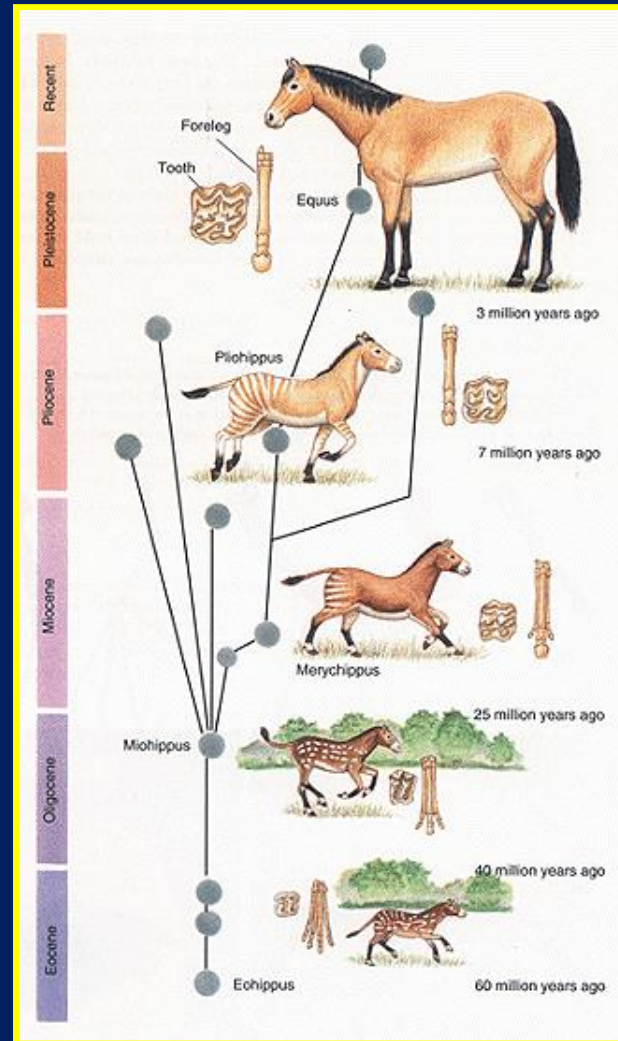


Natural Selection



Adaptations

Adaptations are variations that increase an organism's chance for survival



Adaptations can be structural or behavioral

Acquired Characteristics

Originally, people thought adaptations were a result of Inheritance of acquired characteristics



Giraffes developed long necks by stretching their neck muscles and the passed on the trait to offspring

