

## Darwin 1809–2009

Exactly two hundred years after the birth of the great scientist and 150 years since the publication of *The Origin of the Species*, the exhibition DARWIN 1809–2009 will be inaugurated in Rome in the newly restored Palazzo delle Esposizioni (February – May 2009) and will then move on to Milan (June – November 2009). DARWIN, the spectacular international exhibition about the father of the theory of evolution, is based on an exhibition organized by the American Museum of Natural History, New York ([www.amnh.org](http://www.amnh.org)), in collaboration with Museum of Science, Boston, The Field Museum, Chicago, Royal Ontario Museum, Toronto, Natural History Museum, London. It has already visited Boston, Chicago and Philadelphia, and is on its way to London, Tokyo and other important world capitals. The exhibition will also be coming to Italy, in a version that has been specially readapted and enlarged by two famous evolutionists, Niles Eldredge and Ian Tattersall.

### The exhibition

Two centuries have passed since the birth of the great English naturalist and yet still today his theory of evolution is at the center of cultural debates, in part because of the speed with which the theory's scientific foundation is updated, and in part because of its general philosophical implications regarding "man's place in nature." The Darwin Exhibition is the most important exhibition about the English scientist that has ever been organized for the general public. In keeping with the century-old tradition of the American Museum of Natural History of New York, the exhibition combines history, narration, naturalism, the philosophy of science and contemporary experimental research. The adventurous biography of young Darwin, his complex family relationships, his immersion into English culture of the time and its conflicts, his famous, five-year

voyage around the world, all become evocative vehicles for recounting the birth of a revolutionary idea, the early questions, the fascinating discoveries, the premonitions of an idea, the initial uncertainties, the fears, the long silence and, finally, the publication of his sensational theory in 1859.

The exhibition introduces the visitor to the construction of the theory of evolution, starting with the very earliest intuitions and empirical evidence, continuing on with the incipient outlines of the transformation of species and their universal kinship, and ending with the formulation of the theory which was to make Darwin famous: natural selection as a driving force of change in nature. The concept of the exhibition, thus, revolves around a precise hypothesis of the history and the philosophy of science because Darwin was a forceful innovator, not just in the field of naturalism but also in his methods of conducting scientific research and his ability to interconnect diverse outlines of observation.

Part intellectual biography and part history of ideas, the man and the scientist are both explained in a hands-on exhibition through reconstructions, taxidermy specimens and live examples of the animals that were of crucial importance to the discovery of evolution through natural selection. The exhibition features geological scenarios that were vital to his scientific apprenticeship, fossils of extinct animals and other specimens he gathered during his voyage, manuscripts, letters and notes written by the young naturalist, items that were the object of his homespun study and the experiments he conducted on plants and animals in the countryside around Kent.

His idea took form and was obstinately and meticulously applied to many different fields, even to the human species and natural history that saw man descend from the apes. Thus, in his maturity, Darwin's main areas of research – the diversity of the adaptability of organisms, the domestication of plants and animals, fossil and paleontological remains, the distribution of species throughout the ecosystem – coalesced into a coherent framework of great explicatory power. Darwin's opus is rounded out by his

observations on the expression of emotions in animals and in man, further corrections to *The Origin of the Species* until its sixth edition in 1872, and many lesser-known but no less fascinating monographs that offer a view of the mind of the great naturalist who founded modern biology.

Today, the theory of evolution has been enhanced by new data, genetic and paleontological above all, that was unknown in Darwin's time but that still maintains the original, elucidatory nucleus of its founder. The exhibition clearly illustrates the guidelines of the updates that have been made today to the theory of evolution, the controversies that have arisen regarding the timeframe and the modes of evolution, the construction of so-called "neo-Darwinism," discoveries like evo-devo, evolutionary developmental biology but above all, the debt we owe to Darwin's original formulation, which still today represents its crucial foundation.

