

Life cycles of the weird and fabulous

Slime molds in the eukaryotic tree of life

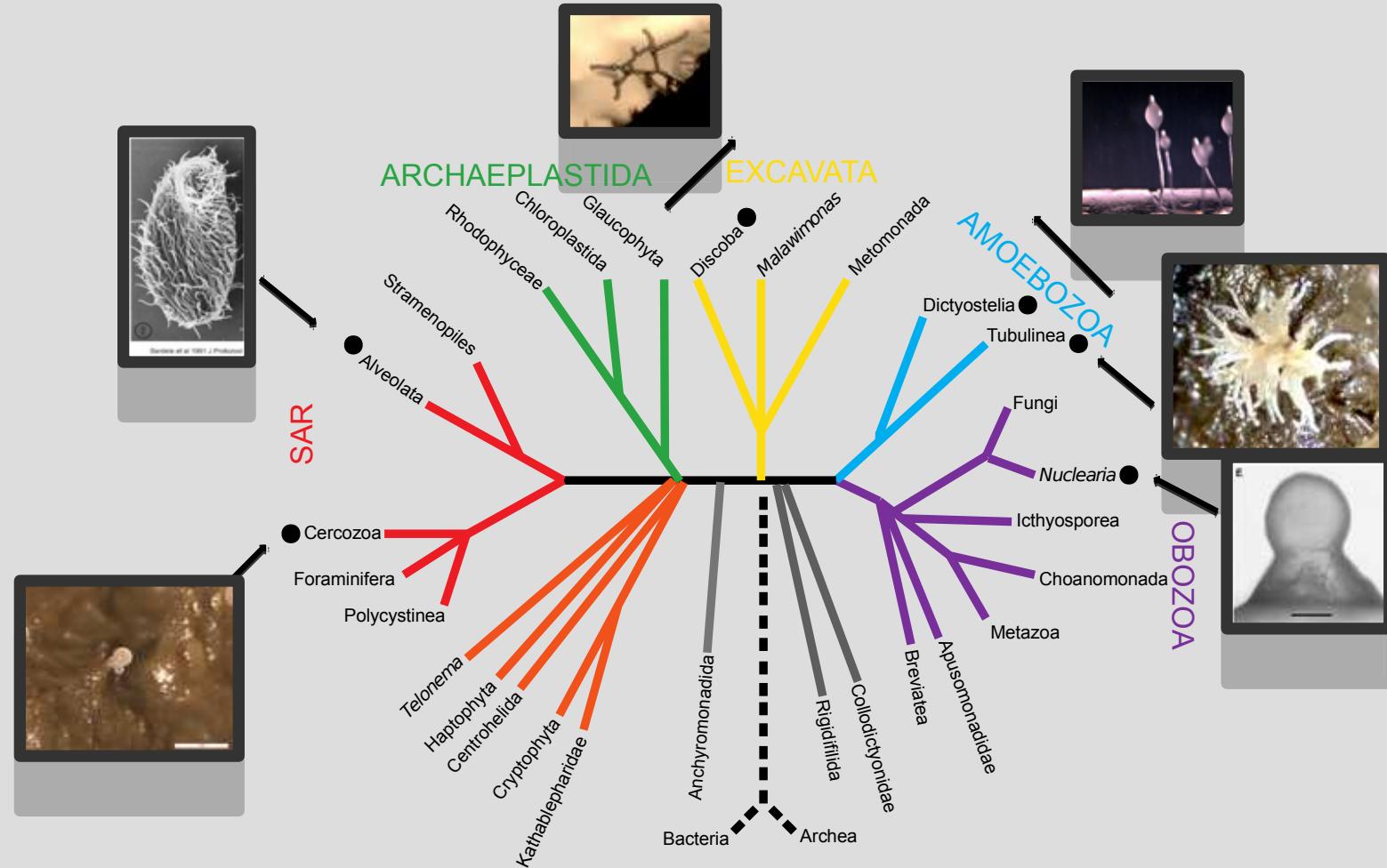
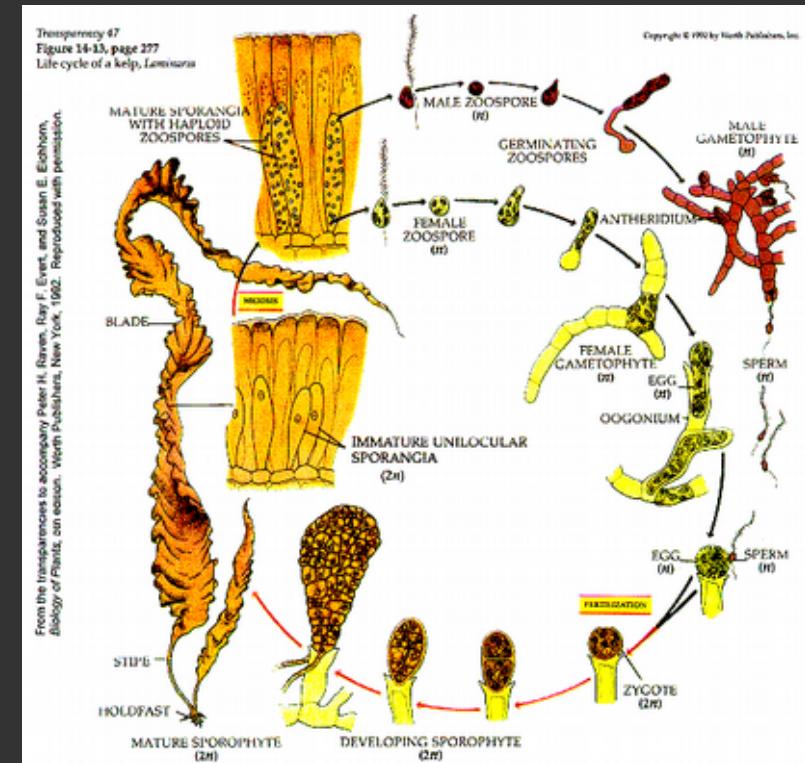
