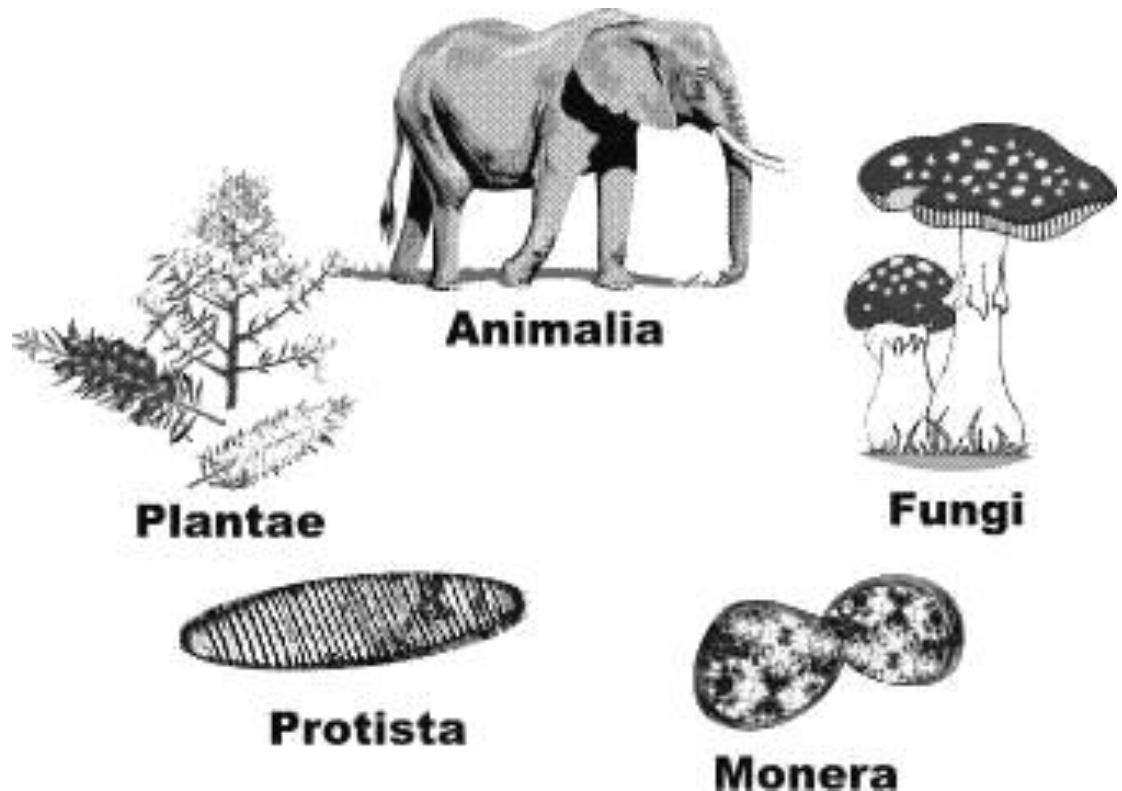


## Classification

- I. Classification – A way of organizing living organisms
  - A. The need for classification
    1. Organization
    2. A method to name organisms
    3. To give a worldwide uniform ness to the names.
      - a. Example: The common name puma cougar and mountain lion refer to the same organism
  - B. Nomenclature – Naming organisms
    1. The first naming system was by Aristotle who divided be living and nonliving
      - a. The living he divided into plants and animals
        - 1) Plants he divided into shrubs, herbs & trees
        - 2) Animals he divided by habitat: air, land & sea
    2. Linnaeus in the 1700's developed a classification system based on structural features of organisms
      - a. Carolus Linnaeus introduced binomial nomenclature
      - b. Binomial nomenclature is a two name naming system
        - 1) Each organism is given a two word Latin name
          - a) The first word is the genus usually a noun
          - b) The second word is the species and usually an adjective
          - c) Genus is always capitalized and the species name is lower case
          - d) The words are underlined or italicized to show that it is the scientific name
            - i. Felis Sylvestris - bobcat
            - ii. Felis domesticus Domesticated cat
            - iii. Felis concolor Mountain lion
    - C. Basis for classification
      1. Homologous structures – studying the similar structures
      2. Comparative biochemistry and development
      3. Phylogeny – evolutionary history
      4. Genetics - # and type of chromosomes
    - D. Classification groups “Taxa”
      1. Things are grouped together (The animals address)
        - a. Kingdom – The largest classification group
        - b. Phylum – the groups in the kingdoms
        - c. Class – the groups in the phyla
        - d. Order – the groups in the Classes
        - e. Family – the groups in the Orders
        - f. Genus – the groups in the families
        - g. Species – refers to a specific organism and includes both the genus and species name Canis familiaris
    - E. Kingdoms –
      1. No longer just separated into plants and animals
      2. Now divided into five kingdoms
        - a. Monera –
          - 1) Unicellular autotrophic and heterotrophic



- 2) Prokaryotes
  - 3) Reproduce asexually
  - 4) Bacteria and Blue green algae
- b. Protista –
- 1) Unicellular mostly, some multicellular
  - 2) Eukaryotes that lack specialized tissue
  - 3) Autotrophic and heterotrophic
  - 4) Produce sexually and asexually
  - 5) Examples are Algae and protozoa
- c. Fungi –
- 1) Heterotrophic
  - 2) Eukaryotes
  - 3) Reproduce Sexually and asexually
  - 4) Examples – mushroom, yeasts, puffballs, smuts, rusts, molds
- d. Plantae –
- 1) Autotrophic
  - 2) Multicellular
  - 3) Eukaryotes
  - 4) Reproduce sexually and asexually
  - 5) Examples: mosses, ferns, conifers and flowering plants
- e. Animalia –
- 1) Heterotrophic
  - 2) Multicellular
  - 3) Eukaryotes
  - 4) Reproduce sexually and some asexually
  - 5) Examples: Sponges – Blue whales



F. Human Classification

1. Kingdom – Animalia
2. Phylum – Chordata
3. Subphylum – vertebrata
4. Class – Mammalia
5. Order – Primates
6. Family – Homonidae
7. Genus - Homo
8. Species – Homo sapiens

