

Trip Report: The 6th Global Botanic Gardens Congress, Geneva, Switzerland, 26–30th June, 2017

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Boarding my flight on a cold, rainy June afternoon from Wellington to Auckland, I was filled with excitement, not only because I was travelling on to a spectacular summer destination, but also because I had been given a wonderful opportunity to attend one of the top botanic gardens conferences in the world. The daunting journey will take me from Auckland to Dubai and, after a four hour layover, another six hour flight into Geneva, Switzerland. I was to leave on Thursday night, travel for 40-odd hours and arrive on Friday lunch time. As I am still not able to understand how turning clocks back and forth results in daylight savings, I am not going to attempt trying to understand time zone travelling, but it was a long journey.

Upon my arrival in Geneva it was a warm 29°C and as a South African expat I felt instantly at home. After a short walk from the train station to the hotel, I was relieved to drop off my bag and jacket before setting out to absorb some sun and see what the city is all about. With very limited time in Geneva, I traded the hotel breakfast for an early morning train trip to the lakeside resort town called Montreux, about an hour north east of Geneva. Montreux is home to Mountain Studios, a recording studio bought by the band Queen in 1978, with a statue of Freddie Mercury on the lakeshore. Montreux is also notable for Château de Chillon (Chillon Castle), a historic castle originally built to allow the occupants to extract a toll from people and goods passing between Italy and the rest of Europe.

Another early morning start on Sunday gave me an additional couple of hours to explore different parts of Geneva. The plan was for the afternoon to be dedicated to working on my presentation, which was yet to be finalised. However, clear skies and free public transport provided a digression, sending me off to the

famous landmark Jet d'Eau, a 140 m high water jet visible throughout the city. A short ferry ride brought me to within walking distance of the Conservatoire et Jardin botaniques, aka the Conservatory and Botanical Garden of the city of Geneva (Fig. 1).

The 28 ha botanic garden includes a living collection of 14,000 species from 249 different families and celebrated its 200-year anniversary in 2017. The garden is a splendid example of the role of botanic gardens in science, conservation and education, with geographic, taxonomic and ethnobotanical displays captivating all skill levels and ages. An enclosed paddock in the middle of the garden was particularly intriguing; although the interpretation was in French, I later learned that it contained Engadine sheep, a threatened alpine sheep breed (Fig. 2).

The conservatories did a splendid job of displaying plant families in clear and well-presented themes, including Gesneriaceae and Bromeliaceae (Fig. 3A–B), plants on volcanic rocks (Fig. 4A–B), tropical collections and a collection of South African bushveld plants. By the time I got back to the hotel it was close to 8 pm and the presentation work had to wait until tomorrow.

Monday morning was the start of the 6th Global Botanic Gardens Congress. The focus of the conference was “Botanic gardens in society: Visions for the future”. Traditional Swiss alphorn players signalled the start of the opening ceremony (Fig. 5), and after the obligatory mayoral welcomes, keynote speakers delivered their powerful messages. One of these came from the Executive Secretary of the Convention on Biological Diversity, Cristiana Paşca Palmer, highlighting the importance of addressing Sustainable Development Goals through botanic gardens.



Fig. 1 Entrance to Conservatoire et Jardin botaniques.



Fig. 2 Enclosed paddock housing the Engadine sheep, a rare breed of domestic sheep from Switzerland that came close to extinction in the 1980s.



Fig. 3 Taxonomic collection of Bromeliaceae. **A**, interpretive sign. **B**, plant collection.

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Fig. 4 Plants of volcanic rocks. **A**, interpretive sign. **B**, plant collection.



Fig. 5 Traditional Swiss alpine horn players officially opening the 6th Global Botanic Gardens Congress.

She further urged conference participants to discuss and reflect on the future of the Global Strategy for Plant Conservation (GSPC), which is reaching the end of its second term in 2020. The Convention on Biological Diversity is accepting proposals for the global strategy for biodiversity post-2020 and botanic gardens internationally have to ensure they play an active role, even if the GSPC does not proceed in its current shape and form. Cristiana Palmer's thought-provoking talk was followed by Dr Paul Smith, Secretary General of the Botanic Gardens Conservation International (BGCI). Dr Smith asked the big topic question: "Why are we here?", a concept for humanity in general, but also one addressed to botanic gardens. It is clear that the time has come for botanic gardens to

use the past 200 years' experience and expertise in plant classification, taxonomy and propagation to address questions such as food security, afforestation, better conservation and management of plant diversity, sustainable energy and climate change.

