For Immediate Release
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New Exhibition Showcases Research Projects by New York Botanical Garden Scientists

Plants and Fungi: Ten Current Research Stories opens October 22

A new exhibition including unusual plant specimens, artifacts from explorations around the world, maps, research tools, a large-scale diagram of the Tree of Life, and audio/visual presentations offers an engrossing introduction to current research by Botanical Garden scientists and graduate students. The exhibition, curated by Jan Stevenson, includes herbarium specimens from the gigantic fruits of Brazil nuts to tiny lichens and mosses. It brings to life many different scientific questions being explored in the field, the laboratory, the library, and the herbarium.

Ten exhibit cases present research stories involving mushrooms, blueberries, lichens, mosses, cycads, rice, Brazil nuts, squashes, vanilla orchids, and ferns. They illustrate how Botanical Garden scientists unravel the mysteries of science, including the evolutionary history, ecological roles, and economic uses of plants and fungi.

Kim Tripp, Ph.D., Director of The New York Botanical Garden, observes, "We're pleased to offer the public a window to the important but not widely known research work of Botanical Garden scientists around the world. This exhibition expands our growing program of visitor-oriented exhibitions highlighting the beauty, science, and uses of plants and fungi."

For more than a century, scientists at the Botanical Garden have traveled far and wide to better understand plants and fungi, their relationship to their environments, and their many uses by people around the world. Doing so has taken the scientists to thousands of field sites across all continents of the world.

From its very first research projects in the 1890s, the Botanical Garden has integrated field research with the latest laboratory techniques and technologies. Today, key tools include the sophisticated techniques of molecular systematics, genomics research, and digital imaging.

Biodiversity research work such as the Botanical Garden scientists and graduate students undertake is increasingly critical today as the growing human population threatens entire habitats with degradation and many species with extinction.

The Tree of Life

Unraveling the mysteries of plant and fungi evolution is a major theme of the exhibition. It is dramatized by a large-scale diagram of the Tree of Life that extends along one of the major walls of the Britton Science Gallery. Life on Earth is visualized by scientists as a tree of related life-forms, all branching from a common ancestor. Botanical Garden scientists conduct their research in the plant and fungal sections of the Tree of Life. Portions of the Tree of Life are magnified to show the relationships among plant groups, including those of the plants in the research stories in the exhibition cases. These highlights indicate the relatives of mushrooms, blueberries, and the other plants and fungi being researched. Fascinating surprises emerge from the Tree of Life: who knew that orchids are relatives of asparagus?

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In display cases throughout the Britton Science Rotunda and Gallery, the individual research projects themselves are presented. Many focus on better understanding evolutionary history and classification. Of these, some use new tools such as DNA fingerprinting to distinguish different species and to reconstruct their lineages and inter-relationships. Others rely on classic techniques of plant exploration, collection, and detailed scientific observation and description; for example, compiling a definitive flora of all known ferns in Mexico and documenting the lichens of the Ozark Mountains.

Ecological Roles of Plants

Botanical Garden scientists also study the complex interactions of plants and fungi with their environments. Many lichens, for example, are highly sensitive to pollution and serve as environmental indicators of clean air. One research story presents the documentation of the various species of lichens that grow on the grounds of the Botanical Garden itself.

The ecological role of plants and fungi also includes the many interactions with animals. Plants in the Brazil nut family, for example, have evolved many strategies to attract pollinators and to entice bats and other animals to serve as dispersal agents for their seeds. Plants and fungi also interact with other plants and fungi in their environment. In the harsh, high-elevation habitats of the Andean mountains, Botanical Garden scientists are studying the relationship between a porcini mushroom and a member of the blueberry family that need each other to survive.

