

Issue 9
July 2022

GGI-Gardens Newsletter



The Global Genome Initiative for Gardens is an international partnership dedicated to collecting and preserving genome quality tissues for all species of plants on Earth

This newsletter will serve to better connect GGI-Garden partners by providing news from the botanic garden community regarding collections and collections preservation; highlighting partner collections and contributions to GGI-Gardens and sharing opportunities such as the GGI-Gardens Partner Awards.



San Diego Botanic Garden's Rachel Sadowski and Jeremy Bugarchich getting *Dendromecon rigida* situated in the field plant press



GGI-Gardens Highlight: Welcome Liz Thomas!

This month, Liz Thomas joined GGI-Gardens as our new Program Coordinator. Liz will be replacing Adam Black, who recently started an exciting full-time position at Bartlett Tree Experts. Congratulations Adam and thank you for all of your contributions to GGI-Gardens!

Liz is currently based in the rolling hills outside of Buffalo, New York, where she works locally as a Stewardship and Native Plant Technician for the Western New York Land Conservancy and remotely as a Research Associate for the Polly Hill Arboretum (PHA). Before transitioning to a remote position, she spent three years as PHA's plant recorder and herbarium coordinator, where she worked on projects documenting the local flora and ex situ collections, planning national germplasm collecting trips, and acting as the liaison for such groups as the Global Conservation Consortium for Oak, Botanic Gardens Conservation International (BGCI), the American Public Gardens Association, and others. Liz continues to participate in botanical scouting and collecting trips throughout the United States, and is passionate about native plant propagation, rare species recovery planning, and maximizing the conservation value of ex situ collections. Welcome to the team, Liz! GGI-Gardens is lucky you have brought your experience and skillset to the program!

Contact GGI-Gardens:

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2021 Awards:

6,908
samples

917
genera

191
families

GGI-Gardens completes 2020/2021 Partner Awards

In January 2021 BGCI, USBG, and GGI-Gardens announced the fifteen recipients of a newly expanded GGI-Gardens Partner Award Program. To date, GGI-Gardens has funded 22 botanic gardens that are part of the GGI-Gardens partnership network. Despite some delays in completing the funded work due to the COVID-19 pandemic, these 15 partners were able to accomplish a significant amount of collecting: **6,908 total samples**, representing 2,948 species, were collected this award cycle, with **917 genera and 191 families new to the GGBN!**



The field expedition team from Northwestern University Ecological Park & Botanic Gardens (Republic of the Philippines), a 2021 Award Partner

Universiti Brunei Darussalam joins GGI-Gardens!

The team at GGI-Gardens is thrilled to welcome Universiti Brunei Darussalam's Institute for Biodiversity and Environment Research (IBER) to our growing list of partner institutions. The major focal points of their living collections are threatened plants, iconic native plants of Brunei, and plants under intense use by humans. IBER joined GGI-Gardens at the end of 2021 with the goal of extending their Botanical Research Center's ex-situ capacity and collections of endangered trees and ferns of Brunei Darussalam and Borneo; there are over 2,000 species of trees and 325 species of ferns reported to be in Brunei alone! Utilizing their GGI-Gardens Award, they hope to collect up to 58 genera of trees (especially targeting the families Annonaceae, Dipterocarpaceae, Fagaceae, and Lauraceae) and 25 genera of ferns that are new to GGBN. UBD and IBER have big plans to expand their conservation facilities, and in March of this year they "cut the ribbon" on their new ultracold, ultradry BioBank, which is being used to store samples for genomics, conservation, and biodiversity research.