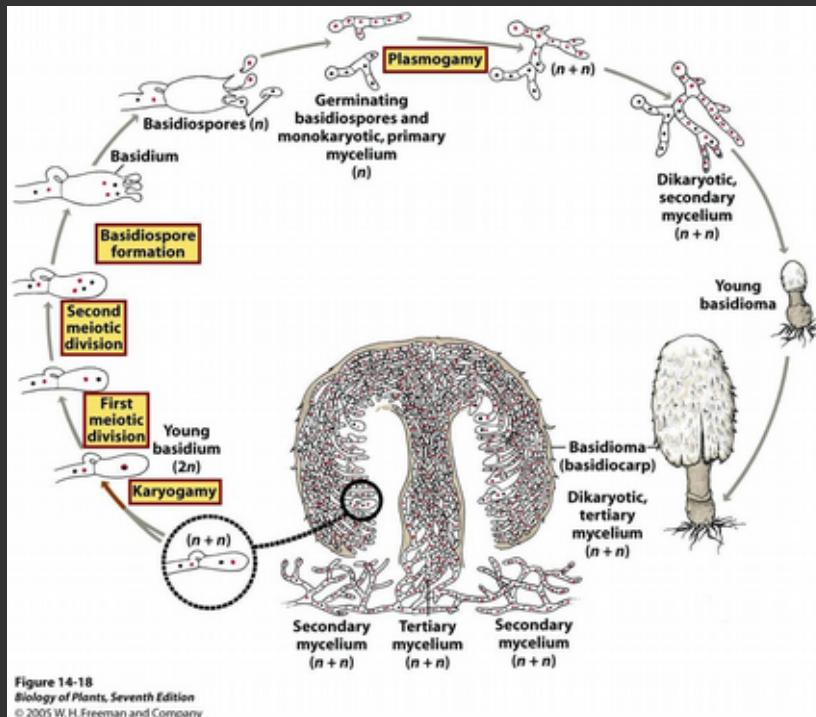
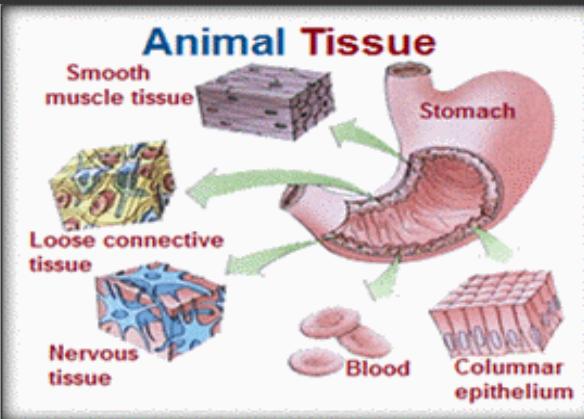
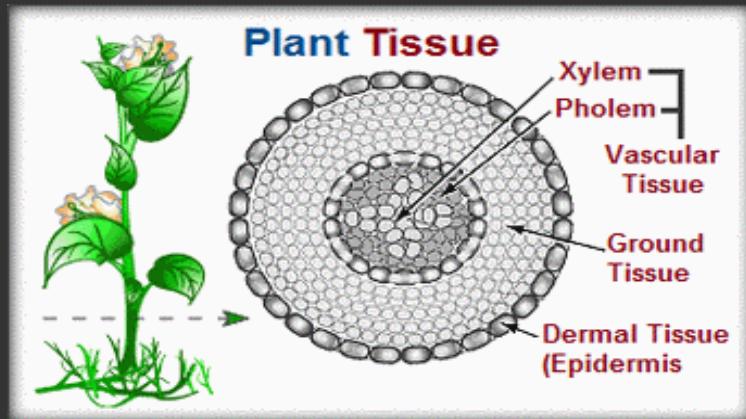
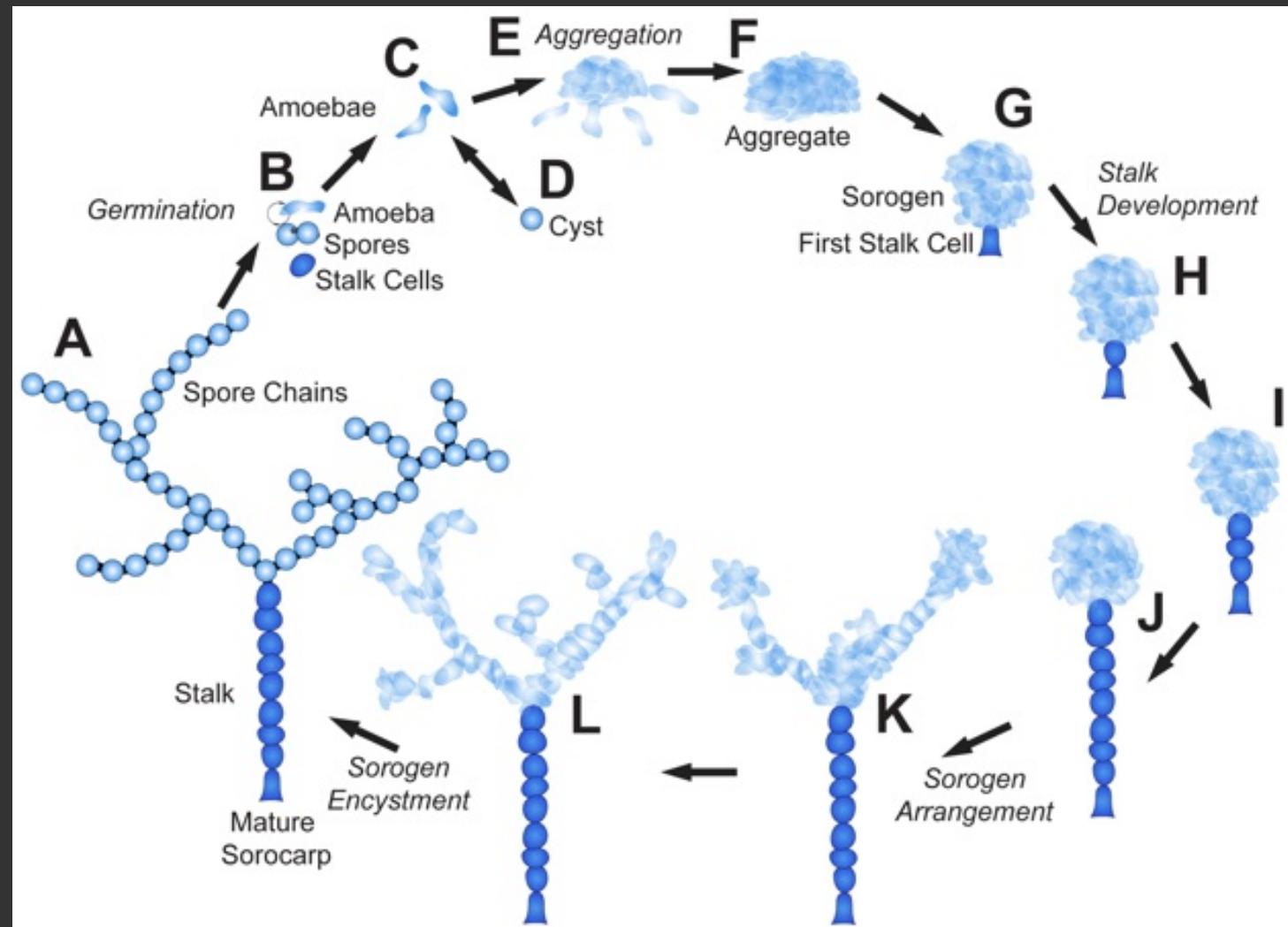


