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The Evolution Revolution

Discover the extraordinary story of Charles Darwin in *Darwin: The Evolution Revolution*, the most comprehensive exhibition ever mounted on the man whose revolutionary theory changed the world. This extraordinary exhibition traces Darwin's life from his early years of curious observation and scientific study to his uninspired days at boarding school. Relive his five-year voyage aboard the *HMS Beagle* that brought him to the Galapagos Islands, and discover some of the unique animals he encountered, including African spur-thighed tortoises, an iguana and live frogs.

Walk through his historic study where he developed his ground-breaking Theory of Evolution. Intimate letters, photographs and personal artifacts give insight into aspects of Darwin's life that are rarely seen. Discover why it took so long for Darwin to publish his findings, and how his daughter's untimely death in 1851 may have contributed to his decision to eventually publish *On The Origin of Species*.

Interactive media and videos help bring Darwin and his ideas to life, and contemporary scientists explain how Darwin's theories have held their relevance in so many areas of modern biology and science.

Exhibition Highlights

Discover the most in-depth exhibition about Charles Darwin ever mounted.

Begin by entering Garfield Weston Exhibition Hall and come face-to-face with live African spur-thighed tortoises, similar to those that Darwin observed while in the Galapagos Islands. From there, continue on to discover nine thematic areas of interest:

INTRODUCTION

Who was Charles Darwin? Learn about his character, his passions and his neverending desire to examine the world around him.

Highlight: Darwin's original magnifying glass, exemplifying the simple tools and approaches that he used during his career.

THE WORLD BEFORE DARWIN

Uncover what society was like in the 18th century. Natural scientists, and most of England, were aligned to the Church's creationist position. Advanced thinkers of the 18th century speculated about evolution but did not understand how it likely may have worked.

EARLY LIFE: SHOOTING, DOGS AND RAT-CATCHING

Find out about Darwin's early years. At boarding school he was an indifferent student and was told by his father, "You care for nothing but shooting, dogs and rat-catching, and you will be a disgrace to yourself and all your

Highlight: View Darwin's natural history collections, family portraits and letters home from school.

AN ORDINARY MAN

Take a moment to watch this short video which presents an overview of Darwin's life and work. Shot on location at Down House, Darwin's longtime home, the video is narrated by Randal Keynes, Darwin's great-great-grandson.

VOYAGE OF THE BEAGLE

Trace Darwin's five year voyage on the *HMS Beagle* to the Galapagos Islands and beyond, a journey which Darwin called the most pivotal event in his life and one that confirmed his career as a naturalist. Experience the extraordinary wonders witnessed by Darwin, including animal and planet specimens he collected.

Highlight: Darwin's pistol and his Bible, together for the first time since the *Beagle's* voyage.

LONDON

What happened when Darwin returned to England? He married his cousin, Emma Wedgwood and started a family. As he continued to study and develop his ideas, other notable scientists began to study his specimens and his reputation grew.

Highlight: His 1842 "Abstract," an essential document in the development of his Theory of Evolution.

DOWN HOUSE

It was at Darwin's residence that he realized his revolutionary ideas would shake British society to its core. Learn about the events that led to Darwin's decision to finally publish *On the Origin of Species* in 1859.

Highlight: A detailed reconstruction of part of Darwin's study at Down House. Numerous authentic personal possessions, including Darwin's microscope, are featured.

EVOLUTION AND NATURAL SELECTION

Does Darwin's theory still stand the test of time? Various media, including videos, simulations and interactive components, explain evolution and natural selection, the key components of Darwin's theory.

DARWIN'S LEGACY

Discover why Darwin's discoveries are important to modern biology and modern science, and explore the relevance and controversies that still exist to this day.

Meet the Curators

Chris Darling

Senior Curator, Entomology

ROM Curator, Darwin: The Evolution Revolution



Dr. Chris Darling received a BSc from Queen's University (1974), a MSc from the University of Utah in ecology and evolutionary biology (1978), and a PhD in Entomology from Cornell University (1983). Dr. Darling taught for two years at Oregon State University prior to arriving at the ROM as a curator of insects in 1985.