Uses of Plants and Fungi

People rely on plants and fungi as resources for medicine, food, fiber, and fuel. One research project studies the diversity of rice varieties: how different varieties are created, maintained, and transformed through social networks. The field work for the rice project ranges from the floodplains of the Amazon in Peru to mountain slopes in Indonesia. It analyzes the role of rice in different cultures and how social networks affect the sources and distribution of genetic diversity in rice. Another project tackles the search for the wild ancestors of today's domesticated squashes, which may provide a source for breeding better disease resistance into food plants.

Innovative research on the relationship of plants and fungi to human health is represented as well. Through genomics research on cycads, Botanical Garden scientists are identifying and studying the nerve toxin in cycads that causes "Guam dementia." It may also provide clues into other human neurological diseases such as Lou Gehrig's, Parkinson's, and Alzheimer's.

Continuing a Century-old Legacy

The new exhibition is a central feature in the newly renovated Britton Science Rotunda and Gallery, named in honor of Nathaniel Lord Britton and his wife Elizabeth Britton, both distinguished botanists and founders of The New York Botanical Garden. Nathaniel Lord Britton (1859-1934) was the founding Director of The New York Botanical Garden and guided its formative growth through three decades. Britton's keen sense of plant classification and passions for collecting and field exploration set the tone from the beginning of the institution. Elizabeth Britton (1857-1934) was an educator and a bryologist, a specialist in mosses and liverworts. A century later, her legacy is still very much alive; the new exhibition includes three separate projects on lichens and mosses. Elizabeth Britton was also instrumental in the creation of the Wildflower Preservation Society of America.

The new spaces are now named the Nathaniel Lord Britton Science Rotunda and the Elizabeth Britton Science Gallery.

The Architectural Story

The new exhibition is housed in an elegant new venue located in the Botanical Garden's Library Building. The beautiful neoclassical rotunda and adjacent gallery on the fourth floor have been transformed by James Stewart Polshek and Susan Rodriquez of Polshek Partnership Architects into attractive exhibition spaces, new work areas for Steere Herbarium staff, and a state-of-the-art digital imaging laboratory.

The Library Building, built in 1899 and designed by architect Robert Gibson, is a beautiful Beaux Arts-style structure that once housed the millions of preserved botanical specimens relocated to the Steere Herbarium in May 2002. That relocation opened the way for adaptive reuse of the interior of the Library Building, including the creation of the Britton Science Rotunda and Gallery.

Linked by a handsome staircase, the fourth and sixth floor rotundas of the Library Building now create a beautiful new, interconnected museum space including the Mertz Library, the Rondina and LoFaro Gallery, and the Britton Science Rotunda and Gallery. The next exhibition of rare prints and books in the Rondina and LoFaro Gallery, which will feature botanical art by renowned nineteenth-century French artist Pierre-Joseph Redouté, will open on October 22, 2005, the same date as the *Plants and Fungi* exhibition.

In addition, the restored Lillian Goldman Fountain of Life, the dynamic allegorical sculpture by Carl C. Tefft located directly in front of the Library Building, will also be unveiled on October 22, 2005. It has been cleaned and refurbished, and all the original bronze figures have been restored in time for the centennial of its original opening.

Leadership support for the
Nathaniel Lord Britton Science Rotunda and the Elizabeth Britton Science Gallery
was provided by Edward P. Bass.

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The New York Botanical Garden is a museum of plants located at Bronx River Parkway (Exit 7W) and Fordham Road in the Bronx. The Botanical Garden is open year-round, Tuesday through Sunday and Monday holidays, from 10 a.m.–6 p.m. April through October, and 10 a.m. – 5 p.m., November through March. The best way to enjoy the Botanical Garden is with the *Combination Ticket,* which includes grounds admission, the Conservatory, Rock Garden, Native Plant Garden, Tram Tour, and Everett Children's Adventure Garden, and costs for $13 for adults; $11 for students and seniors; $5 for children 2–12. Grounds admission is free to everyone all day Wednesdays and on Saturdays from 10 a.m. to 12 p.m. To purchase tickets, order online at www.nybg.org or call 800.965.4827. For more information, visit our Web site or call 718.817.8700.

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