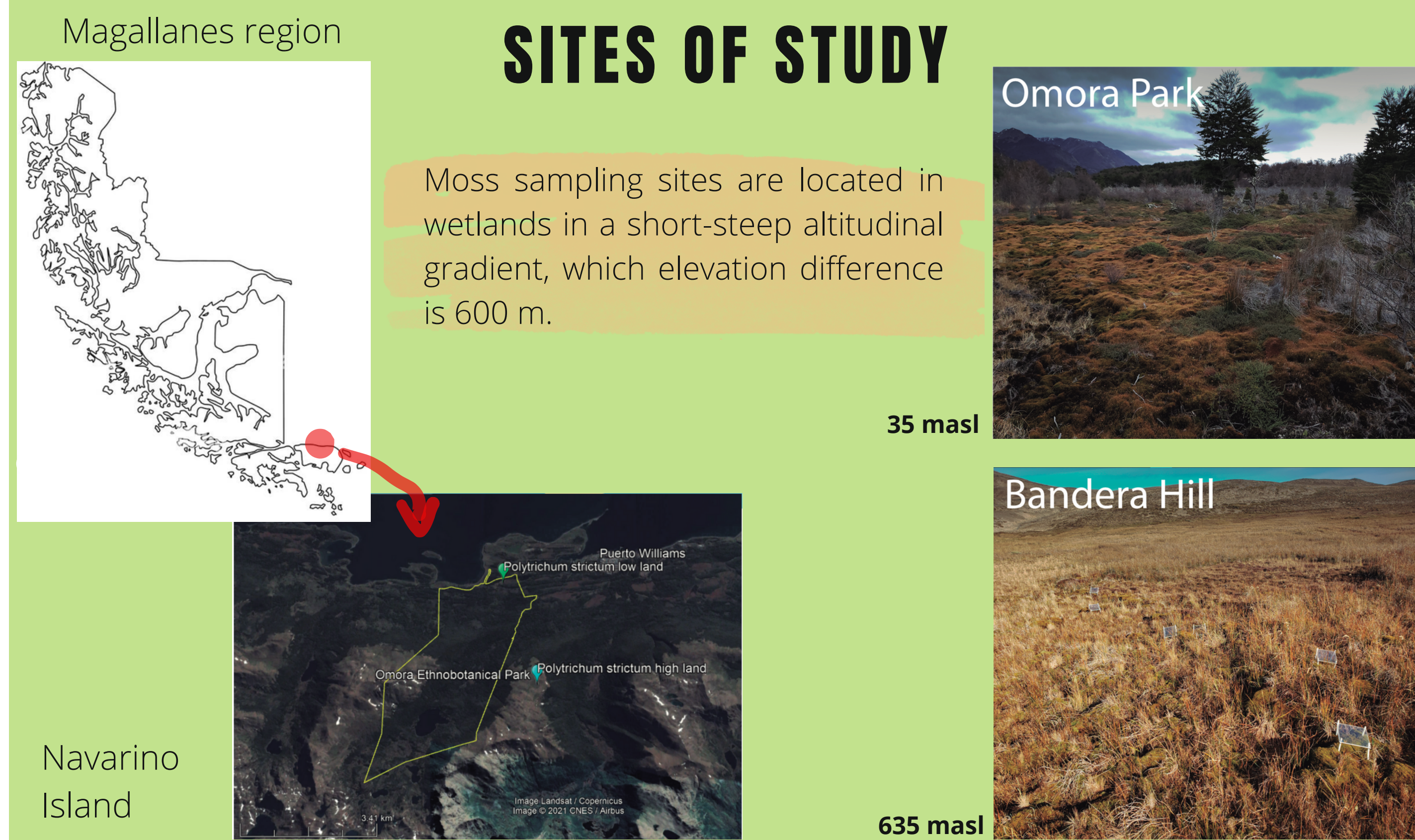
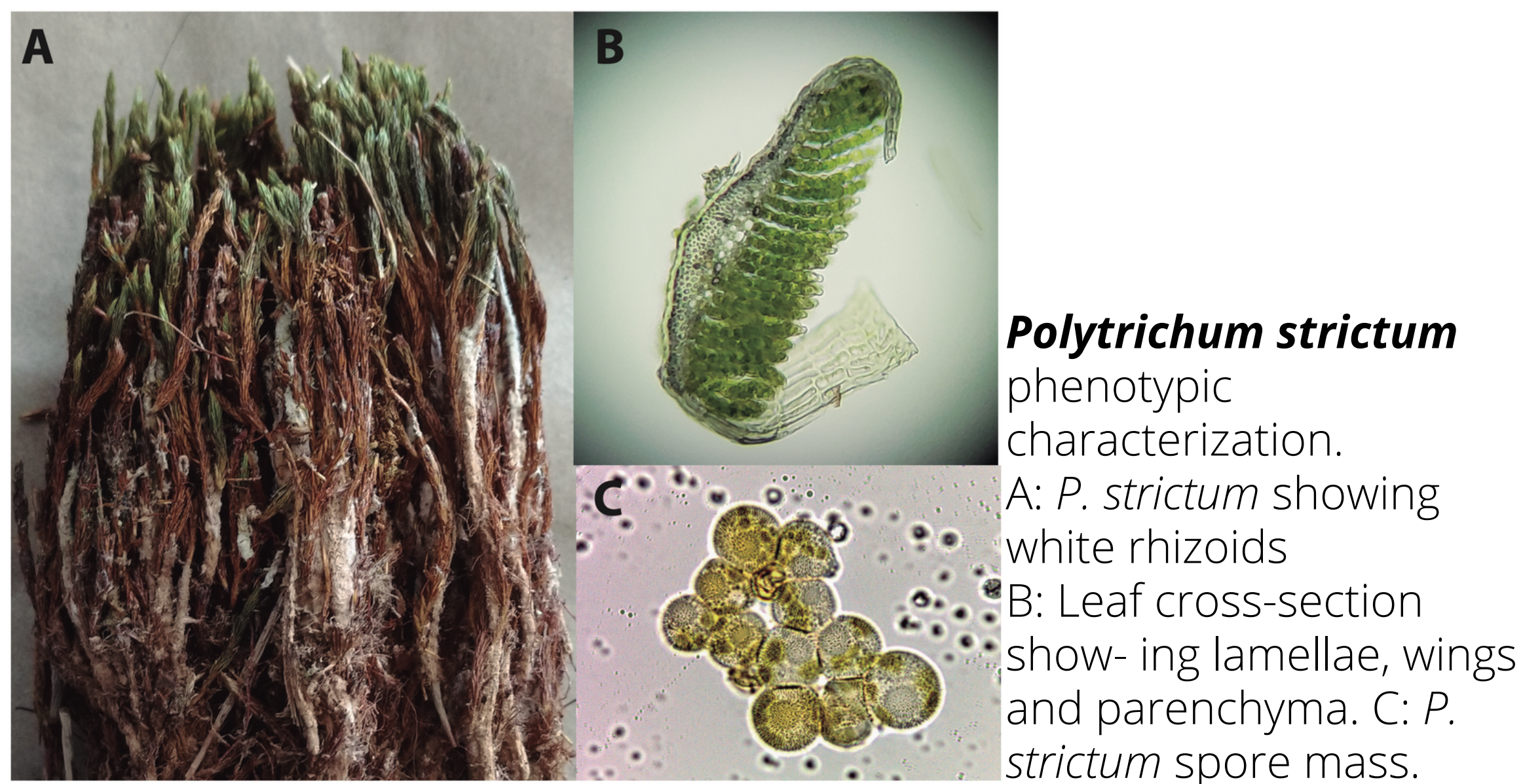


# Plasticity of bryophytes in subantarctic ecosystems: *cues in phenology and secondary