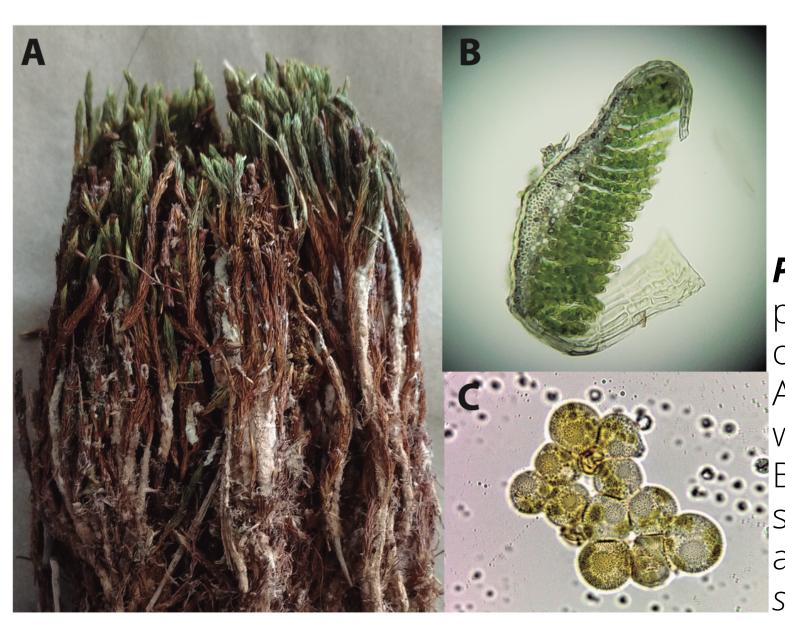




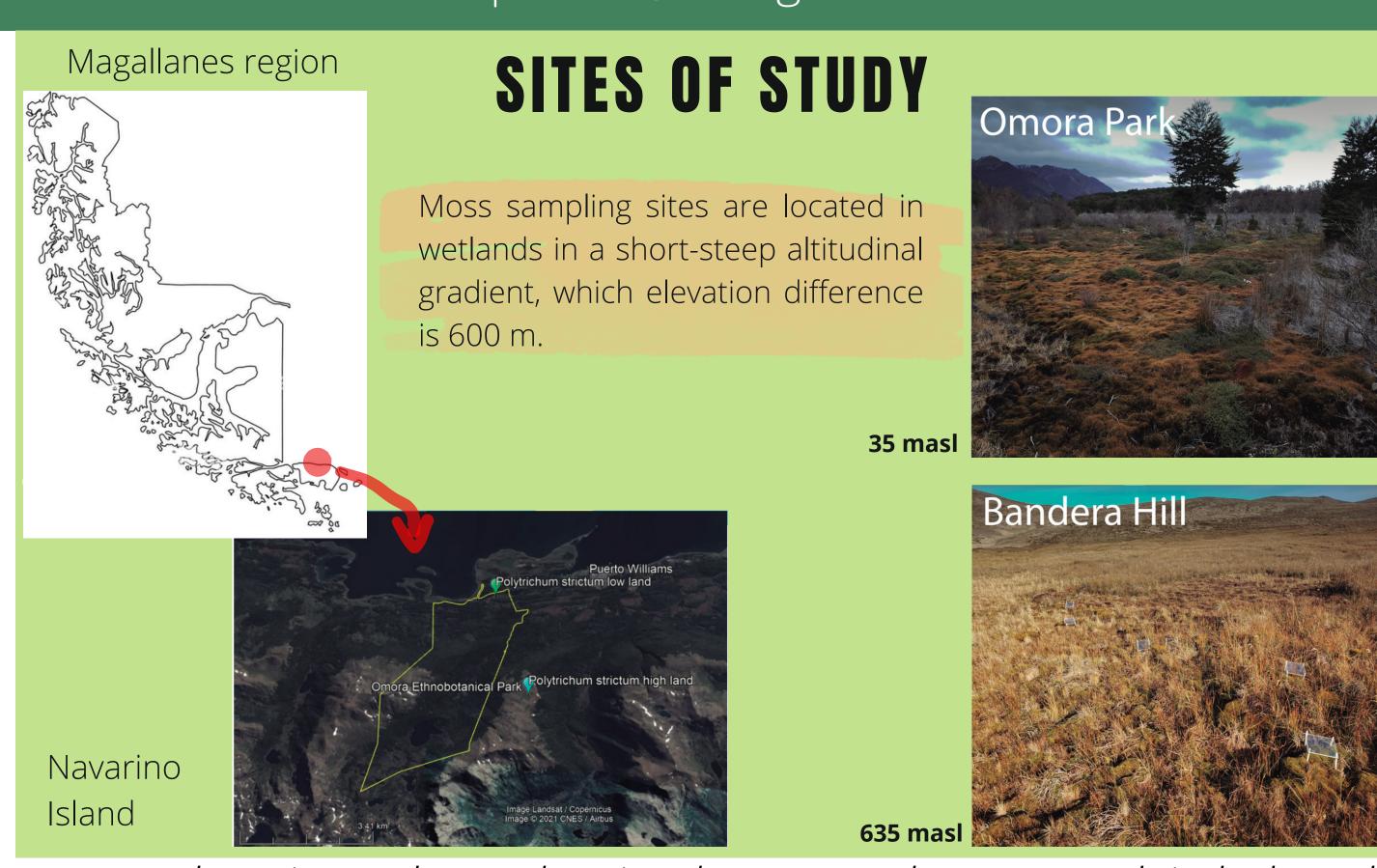
Plasticity of bryophytes in subantarctic ecosystems: cues in phenology and secondary metabolism