As a ROM curator, Dr. Darling conducts collection-based research on the systematics and biology of parasitic Hymenoptera. His research, involving biodiversity studies of the Perilampidae, Pteromalidae, and Leucospidae, has been supported by the Natural Sciences and Engineering Research Council (NSERC) since 1986. He is particularly interested in the historical biogeography and the evolution of host associations in parasitic Hymenoptera; that is, where they are found and why, as well as what they are doing. This has resulted in extensive field work throughout Southeast Asia, including India, the Philippines, Indonesia, Thailand, and Vietnam. He also conducts fieldwork in Ontario and has studied the interaction of bluebirds and blowflies, goldenrods and their gallmakers, and a variety of wood-infesting beetles and their natural enemies. Dr. Darling is actively involved in the growth and curation of the ROM's insect collection and in the Museum's public programs and exhibitions. He is the curatorial coordinator for the Gallery of Evolution, part of the Renaissance ROM project. Dr. Darling is a strong advocate of the importance of natural history and conducts research on insect-plant interactions in the tropics. He is enthusiastic about promoting the fascinating world of insects—and their importance in human affairs—to a variety of audiences. He sits on the Board of Directors of the Toronto Entomologists' Association and is a member of the Entomological Society of Ontario and the Entomological Society of Canada.

Dr. Darling is also a professor in the Department of Zoology, University of Toronto and teaches undergraduate courses in entomology and conservation biology, supervises undergraduate and graduate students, and teaches field courses in the New World and Old World tropics.

Niles Eldredge

Curator, Division of Paleontology and Curator, Darwin

American Museum of Natural History, New York

Niles Eldredge has been a paleontologist on the curatorial staff of the American Museum of Natural History since 1969. His specialty is the evolution of trilobites—a group of extinct arthropods that lived between 535 and 245 million years ago.

Eldredge's main professional passion is evolution. Throughout his career, he has used repeated patterns in the history of life to refine ideas on how the evolutionary process actually works. The theory of "punctuated equilibria," developed with Stephen Jay Gould in 1972, was an early milestone. Eldredge went on to develop a hierarchical vision of evolutionary and ecological systems, and in his book *The Pattern of Evolution* (1999) he has developed a comprehensive theory (the "sloshing bucket") that specifies in detail how environmental change governs the evolutionary process.

Concerned with the rapid destruction of many of the world's habitats and species, Eldredge was Curator-in-Chief of the American Museum's Hall of Biodiversity (May 1998), and has written several books on the subject—most recently *Life in*

the Balance (1998). He has also combated the creationist movement through lectures, articles and books—including *The Triumph of Evolution...And the Failure of Creationism* (2000).

Eldredge is the Curator responsible for the content of the major exhibition *Darwin*. His book *Darwin: Discovering the Tree of Life* (2005) accompanies the exhibition.

Olivier Rieppel, PhD

Geology Department Chair

Curator, Fossil Amphibians and Reptiles

The Field Museum, Chicago

Olivier Rieppel has been a geology curator at The Field Museum in Chicago since 1990. He researches the origin of snakes through a scientific collaboration that integrates paleontology, comparative morphology and molecular systematics. The origin of snakes is a longstanding problem in the evolution of reptiles that still awaits a satisfactory resolution. The study of the origin of snakes is now embedded in a broad-scale investigation of the phylogenetic relationships of squamate reptiles as part of the Tree of Life program sponsored by the National Science Foundation.

Rieppel has also pursued the global revision of Triassic stem-group Sauropterygia, marine reptiles that later gave rise to the more widely known plesiosaurs, pliosaurs and elasmosaurs of the Jurassic and Cretaceous. This work provided the basis for the ongoing collaborative research program with faculty and students of the Institute of Vertebrate Paleontology and Paleoanthropology in Beijing, focusing on new collections of Triassic marine reptiles from Guizhou Province in southern China. The Triassic record of marine reptiles is rich and diverse, and allows the study of broad evolutionary patterns as originally terrestrial lineages adapted to marine habitats.

“Researching the evolution of various reptile lineages and reconstructing their phylogenetic past raises a number of theoretical and methodological issues that require philosophical analysis,” Rieppel says. “I take an active interest in the history and philosophy of comparative biology.”

Rieppel served as among the collaborating curators who provided input into the *Darwin* exhibition.