

Classification Notes

Classification

groups organisms according to

- physical characteristics (homologous structures)
- modern method: biomolecular information (DNA + protein seq.)

Classification tells us an organism's evolutionary history + relationships

PHYLOGENY

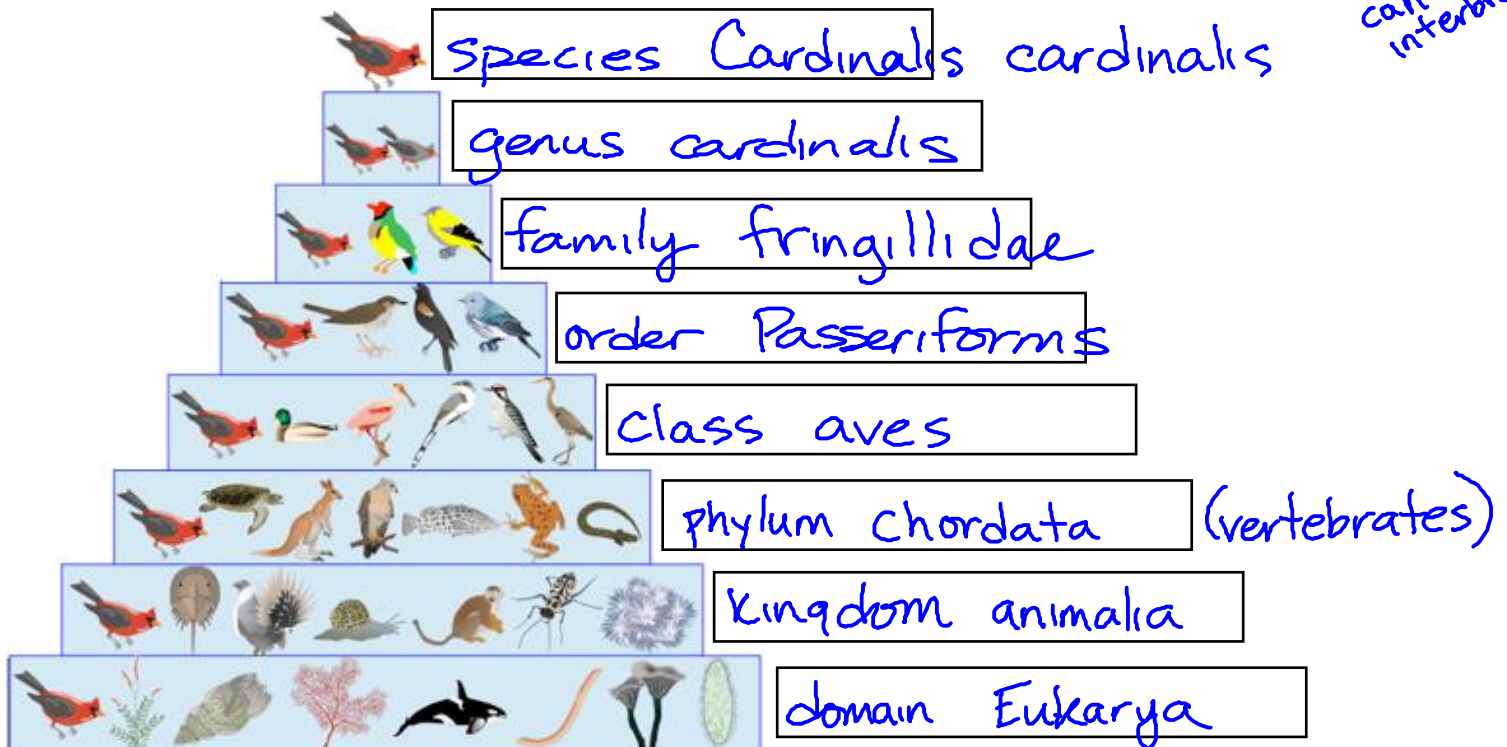
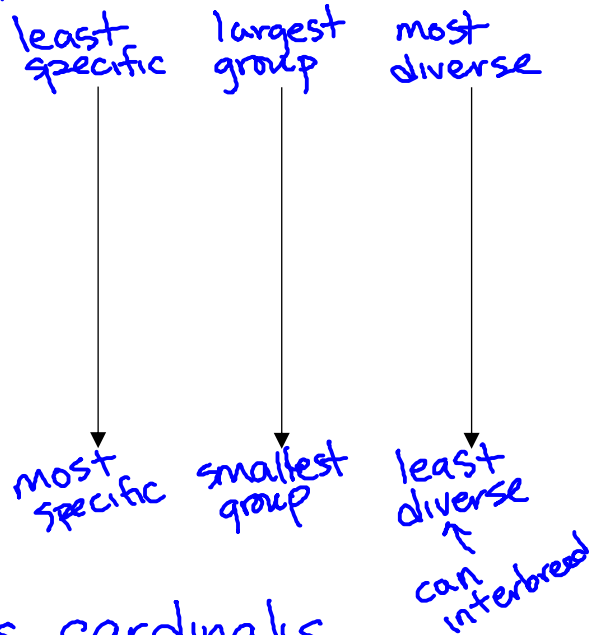
3 scientific tools of classification: taxonomy, dichotomous keys, cladograms
(phylogenetic trees)