Without turning Darwin into an icon, or reducing itself to hagiographic descriptions, the exhibition also studies the contradictions in his personality, his quirks, uncertainties and fears. Darwin knew that he had posed a question whose bounds exceeded his theory and which went straight to the heart of reflections on the human condition and to him, at the very beginning, it seemed that he were "confessing to a crime." It sparked controversy that has animated the debate concerning evolution for the past 150 years and that seems to have no intention of dying down, despite the fact that sufficient proof has been given that many of the attacks on Darwinian theory are of an unscientific nature. This, too, is Darwin's legacy, a totally lay vision of the living world that places the history of our species within the broader destiny of the history of life on our planet.

The exhibition has a great number of precious artifacts that have never been seen before in Italy. Of particular interest are the first notebooks that Darwin wrote after returning from his voyage; they remained hidden for decades after his death and have only recently been deciphered and published in a critical edition. Visitors can also admire a life-size, faithful reproduction of Darwin's study in Down House, where he spent many years writing and conducting research. The sections dedicated to the Beagle voyage and to contemporary evolution theory are especially striking, thanks to a mixture of documents, objects, pictures, models, specimens and taxidermies of animals and plants and also live animals, such as armadillos, iguanas and amphibians. The exhibition is sure to have a great impact on the public; it combines spectacular and scientific features; the emotions and aesthetics of an intellectual yet breath-taking voyage are balanced by the painstaking care that has been taken in exhibiting the objects. The exhibition addresses visitors of all ages and offers schools an extraordinary wealth of possibilities for further study. At the end of the exhibition, the visitor comes away with the feeling of having crossed a multicolored and surprising, evolutionary caravanserai that is interconnected by the fine threads of an idea that has been patiently constructed.

The version of the exhibition that will be seen in Italy has a very special added value. The curator of the American exhibition, Niles Eldredge, the head of invertebrate paleontology at the American Museum of Natural History in New York and one of the world's greatest contemporary evolutionists, will personally oversee the arrangement of the exhibition in Italy with the help of another authoritative scholar, Ian Tattersall, the director of the Hall of Human Evolution at the American Museum of Natural History. This contribution by these two American academics will be furthered by the exhibition's Italian curator, Telmo Pievani, associate professor of the philosophy of science at the Milano Bicocca Università degli Studi, a philosopher of biology and an expert in the theory of evolution.

In particular, the Italian exhibition will feature many contributions that have never been on view before. There will be a completely updated version of the section "A trip around the world," with new artifacts and texts that Eldredge put together following research and on-site study conducted in South America after the American exhibition was planned. The section "A life's work" will be integrated by an in-depth study on how Darwin is viewed in Italy, on the importance of Italian geology for Darwin's studies, on the precocious

Italian darwinian schools in Veneto, in Turin and Florence, on the debate sparked by *The Origin of the Species* in Italy and on the ties between Darwin and scholars active in Italy, like the naturalist Anton Dohrn, the founder of the homonymous International Zoological Station in Naples, and the zoologist Michele Lessona, Rector of the University of Torino, who translated many of Darwin's important works. The section "Evolution today" will be enhanced by a brand new portion regarding human evolution. This part has been curated by Tattersall and will show the extremely diversified and pluralistic side of the history of hominids, including the African origins of our species and our close evolutionary kinship with chimpanzees and gorillas, which have been confirmed by archeological and paleontological, as well as genetic and molecular, data.

The exhibition represents an important opportunity to coordinate a series of collateral events and Conferences. At the exhibition locations, as well as in other locations throughout Italy, a series of encounters and conferences will be organized; "Darwin 1809-2009" will be just the nucleus of a special series of the "Darwin Day", with numerous initiatives carried out by the many organizations that deal with and are interested in furthering scientific culture in Italy.

It should be stressed that the exhibition will also highlight the teaching side, which has been planned as an integral part of the exhibition both in Rome and Milan and will represent one of its strong points. Guided tours will also be available with specially trained personnel, for schools of all levels and grades, as well as laboratories and integrated activities flanking the visit to the exhibition.

In view of the exhibition's importance and central locations, multilingual audio tools are being prepared for an international public. For this reason, all the texts of the exhibition will be in both Italian and English.