metabolism*

Brenda Riquelme del Río, Roy Mackenzie, Tamara Contador  
Centro Basal CHIC, línea 1, sublínea 1.4. [brenda.riquelme@umag.cl](mailto:brenda.riquelme@umag.cl)

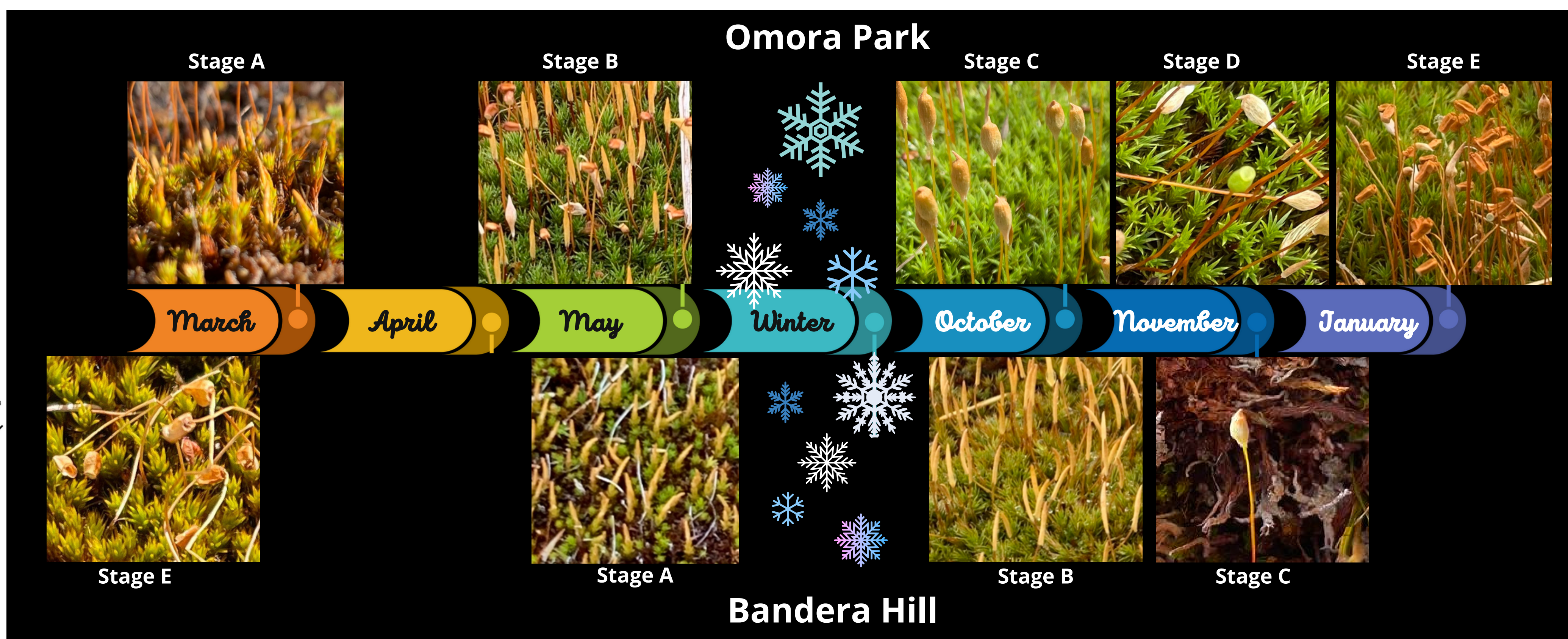
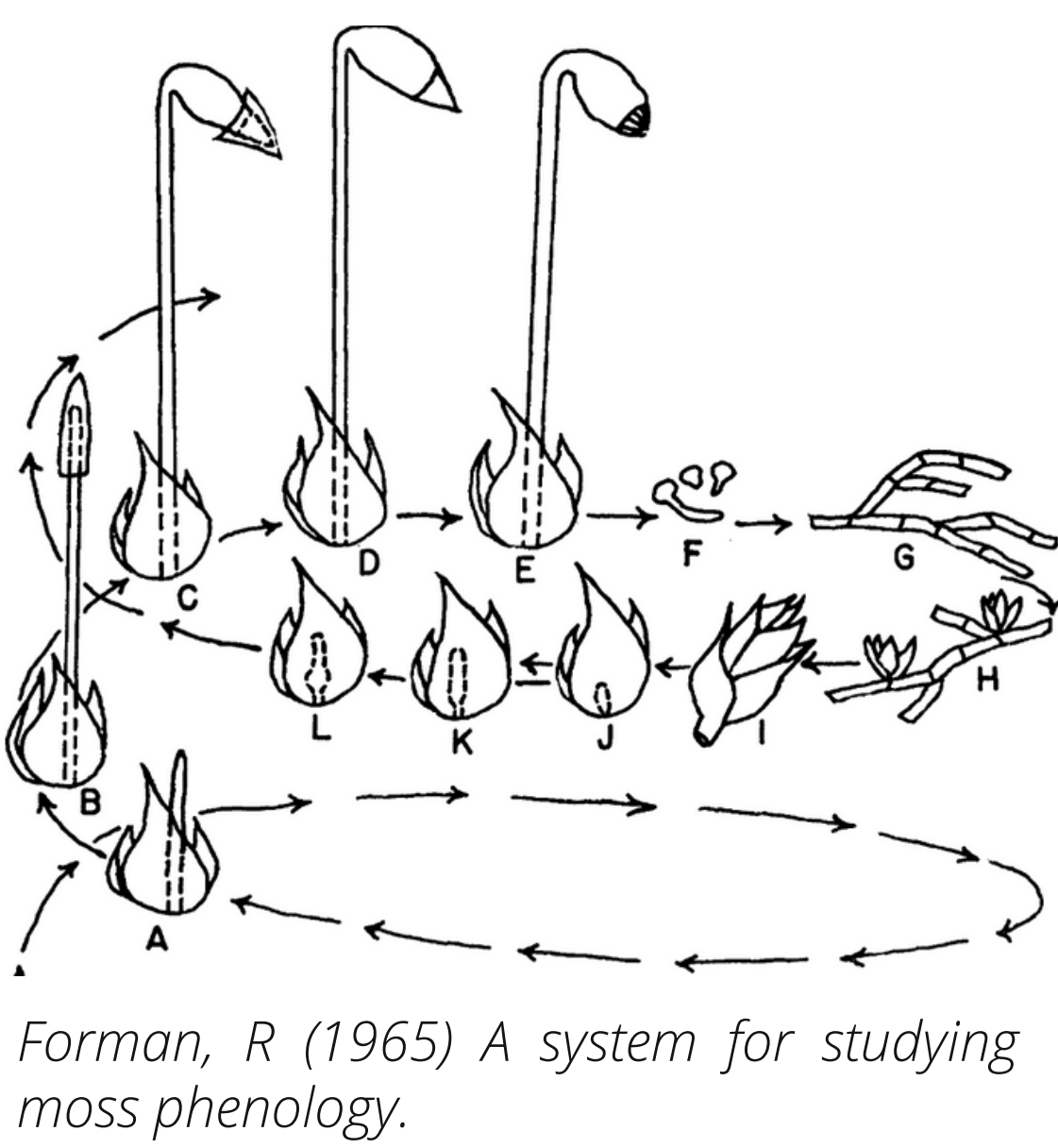
## SUBJECT OF STUDY



## PHENOLOGY

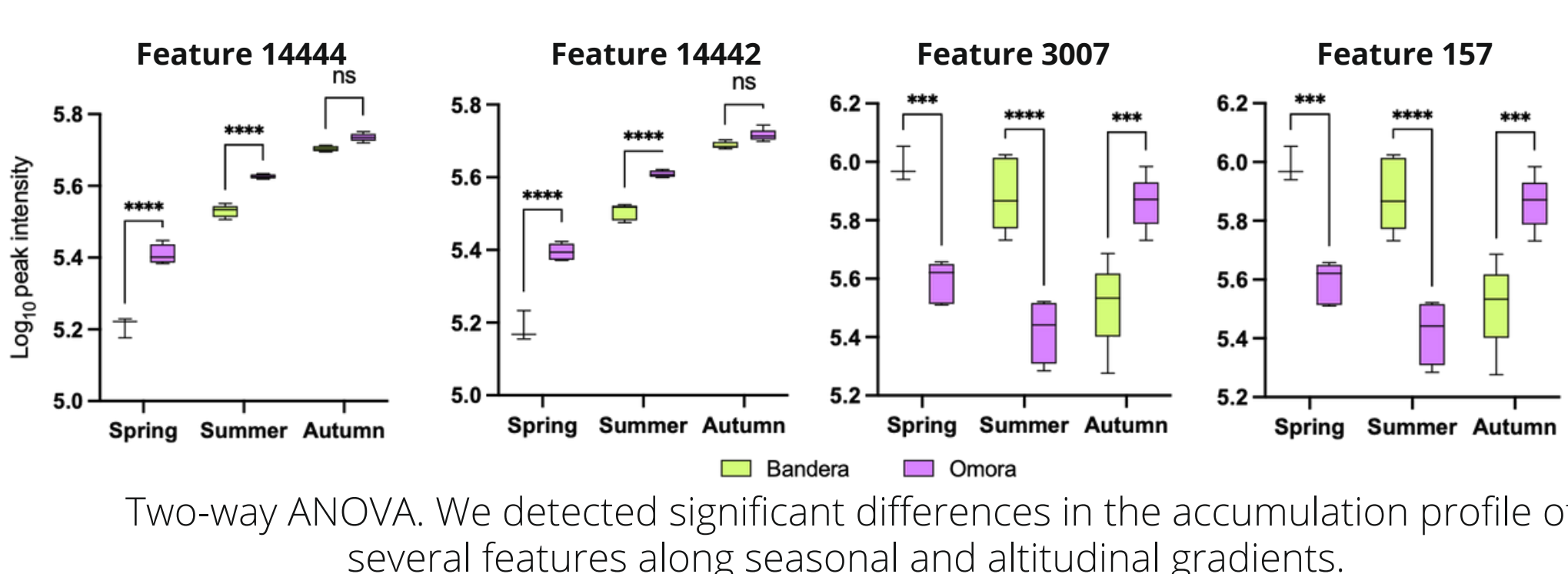
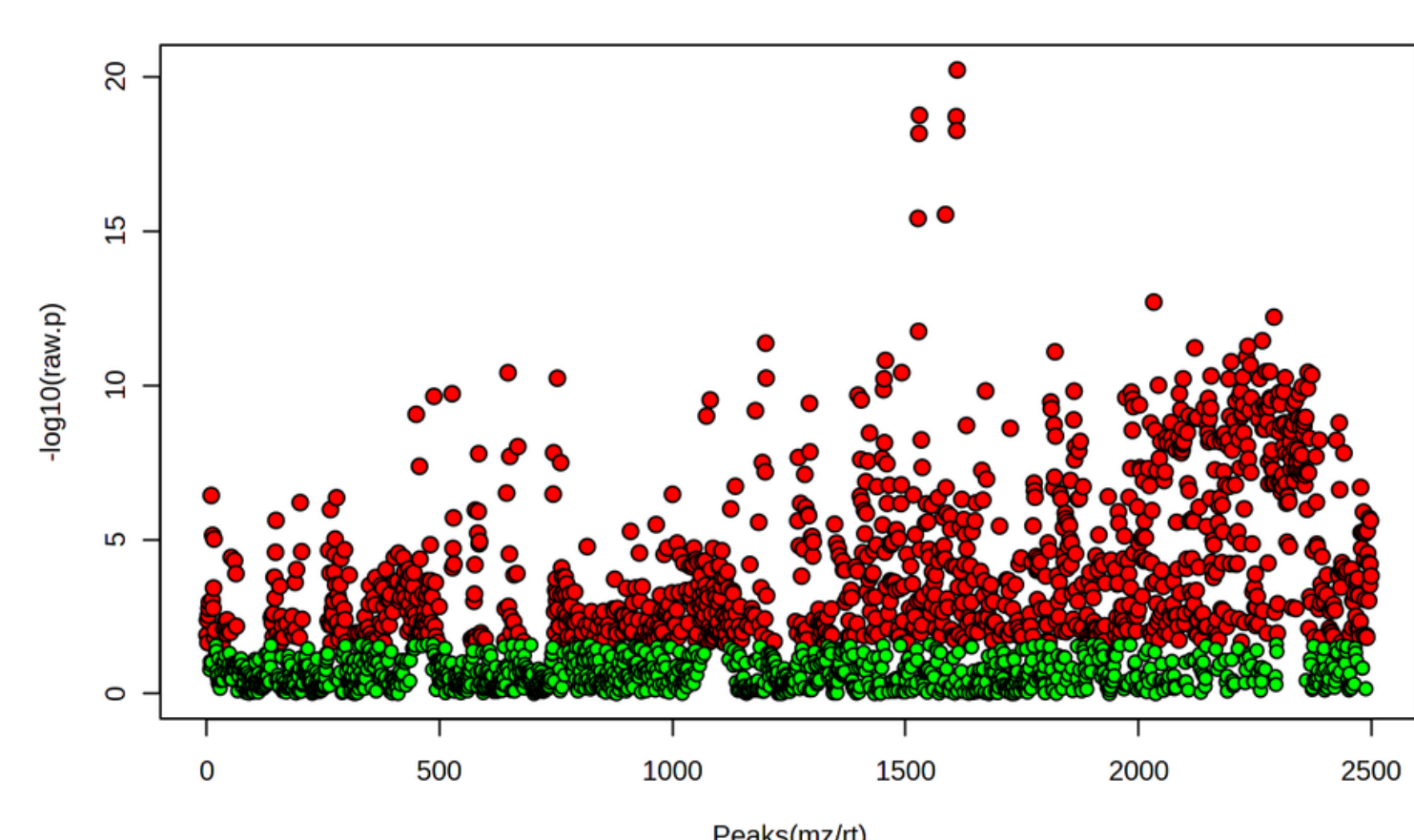