Charles Darwin proved this idea was **incorrect**

Galapagos Islands



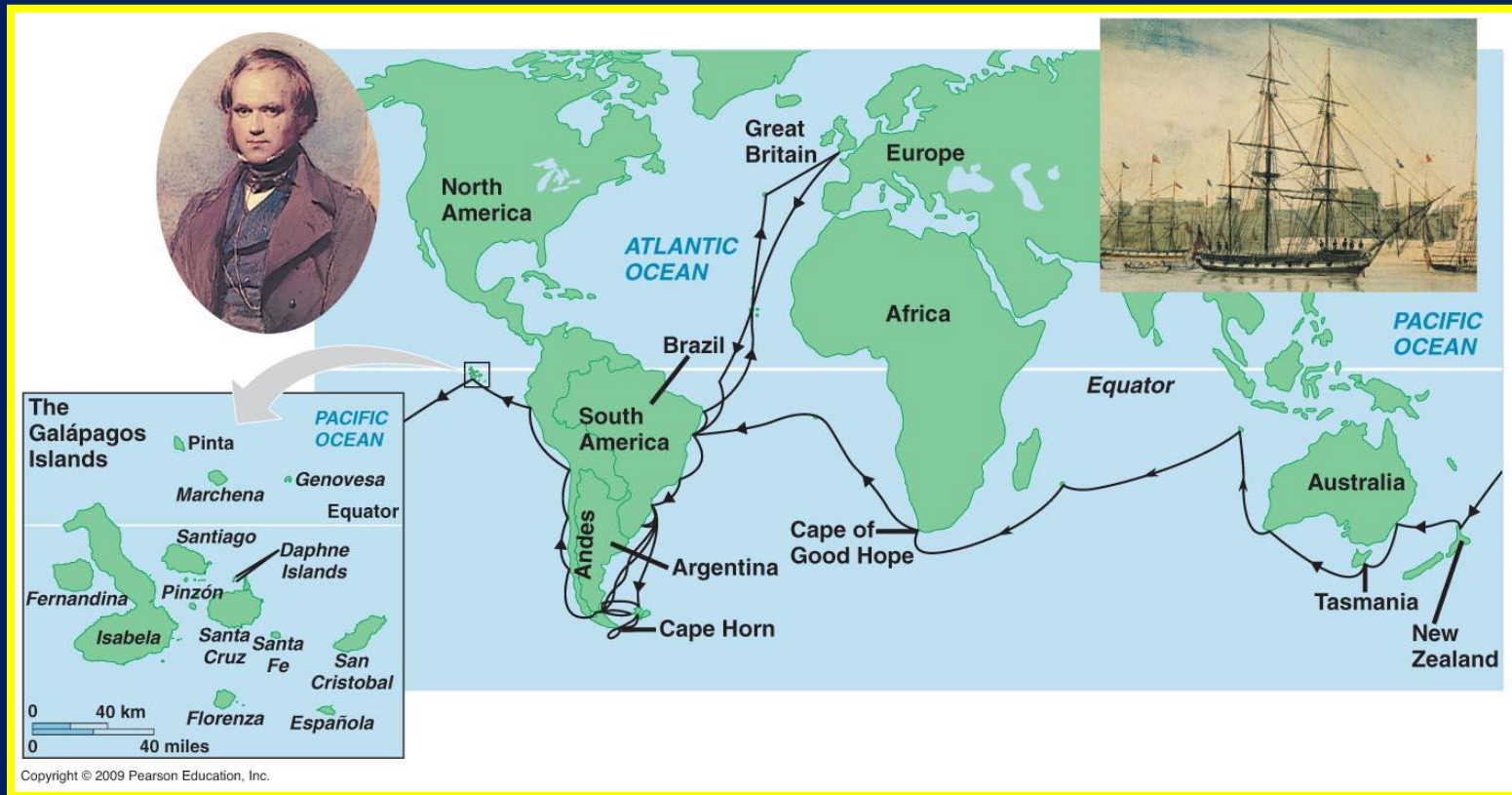
Primary Succession

Series of islands that formed over a volcanic hot spot and as a result are in various levels of primary succession.



Voyage of the Beagle

The islands are best known for being the place where Charles Darwin collected a lot of his evidence for his theory on Natural Selection.



