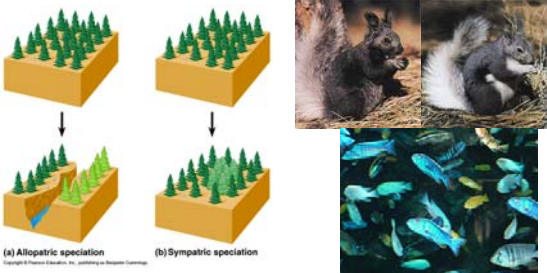
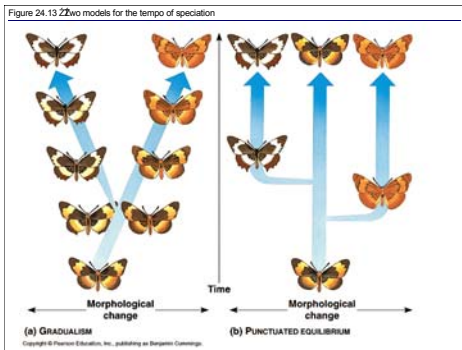


SPECIATION

- **Allopatric speciation:** Speciation by geographically separated populations
- **Sympatric speciation:** Speciation in populations with overlapping geographic ranges
- **Hybrid: (parapatric)** Offspring of genetically dissimilar parents
- **Polyploid:** An individual containing more than two sets of chromosomes



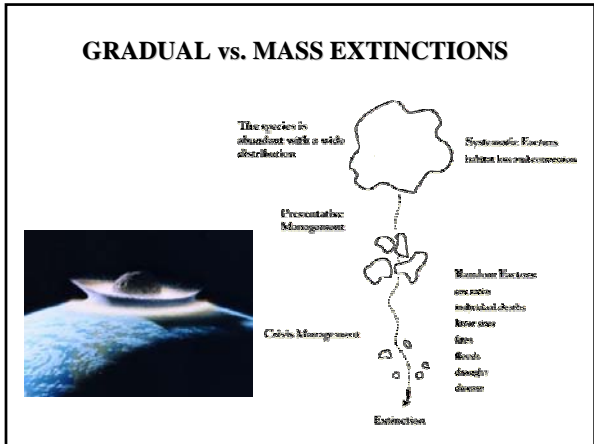
Patterns of Speciation

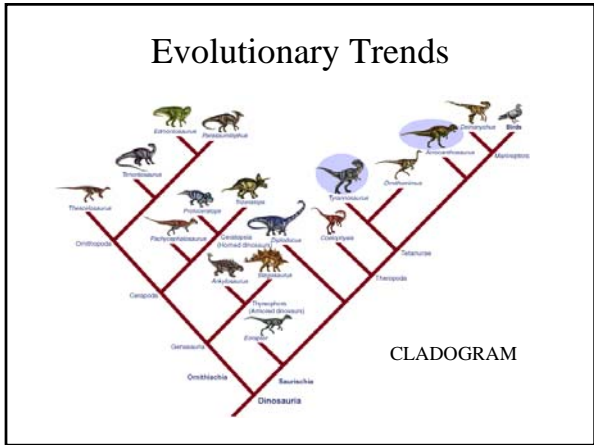


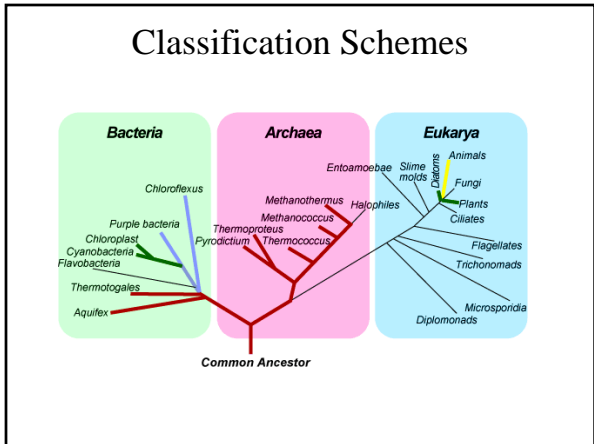
Adaptive Radiation

adaptive radiation: rapid speciation of a related group of taxa, usually in response to an opportunity for niche differentiation or the evolution of a novel feature

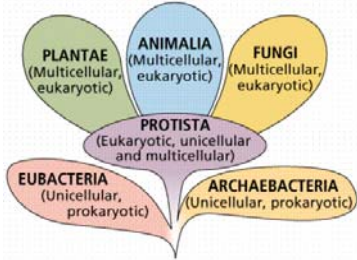








Classification Schemes



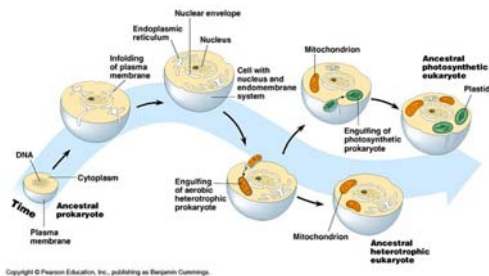
ORIGINS OF LIFE



- 3.5bya
- NO OXYGEN
- ANAEROBIC METABOLISM
- ORGANIC MATERIALS

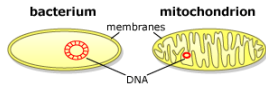
- Mutations led to photosynthesis
- Oxygen produced
- Aerobic Respiration (2.5 bya)

Endosymbiont Theory- 1.2bya



Endosymbiont Theory

•Membranes



•DNA

•Reproduction