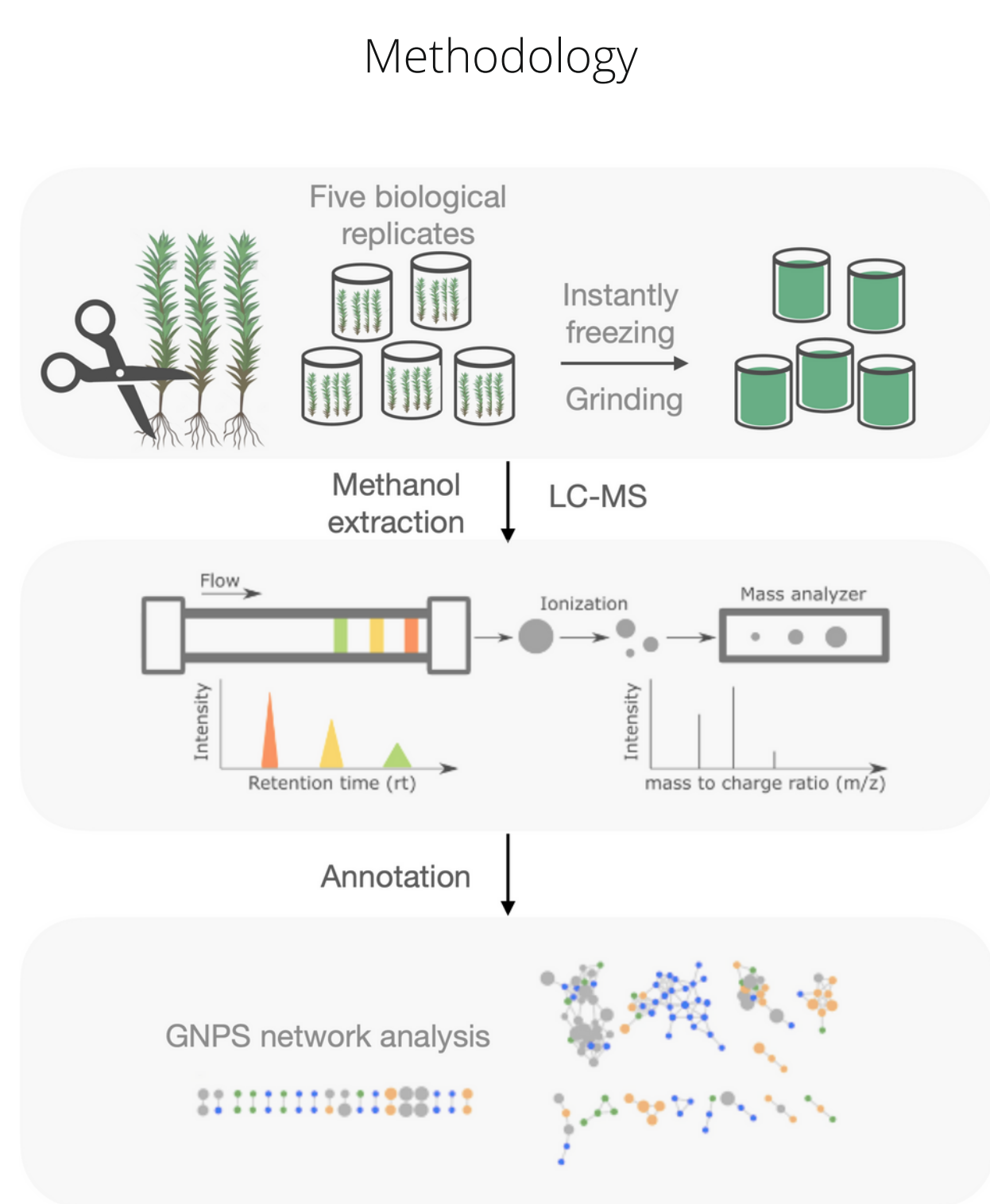
*Seasonal shift in female reproductive phenological stages between high land and low land populations in Navarino Island.*

