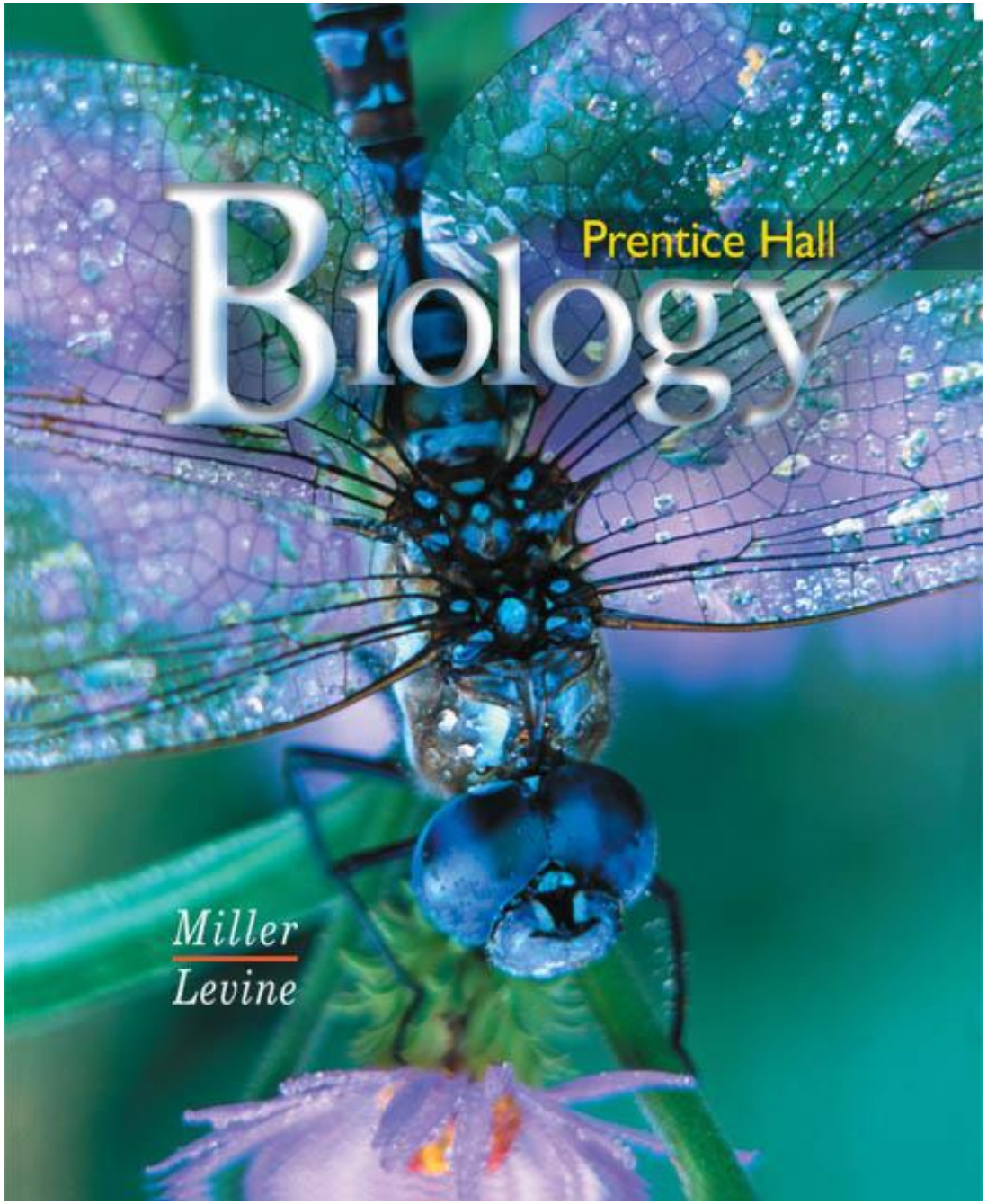


15-1 The Puzzle of Life's Diversity

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.

