Plant Exploration

Water spills over the rim of a giant clay jar and splashes into a stone-rimmed pool, calling to mind the wells of far-off villages where people gather to fill buckets and gossip. The plants surrounding the pool are exotic—birds of paradise (*Strelitzia reginae*) from South Africa, anthuriums from tropical America, and the towering Norfolk Island pine from off the coast of Australia. Many of these plants were introduced to the United States in the 1800s after daring sea voyages of discovery. At that time, eagerness to find new plant sources of food, medicine, and fiber fueled global exploration. One such journey was the U.S. Exploring Expedition of 1838–1842 led by Lt. Charles Wilkes. His fleet of six small ships traveled 87,000 miles charting coastlines and collecting specimens of birds, animals, and plants. The U.S. Botanic Garden, officially named in 1850, was placed on the Mall to tend to the live plants and seeds that returned with the expedition. Other government-sponsored expeditions, notably the voyage of Commodore Matthew Perry to Japan in 1852, have added unusual and important plants to the collections of the Botanic Garden.

Since the dawn of civilization, plants have moved from place to place at the speed of human travel. Discovery of new species—from the humble potato that enriched European diets to quinine bark that held malaria at bay—has repeatedly changed the course of history. Even today, plant exploration continues at a frenetic pace. Botanic gardens, universities, government agencies, and private companies are sending scientists in search of useful and beautiful species, as well as the wild relatives of important crop plants. Apart from locating new species in the wild, there are two other ways new plants are "discovered." One of these is hybridization, the crossbreeding of species or distinct varieties to create a new variety, a process that also can occur naturally. The other is through the new science of bioengineering, in which the genes of plants are augmented or cancelled "by design" to produce a specific result.

(opposite and above)
Bird of paradise (*Strelitzia reginae*) and Mandela's Gold (*Strelitzia reginae* 'Mandela's Gold')
The striking orange and blue bird of paradise, a wild species at home in tropical climates, may have been collected in the South Seas by the U.S. Exploring Expedition. Its relative, the uncommon yellow 'Mandela's Gold,' is a modern cultivar from South Africa.

(opposite)

Parrot's flower (*Heliconia psittacorum*).

Plant exploration continues today with more urgency than ever, as habitats disappear due to human encroachment, pollution, and wars. Although this Heliconia was named 200 years ago, botanists continue to discover new species of Heliconia in remote corners of the world. As part of the Botanic Garden's partnership with the Smithsonian, rare new plants are grown at the Production Facility and displayed in the Conservatory.

(above left and right)

Views of the Plant Exploration room in the Conservatory.

(bottom right)

Expedition heritage.

Native yellow hibiscus, also known as ma'o hau hele (*Hibiscus brackenridgei*), at left, and iliau (*Wilkesia gymnoxiphium*) were discovered in Hawaii during the U.S. Exploring Expedition of 1838–1842.

(right)

Hawaiian plant exhibit.

The Botanic Garden hosts several temporary exhibits each year to illuminate the history of plant discoveries and to show how exploration continues today, both in the field and in the lab. This display highlighted efforts to preserve the rare and endangered plants of Hawaii.

(left)

Hinahina, Hawaiian silverswords (*Argyroxiphium sandwicense* ssp. *macrocephalum*).

These silverswords are part of an exceptional collection of rare and endangered Hawaiian plants acquired by the Botanic Garden in 2003.