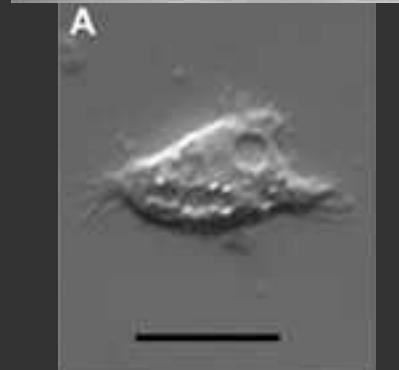
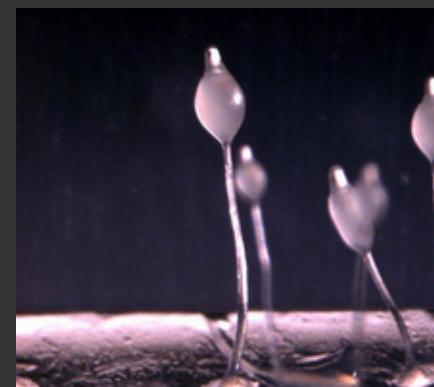
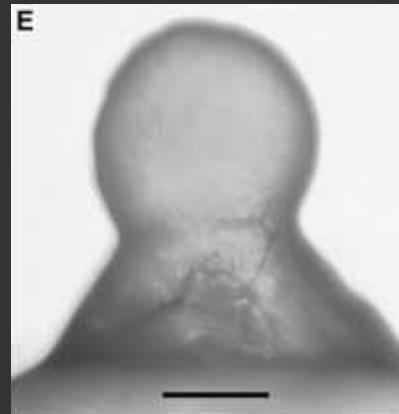
Figure adapted from Adl. et al
2012 & Brown et. al 2013

Multicellularity in Eukaryotes



Aggregative Multicellularity (with sorocarpic fruiting)

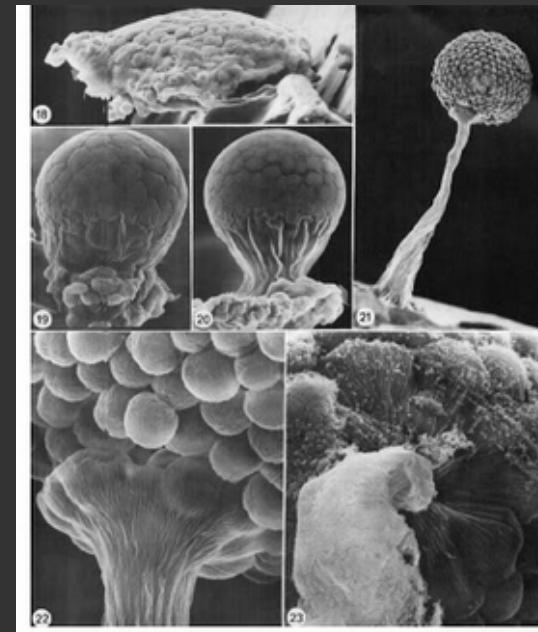
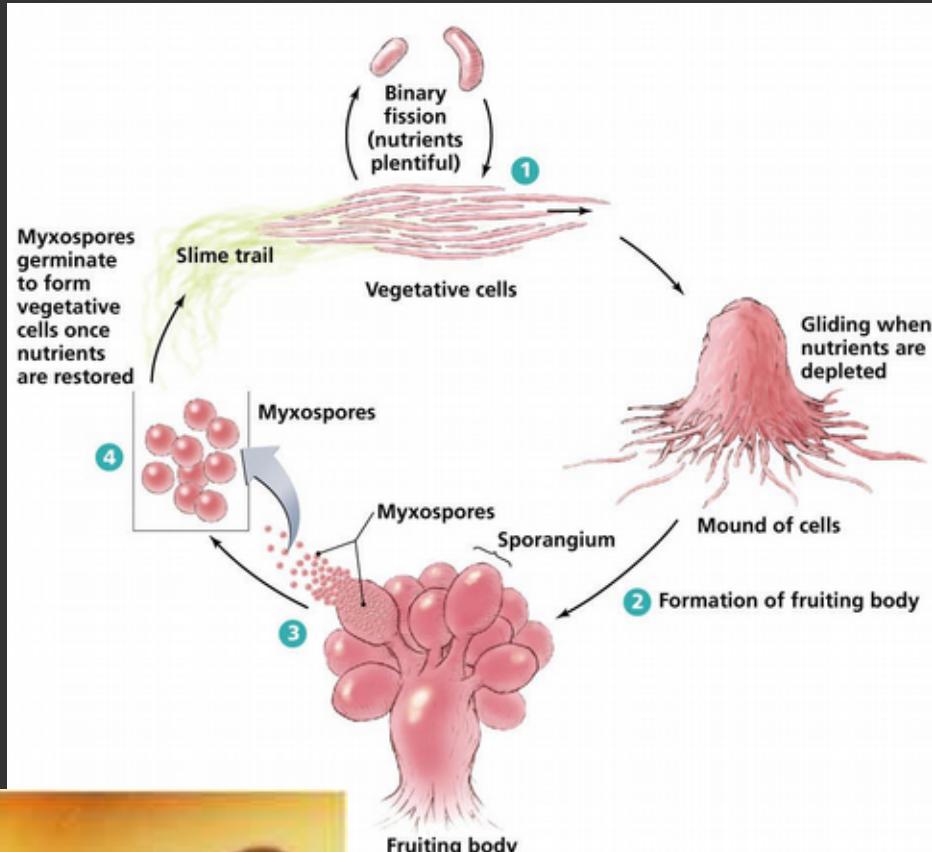