Taxonomy

- Invented by Carl Linnaeus
- Organisms' scientific names: 1st name: genus, last name: species

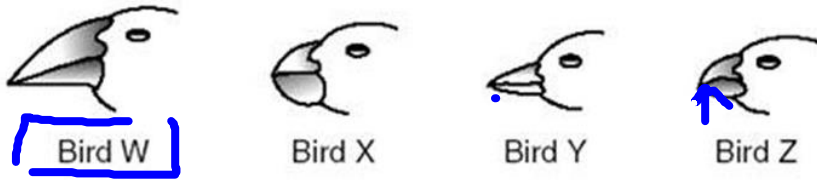
binomial nomenclature

Domain	Dumb
Kingdom	King
Phylum	Phillip
Class	came
Order	over
Family	for
Genus	great
Species	spaggetti



Dichotomous Keys

- use descriptions to identify organisms



Bird W:

Geospiza

Bird X:

Platyspiza

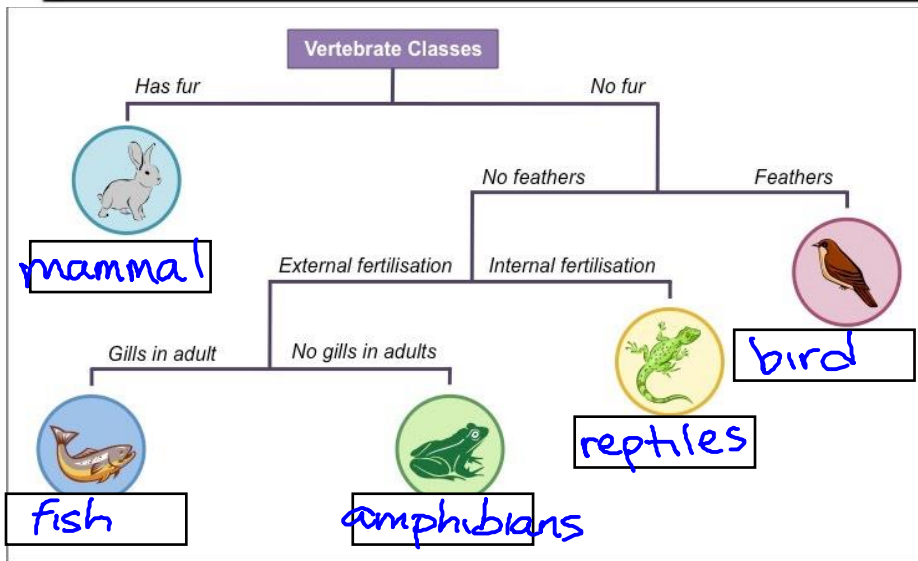
Bird Y:

Certhidea

Bird Z:

Camarhynchus

Dichotomous Key to Representative Birds	
1. a. The beak is relatively long and slender.....	Certhidea
b. The beak is relatively stout and heavy.....	go to 2
2. a. The bottom surface of the lower beak is flat and straight.....	Geospiza ✓
b. The bottom surface of the lower beak is curved.....	go to 3
3. a. The lower edge of the upper beak has a distinct bend.....	Camarhynchus
b. The lower edge of the upper beak is mostly flat.....	Platyspiza ✓



Difference between mammals and birds?

fur

Difference between reptiles and amphibians?

fertilization

Similarity between amphibians and fish?

external fertilization

Cladograms (Phylogenetic Trees)

- show evolutionary timeline, looks like family tree
- Based on shared derived characteristics (shared traits)