Darwin's Finches



The akiapola'au
forages for insects,
often under bark



The iiwi
feeds on nectar
from ohia flowers



The 'Apapane
feeds on insects
and ohia nectar



The Maui parrotbill
tears back bark in
search of beetles



The original species,
now extinct,
probably ate
insects and nectar

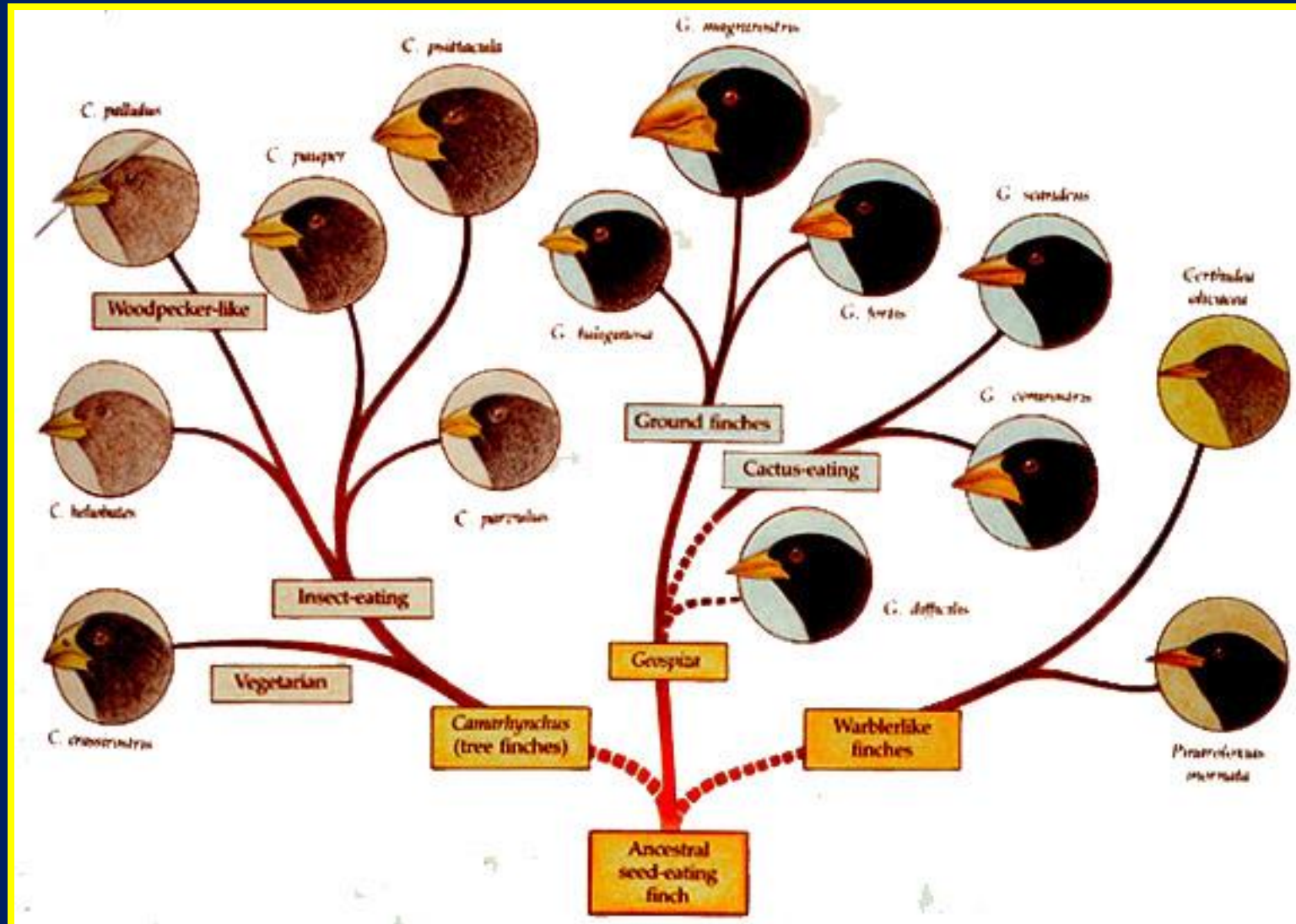


The Nihoa finch
uses its heavy bill
to crush seeds



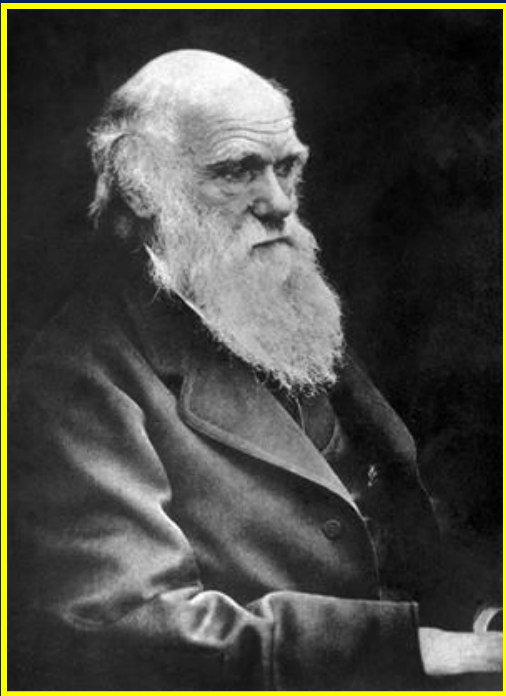
The Amakihi
is a nectar-feeder,
like the iiwi

Darwin's Finches



Natural Selection

In 1859, Charles Darwin proposed the Theory of Natural Selection that explains how adaptations develop in organisms



Nature selects which traits are beneficial to an organism enabling them to survive, reproduce, and pass on their genes to offspring.

Principles of Natural Selection



There is **variation** among organisms

Organisms with traits that make them the **Most Fit** Survive



The survivors **reproduce** and **pass on** the **beneficial** traits

Evolution

Over time, the beneficial traits become more common within that population



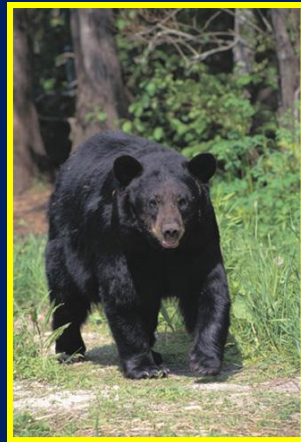
Evolution is a change in a population over time



Melanistic Leopard

★ Geographical Isolation ★

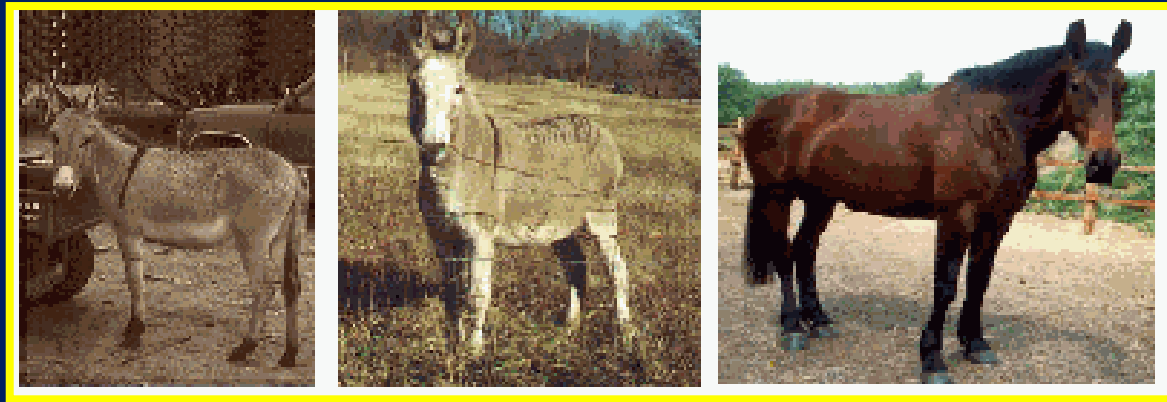
Geographical isolation is the most common way populations change or evolve and can even lead to the creation of new species, or speciation.



Different environments select different traits

Species

A species is defined as any population that will breed together to produce viable young in nature



Donkey

Mule

Horse

The mule is a hybrid of a female horse and a male donkey.
Mules are sterile and cannot produce viable young.
Therefore, donkeys and horses are different species.

The End