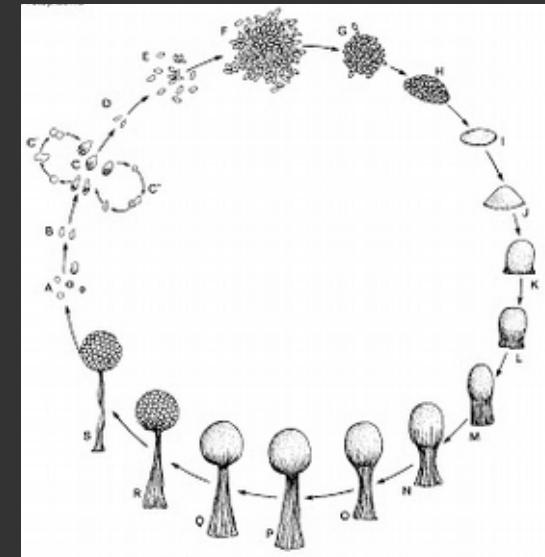
Non-Amoeboid Sorocarpic Organisms



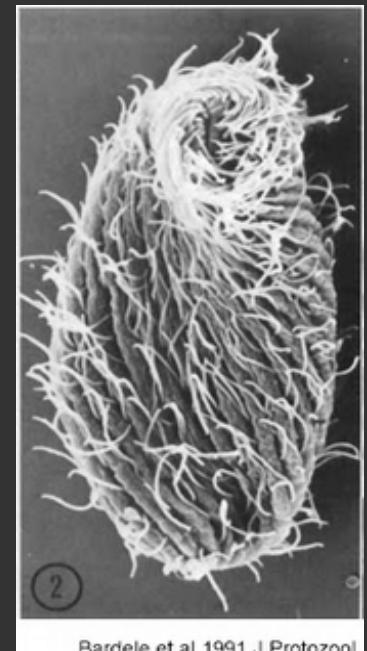
Prokaryotic
Myxobacteria



Sorocarpic Ciliate *Sorogena stoianovitchae*



Skepticwonder.fieldofscience.com

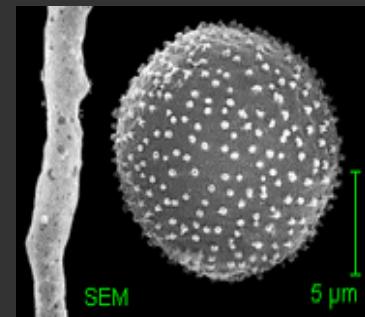
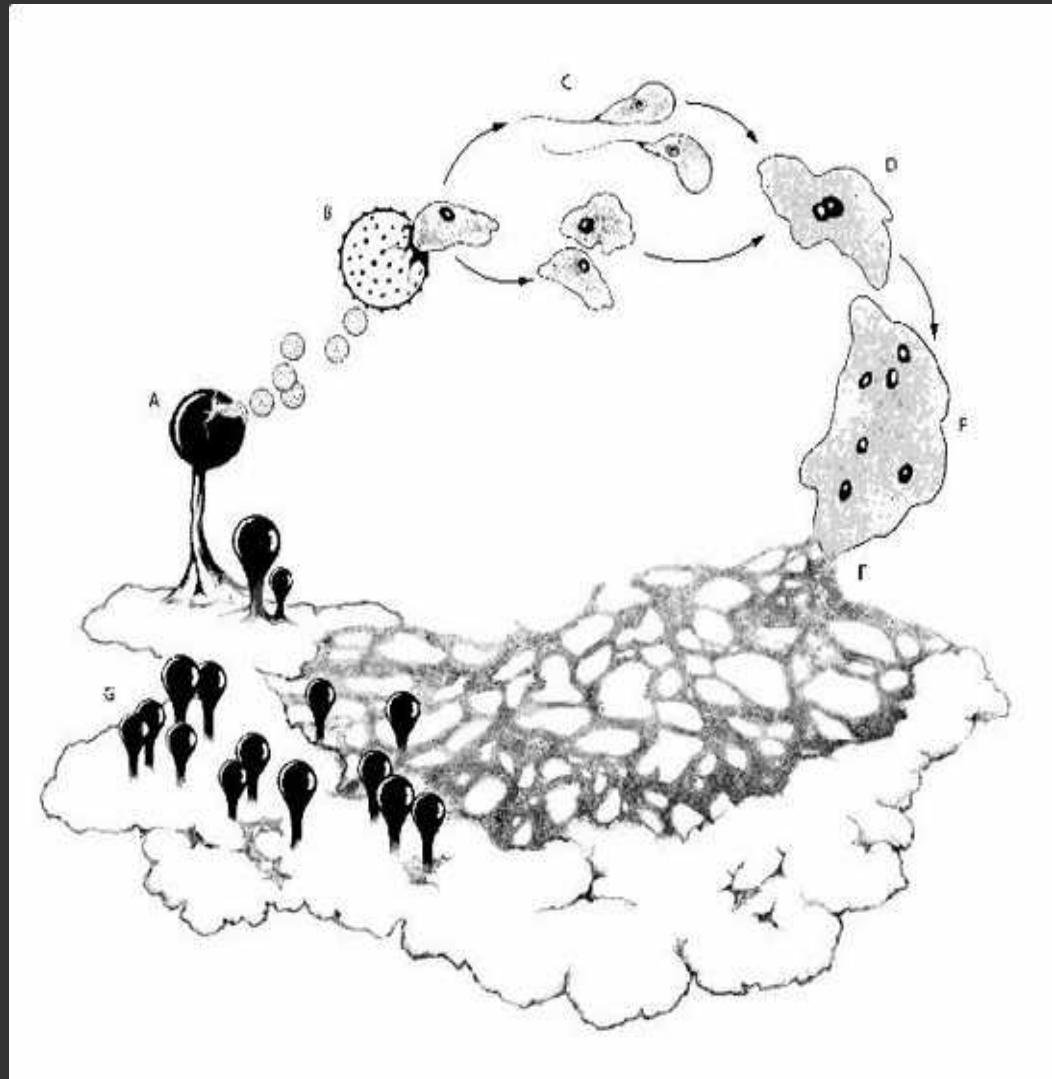


