## **Building Phylogenetic Trees**

- Gather data about the characteristics
- Characteristics are inherited, genetically controlled and comparable between organisms (homologous)
- Typical characters: morphology, genetics (DNA sequence), physiology and behavioral
- Research looks for the similarities between the organisms similarities from common ancestry
- By using shared derived characteristics, organisms are hierarchically divided into small & smaller groups
- Shared derived trait is useless to determine relationships within the clade, as all members share the trait
- Researchers need other characteristics to determine relationships within the clade

