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World Orchid Conference, Ecuador, 8-12 November 2017.

Ecuador is declared the 'Land of Orchids', and for good reason. This small diverse country in South America has over 4200 species of orchids owing to the vast number of climatic conditions provided by different habitats in the coastal regions, the Andes and the Amazon basin. The perfect place for the 22nd World Orchid Conference (WOC22), which has run triennially since 1954. For this reason, with the kind support of the Royal Society of Biology, I found myself in Guayaquil, Ecuador in early November 2017.

The opening ceremony set the scene for an exciting week ahead. We were welcomed by the Mayor of Guayaquil and the First Lady of Ecuador. The World Orchid Show was spectacular, with Singapore's Gardens by the Bay getting gold and best of show awards.



Singapore's Gardens by the Bay "In a Cavern, in a canyon" display at the WOC22

Ecuagenera, from Ecuador, put on a very impressive huge exhibit of over 1000 species of orchids including beautiful Edwardian cases planted with miniature orchids of different genera; showcasing the diversity of orchids in Ecuador. Thailand's beautiful exhibit contained a waterfall, ferns and mosses showcasing lady slipper orchids. It was an excellent opportunity to introduce myself to key people from botanic gardens, orchid societies and research institutions around the world.



Lepanthes Edwardian Case by Ecuagenera at the WOC22



Thailand's Orchid display at the WOC22

Over 4 days there was a wide variety of lectures, with two streams running concurrently providing a choice of topics. Many lectures discussed the drivers of orchid diversity including climatic conditions and abiotic stress factors, pollinator reproductive isolation, genetic drift and fungal associations. Studies on gene expression and genomics were presented. Conservation of orchids and their habitats was an important topic: Despite being poorly represented on IUCN global red lists, over 70% of CITES species are orchids. I was the last speaker before the closing ceremony, an agonising 5 day wait! Despite the nerves, it was quickly my turn and once the microphone was in my hand I was keen to present on the development of orchid centred education programmes in botanic gardens: Engaging the next generation in plant biology and showcasing excellent conservation is crucial. I provided examples to inspire the audience to implement more educational opportunities in their institutions. Following the presentation, I have had greater networking opportunities with colleagues and I hope to be involved with developing an education section for the next World Orchid Conference Show. I hope



Me presenting at the 22nd World Orchid Conference

the conference will create greater collaborative educational possibilities in the future. I also learnt a great deal about orchid biology and continue to improve my knowledge of orchid biodiversity, hybrids and conservation programmes.



Quito Botanic Garden endemic orchid distribution sign



Orchid green house, Quito Botanic Garden



Collared Trogon (*Trogon collaris*) at Machipucuna Reserve, Quito

Just over a week after arriving in Ecuador, the conference ended. I had now obtained more orchid knowledge and I was eager to learn more. I spent the following 3 weeks visiting Ecuador. I visited the Botanic Gardens of Guayaquil and Quito, to compare their orchid education with others. I also discussed seed storage and micropropagation of orchids with colleagues at Quito Botanic Garden. I met with the Ceiba Foundation who manage community conservation projects and education programmes in Ecuador. They enabled me to be part of the 25th International Conference for Research and Management of the Bear. This opportunity allowed me to compare the mammal and plant conservation efforts and visit Maquipucuna biological reserve in search of wild bears; I was excited to see a lone young male Andean Spectacled Bear grazing on wild avocados as well as many bird species and wild orchids. I also visited El Pahuma Orchid Reserve, a community project that allows locals to protect the ecosystem and make a sustainable living from it.



A group of ecotourism university students and reserve owner spotting orchids in the El Pahuma Orchid Reserve, Quito



Miltonia Orchid Greenhouse, Ecuagenera, Gualaceo



Me in the Phragmipedium Greenhouse, Ecuagenera

The orchid nurseries of Ecuagenera were a collector's dream. The cultivation laboratory at the Gualaceo nursery, Cuenca, is an extraordinary site of production of orchids from seed to flasks, demonstrating an impressive commercial orchid business. The site has many greenhouses with varying growth conditions. The scent of a greenhouse full of *Miltonia* Orchids was detectable from a long distance.

As a biologist I couldn't travel to Ecuador and not make the journey to Galapagos, the home of evolution. The Galapagos Islands are truly magical and a showcase for sustainable tourism. Once I had dropped my bags at my hotel I excitedly hurried to the Charles Darwin Research Centre. I was impressed with the information and educational posters available for visitors. I had the opportunity to learn about tortoise breeding programmes and the conservation efforts of Galapagos species, and I even got my photo taken with the legend that is Lonesome George! I saw many biological concepts in action whilst visiting the different islands; the effects of climate change being felt by local people and animals was evident. Spotting blue footed boobies, snorkelling with sea turtles and sealions taking siestas were highlights.



Charles Darwin Sign at the Charles Darwin Research Centre, Galapagos



Me and Lonesome George, Pinta Island tortoise (*Chelonoidis abingdonii*), Charles Darwin Research Centre, Galapagos



Blue footed boobies (*Sula nebouxi*), Isla Isabela, Galapagos

Four weeks after arriving in Ecuador my marvellous trip was at an end. It had been very productive and inspiring; a superb interesting conference, touring 4 beautiful cities and their surrounding landscapes, observing several different habitats and climates, seeing thousands of orchids, hundreds of birds and many mammals: I was ready to return to Britain fuelled with ideas to help to develop greater educational resources, possible collaborative opportunities and contribute to the conservation of the worlds wonderful diversity. I am extremely grateful for the support for the Royal Society of Biology's Early Career Travel Grant for making my presentation at the conference possible and enabling me to improve my knowledge of orchids, the conservation of them and their habitats.



Sleeping Sea lion, Galapagos