Bardele et al 1991 J Protozool

Cellular slime molds: amoebae holding hands



Myxomycetes

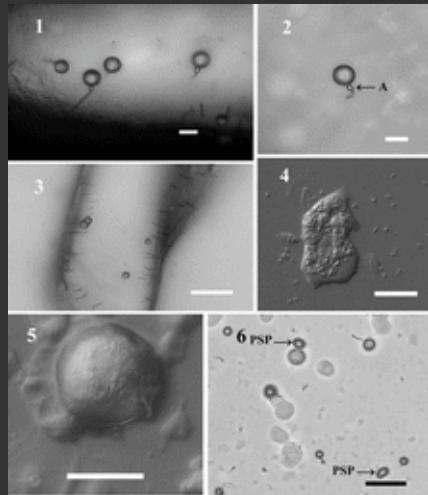


Myxomycetes





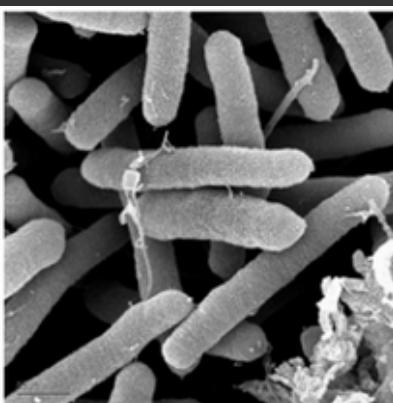
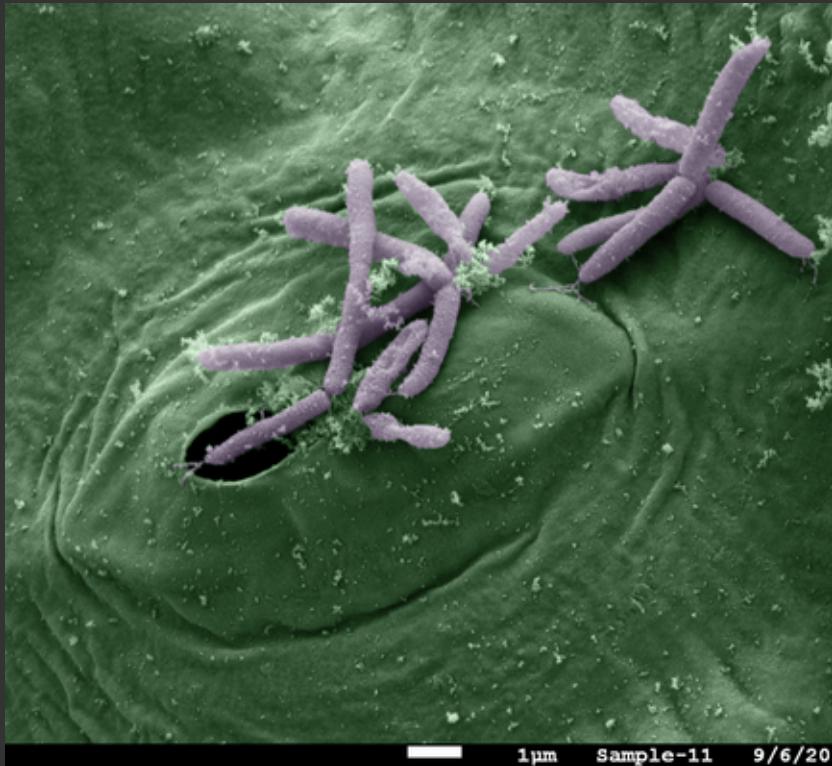
Global distribution

