

THRIPP

SUPPLEMENTAL INSTRUCTION FOR SURVEY OF BIOLOGY by Richard X. Thrupp

Week 13, Fall 2009, Nov 24 / 25. Plants and Fungi Move onto Land ch. 16. daytonastate.org/biology

- 1.) Beginning with bryophytes (mosses) in Kingdom Plantae, the embryo is retained in the mother and a waxy cuticle prevents water loss. The preceding green algae (Protista) performed photosynthesis and nutrient absorption underwater (water, CO₂, and minerals).
- 2.) Mosses (bryophytes) and ferns (pteridophytes) have centrioles to make flagella for sperm.
- 3.) Gymnosperms (conifers) and angiosperms (flowering plants) make seeds and pollen grains.
- 4.) Mosses have two generations: the larger (dominant) photosynthetic plant called the gameto phyte which makes gamete s (haploid / 1N) by mitosis, and the smaller sporo phyte which makes spore s (diploid / 2N) by meiosis.
- 5.) With ferns, the sporophyte (2N) generation is dominant (larger) and the gameto phyte is small.
- 6.) Seed plants (gymno sperms and angio sperms) have a reduced gametophyte generation dependent on the larger sporophyte generation, i.e. a sporo phyte (2N) pine tree with small pine cones containing male and female gameto phytes (1N).
- 7.) Ferns are seedless vascular plants. They were the first plants to evolve a vein system.
- 8.) Bryophytes (mosses) are small because they are a vascular, meaning they lack a vein system.
- 9.) Place these Plantae in order of evolution #1 through #4:
4 Angiosperms # 1 Bryophytes # 3 Gymnosperms (conifers) # 2 Seedless vascular plants
- 10.) Corn, rice, and wheat are angiosperms, which are flowering plants.
- 11.) In flowers, the anther makes pollen. The ovule develops into a seed.
- 12.) Angiosperms have seeds enclosed in a fruit, a ripened ovary. (Gymnosperms have naked seeds.)
- 13.) Fungi are chemoheterotrophs: they digest (decompose) their food externally and absorb it.
- 14.) Fungi are closer to humans/animals than plant s. Mold s are microscopic fungi.
- 15.) Xylem carry water from roots to leaves and phloem carries sugar from leaves to roots in vascular plants.