

Genetics and Evolution is a six-volume set that explores the principal fields of modern molecular biology from their origins to the most recent discoveries and technological breakthroughs. A century and a half after evolutionary and genetic science began, biology and medicine are coming together to form a powerful new view of the living world that is having a dramatic effect on human health and society. As well as introducing the basic terms and concepts, the set examines the most significant social and ethical issues surrounding current biomedical research and serves as a valuable guide to the world that science is revealing.

The theory of evolution is based on three main principles: heredity, variation, and selection. In the 19th century, Charles Darwin and Alfred Russel Wallace sought to explain how these processes work together to produce new species. Evolution provided the first scientific system to investigate the origins and relationships of living creatures and today serves as a unifying theory explaining facts that cannot really be accounted for in any other way. Describing the theory as clearly as possible, *Evolution* demonstrates why it was necessary, how it has been received by society, and why it occupies a central role in science today.

The volume includes information on

- DNA as the "language" of evolution
- eugenics
- genetics and human behavior
- genomes

- heredity and variation
- the origins of evolution
- sequencing
- the voyages of Darwin and Wallace

The book contains 50 color photographs and four-color line illustrations, sidebars, a chronology, a glossary, a detailed list of print and Internet resources, and an index. Genetics and Evolution is essential for high school students, teachers, and general readers who wish to learn about the "revolution" of evolutionary research and discovery.

## **GENETICS AND EVOLUTION SET**

Developmental Biology

Evolution

The Future of Genetics

Genetic Engineering

**Human Genetics** 

The Molecules of Life

Russ Hodge is a writer and science education expert at the Max Delbrück Center for Molecular Medicine (MDC) in Berlin, Germany, one of the world's leading biology institutes. The author of many popular science books, he has also published hundreds of articles and interviewed such world-renowned scientists as Nobel Prize winners Max Perutz, Roald Hoffmann, Harold Varmus, and Christiane Nüsslein-Volhard.

Cover images, main: Marine iguana (Amblyrbynchus cristatus), Española (Hood) Island, Galápagos Islands (© Michael Lustbadet/ Photo Researchers, Inc.); others (© Shutterstock) Cover design by: Salvatore Luongo/Takeshi Takahashi Printed in the United States of America 9 780816 066797