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SUBJECT OF STUDY

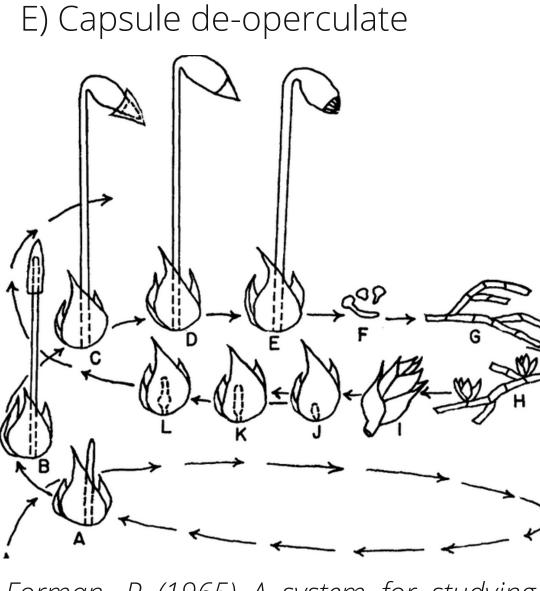


Polytrichum strictum phenotypic characterization. A: P. strictum showing white rhizoids B: Leaf cross-section show- ing lamellae, wings and parenchyma. C: P. strictum spore mass.



