Roundtable Summary:

Advancing the 'Exceptional Plant Conservation Network': addressing challenges, making connections and taking action for species that cannot be conserved through conventional seed bank approaches.

Monday, June 26th, 2017
6th Global Botanic Gardens Congress
International Conference Centre Geneva (CICG)

Organizers:
Dr. Valerie Pence, Center for Conservation and Research of Endangered Wildlife, Cincinnati Zoo & Botanical Garden; Dr. Murphy Westwood, The Morton Arboretum; Abby Meyer, Botanic Gardens Conservation International US; Joachim Gratzfeld, Botanic Gardens Conservation International; Jean Linsky, Botanic Gardens Conservation International/ Dr. Cecilia Koo Botanic Conservation Center

Background:

Botanic gardens play an important role in the conservation of the world's threatened species and as sources of knowledge and expertise in both *ex situ* and *in situ* conservation approaches. The conservation of threatened plant species is a priority for these organizations, however those deemed 'exceptional species' present additional challenges for conservation. Exceptional species are loosely defined as those which cannot be conserved via conventional seed banking *ex-situ* methods and, therefore, require more time- and resource- intensive approaches. Botanic gardens provide the perfect platform for addressing challenges to exceptional species conservation through the creation of knowledge and resource networks. Previous work by BGCI and BGCI US through assessments, workshops and symposium meetings of the 'Exceptional Plant Species Advisory Group (EPSAG)', convened at the 5th GBGC in Dunedin, has identified key issues, priorities, and actions needed to effectively conserve threatened exceptional plant species. These challenges include the very identification of such species, lack of basic biological knowledge as well as mobilizing knowledge and resources for conservation.

Following the 5th GBGC, work on the refinement of the definition of exceptional species as well as a list of exceptional species of North America was carried out. This work provides a basis from which to include knowledge on exceptional species on a global level and to extend the EPSAG into an 'Exceptional Plant Conservation Network (EPCN)'. A roundtable targeting the international community was convened at the 6th Global Botanic Garden Congress in Geneva in June, 2017 with the aim to advance global efforts by botanic gardens for the conservation of threatened exceptional species. The main objectives of this roundtable were to address on a global level the major needs identified by the previous activities of the EPSAG including:

1) Address information Challenges (Which threatened species are exceptional and who is doing work on them?)

2) Identify Research Priorities (How can we improve knowledge of exceptional species biology and share that knowledge?)
3) Address funding, communication and coordination challenges. (How can we mobilize funding, improve communications and coordination of networks for conservation of exceptional species?)

Below is a summary of the outcomes of this roundtable and the next steps for the development of the Exceptional Plant Conservation Network.

Outcomes:

1) Addressing Information Challenges:

The roundtable included additional members of the international botanic garden community in the discussions on the development of the EPCN and involved the collation of contact information for the attending individuals (Annex 1). Recommendations for identifying individuals working on exceptional species include the development of expertise and facilities directories which would be accessible online. The expertise directory may be populated from the participants of the workshop as well as an additional survey to gather information from the larger plant conservation community. This survey could also be used to gather information for the creation of an accessible database of plant species with known or suspected exceptional status and recommended approaches for preservation. The inclusion of additional networks such as the Global Genome Biodiversity Network (GGBN) and the Tree Gene Conservation Partnership, researchers at the Smithsonian Environmental Research Center and data resources such as the Global Biorepository Registry were discussed by the group. One key discussion topic was the inclusion of information from groups with expertise in conservation of seeds such as the Crop Wild Relatives initiative and the newly formed IUCN Seed Conservation specialist group. The EPCN could work with them to use their database of species preserved in seed banks as one type of evidence for something not being exceptional, thereby providing more information for the exceptional species list.

2) Identify Research Priorities:

Priorities discussed are for the identification of exceptional species and knowledge sharing and include the development of expertise and facilities directories as well as the development of an accessible exceptional plant species database. The inclusion of protocols for recommended approaches to preservation and results (both positive and negative) was suggested as data resource links to the list of exceptional species. Additionally, a recommendation was made to include a column for the certainty or confidence for known recalcitrance within the list of exceptional species. The potential for a climate or geographic algorithm to identify likely exceptional species was discussed. A priority to develop and include living collections protocols for well managed conservation groves was identified especially for countries where access to technical facilities is poor.

3) Address funding, communication and coordination challenges:

The EPCN website (http://cincinnatizoo.org/conservation/crew/exceptional-plant-conservation-network/) was shared and the group was invited to contribute comments and suggestions for its development. A consensus to share group information via email was made as well as the development of a listserve for this purpose. One identified potential funding source within the United States is for the collection and conservation of threatened tree species in living collections from the Tree Gene Conservation Partnership.

Next Steps:

This roundtable provided an opportunity to gain valuable insight into international perspectives on exceptional plant conservation. The EPCN will continue the momentum of this round table via the following priority activities:

- Development of communication avenues for the network, such as the EPCN website
- Creation of directories of expertise in exceptional plant conservation and uploading to EPCN and BGCI websites. Information on expertise will be gathered via a survey to be developed by BGCI
- Collation of information on global list of exceptional species via survey and dissemination on the EPCN and BGCI websites

Contact information:
The EPCN can be contacted via epcn@cincinnatizoo.org

Annex 1.
Roundtable participants

Name	**Organization**	**Country**
Patrick Griffith	Montgomery Botanical Center	USA
Mary Pat Matheson	Atlanta Botanic Garden	USA
Sarada Krishnan	Denver Botanic Gardens	USA
Morgan Gostel	National Museum of Natural History, Smithsonian	USA
Lauren Weisenberger	US Fish and Wildlife Service	USA
Matthew Keir	Hawai'i Plant Conservation Network	USA
Abby Meyer	BGCI, US	USA

Valerie Pence	Center for Conservation and Research of Endangered Wildlife, Cincinnati Zoo & Botanical Garden	USA
Murphy Westwood	The Morton Arboretum	USA
Damian Wrigley	Australian Seedbank Partnership	Australia
Phill Parsons	Tasmanian Arboretum	Australia
Dzaeman Dzulkifli	Tropical Rainforest Conservation and Research Center	Malaysia
Celine Buchschacher	Geneva Botanical Garden	Switzerland
Florence Guillaune	Klorane Botanical Foundation	France
Serge Bouteleau	Pierre-Fabre, Argentina	Argentina
Karin Van Der Walt	Wellington Gardens	New Zealand
Jean Linsky	BGCI	Taiwan
Joachim Gratzfeld	BGCI	UK