

Royal Botanic Gardens, Kew.

2-week placement

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Supported by: The Merlin Trust & Thistledown Bursary

Location: Tropical Nursery, Royal Botanic Gardens, Kew, London

Dates: 20th April – 1st May



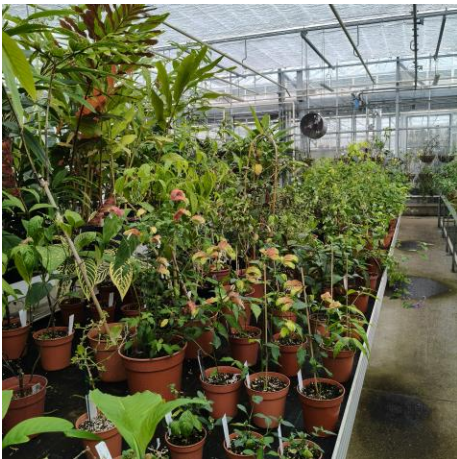
1. INTRODUCTION & BACKGROUND

I have recently completed a horticulture apprenticeship at The Eden Project in Cornwall, working across site with the various horticulture teams including in the world-famous biomes. I wanted to continue with learning new skills and knowledge especially in botanical plant collections by visiting another botanic garden to gain insight into how collections are managed. To fulfil this goal, I undertook a two-week work placement at the Royal Botanic Gardens, Kew in Richmond, London—supported generously by The Merlin Trust.

Founded in 1759 and recognised as a UNESCO World Heritage Site, Kew Gardens holds the world's largest and most diverse living botanical collection, curating tens of thousands of plant taxa across its 132-hectare estate. At the heart of its propagation and conservation operations sits the Tropical Nursery—a state-of-the-art facility featuring 21 distinct climate-controlled zones housing over 10,000 species. Unlike public display glasshouses, the Tropical Nursery is a working facility dedicated to reserve collections, scientific research, wild-origin species conservation, and growing for the display houses.

2. What I Wanted to Achieve

- The primary objective of my placement at Kew was to advance my developing practical skills and knowledge in the management of ex situ botanical collections. Working directly with Kew's specialist glasshouse staff would provide an invaluable opportunity to refine my horticultural practices across varying plant families within a nursery setting. I aimed to deepen my understanding of contrasting environment needs for different plant groups like light, humidity and water in controlled environments. Also, soil and feeding regimes, propagation techniques, and pest & disease measures for managing important plant collections of often rare species. I sought insight into collection curation, including accession management, and growing plants for public display. Integrating these refined skills into my ongoing work at The Eden Project would significantly enhance my competence and support my long-term professional development working within public botanic gardens.



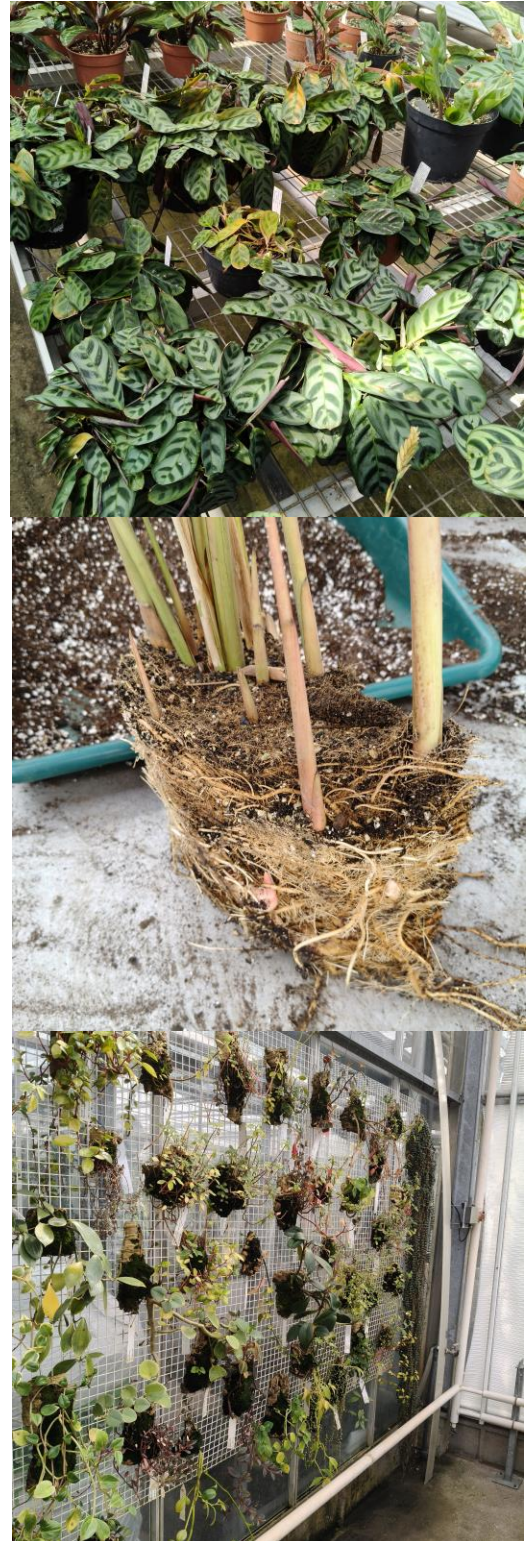
Top left: Moist tropical zone, top right: *Begonia hispida* var. *Cucullifera* showing leaflets mutation, bottom left: *Begonia venosa*, bottom right: *B. melanobullata*.

