

Unit 6 Lecture 15: Biological Classification (Taxonomy)

Carolus Linnaeus' System

- A Swedish botanist named Carolus Linnaeus developed the classification system used today.
- This system is called binomial nomenclature (two word naming).
- Each organism that is classified is given two names.
- The first is its genus name followed by its species name.

How it Works!

- Linnaeus developed a system of classification based on structural similarities.
- He grouped organisms, containing the same characteristics, into groups called taxa (taxon: singular).
- The Most general taxon is the kingdom, while the most specific is the species.

The Taxa

- Kingdom
- Phylum
- Class
- Order
- Family
- Genus
- Species

Let's Classify a Bear.

Kingdom	Animalia
Phylum	Chordata
Class	Mammalia
Order	Carnivora
Family	Ursidae
Genus	<u>Ursus</u>
Species	<u>horribilis</u>

Rules of Classification

- The genus part of the scientific name must be capitalized.
- The species name must never be capitalized.
- Both genus and species names must either be italicized or underlined. An example is: Ursus horribilis

The Six Kingdom System

- The taxonomic system used today contains six kingdoms.
- This could change in the near future with the addition of several more kingdoms.
- Kingdoms: Animalia, Plantae, Fungi, Protista, Eubacteria, and Archaeobacteria.

The Key

- To help classify organisms of unknown origin, Taxonomists use a dichotomous key.
- Example:

COMMON CLASSES OF ARTHROPODA		
1	Three pairs of jointed legs on the thorax (part of the body between the head and the abdomen)	Class Insects
a		
b	Other	2
2	Four pairs of jointed legs	Class Arachnida
a		
b	Other	3
3	Two pairs of antennae	Class Crustacea
a		
b	One pair of antennae	4
4	Two pairs of jointed legs per body segment	Class Diplopoda
a		
b	One pair of jointed legs per body segment	Class Chilopoda