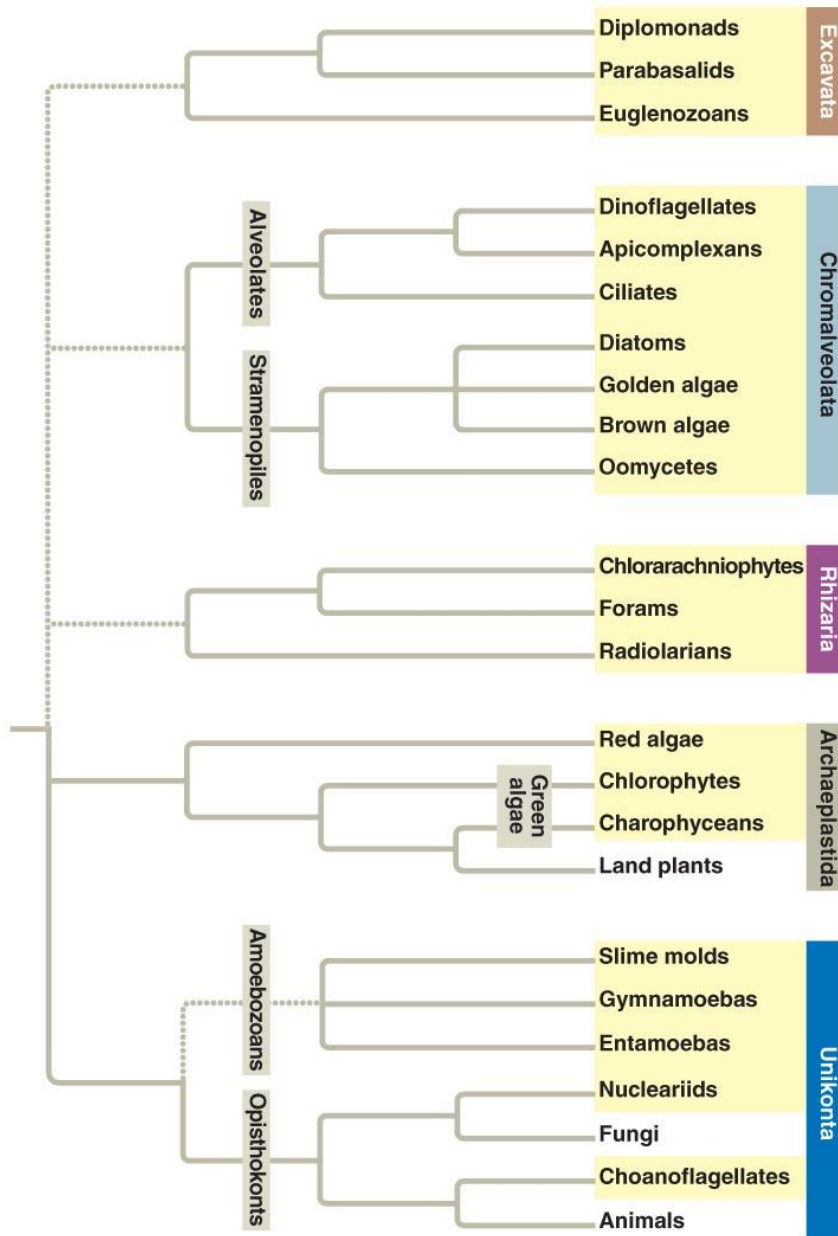


Kingdom Protista Classification

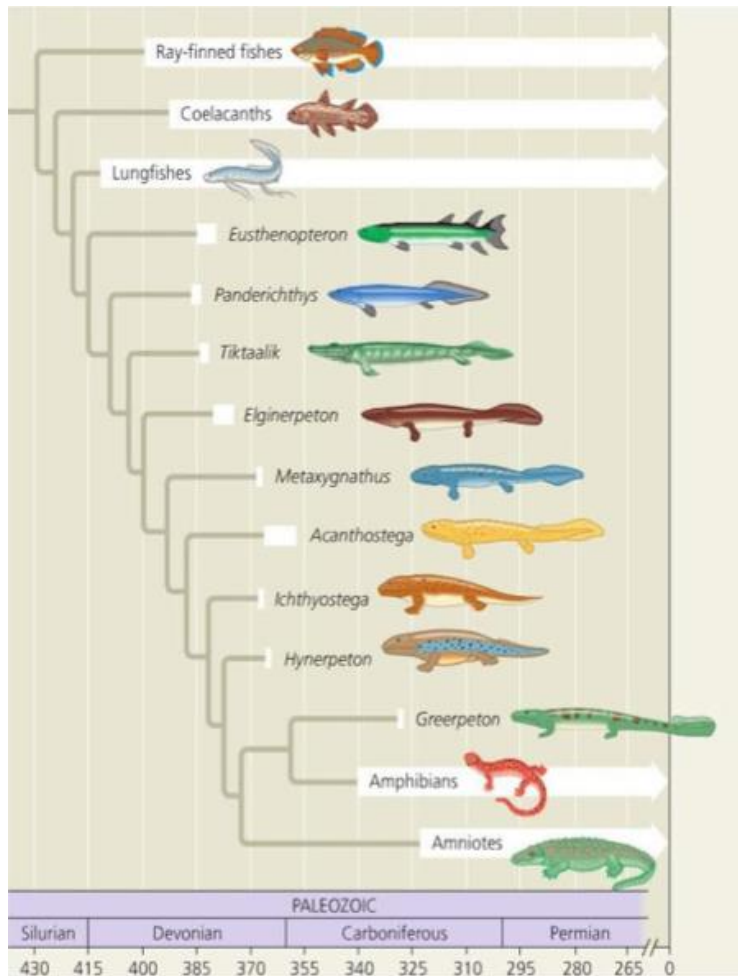
Introduction: In the classification hypothesis represented in the tree below, the eukaryotic groups at the branch tips (in the yellow boxes) are related in larger “Supergroup”, labeled vertically at the far right of the tree in the different colored boxes. The kingdoms Plantae (land plants), Fungi, and Animalia (animals) are also indicated on the tree where their lineage would occur. Groups highlighted in yellow have at one time been classified together in the kingdom Protista. Dotted lines indicate evolutionary relationships that are uncertain or under active debate.



Using the above information, answer the following questions.

1. Does the diagram show a phylogenetic tree or a cladogram? How do you know?
2. According to the diagram, what supergroup of protists is most closely related to Land plants?
3. According to the diagram, what supergroup of protists is most closely related to Fungi?
4. According to the diagram, what supergroup of protists is more closely related to Animals?
5. Is a mushroom more closely related to a pine tree or to a human? Use the number of common ancestor points in your explanation (this will be the number of intersecting or connecting lines between two species).
6. What type of evidence do you think scientists used to construct this diagram?
7. Protists are often called the left-over or junk kingdom? Using the diagram, why is this the case?

Kingdom Animalia Classification



1. Is this diagram a phylogenetic tree or a cladogram? Explain
2. What conclusions can you draw about the relationship between the amniotes at the bottom of the diagram and the ray-finned fish at the top?
3. What species are still alive today?
4. What period of the Paleozoic era has the most extinctions?