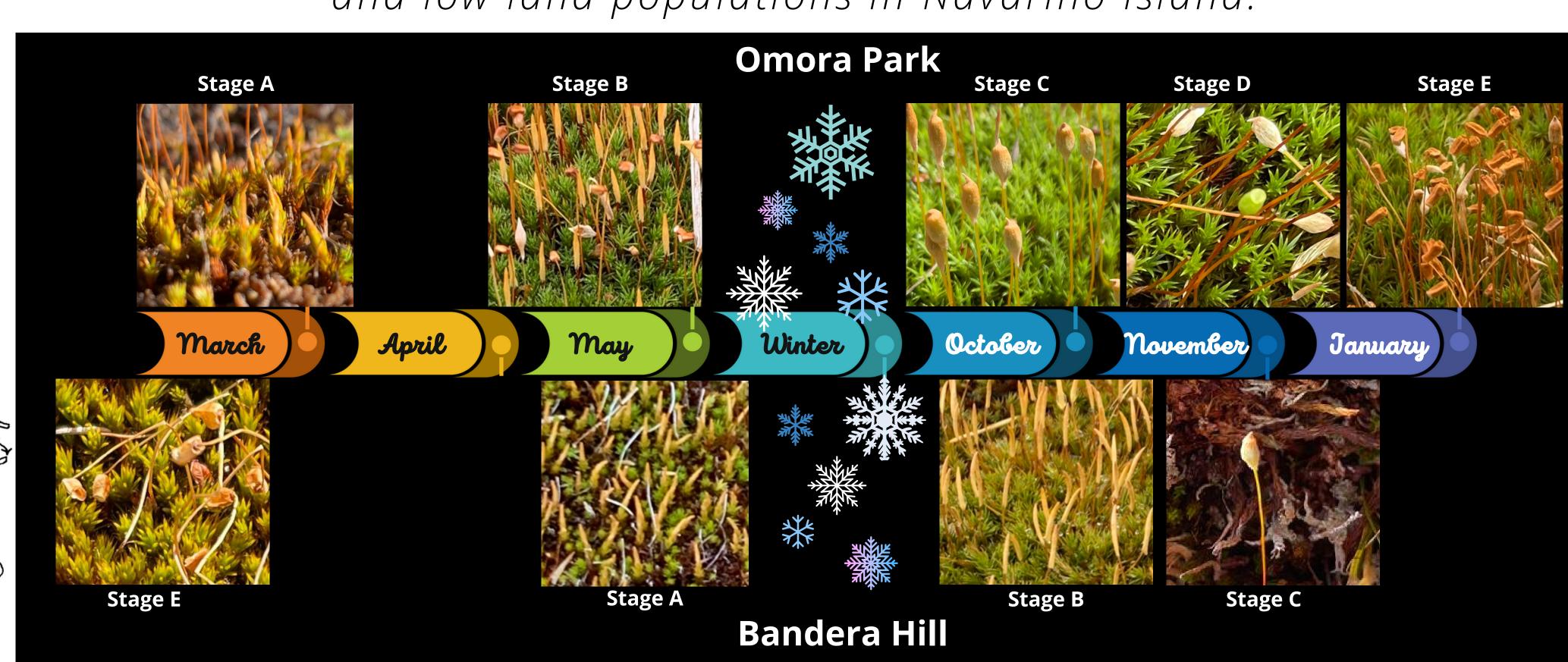
PHENOLOGY

A) Embryonic calyptra B) Seta with calyptra C) Capsule green with calyptra D) Capsule operculate and post-meiotic



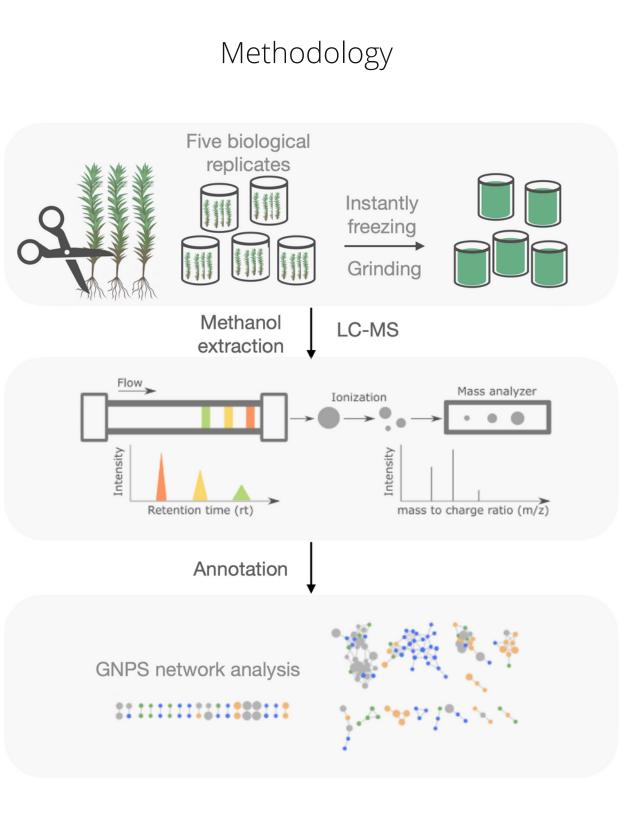
Forman, R (1965) A system for studying moss phenology.

