



THE NEW YORK BOTANICAL GARDEN

For Immediate Release
April 9, 2008

**Charles Darwin's Work with Plants
Will Be Brought to Life at The New York Botanical Garden**
Darwin's Garden: An Evolutionary Adventure

Opening April 25, 2008

Exhibition Highlights Darwin's Little-Known Fascination with Plants

The untold story of Charles Darwin's lifelong fascination and work with plants, including how flowers have evolved their extreme beauty and how plants are sensitive creatures responding to the least beam of sunlight and the pull of gravity, will be presented in an exhibition entitled *Darwin's Garden: An Evolutionary Adventure* at The New York Botanical Garden on April 25–June 15, 2008

Darwin's Garden will include exhibitions of living plants and historical documents in three Botanical Garden venues: the Enid A. Haupt Conservatory, LuEsther T. Mertz Library gallery, and Everett Children's Adventure Garden, plus an "evolutionary tour" of living plants demonstrating key points on the evolutionary Tree of Life. It will paint a portrait of Darwin as a naturalist and plantsman and show how Darwin's botanical experiments and discoveries helped shape his contributions to the understanding of life in general.

Darwin historian David Kohn, Ph.D., comments, "Only in his work as a botanist can we truly see all the dimensions of Darwin as a scientist—that is as a successful collector, as a powerful theorist, as an insightful observer, and as a rigorous and almost prophetic experimenter." Professor Kohn is curating the exhibition in the Mertz Library and advising on the other components of *Darwin's Garden*.

There will be several events and programs associated with *Darwin's Garden*, most notably a symposium with leading Darwin scholars in early May.

Darwin's Own Garden Re-created

The exhibition in the Haupt Conservatory will focus on Darwin's work with living plants, evoking Darwin's own garden, greenhouse, and experimental beds where he conducted botanical research. It will tell the story of how careful observation of the plants in his garden and greenhouse inspired Darwin's groundbreaking thinking about natural selection and evolution. The exhibition will re-create Darwin's gardens at Down House, his home in England, and the surrounding orchards and meadows where the naturalist made many scientific observations. Primroses, insectivorous plants, orchids, and climbing plants, subjects of Darwin's research and writings, will be featured in the exhibition. Other plants will illustrate the role plants played in the evolution of Darwin's ideas and will bring to life the kitchen garden at Down House as well as the famous "sandwalk" where Darwin made careful observation of nature and plants, the basis for much of his break-through thinking.

Displays of plants will evoke Darwin's experimental studies and his investigations into pollination and the power of movement in plants.

Darwin's Garden in the Haupt Conservatory will run April 25–June 15, 2008.

Darwin's Botany in His Own Words

The exhibition in the Mertz Library's William D. Rondina and Giovanni Foroni LoFaro Gallery will include original historical documents exploring Darwin's deep personal relationship with plants, beginning in childhood. It will interweave information about Darwin as a person with the story of his rich botanical ideas, featuring Darwin's own writings and collections. Illustrated books, manuscripts, and other historical documents will offer insight into his thinking and demonstrate the importance of botany throughout his life. Most of the materials come from Darwin's own manuscripts in Cambridge University Library and from the Mertz Library's extensive collection of 19th-century botanical works. Additional materials will be on loan from the University Herbarium at Cambridge, the Royal Horticultural Society's Lindley Library in London, and the Archives at the Harvard Botany Libraries.

The exhibition will start with Darwin's botanical heritage, his family history, and his upbringing and proceed through his exposure to 18th- and early 19th-century botany in his undergraduate education at Edinburgh and Cambridge. It will also illustrate the significant role of plants on his historic, five-year journey around the world on the HMS *Beagle*. He spent much of his time collecting plants along with fossil bones and bird skins. **Darwin's collections of "all plants in flower"** from the Galápagos Islands, for example, became the basis for the first flora of that archipelago and **provided his strongest evidence for evolution**. His field notes on the vegetation of Brazil and Tierra del Fuego reflect his developing thinking on natural processes.

The exhibition will also chronicle Darwin's professional friendships and intellectual exchange with leading botanists of the era, including Joseph Dalton Hooker, Director of the Royal Botanic Gardens, Kew, and Asa Gray at Harvard University, and show how these contributed to the creation of *On the Origin of Species*. It will also highlight his elegant and profound investigations into plant sexuality (the role of flowers, including pollination and co-evolution of plants and their pollinators) and sensitivity (how plants respond to touch, light, gravity, and chemical substances).