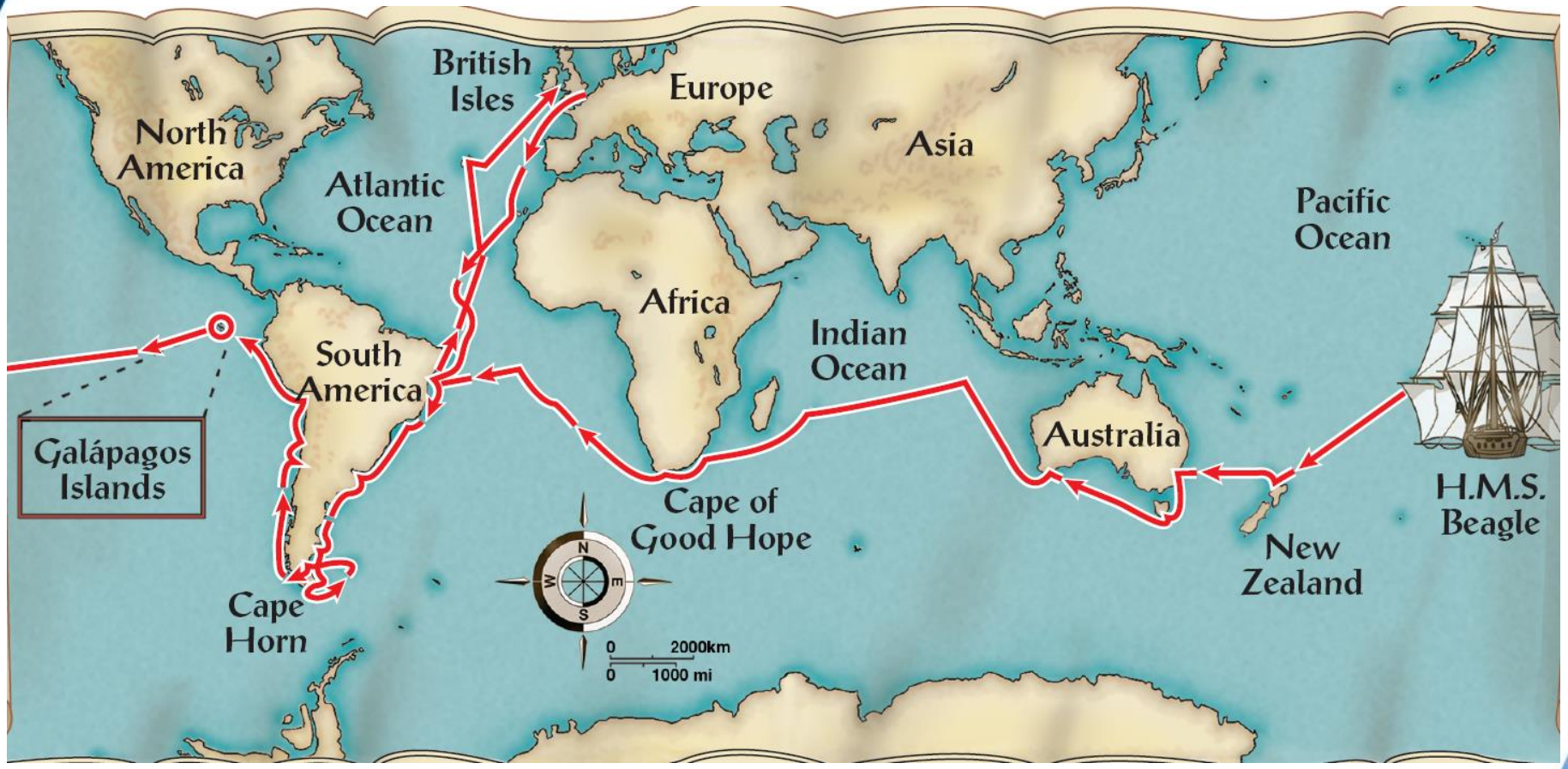
Voyage of the *Beagle*

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.

15-1 The Puzzle of Life's Diversity ➡ Voyage of the *Beagle*



What was Charles Darwin's contribution to science?

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.

The Journey Home

What pattern did Darwin observe among organisms of the Galápagos Islands?

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.

15-1 Section QUIZ

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Section QUIZ

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15-1 Section QUIZ

1 Darwin's observations in the Galápagos Islands included all of the following EXCEPT

A a. characteristics of many living organisms did not vary among the different Galápagos Islands.

b. many plants and animals were well suited to their environments.

c. very different animals inhabited many similar ecosystems.

d. though close together, the islands had very different climates.

2 What did Darwin learn about the tortoises of the Galápagos Islands?

a. Tortoises with dome-shaped shells were found on all of the islands.

b. The tortoises resembled fossil remains that were found on the islands.

A c. The shape of the Galápagos tortoise shells varied with their different habitats.

d. Different shaped tortoise shells occupied the same habitats.

3 According to Darwin's proposed theory of evolution, species of organisms

A a. change over time.

b. are not related to fossil remains.

c. do not vary from one location to another.

d. remain unchanged when the environment changes.

4 Darwin hypothesized that different-looking mockingbirds from different islands might be descendants of birds that

a. belonged to a single species that had originated on the islands.

A b. belonged to a single species from the South American mainland.

c. belonged to a different species from similar habitats in South America.

d. had been brought to the islands by earlier visitors.

5 What role did the evidence gathered by Darwin play in developing his ideas?

a. It immediately gave him the idea that organisms evolved.

b. It confirmed evolution—an idea he had before he left England.

c. It confirmed evolution, which he proved on his arrival in the Galápagos.

A d. It led to considering the possibility of evolution only after he was heading home.

END OF SECTION