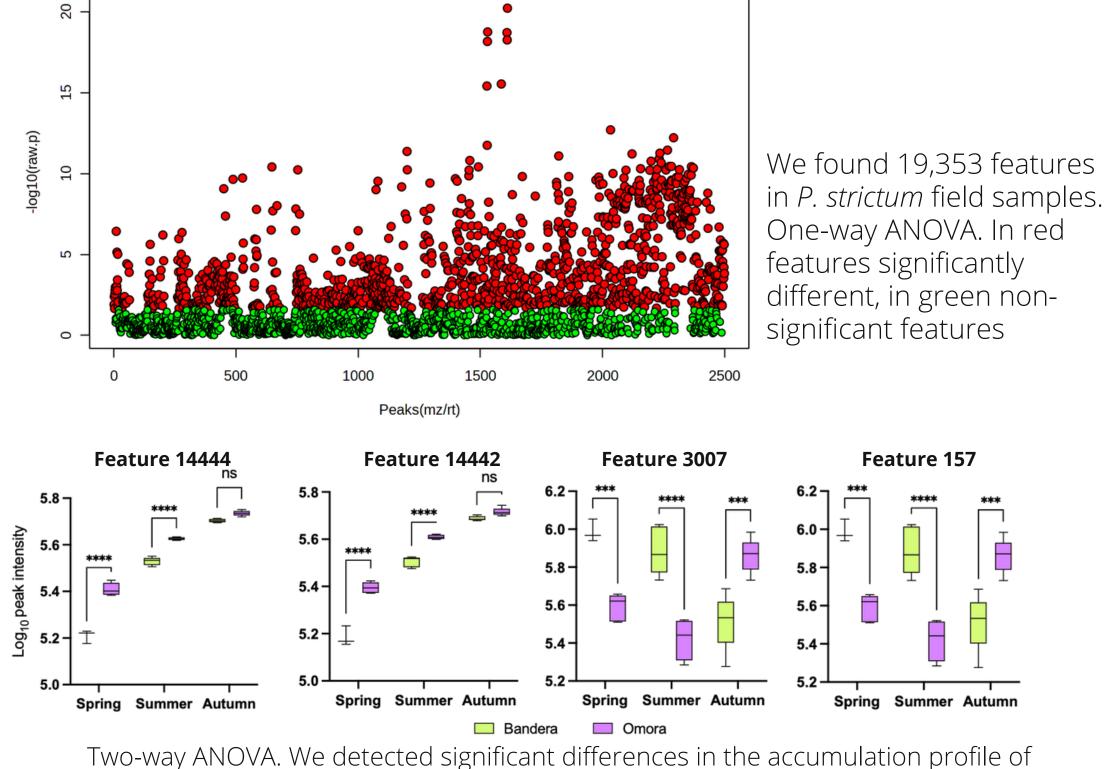
Seasonal shift in female reproductive phenological stages between high land and low land populations in Navarino Island.



SECONDARY METABOLISM

Seasonal and altitudinal shifts in secondary metabolites accumulation between high land and lów land populations in Navarino Island.





several features along seasonal and altitudinal gradients. Phenylpropanoid pathway and derived polyphenolic compounds. Global Natural phenylalanine **Products Social** Networking (GNPS) analysis. A. Postive ion mode-C4H based network. **B.** Negative ion modebased network.

p-coumaroyl-CoA **Isoflavonoids**

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Principal Component Analysis Scores Plot 0 PC 1 (43.9 %)

CONCLUSIONS

- We found that closely related populations of P. strictum located in a short-steep altitudinal gradient present shifts in their reproductive phenology, as well as, metabolic profiles along seasons.
- A total of 19,353 of secondary metabolites were detected.
- Biflavonoids, coumarines and polysaccharides are overrepresented in P. strictum and are potentially involved in abiotic stress responses
- This study provide evidence of adaptive adjustments in phenology and metabolism given their own habitat conditions.