Name:_____

Class:_____

Carnivorous Plants: Convergent and Divergent Evolution

Warm-up Questions:

1. What do you think classifies a plant as **carnivorous**?

   _____

   _____

   _____

2. Have you observed any interesting **adaptations** in flora and fauna before? If so, what are they, and what do you think caused the need for those adaptations?

   _____

   _____

   _____

Class Notes:

1. Carnivorous plants, such as _____ (one example from class), develop carnivory for various reasons. One major **factor** is _____.
2. Some common **prey** are insects and _____.
3. Common **habitats** are often _____ (one environmental characteristic)
4. Carnivorous plants often require certain **nutrients**, one example being _____, and thus they obtain them from digested prey.
5. List two types of **traps** as discussed in class:
   1)
   2)
6. One example of convergent **evolution** is the development of wings in bats, birds, and insects for the need of flight. What do you think the terms convergent and divergent evolution mean? You may use examples to illustrate your definitions.

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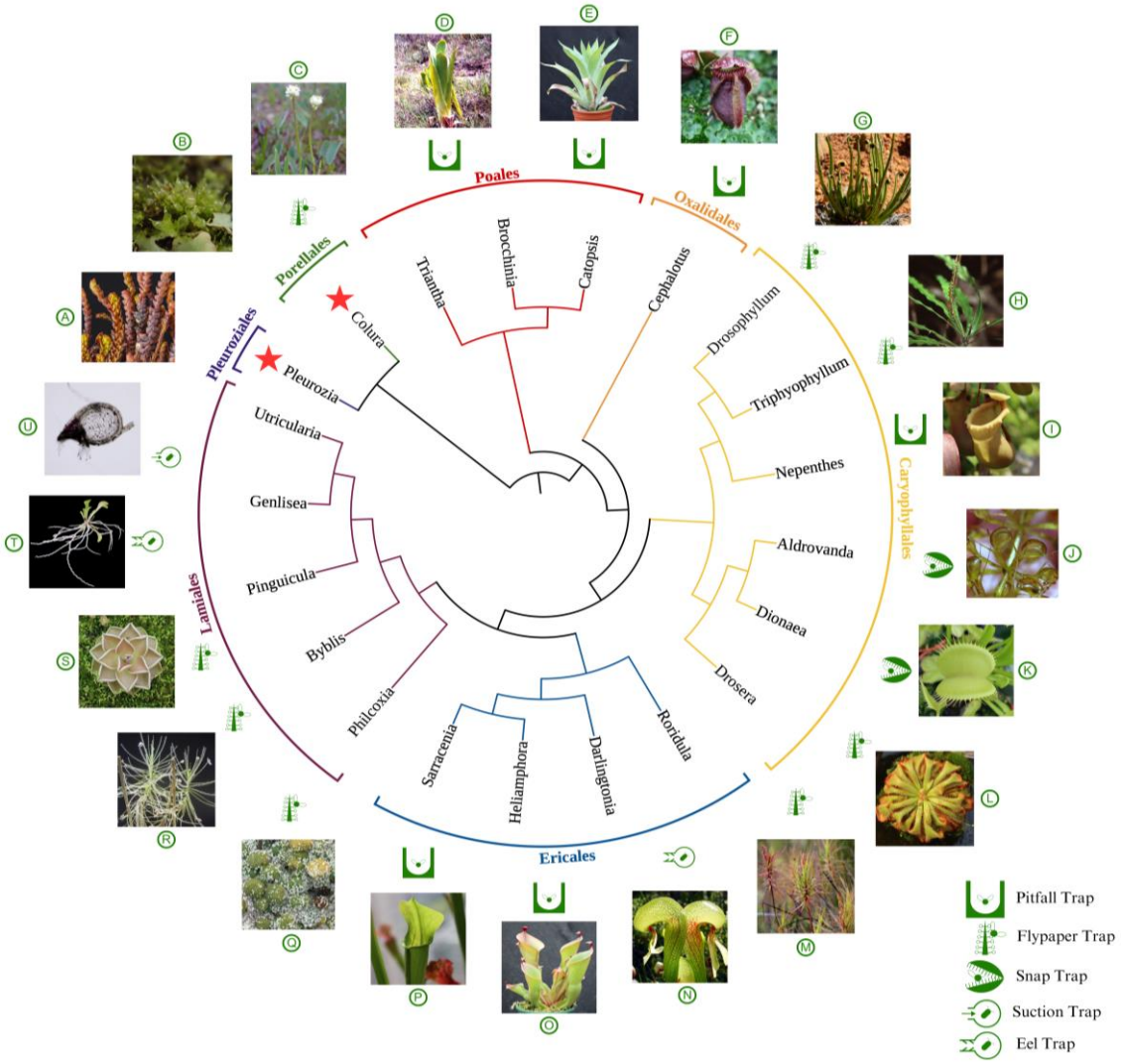
【Evolution activity: observe convergent evolution on the next page!】

【Evolution activity: observe convergent evolution】

Hint: look for similar trap types in different lineages!



Phylogenetic Tree of Carnivorous Plant Genera, including two liverworts that are not yet confirmed to be carnivorous marked with stars (you don't need to consider them in the questions). A: Colura calyptriflora, B: Pleurozia purpurea, C: Triantha occidentalis, D: Brocchinia reducta, E: Catopsis berteroniana, F: Cephalotus follicularis, G: Drosophyllum lusitanicum, H: Triphyophyllum peltatum, I: Nepenthes ventricosa x sibuyanensis, J: Aldrovanda vesiculosa, K: Dionaea muscipula, L: Drosera aliciae, M: Roridula gorgonias, N: Darlingtonia californica, O: Heliamphora nutans, P: Sarracenia alata, Q: Philcoxia rhizomatosa, R: Byblis liniflora, S: Pinguicula ehlersiae, T: Genlisea violacea, U: Utricularia sandersonii

<u>Group Challenge (*Recommended Procedures*)</u>*:* with your table group, observe and circle examples of convergent evolution on this **phylogenetic tree**. Consider these questions!

1. Based on the phylogenetic tree, did these species undergo convergent evolution or adaptive radiation?

   _____

   _____

2. How might the environment influence the evolution of these species?

   _____

   _____