Week 1: Tropical Moist Zone

Day 1-5: Marantaceae, Zingiberaceae, Begoniaceae, Piperaceae, Gesnariaceae

- The first week focused on the maintenance, propagation, and phytosanitary care of one of the moist tropical zone collections. Days 1 and 2 were dedicated to the Begoniaceae family, repotting diverse accessions ranging from Neotropical and Asian species to Africa including caudiciform types with swollen bases. There is a huge diversity of leave shape, size and colour and some in the collection were critically endangered in the wild.
- Days 3 and 4 centred on the Marantaceae collection (including Calathea, Ctenanthe, Goeppertia, Marantochloa, and Stromanthe). Tasks included dead foliage removal, pest removal with alcohol and a paintbrush for mealybugs. Kew's collections where possible held three specimens of a species per accession. With some discovered to have only one in an overgrown single-pot specimens were vegetatively divided, repotted, and re-labelled with accession data.
- The week concluded on Day 5 with nursery irrigation duties and instruction on the Peperomia collection, focusing specifically on lithophytes which grow on rocks in the wild were mounted on cork in the nursery.

Photos -Top: *Maranta* collection in the moist tropical zone. Middle: dividing large pots of *Marantochloa* species to ensure backups in the accession. Bottom: Lithophyte (grow on rocks) *Peperomia* collection mounted on cork.



Week 2: Arid zones & Orchids

Days 6 & 7: The Arid Unit



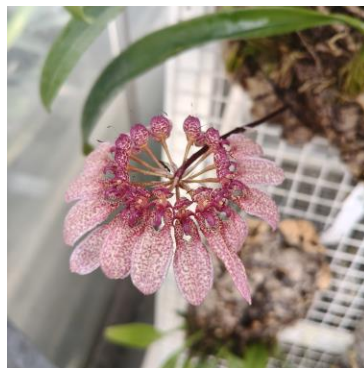
- The main families of plants in the Arid zones were Cactaceae, Euphorbiaceae, Compositae, Apocynaceae, Asparagaceae, Aizoaceae, Xanthorrhoeaceae.
- I helped to repot *Gasteria* (succulent plants related to Aloes). Their old soil mix was compacting at the base was holding too much water, causing the roots to rot. We repotted them into a custom, fast-draining mix made of equal parts composted fine bark, clay granules (Seramis), sharp sand, and horticultural grit.
- Each accession in the collection had 3 specimens to ensure survival for future use in conservation and research purposes. Many were marked as critically endangered in the wild, with some now extinct in the wild. Luckily, most succulents are easy to propagate via offsets formed at the base or from single leaf cuttings forming new plants.
- Sand beds were used on the nursery tables for some of the collection, especially the younger plants to create a more stable environment and for good drainage when watering.

