

SMITHSONIAN GARDENS ORCHID COLLECTION— A MUSEUM WITHOUT WALLS

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One of the Smithsonian Garden Orchid Collection greenhouses.

THE SMITHSONIAN INSTITUTION is well known for collections showcasing the United States' cultural, historical, and scientific heritage. Perhaps less well-known is the extensive footprint of the Smithsonian's public gardens. If you visit the National Mall in Washington, DC, you can't help but notice the beautiful landscaping and park areas that surround the government buildings, including the many Smithsonian museums. Several of these public exhibition gardens, including interior spaces, showcase perennials, trees, and orchids that Smithsonian horticulturists carefully curate. The collections managed by the Smithsonian Gardens (SG) include a nearly 5,000-plant orchid collection in its greenhouses in Suitland, Maryland. The orchid collection features plants from the tropical and subtropical areas of the Americas, but it is not limited to simply growing orchids.

Several stated initiatives direct the curators' activities well beyond the growing and displaying of the Smithsonian Gardens Orchid Collection (SGOC). Activities consist of *ex-situ* conservation of endangered, threatened, or even orchid species that are extinct in the wild. Other initiatives provide for continuous improvement of the Collection (both species and hybrids) by adding valuable new or improved cultivars. The pursuit of outreach projects that educate and support the public, including public displays, is very important. The Smithsonian Gardens collaborate with other insti-

tutions that share conservation, expansion, and outreach goals. All these initiatives are designed not just to create a top-notch institution and maximize the value of the SGOC and the expertise of the curators but also to make their work accessible to the public in many diverse ways.

The Smithsonian Gardens Orchid Collection currently has roughly 65% to 35% species-to-hybrid ratio. The goal is to have 75% of the collection in species. This increase will occur as the SG further develops a partnership with the Plant Collections Network of the American Public Gardens Association (AGPA). The Smithsonian Gardens Orchid Collection was named a Nationally Accredited Plant Collection™ in 2014 and has been designated as one of the most biodiverse orchid collections.

The Smithsonian Gardens' living Collections team facilitates a sub-group of the AGPA called the Plant Collections Network Orchid Curatorial Group as a part of its conservation efforts. The Group is a collaboration of public gardens that provides a vital forum to share best collection management practices and identifies gaps in the orchid holdings of public gardens across North America. The ongoing project involves institutions pursuing similar goals, including the Atlanta Botanical Garden, Phipps Conservatory and Botanical Gardens in Pittsburgh, and the San Diego Zoo Wildlife Alliance.



Angraecum longicalcar

These alliances enable the gardens to share plant material (mature plants, seedlings, and pollen) and to preserve rare and endangered species in multiple locations for safekeeping. One example is the species *Angraecum longicalcar*, found in Madagascar, which was acquired from the Atlanta Botanic Garden in 2017. This species is believed to have the longest spur of any of the Angraecoids, over two feet long. The plants were seed-grown and distributed to other gardens for preservation since the pollinator, a species of hover moth, is believed to be extinct in the wild in Madagascar. The garden is also home to an endangered, leafless Ghost Orchid, *Dendrophylax lindenii*, that requires extremely high humidity; it is grown and has bloomed under



Dendrophylax lindenii

glass cover to maintain the necessary humidity. This plant was acquired through a partnership with the U.S. Fish and Wildlife Service, the University of Florida, and the Chicago Botanic Garden. The Smithsonian Gardens Orchid Collection is also designated as a CITES rescue station for orchid plants that the U.S. Customs and Border Control Protection agency confiscates. The confiscated plants are mainly comprised of those arriving at ports of entry without proper documentation and may be endangered or poached.

With the conservation emphasis on *ex-situ* cultivation of orchid species in mind, SG grows multiple genetically distinct forms of certain species. The SGOC maintains and continues to acquire species that repre-



The Future of Orchids exhibition.

sent the wild type, as well as those that represent various forms or sub-species and any particularly horticulturally improved and select clones. Cooperation with international institutions and other key professional networks forms a vital part of their conservation efforts. The mutual exchange of expertise keeps the work of the orchid collection dynamic and relevant.

Another especially important initiative that is part of the SGOC program is to provide outreach and education, both to the local community and to the national and international communities of horticulturists, students, and those who are simply interested in the beauty of orchids. The value of this extraordinary collection is magnified when it is shared.

Every year, in the late winter-early spring, the Annual Orchid Exhibit is jointly hosted by the Smithsonian Gardens and the United States Botanic Garden (USBG). The institutions alternate hosting each year and contribute plants and programming assistance. The 2024 exhibition was the 28th Annual Orchid Exhibition. It was held in the Smithsonian's massive Kogod Courtyard, which was the site of an exceptional orchid display. The Courtyard is a vast glass-covered expanse that stretches between the National Portrait Gallery and the Smithsonian American Art Museum. This area is used for parties and other events and can accommodate up to a thousand people. Strategically placed, beautifully maintained planters containing large trees and foliage plants served as the background for artistic displays of orchids. Hundreds of orchids in the display came from the SGOC, with additional orchids

contributed from the USBG's collection. The growers are charged with the daunting task of maintaining the orchids on display and conducting weekly changeouts. Each year, there is a different theme to guide the direction of the exhibition.