With more than 200 presentations and 550 delegates from 65 countries, the scientific programme had to be divided into five key thematic areas:

- **Theme 1: Science for Society:** How can botanic gardens use their scientific expertise to help solve society's big issues?
- **Theme 2: Plant Conservation:** How can botanic gardens ensure that no plant species becomes extinct?
- **Theme 3: Education and outreach:** How can botanic gardens communicate with and empower society on the big issues?
- **Theme 4: Management challenges:** How can botanic gardens make use of new and emerging management technologies and approaches?
- **Theme 5: Communicating via landscapes:** How can botanic gardens communicate visions for the future through landscape and design?

The considerable size of the conference meant that up to four sessions were run in parallel; an understandable compromise although rather frustrating as many interesting topics occupied the same time slot. I will not be able to describe each presentation, round table discussion, symposium and interaction throughout the conference, but all the abstracts, full programme and other relevant information can be found on the BGCI (www.bgci.org) and conference (www.6gbgc.org) websites. Since my interest is in conservation and science, I mostly opted to attend sessions related to those topics. Some of the highlights from those sessions included:

- A symposium on the future of the GSPC and how do we build on the success up to 2020 and beyond;

- A symposium on national, regional and global partnerships in botanic gardens for banking seed towards Target 8 of the GSPC²;
- A round table discussion on the "the Exceptional Species Plant Conservation Network". Exceptional species are those which can't be secured in seed banks for reasons such as desiccation of sensitive seeds, species which don't produce seed or those that have low seed set or low seed viability. This discussion was particularly relevant for me, as at Wellington Gardens we are working on two exceptional New Zealand species, *Syzygium maire* and *Metrosideros bartlettii*, both vulnerable to myrtle rust;
- Another round table discussion on the living collections, biorepositories, and plant genomic preservation led by the Global Genome Initiative highlighted that New Zealand is not part of the Global Biodiversity Repository Network. This will be a fairly easy process to undertake in Wellington Gardens, although sending samples to the international biorepository for DNA analysis will require legislation compliance;
- I joined the North American Public Gardens round table discussion to learn from the process and challenges they experienced as part of the North American Plant Conservation Strategy. As we are busy with consultation for the national *ex situ* plant conservation strategy in New Zealand, I refer to the North American Strategy frequently. This round table discussion revealed that the critical aspects for the strategy were extensive stakeholder engagement and funding;
- Numerous presentations discussed the importance of understanding genetics, and doing DNA analysis of plant populations prior to any conservation actions (both *in situ* and *ex situ*). Case studies illustrated how genetic analysis informed targeted seed collection for *ex situ* conservation and prioritised *in situ* conservation to capture genetic diversity.

²Target 8 of the Global Strategy for Plant Conservation (GSPC) is for: "At least 75% of threatened plant species in *ex situ* collections, preferably in the country of origin, and at least 20% available for recovery and restoration programmes".

My presentation “New Zealand and the Global Strategy for Plant Conservation: Challenges, progress and opportunities”, was a good fit under the plant conservation theme although it required a hard, honest look at New Zealand’s low commitment to the GSPC. To highlight the unique challenge Wellington Botanic Gardens faces with kākā, I also presented a poster (Fig. 6) titled: “Feathered success and the demise of an urban tree collection”. The successful reintroduction of the kākā has resulted in massive destruction of the exotic tree collection within the Wellington Botanic Garden and presents unique health and safety challenges as damaged tree limbs require constant monitoring. It also means that the long term tree plan has to be reviewed to include more species which are not so tasty or intriguing to kākā.



Fig. 6 The poster hall displaying more than 50 posters.



Fig. 7 A quick breather half way up to the alpine meadows.



Fig. 8 The alpine meadows did not disappoint with many species in flower.