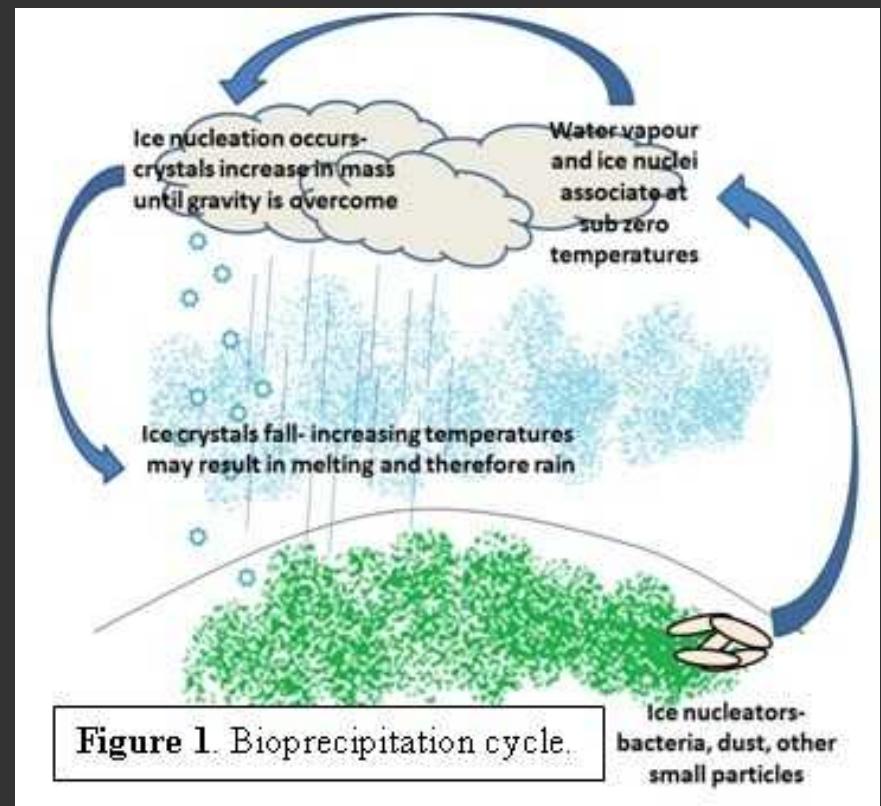
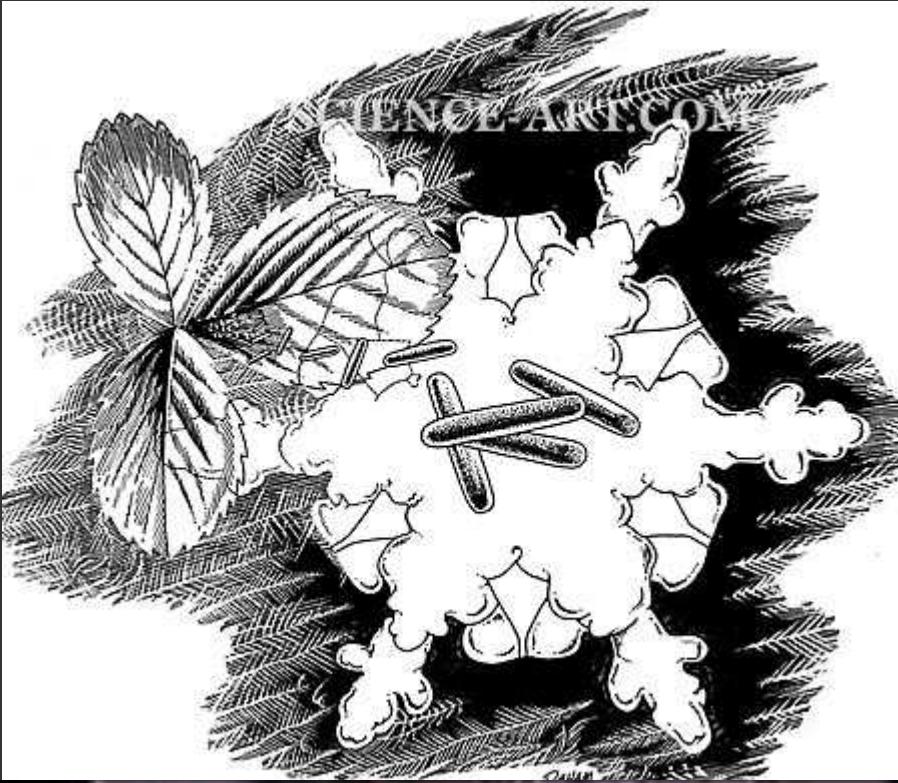


P. mycophaga



Pseudomonas syringae (Bacteria)