The theme in 2024 was "The Future of Orchids: Conservation and Collaboration." The exhibition was centered around the theme of the future of orchids and orchid conservation. The exhibition explored the numerous challenges facing wild orchids today, including climate change, habitat destruction, and over-collecting. The show offered a glimpse into the work being performed today by a diverse group of scientists and conservationists to protect the future of orchids.

Baltimore-based multimedia artist Phaen Howng provided newly commissioned and loaned art pieces that represented an artistic view of orchids. Howng is known for her large-scale paintings and immersive installations that explore the complex relationships between humans and nature. She presented a series of newly commissioned paintings and sculptures titled "The Orchids' Fungi Garden Paradise." She drew inspiration for her vibrant work from the Smithsonian Gardens' Orchid Collection. Howng adapted 3D orchid scans created by the Smithsonian's Digitization Program Office, which specializes in the 3D imaging of the Smithsonian collections. (Images of some of the 3D scans can be seen here at <https://3d.si.edu/collections/future-of-orchids>.) Sculptures inspired by these 3D digital renderings were showcased alongside hundreds of colorful orchids from the Smithsonian's and U.S. Bo-



Phaan Howng with her 3D printed orchid art for the Future of Orchids exhibition.



An exhibit with *Dendrobium My Sweet 'Wink'* in a planter by Phaen Howng.



Zygopetalum display in a planter by Phaen Howng.



Paphiopedilum display with art by Phaen Howng.

tanic Garden's living collections. The exhibits included decorative cachepot planters and sculptures based on 3D scans of actual collection items. Photos of the exhibit can be found on this website: <https://gardens.si.edu/exhibitions/future-of-orchids/>.

During the exhibition, volunteer docents operated an activity cart daily with actual orchid flowers for visitors to see and touch. They provided explanations of the specifics of each flower, the fantastic structures that each orchid evolved, and their unique pollination strategies. It was a truly delightful, immersive experience. The activity cart was not just a destination for adults; they also catered to school bus loads of kids who were awed by the displays and, hopefully, developed an increased awareness of the magic of the natural world and its increasing threats. And, who knows, maybe some future orchid enthusiasts.

The managers of this beautiful collection take their custodianship very seriously. They not only maintain and expand this special national treasure, but they want to share it with the rest of the country. Understanding that not everyone can visit and experience the collection in person, they have made extensive efforts to share it online and through social media. They have created studio portraits of the collection, which



The Orchid Discover Cart manned by volunteers in action.

are available online: (<https://gardens.si.edu/collections/explore/edan/search/orchids>). There, you will find images of the orchid collection, orchid care sheets, and information about the orchid conservation efforts. The Smithsonian staff have also created videos to share information and educate the public about the Smithsonian Gardens Orchid Collection.

Additionally, orchid plants can be seen on display in the annual spring orchid exhibit. Throughout the year, there are pop-up orchid exhibits in various Smithsonian museums. You can also see orchids in the display house of the U.S. Botanic Garden.

Educational in-person events are another part of the outreach program. Workshops and tutorials about orchids and the collection are available for students and local groups. Staff, interns, and volunteers hold classes for school kids that include tours and learning how to pot and care for orchids.

Because this is a national collection, SG's Living Collections team has been working to capture collection data and make it available to all digitally. Images of over 3,000 of the plants in the collection have been photographed, along with the specific details of each plant. You can view some of the 3D images at <https://3d.si.edu/collections/future-of-orchids>. Each image includes a de-



The Smithsonian Garden Orchid Collection managers.

scription of the species, the provenance, range, habitat, common name, bloom characteristics, fragrance, and other information useful to growers and anyone who has an interest in orchids. You can search for a specific genus in the collection at <https://si.gardenexplorer.org/default.aspx>.

Curators conduct an active professional outreach program where information about collection holdings, plant management practices, facility design, and other specifics relating to the vitality of orchid collections is shared. These efforts extend to academic institutions, other collections, botanical artists, and local and national orchid societies. A great deal of effort is expended to collaborate for the good of orchids and the greater community, knowing that this collection belongs to the American people.

The Smithsonian Gardens Orchid Collection is a role model for other botanical institutions to provide ways to connect our society through education, the arts, and scientific and cultural outreach. The Smithsonian Gardens views its work as creating a 'museum without walls.' The Smithsonian Gardens Orchid Collection is truly a national treasure.✿

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The Smithsonian Garden Orchid Collection interns: left Melina Castro and right Mimi Diaz-Salgado.