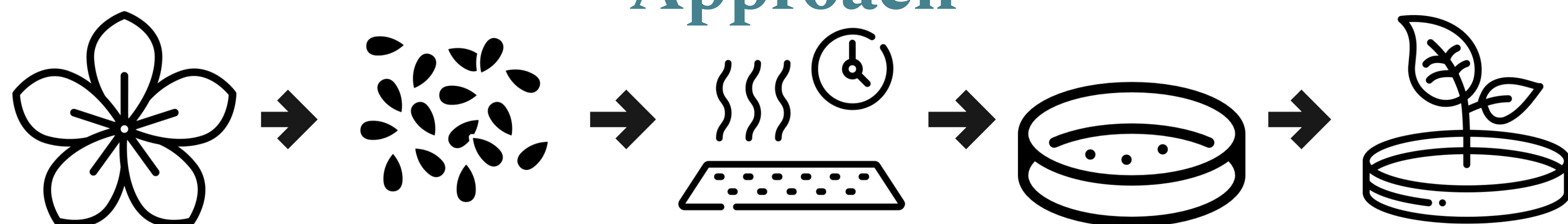
Background

Plant gene banking is dependent on the compliant storage behavior of seed, but the seeds of **exceptional species** are often short lived.

Sabatia campanulata failed to germinate in previous experiments, resulting in its speculation as a desiccation sensitive species (**Fig. 1**).

We examined the impact of **desiccation stress** on the germination of *S. campanulata* seed before we put it in the bank (**Fig. 2**).

Approach



Newly collected *S. campanulata* seed was exposed to variable drying periods and germinated in comparison with seed stored in our gene bank conventionally for five years at 18°C, 15% RH. Each collection was also exposed to a cold-moist stratification treatment to investigate temperature as another responsible factor.

Outcome



Figure 2. Final germination was similar across desiccation treatments but varied for stratification.

We found no response to desiccation and stratification treatments in newly collected seed ($p = 0.28$). However, stratification treatment resulted in significantly reduced germination for seeds from the bank ($p = 0.04$).

Future investigations will study the impacts of stratification and the germination light requirements of *S. campanulata* to inform optimal propagation protocols.

