Bryophytes and the evolution of land plants: introduction

This topic will be elaborated on more in a subsequent lecture. The main goal here is to place bryophytes within a broader evolutionary context for the subsequent lectures.

Bryophytes are embryophytes.

- Traits that define the embryophytes
- How do bryophytes differ from other embryophytes?
- Are there extinct early embryophytes?

Evolution (origin) of bryophytes

- Life cycles: what is meant by alternation of generations?
- How have life cycles "evolved"?
- To answer this: a) what is the ancestor of land plants?
  - Two hypotheses (antithetic and homologous theory of evolution)
  - b) what are the alternatives for the origin of bryophytes?
  - Importance of fossils?

Phylogeny of land plants

- What are the main questions?
- What characters can we use? pros and cons?

Timing of the origin of land plants and bryophytes

- How can the origin of a lineage be dated?
- What are the current estimates?

Descent with modification or how flowering plants are modified bryophytes!

- Concept of ancestral developmental tool kit