Achlorophyllous plants



Monotropa uniflora

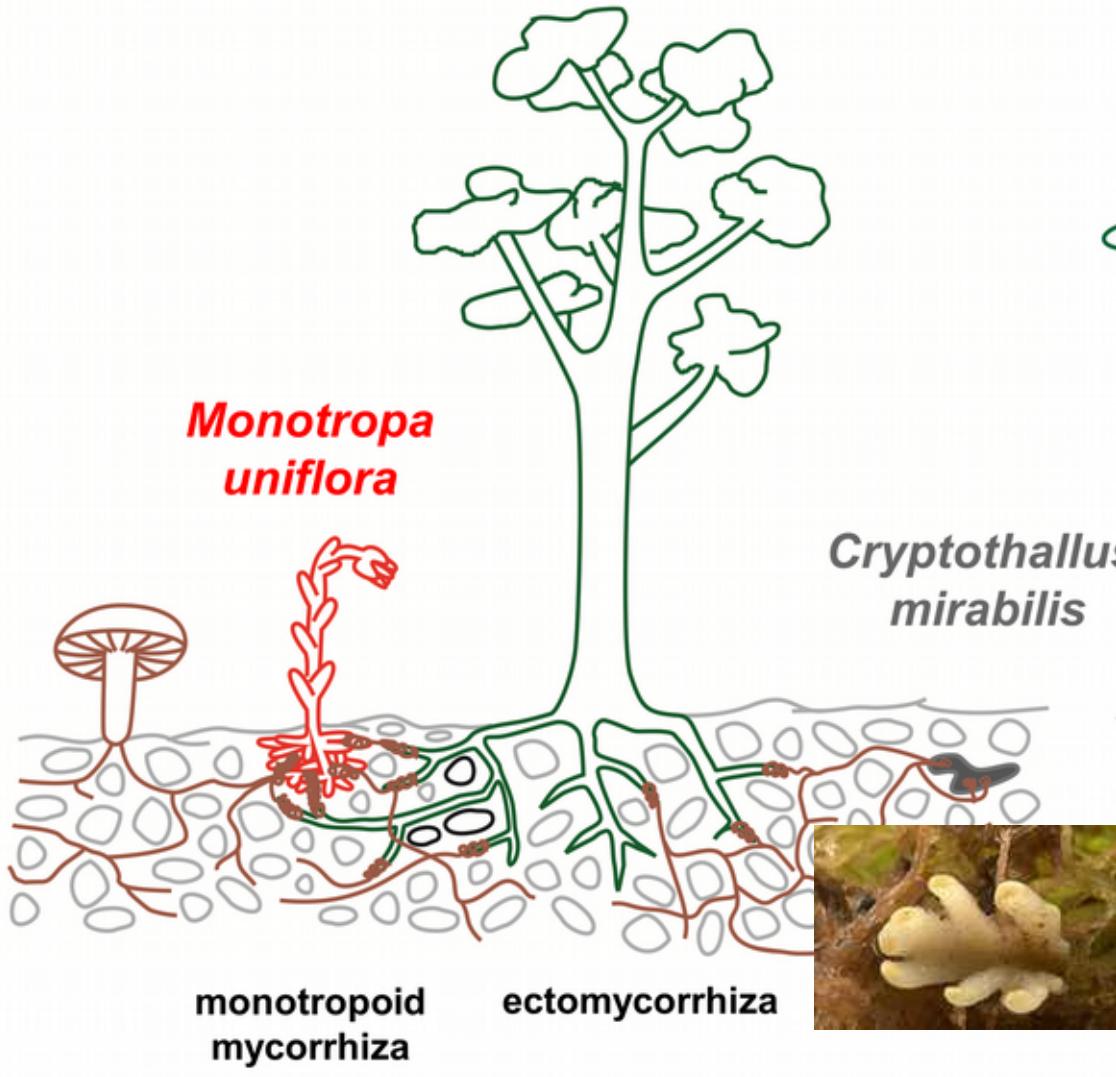


Root system



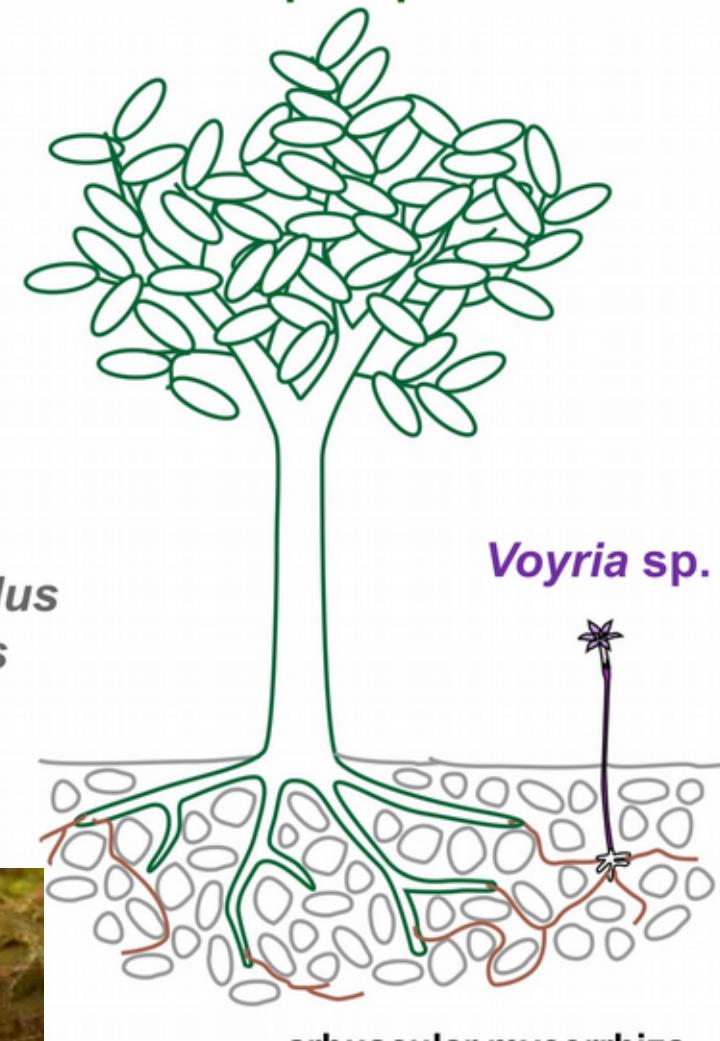
temperate climate:

autotrophic plant



hot climate:

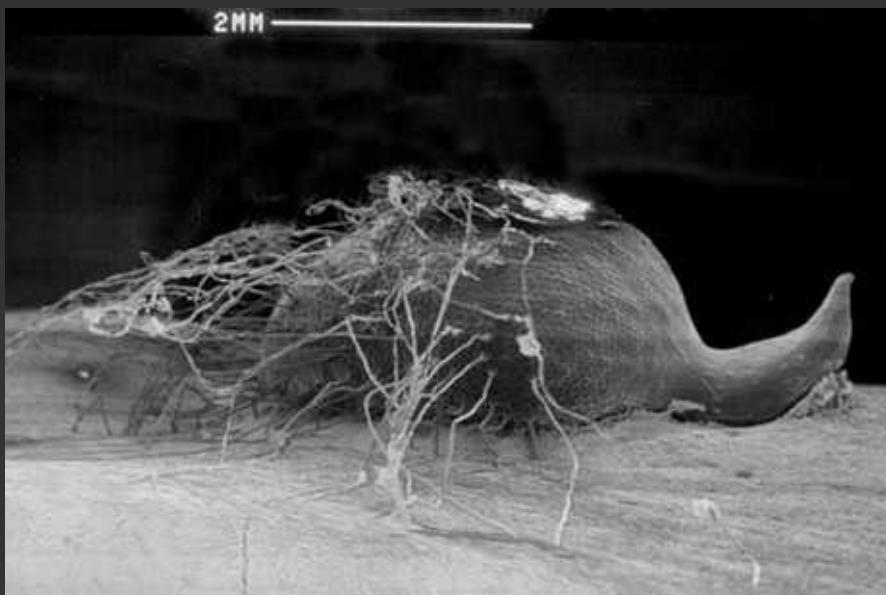
autotrophic plant



Orchids



Orchid seeds have no nutrient storage tissues.



Orchid development depends on different fungi at different times in their life cycle



Rust fungi



Rust fungi



Rust fungi need 2 hosts – Wacky life cycle!