Week 2: Arid zones & Orchids

Day 8, 9 & 10: Orchid Zones



- I got a tour of the orchid zones, seeing everything from slipper orchids (*Paphiopedilum*) to large *Vanda* orchids (Photo bottom right). I helped unpack an exciting delivery of orchids direct from China for display at the RHS Chelsea Flower Show! Among them was *Gastrodia elata* (the "potato orchid")—a fascinating leafless orchid used in traditional medicine that survives via symbiotic relationship with a fungi. (Photo top left)
- I also got a tour of Kew's huge historic Herbarium where millions of dried preserved plant specimens are held for research and main library where you can find virtually every book on plants in every language ever!
- Prepped flowering orchids from the nursery and moved them over to the public display cabinets in the Princess of Wales Glasshouse (Photo top middle). I also helped prepare Chinese *Bletilla* orchids by packing them into pots with moss, ready to be transported for the Chelsea Flower Show display.
- Helped water the orchid houses and learned how to hand-pollinate *Paphiopedilum* and *Phalaenopsis* flowers using small tools. I even got to look at tiny orchid seeds under a microscope, before finishing the day repotting orchids into a loose mix of bark and moss.

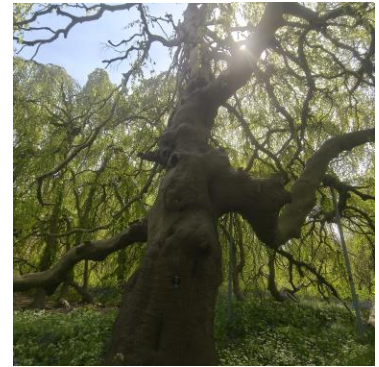
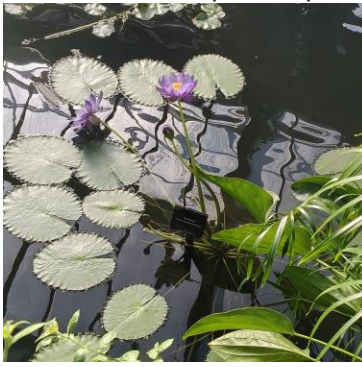


Exploring Kew's Public Glasshouses & Gardens

Often after finishing in the nursery for the day, I would head over to explore the gardens and public glasshouses including the Princess of Wales Conservatory with its many climate-controlled zones of mostly tropical and arid regions, the Palm house currently undergoing clearance ready for its grand restoration project, and the Temperate house. I was also very lucky to catch the opening of the world's largest inflorescence the Titan Arum (*Amorphophallus titanum*) which was my first time seeing one in person.



The POW Conservatory with its huge diversity of tropical and arid plants as well as side rooms for specialised plants like Carnivorous plant species such as *Sarracenia*.



The arboretum form a huge living collection of tree families like the redwoods *Sequoia sempervirens*. Aquatic plants like waterlilies (*Nymphaea*) are also important collections.



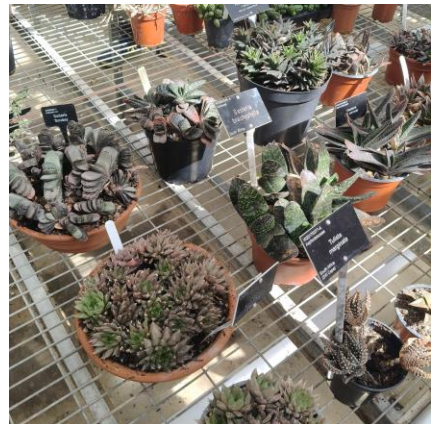
Many new plants seen for the first time including the great Titan Arum, Jade Vine (*Strongylodon macrobotrys*) and Rose of Venezuela (*Brownea grandiceps*).

4. Weekend Trips

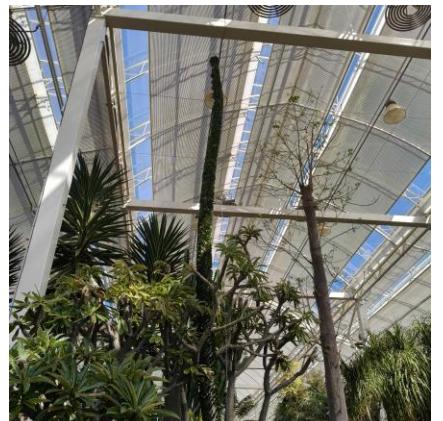
RHS Garden Wisley: Attended the British Cactus & Succulent Society event being held at Wisley and got a behind-the-scenes tour of their succulent collection as well as their *Pelargonium* collections and explore the public display glasshouse & gardens.