Darwin's Garden in the Mertz Library will be open April 25–July 20, 2008.

Children's Adventures with Darwin

In the Everett Children's Adventure Garden, an interactive exhibition including plants important to the development of the concept of evolution will invite hands-on exploration. Carnivorous plants will also be on display. Darwin the man will be brought to life through a re-creation of his research laboratory, an assortment of his working tools, a child-friendly timeline of the highlights of Darwin's life, and a replica of the *Beagle*, together with a map of the ship's five-year voyage to South America and around the world.

The exhibition and programs in the Children's Adventure Garden will be open April 25–June 29, 2008.

Scientific Symposium

The New York Botanical Garden, in collaboration with the American Museum of Natural History, will also host a symposium on two evenings during the exhibition. Entitled *Darwin: 21st-Century Perspectives*, the symposium will feature presentations by scientists, historians, philosophers, and environmentalists—the current thinking by some of the world's leading Darwin experts. Because Darwin's theories continue to be a significant force in the world today, the symposium will offer an extraordinary opportunity to hear top scholars and commentators discuss Darwin's far-reaching impact.

The two-part symposium, moderated by prominent naturalist and author Edward O. Wilson, Ph.D., will be open to the public. It begins the evening of Tuesday, May 6, at the Botanical Garden; the second session, the evening of Thursday, May 8, will be at the American Museum of Natural History.

Symposium Admission: \$10 each/\$16 for both sessions
Free to Members of AMNH and NYBG; registration required
Please call 800.322.6924 for information and to purchase tickets

Evolutionary Tour, Workshops, and More

From April 25 to June 15, an Evolutionary Tour will take visitors on a scavenger hunt through the Tree of Life among living plants in the Garden's collections. In the Haupt Conservatory and surrounding outdoor plantings, this approximately 40-minute walking tour will highlight significant plants in the evolutionary Tree of Life. It will be accompanied by signage and commentary accessible via visitors' cell phones.

A separate audio tour will also be available to guide visitors through their visit of *Darwin's Garden* in the Haupt Conservatory and Mertz Library. Weekend programs will feature drop-in lectures, workshops, and guided tours. In addition, performances will feature music and poetry from Darwin's era, much of it heavily influenced by nature.

The Bourke-Sullivan Display House at the Nolen Greenhouses will present a special display of exceptional plants—from the unique to the sometimes bizarre—from the Garden's diverse botanical collections, showcasing the marvels of plant evolution. Discover the -wide range of adaptations that allow plants to survive in every imaginable environment from rain forests to arid deserts.

About Darwin and Plants

Botany played a pivotal role in each phase of the life of Charles Robert Darwin (February 12, 1809–April 19, 1882). As an undergraduate he collected specimens for his botany professor's herbarium while geologizing in Wales. Voyaging aboard the HMS *Beagle* he wrote in his journal that his mind was “a chaos of delight” as he reveled in the luxuriance of tropical forests. Preparing to write the *Origin of Species*, he treated his primroses with guano to produce mutants. He tested by botanical experiments many of the critical arguments crucial to the development of this seminal work. For decades afterward, he turned his home and the surrounding countryside into a botanical field station and took great pleasure in his experimental gardening.

In the spring of 1860, a year after the *Origin of Species* was published, Darwin began plant experiments at Down House that resulted in six books that forever recast the field of botany and provided solid evidence for Darwin's theories of evolutionary adaptation. The books are *Fertilisation of Orchids* (1862), *Climbing Plants* (1865), *Insectivorous Plants* (1875), *The Effects of Cross and Self Fertilisation in the Vegetable Kingdom* (1876), *Forms of Flowers* (1877), and *The Power of Movement in Plants* (1880).

Darwin's work with plants provided credible and enduring evidence in support of his theory of evolution through natural selection. His studies on the fertilization of orchids, insectivorous plants, climbing plants, and the movements of plants were each a precise example of how evolution could solve the traditional mysteries of natural history. He laid the foundation of modern botany as an evolutionary discipline, which continues even today.

