

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)