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

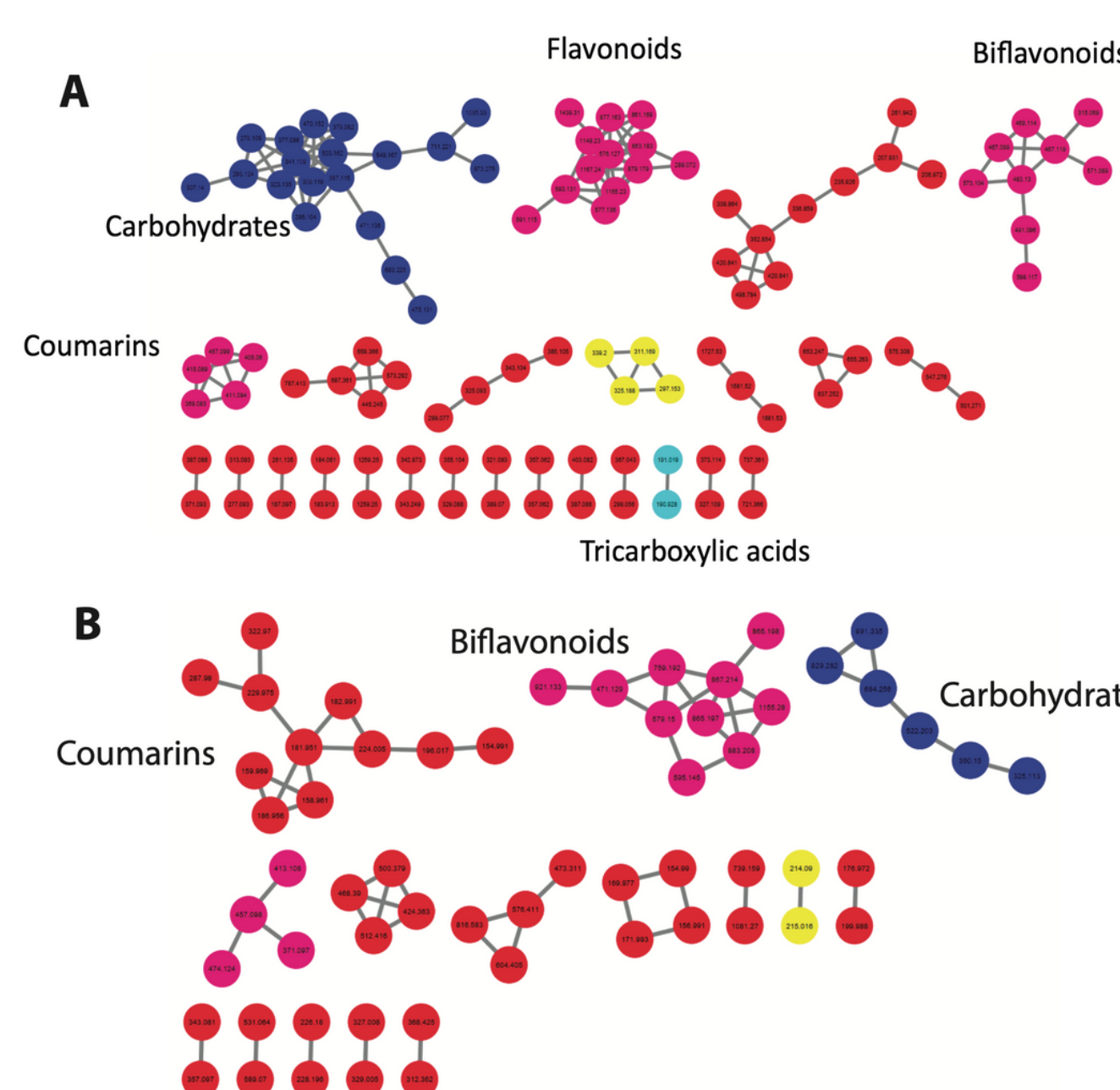
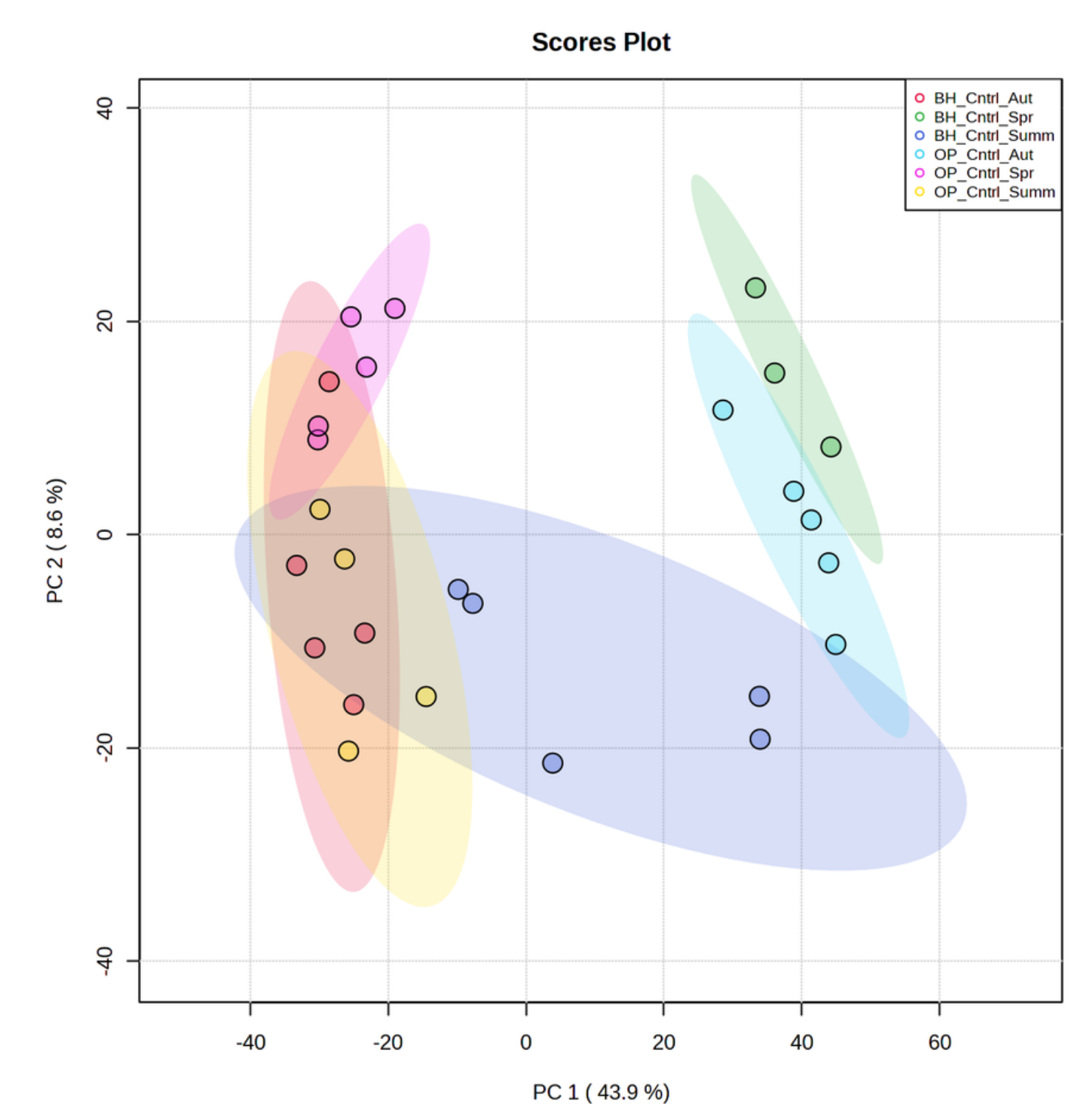


## SECONDARY METABOLISM