Coolers of dry ice must be lugged down mountains and up rivers to deliver samples back to IBER safely

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GGI-Gardens Partner Highlight: Desert Botanical Garden

In 2021, Desert Botanic Garden (DBG) received a GGI-Gardens Award to collect and preserve tissue from their extensive cactus (Cactaceae) and agave (Agavaceae) collections. Located in Phoenix, Arizona, DBG holds one of the most complete living collections of these families in the world. In 2010, the Garden's Cactaceae and Agavaceae collections were accredited by the APGA's Plant Collections Network. In 2015, Desert Botanical Garden was designated by the IUCN as the host institute for the Cactus and Succulent Plant Specialist Group (CSSG). As such, the Garden plays a critical role-nationally and internationally-in maintaining conservation collections and assessing the conservation status of plants in the cactus and agave families. This award has allowed them to establish an initial collection of preserved, genomic-quality material from these families, including 271 vouchered, silica-preserved samples representing 261 species, 50 genera (36 of which are new for the GGBN), and 44 species with special conservation status under the IUCN Red List Assessment criteria (vulnerable, endangered, and critically endangered).



Desert Botanical Garden staff collecting DNA vouchers from *Enosyce villosa* (left); GGI-Gardens intern, Seth Wielgus, collecting vouchers from the living collection (right).

GGI-Gardens Partner Highlight: San Diego Botanic Garden



The San Diego Botanic Garden (SDBG) has an extensive botanical collection spanning not only the diverse local flora of southern California, but also cosmopolitan plants and special collections, including cycads and a PCN certified bamboo collection. Due to SDBG's unique coastal southern California location and extensive breadth of plant collections, hundreds of genera within SDBG's botanical collection were missing from the Global Genome Biodiversity Network database. Through a 2021 grant from GGI-Gardens, staff were able to collect 80 herbarium vouchers and tissue samples of plant taxa novel to the GGI/GGBN program, and in the process create an internationally indexed herbarium (Index Herbariorum Code: SDBG). The herbarium is housed in a new facility which also features dedicated space and equipment for the maintenance of a seed bank, and other processing and storage of living and preserved plant tissues for research and conservation projects. They have applied to become a GGBN-partnered biorepository for plant tissues.

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This project has provided us with valuable opportunities to train our staff and volunteers in techniques related to ... voucher collection ... and become better acquainted with the unique taxa within our collection.

*-Dr. Ari Novy,
President and CEO,
San Diego Botanic
Garden*



Left: Tony Gurnoe collecting *Romneya trichocalyx* in the Marron Valley Cornerstones Land Conservation Bank between Otay Mountain and Tecate Mountain

Right: Rachel Sadowski collecting *Ichroma fuchsoides* from SDBG's display garden

Resources: Navigating the Nagoya Protocol

The Access and Benefit Sharing Clearing House:

The [ABS Clearing-House](#) is a key tool for the complex world of Access and Benefit Sharing (ABS) to effectively implement the Nagoya Protocol. This resource helps policymakers as well as users and providers of genetic resources navigate the complicated policy landscape related to Nagoya and helps share information regarding ABS policies that are specific to individual countries.

BGCI Access and Benefit Sharing and Nagoya Training Resources:

Understanding how the Nagoya Protocol impacts your collections policy is critical for sharing information about your collections and accessing and transferring materials that fall under the scope of “genetic resources.” BGCI has developed a number of training resources for the botanic garden community to understand how ABS and Nagoya impact their institutions. These include [ABS learning modules](#); [Principles on ABS](#); an [ABS learning package](#); and [aggregating external ABS resources](#).

GGBN ABS documents:

The Global Genome Biodiversity Network (GGBN) has a Wiki site offering information on how to search for samples, how to provide data, and how to join GGBN, including an [ABS Fact Sheet and FAQ](#) that outlines [best practices](#), [codes of conduct](#), and includes freely accessible template documents [such as Material Transfer Agreements](#) to support your institution's ABS and associated Nagoya Protocol needs.

Events & Opportunities

[African Botanic Garden Network webinar](#), 20 July 2022

[7th Global Botanic Gardens Conference](#), 25–29 September 2022

We welcome written/photographic submissions from GGI-Gardens partners highlighting collection updates. Please email GGI-Gardens Program Coordinator Elizabeth Thomas (ethomas@brit.org) for more information on contributions and deadlines.

[Join our e-mail list to make sure you are notified](#) of all GGI-Gardens News!

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**AFRICAN BOTANIC
GARDEN NETWORK**