Issue 5 **April 2021**

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.



GGI-Gardens interns collecting a specimen of Musa textilis at the US Botanic Garden. Photo Credit: Morgan Gostel.

Two GGI-Gardens Partners in the News:

GGI-Gardens Award Recipient Inala Jurassic Garden receives international publicity!

In early March, Australia's largest news broadcasting agency, ABC (Australian Broadcasting Commission) released a news feature on Inala Jurassic Garden highlighting their grant received through our collaborative GGI-Gardens Awards Program with <u>BGCI</u> and the <u>US Botanic</u> <u>Garden</u>. Located in Tasmania, the garden aims to use their awarded funding to sample numerous taxa among their highly unique collection of primitive plant lineages. The ABC news article was shared widely via other news outlets and through social media platforms, providing international publicity for Inala Jurassic Garden and increased awareness of the GGI mission. The original news article can be viewed on ABC's website link to the left.

Jawaharlal Nehru Tropical Botanic Garden and Research Institute and GGI-Gardens Partnership Featured in "The Hindu"!

One of India's most widely-read newspapers, The Hindu published an article in early March recognizing Jawaharlal Nehru Tropical Botanic Garden and Research Institute (JNTBGRI) as one of 14 grant recipients of the GGI-Gardens Awards Program, and the only organization in the country currently participating in the GGI/GGBN network. JNTBGRI plans to use the funding to focus on collections of GGI-targeted plant species endemic to the Western Ghats. The full news story is available on The Hindu's website in the link to the left.

<u>Dinosaur-era plants</u> <u>flourish in</u> <u>Tasmania's</u> <u>internationally</u> <u>recognised Jurassic</u> <u>garden</u>

> <u>JNTBGRI joins</u> <u>Global Genome</u> <u>Initiative</u>



"Atlanta **Botanical** Garden's Southeastern Center for *Conservation* maintains genetically diverse ex situ safeguarding collections of the highest conservation value in collaboration with local and international partners"

GGI-Gardens Partner Spotlight:

The Southeastern Center for Conservation at Atlanta Botanical Garden

By Lauren Eserman, Research Coordinator, Atlanta Botanical Garden

The <u>Southeastern Center for Conservation</u> at the Atlanta Botanical Garden (ABG) focuses on native plant conservation of imperiled plant species and habitats, ex situ conservation collections, restoration and monitoring, and conservation education. Its conservation collections include species native to the southeastern United States that are IUCN Red-Listed Critically Endangered, Endangered, Vulnerable, and Near Threatened, those with G1 and G2 Global Rankings, and those with state listed S1 and S2 rankings. Key foci include orchids, carnivorous plants and wetland, montane, and coastal species.



A portion of the outdoor conservation collections, photo courtesy Lauren Eserman

ABG's Southeastern Center for Conservation maintains genetically diverse ex situ safeguarding collections of the highest conservation value in collaboration with local and international partners. Through management of the collections, ABG strives to increase knowledge of southeastern United States' plant diversity through exploration and inventory of targeted geographic areas. We further develop and exchange ex situ conservation collections and plant diversity data with institutions working in the southeastern United States. Through collaboration, we are able to identify and fill living plant conservation collections' gaps in exsitu, inter-situ and in-situ settings. Through partnerships and collaborations, we discover new ways to effectively preserve plant germplasm over the long term or in perpetuity. At ABG, Conservation

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"Currently we (ABG) have over 1000 samples from over 700 species in the DNA and silica leaf collection" Collections encompass three areas: 1) The Conservation Seedbank and Micropropagation Laboratory, 2) Conservation Horticultural Collections, and 3) The Conservation DNA Biorepository.

The Conservation DNA Repository supports the plant collections at the Garden by storing leaf tissue preserved on silica and DNA stored in the freezer for use by internal and external researchers. Samples in the DNA repository originate from specimens in the Garden's living collections, including its conservation collections, as well as leaf tissue collected in the wild from priority species. Samples exist as either a single representative of a species collected from the Garden's living collections or as multiple individuals from a species across multiple populations for that species. Currently, we have over 1000 samples from over 700 species in the DNA and silica leaf collection. With generous support from GGI-Gardens, BGCI, and the US Botanic Garden we are working to expand the collection as well as make data about available samples publicly accessible.



A genomic tissue sample. Photo courtesy Lauren Eserman, Atlanta Botanical Garden

Collecting Underway at Kunming Botanical Garden!

Kunming Botanical Garden is one of the 14 grant recipients of the 2020-2021 GGI-Gardens Award Program. Dr. Fu Gao generously provided this photographic update on their sample collecting progress coinciding with the onset of spring flowering in their living collections.



Photos courtesy Fu Gao, Kunming Botanical Garden

- A. Plant species identification in the garden, with help from the taxonomists
- B. Target species being collected in the garden by the working members
- C. Specimens drying in the sun
- D. Collected materials being processed
- E. *Styrax grandiflorus* both in the garden (top) and the collected specimen after pressing (bottom)
- F. *Illicium lanceolatum* in the garden (top) and pressed (bottom)

Resources

This month we will focus on several resources to search for and request living plant materials, preserved tissues and DNA for research.

<u>The GGBN web portal</u> is the search interface for Global Genome Biodiversity Network providing easy access to browse the holdings of 28 biorepositories worldwide for fully documented DNA or tissue specimens available for research. Collections databases are being continually added as the 100+ GGBN partners worldwide get their data online.

<u>BGCI's Plant Search</u> is Botanic Gardens Conservation International's search feature for accessing living plant, seed and tissue collections from over 1,100 participating institutions, and further provides an efficient means of requesting desired plant materials.

<u>USDA GRIN</u> is the US Department of Agriculture's Germplasm Resources Information Network providing a searchable database of plant germplasm available for research purposes, including accompanying genomic data and NCBI links (if available).

Events & Opportunities

The <u>American Public Gardens Association's 2021 Virtual Annual Conference</u> will take place June 7-10, 2021.

The <u>2021 Center for Plant Conservation 2021 National Meeting</u> will be held virtually on May 6-7, 2021

<u>Global Genome Biodiversity Network Conference</u> in Shenzhen, China has been postponed until March 21-25, 2022.

We would love to feature your organization in an upcoming issue of this newsletter!

We welcome written/photographic submissions from GGI-Gardens partners highlighting exciting updates on your collecting efforts or other pertinent activities. Please email GGI-Gardens Program Coordinator Adam Black <u>ablack@brit.org</u> for more information on contributions and deadlines.

Join our e-mail list to make sure you are notified of all GGI-Gardens News!