The mid-conference excursions on Wednesday were a welcome break from the long, intense conference sessions of the previous two days. There was a selection of 13 excursions ranging from a half-day to full-day trips within the city or into the nearby Alps. Although it was not an easy choice, I opted for the full day trip to the region of Chamonix in the French Alps. During the hour-long bus journey I was seated next to the database designer for the BG-Base software program used for record keeping in many botanic gardens throughout the world, including Wellington. I was delighted to learn that there is a major update on the cards with exciting new features which will be very useful for capturing scientific information. The bus parked just outside the small French town of Chamonix and after a quick coffee we set off on foot (Fig. 7). The aim was to get through the treeline and up onto the alpine meadows for lunch time and then complete a circular route back to Chamonix. The alpine meadows were spectacular with *Achillea millefolium*, *Hypericum perforatum*, *Myosotis ramosissima*, *Plantago alpina*, *Scabiosa columbaria*, *Silene vulgaris*, *Viola carcarata* and *V. tricolor* in full flower (Fig. 8). A rapid change in weather sent us scrambling down the mountainside trying to outrun the approaching thunderstorm, but we were too slow and got a good soaking. This didn’t bother me; I guess the frequent rain in Wellington has given me a good dose of weather-resilience. The bus was silent on the way back to Geneva as most people fell asleep or digested our wonderful day in the French Alps.

Regenerated from the excursions of the previous day, Thursday was tackled with much enthusiasm, networking and intense discussions which carried through to the gala event held at the Conservatoire et Jardin Botaniques. Friday arrived much too soon and after a couple of plenary talks it was time to wrap up and catch our trains and planes home. The closing ceremony featured fantastic keynote speakers including Charles “Chipper” Wichman from the National Tropical Botanic Garden in Hawaii. His presentation took us on a journey of the development

of Hawaii’s strategy for plant conservation. It was an encouraging presentation particularly as we have just started the process of developing a national strategy for *ex situ* plant conservation in New Zealand. Chipper Wichman showed us botanic gardens can be agents of change and that we do have a global impact. Dr Peter Wyse Jackson, president of the Missouri Botanical Garden and chairman of the Global Partnership for Plant Conservation, gave a moving talk on ensuring the future of plant conservation and taking the GSPC to 2020 and beyond. The GSPC, a global framework for plant conservation, was adopted by all 189 parties in 2002 and became the action plan for many botanic gardens. However, we face huge global challenges such as feeding a population predicted to reach 9 billion by 2020 and at the same time sustain biodiversity and ecosystem services, ensure health care for all, provide sustainable livelihoods, deal with water crises, climate change and instabilities in the political and social sectors. To deal with these global challenges, the United Nations has developed Sustainable Development Goals (SDGs). The 17 SDGs will shape the future of biodiversity strategies and we, as botanical societies, have to ensure that plant conservation through the GSPC aligns with the SDGs if we are to remain in the Convention on Biological Diversity (CBD) mainstream. This was a sobering reality check and although botanic gardens have so much to celebrate in our achievements, we have to increase our work to remain relevant in a changing world. This year (2017) is also the anniversary of BGCI and a celebration video shown as the conference closed left us all feeling extremely proud to be part of a global conservation community, fighting to safeguard our plant diversity.

The next Global Botanic Gardens Congress will be held in Melbourne, Australia in February 2021. Being close to home this is a great opportunity to get local horticulturists, botanists and conservationists to join the global plant conservation community. I hope to see you there!

Acknowledgements

Attending the 6th Global Botanic Gardens Congress in Geneva, I once again became motivated, inspired and empowered to continue the conservation, science and education in our botanic gardens. I renewed friendships with colleagues in the global botanic gardens world and signed up for new challenges, networks and partnerships. My travel to Geneva was made possible by

generous financial contributions from various parties including the Royal New Zealand Institute of Horticulture through the Peter Skellerup Plant Conservation Scholarship. I am thankful for their support and believe the networking and knowledge gained has already had a positive impact on plant conservation in New Zealand.

Websites (accessed December 2017)

6th Global Botanic Gardens Congress: scientific detailed programme: www.6gbgc.org/en/detailedprogramme/

Botanic Gardens Conservation International: 6GBGC plenary videos: www.bgci.org/news-and-events/6gbgc_plenaries

YouTube: BGCI 30th anniversary video: <https://youtu.be/mqxAi8zb8ls>