BCSS talks & stands, beautiful gardens and alpine house



Back of house tour of Wisley's succulent and Pelargoniums collections.



The public display glasshouses bursting with tropical flowers and arid specimens.

4. Weekend Trips

Chelsea Physic Garden: Visited London's oldest botanical garden to see their historic glasshouses and outdoor plant borders.



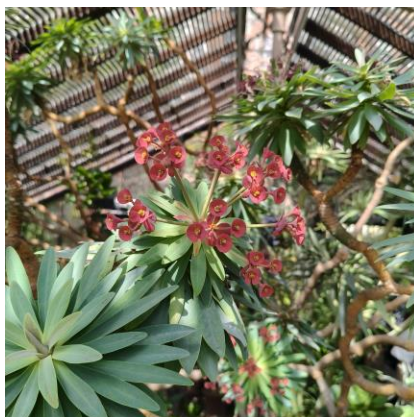
The main hallway of the glasshouses filled with tropical plants on every surface.



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An incredible collection of Pelargoniums both species and cultivars.



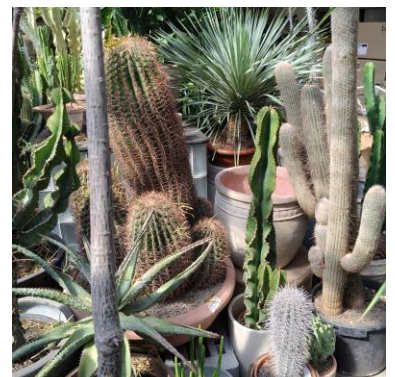
A diverse range of arid plants including the Canary Islands section.

4. Weekend Trips

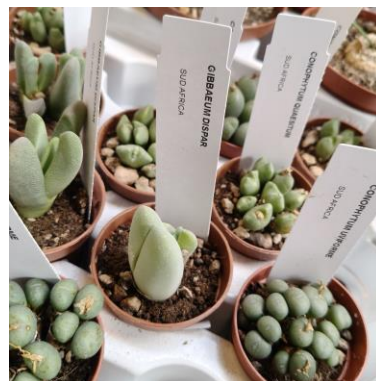
Conservatory Archives: Checked out arguably one of the best houseplant shops in the UK to see a diverse range of tropical plants, cacti, and succulents.



A huge range of specimen from Cactaceae and Euphorbiaceae family.



Grow lights to supplement the cacti and succulents.



A great range of succulents seldom seen available in the UK for sale.

5. Conclusion & What I Learned

- **Did I achieve my purpose?**
- Looking back on my two weeks at Kew's Tropical Nursery, the placement was an incredible opportunity that fully achieved everything I set out to learn. Working across such diverse climate zones—from high-humidity tropical foliage to arid succulents and delicate epiphytes—gave me an invaluable behind-the-scenes look at how a world-leading botanic garden manages its reserve collections, directly building on what I learn every day in my apprenticeship at The Eden Project.
- **Main Takeaways & Career Impact**
- **Soil Matters:** I saw firsthand how much a plant's soil is key to having thriving healthy plants in the collection, especially important when dealing with rare species. Using the right fast-draining gritty mix for succulents or open bark for orchids makes all the difference in keeping roots healthy and keeping the plant collection alive for important research and conservation.
- **Plant Care & Cleanliness:** Learning how to divide and propagate plants in different ways dependant on species to keep backups of rare species to maintain the accession in the collection. Also, regularly checking for pests & diseases and using simple tricks like alcohol and a paintbrush for mealybug and having pots of Pinguicula to catch small flies are skills I will use for the rest of my career.
- **Future Goal:** Bringing these specialised glasshouse techniques and curation standards back to my day-to-day work at The Eden Project has made me a far more confident and versatile horticulturist, and it has made me even more excited about a long-term career in botanic gardens and keen to visit other botanic gardens to learn more knowledge and skills!
- *A huge thank you to **The Merlin Trust and Thistledown Bursary** for funding support for this trip, and to the staff at **RBG Kew** for making this rewarding and memorable experience possible.*



In the evenings I explored the Palm house and Princess of Wales conservatory and learnt so many new plants from regions all over the world.