

## A hypothesis for the evolution of Galapagos finches

A \_\_\_\_\_ of finches was carried away from its usual flight routes by wind and landed on the Galapagos. This population was much smaller and had less \_\_\_\_\_ than the mainland population but there were still individuals that varied in beak shape, wing shape, etc. Because the differences between the populations are due random chance, the \_\_\_\_\_ does not lead to better adapted populations. But the smaller and less genetically variable island populations are more likely to change rapidly because of \_\_\_\_\_.

On the islands there were many unoccupied \_\_\_\_\_, i.e., different habitats to live in or times of day to forage, etc., because no similar species were on the islands. As the population of finches grew, \_\_\_\_\_ for food, shelter, etc. increased. In each generation, \_\_\_\_\_ (changes in the DNA) occurred in the different populations, increasing the \_\_\_\_\_. This resulted in an increased range of individuals with slightly different characteristics (\_\_\_\_\_) within the populations. In each environment, some individuals survived longer and past on their genes so that their offspring had the characteristics (\_\_\_\_\_) that were better suited to specific environments. We call this process \_\_\_\_\_, which decreases the \_\_\_\_\_ and \_\_\_\_\_ variation in the population. Thus over time, as the characteristics of the descendants of the different \_\_\_\_\_ of finches in different habitats changed, the finches in different environments became so different that they stopped interbreeding. This \_\_\_\_\_ was also made possible because living on different islands presented \_\_\_\_\_ to the birds. The populations that were unable to interbreed are considered separate \_\_\_\_\_ because they are \_\_\_\_\_. Thus one species had \_\_\_\_\_ into two or more. Because there were many different \_\_\_\_\_ and many different populations that evolved different characteristics in this way, the result was many different species over a relatively short period of time. Scientists call this \_\_\_\_\_.

adaptations  
adaptive radiation  
competition  
diverged or divergence  
founding event  
founding population  
genetic variation  
genotypic

geographical barrier(s)  
mutation(s)  
natural selection  
natural selection  
niche(s)  
phenotypic  
population(s)  
reproductively isolated

speciation  
species  
trait(s)