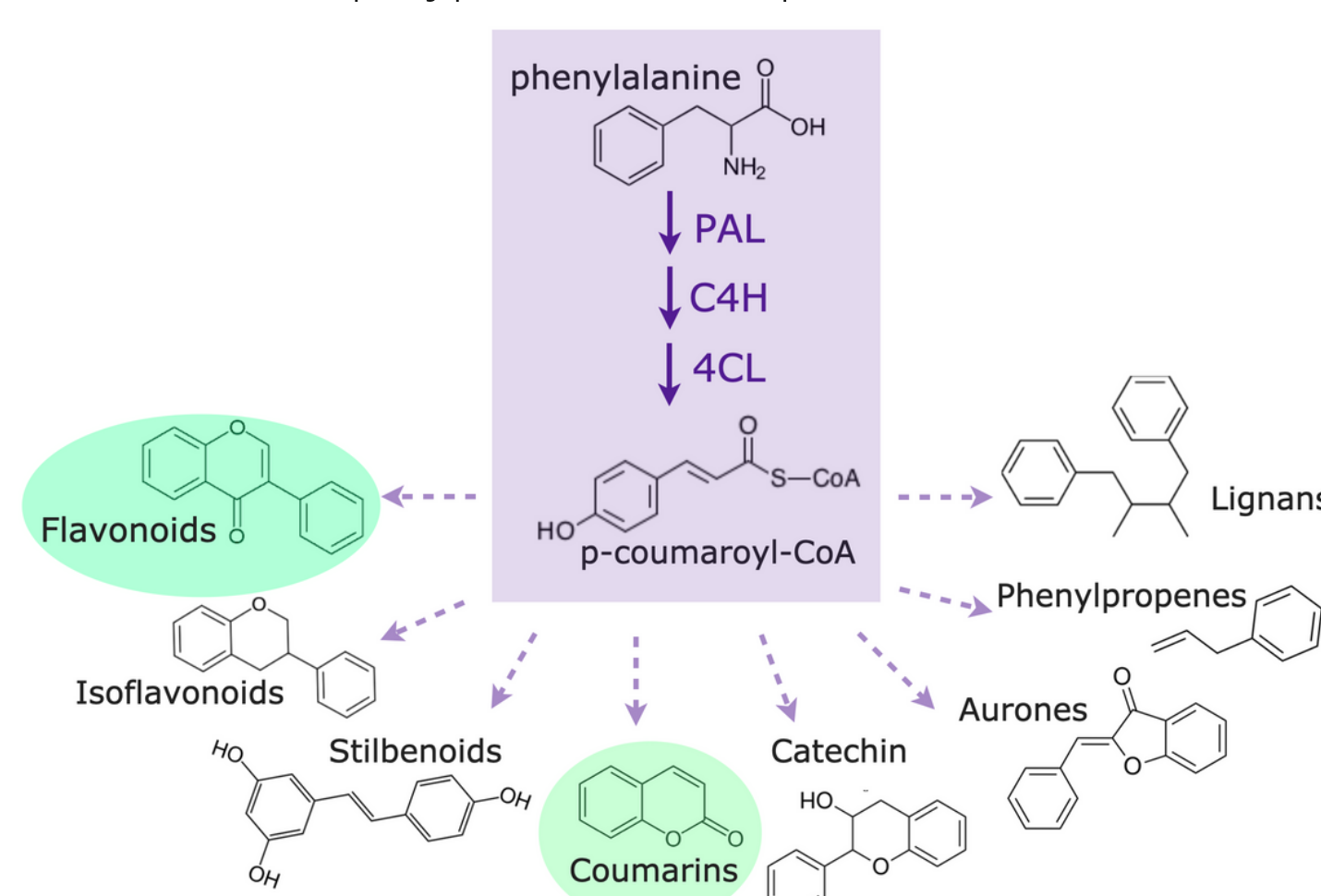
*Seasonal and altitudinal shifts in secondary metabolites accumulation between high land and low land populations in Navarino Island.*



Principal Component Analysis



Phenylpropanoid pathway and derived polyphenolic compounds.



## 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, coumarins 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.

## FUNDING

FONDECYT postdoctoral 3220809;  
Programa Cooperación Internacional MPG190029 Max Planck Society-ANID;  
Centro Basal CHIC FB210018