Darwin's studies of living plants also led to a succession of brilliant revelations. Through careful observation of insect pollination, for example, he concluded that the two different but stable forms of the wild cowslip, *Primula veris*, discourage self-fertilization of the plant and guarantee cross-fertilization. He revealed that flowering plants attained their form and cross-fertilizing function to sustain genetic variability. Darwin also became an expert on virtually every British species of orchid. He discovered and demonstrated that the key to orchid pollination was the touch of an insect's proboscis, which releases spring-loaded pollen. From this breakthrough Darwin structured a convincing argument for adaptation by natural selection.

Through scientific explorations of botanical sex and sensitivity, Darwin projected a dynamic conception of nature that would substantially enrich both scientific and humanistic pursuits. And he contended that plants—no less than animals—are sensitive creatures in possession of behaviors that permit them to respond to their environment, including elements such as sunlight, touch, and gravity. Plants clamber over neighbors, track the movement of the sun, capture and digest insects, and respond to the “*touch from a child's hair.*” Darwin delighted in discovering these adaptations.

Exhibition Leadership

The New York Botanical Garden is proud to have historian David Kohn, Ph.D., a renowned Darwin expert and Professor Emeritus at Drew University, as curator of *Darwin's Garden: An Evolutionary Adventure*. John Parker, Ph.D., Professor of Plant Cytogenetics and Director of the Cambridge University Botanic Garden, is Advisor to The New York Botanical Garden on the project. In addition, an Advisory Committee of distinguished Darwin scholars will contribute a wide range of intellectual perspectives. Senior New York Botanical Garden staff, including Vice President for Horticulture and Living Collections Todd Forrest, Mertz Library Director Susan Fraser, Vice President for Education Jeff Downing, and Vice President for Laboratory Research Dennis Wm. Stevenson, Ph.D., round out the leadership of this comprehensive exhibition.

After the exhibition at The New York Botanical Garden, portions of *Darwin's Garden: An Evolutionary Adventure* will be displayed at The Huntington Library, Art Collections, and Botanical Gardens, San Marino, California.

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Exhibitions in the Enid A. Haupt Conservatory are made possible by the Estate of Enid A. Haupt.

Exhibitions in the Mertz Library are made possible by the LuEsther T. Mertz Charitable Trust, William D. Rondina and The Carlisle Collection, and The Kurt Berliner Foundation.

Spring Season sponsored by **MetLife Foundation**

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The New York Botanical Garden is a museum of plants located at Bronx River Parkway (Exit 7W) and Fordham Road. During *Darwin's Garden: An Evolutionary Adventure*, the Botanical Garden will be open Tuesday through Sunday and Monday federal holidays from 10 a.m. to 6 p.m. For more information, please call 718.817.8700 or visit www.nybg.org

The best way to enjoy *Darwin's Garden* is with the *All-Garden Pass*, which includes admission to the grounds as well as to the exhibitions, Enid A. Haupt Conservatory, Everett Children's Adventure Garden, Rock and Native Plant Gardens, Tram Tour, and Evolutionary Tour: \$20 for adults, \$18 for seniors and students with ID, \$7 for children ages 2–12, children under 2 are free. Order tickets for *Darwin's Garden* in advance at www.nybg.org

Admission to the two-part evening symposium, *Darwin: 21st-Century Perspectives*, on May 6 and 8 is separate: \$10 for a single session or \$16 for both. Registration is required; please call 800.322.6924 to order tickets for the symposium.

A *Grounds-Only Pass* to the Botanical Garden is also available: \$6 for adults, \$5 for adult Bronx Residents; \$3 for seniors, \$2 for students with ID, \$1 for children ages 2–12, children under 2 are free. Grounds-only admission is free all day on Wednesdays and from 10 a.m. to noon on Saturdays.

On Tuesdays and Thursdays, April 25–June 15, 4–6 p.m., admission to The New York Botanical Garden is complimentary, courtesy of the National Endowment for the Humanities.

The New York Botanical Garden is located on property owned in full by the City of New York, and its operation is made possible in part by public funds provided through the New York City Department of Cultural Affairs. A portion of the Garden's general operating funds is provided by The New York City Council and The New York State Office of Parks, Recreation and Historic Preservation. The Bronx Borough President and Bronx elected representatives in the City Council and State Legislature provide leadership funding.

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