Name: _____ Due Date: _____ Hour: _____

EVOLUTION OF POPULATIONS: A CLOSER LOOK AT DARWIN'S FINCHES

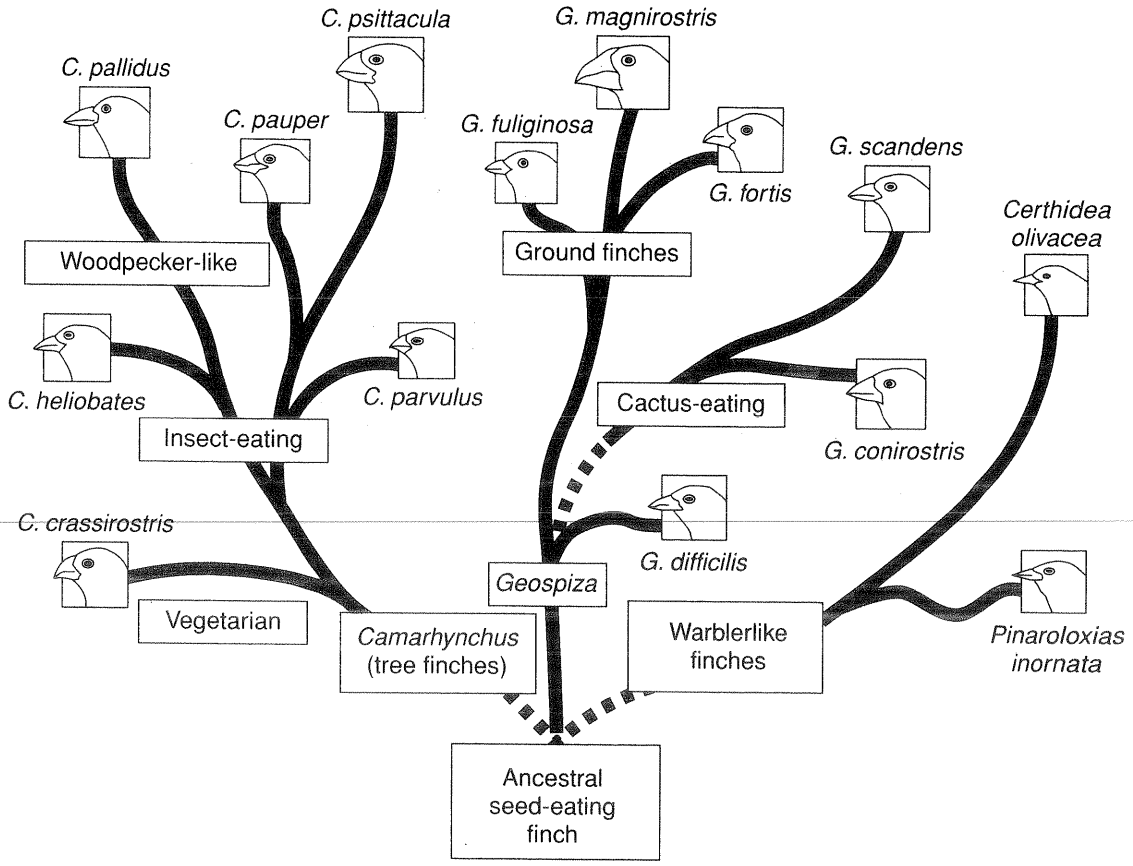
Directions: Use Chapter 16 in your text and the following to complete the questions below.

When Charles Darwin traveled to the Galápagos Islands, he found a variety of species of finches. Although each species was slightly different from the others, all the species were related. None of the finch species he found were similar to finches on the mainland.

When Darwin saw such extensive diversity of species in a single group of birds, he hypothesized that they all could have descended from a common ancestor. His observations of these finches helped him formulate his concept of evolution.

The phylogenetic tree below shows the relationships Darwin proposed among the species of finches. The tree is based on a comparison of the anatomy, behavior, and location on the island of each finch species. Look carefully at each species, and notice the dramatic difference among the beaks. Each type of finch has a beak adapted to its diet.

Darwin's finches are an example of adaptive radiation. Adaptive radiation is the emergence of many species from a common ancestor that was introduced to various new environments. For adaptive radiation to occur, the new environments must offer new opportunities and pose new problems of survival for the species.



Evaluation *Answer the following questions on a separate sheet of paper.*

1. Which of the ground finches illustrated above would be able to eat the largest, toughest nuts and seeds? Explain your answer.
2. Study the insect-eating finches shown in the diagram. What can you infer about the insects of the Galápagos Islands?