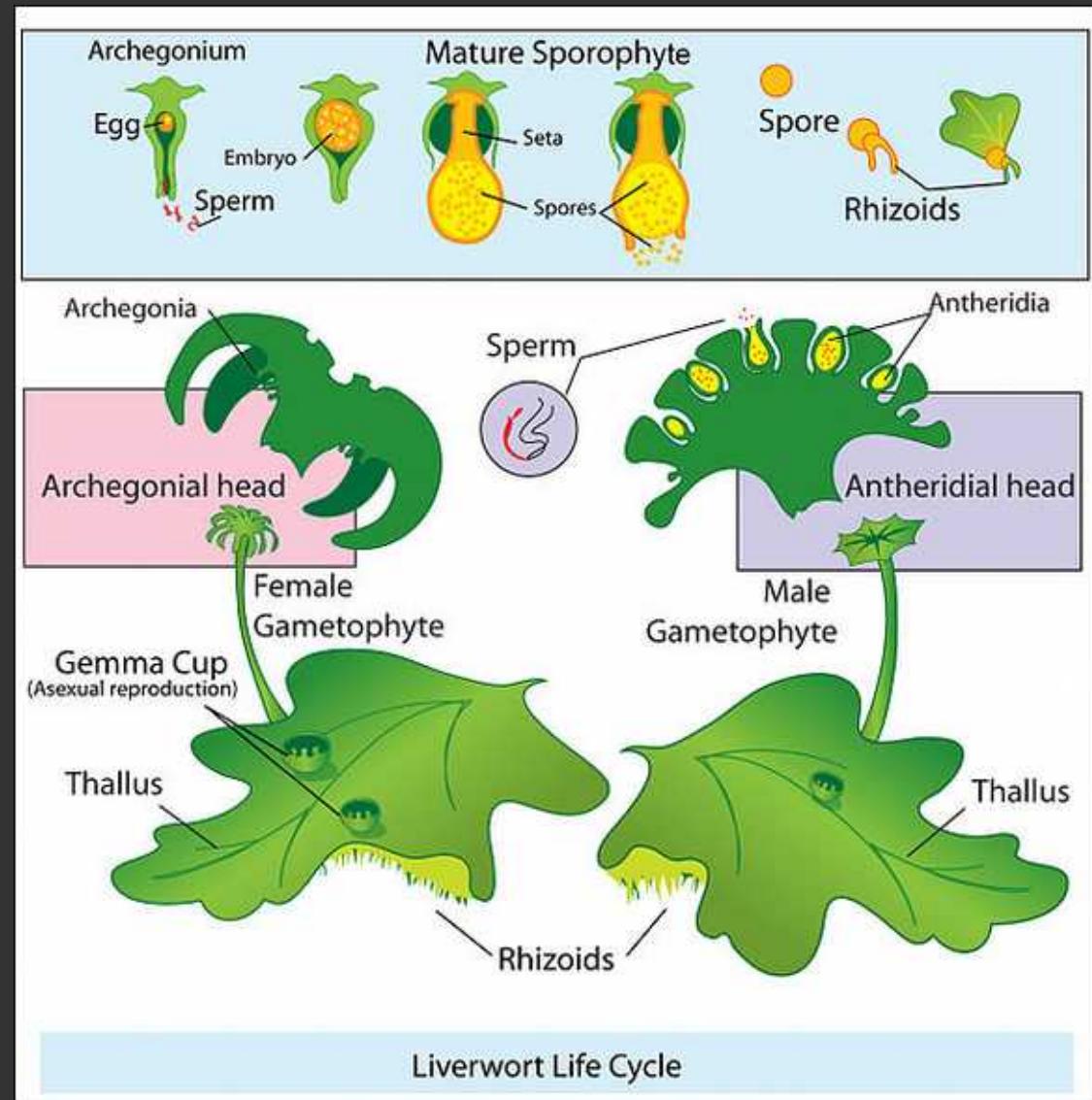
Pine-Currant rust

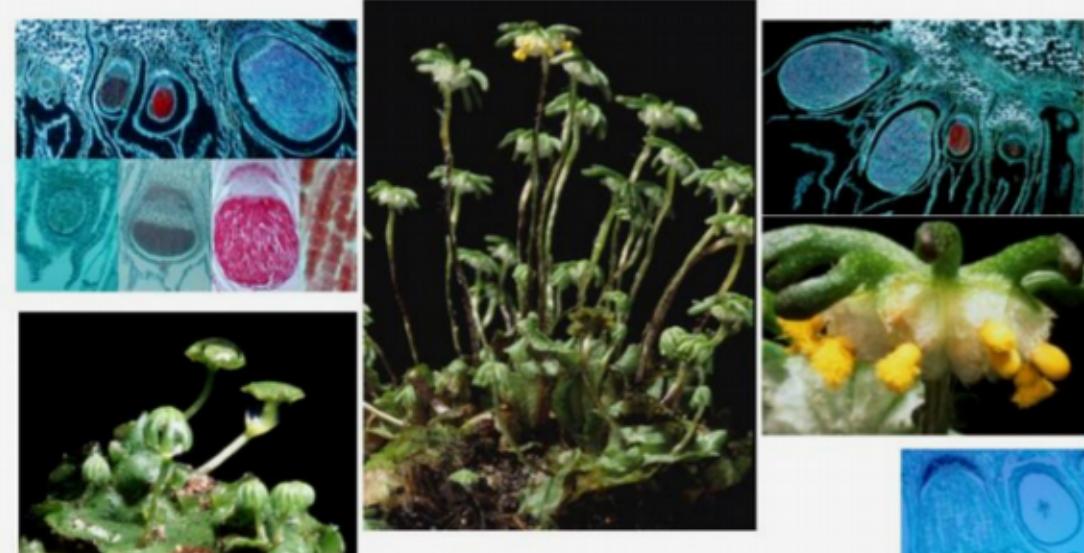


Cedar-apple rust



Liverworts





Life Cycle of the Liverwort

Marchantia polymorpha

