

## 15-1 The Puzzle of Life's Diversity

**Evolution** is the process by which modern organisms have descended from ancient organisms.

A scientific **theory** is a well-supported testable explanation of phenomena that have occurred in the natural world.

Despite efforts by antievolutionists to paint Darwin as an atheist, he was a very religious man. He had a degree in theology from Cambridge and even thought about spending his life as a country preacher. He remained a devout Christian all of his life. He saw no conflict – and no less awe or majesty – in a God that ruled through natural laws rather than through supernatural means.

MILLER LEVINE *BIOLOGY* 1995 TE P 270

“Scientists certainly know more about God than the theologians do, for scientists study the works of God and theologians only study what has been felt and written about God.”

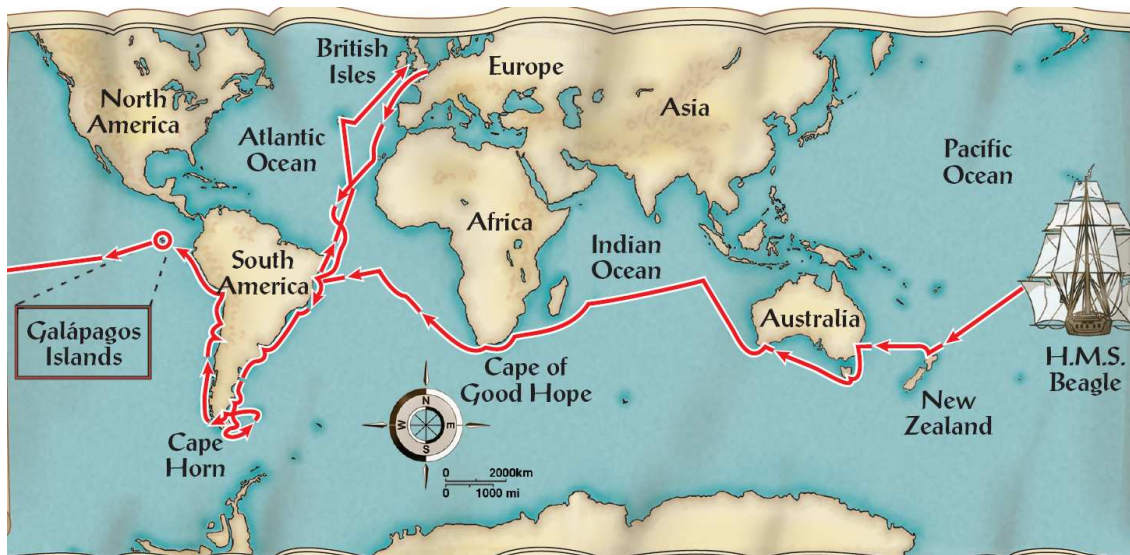
GEORGE GAYLORD SIMPSON

### Voyage of the *Beagle*

In 1831, Darwin set sail from England aboard the H.M.S. *Beagle* for a voyage around the world.

Darwin went ashore and collected plant and animal specimens for his collection.

He studied the specimens, read the latest scientific books, and filled many notebooks with his observations and thoughts.



During his travels, Darwin made numerous observations and collected evidence that led him to propose a hypothesis about the way life changes over time.

That hypothesis has become the theory of evolution.

### Darwin's Observations

Darwin observed that many plants and animals were well suited to the environments they inhabited.

He was impressed by the ways in which organisms survived and produced offspring.

Darwin was puzzled by where different species lived and did not live.

Grasslands in some regions were similar to one another but were inhabited by very different animals.

### Living Organisms and Fossils

Darwin collected the preserved remains of ancient organisms, called **fossils**.

Some of those fossils resembled organisms that were still alive.

Others looked completely unlike any creature he had ever seen.

Darwin observed that the Galápagos Islands were close together but had very different climates.

Darwin observed that the characteristics of many animals and plants varied noticeably among the different islands of the Galápagos.

Darwin wondered if animals living on different islands had once been members of the same species.

These separate species would have evolved from an original South American ancestor species.