



From Pico to Chaboco: Plant Cultivation in Madeira and Lanzarote

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May 22nd to June 3rd



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Aeonium glutinosum, Funchal Botanic Garden | *Aeonium lancerottense*, Chaboco Natura

Introduction

In late May 2026 I travelled to the Atlantic islands of Madeira and Lanzarote, having been offered the opportunity as part of my studies at Royal Botanic Gardens Kew. Here, I study propagation within Kew's various nurseries. I was drawn to Macaronesia due to the exceptional levels of endemism created by the unique landscapes, but also in how Macaronesian institutions cultivate plants *within* said landscapes, with the aim of my trip being to visit various nurseries, botanic gardens, and nature reserves to see what I could learn from local horticulturists and botanists.

This my first experience of travelling solo, both professionally and personally, making for a daunting but exciting opportunity. I had been looking forward to revisiting Madeira, having visited previously in 2022, having acquired much more horticultural knowledge and experience. Similarly I was looking forward to visiting Lanzarote, having never visited the Canary Islands before and no experience of that climate. It was an exciting occasion to test my knowledge, focusing entirely on plants, nursery and garden management for 2 weeks.

I was looking forward to seeing endemics in their native habitat, but found that what I enjoyed most was actually making connections with various horticulturists, botanists, and ecologists, and hearing about the work they are doing in Madeira and Lanzarote. Both regions are full of extremely knowledgeable and motivated individuals who are working hard to showcase local endemics and their stories, and advocate for the region's environmental and ecological challenges. In addition, they were all extremely welcoming and interested to hear about my experience as a student at Kew, wanting to know how Kew cultivates their endemics and deals with challenges all botanic gardens experience.

To summarize my trip accurately would take multiple reports - I was fortunate enough to visit Boa Vista Orchid nursery, owned by Patrick Garton, and the Jardins do Lago and Palheiro Gardens in Madeira, and Jardins do Cactus and Montana Chibisque in Lanzarote. All are extremely worthwhile opportunities for enthusiasts of Macaronesian plants and horticulture. For brevity however, I will be detailing my experiences of hiking around Pico Areeiro, joining the team at Monte Palace Gardens, seed collecting in Lanzarote, and joining a Bioblitz workshop in Famara, led by RedEXOS.

Itinerary



Madeira

May 22nd Travel London to Madeira

23rd Visit to Quinta da Boa Vista Nursery

24th Exploration of Funchal and visit to Parque de Santa Catarina

25th Hike around Pico do Areeiro

26th Visit to Monte Palace

27th Visit to Jardim Botânico do Madeira and Jardins do Lago

28th Visit to Palheiro Gardens

29th Travel Madeira to Lanzarote

Lanzarote

30th Seed collecting with Arrecife Natura and visit to Jardins do Cactus

31st Bioblitz Famara with RedEXOS

June 1st Hike to Montana Chibisque & seed processing

2nd Seed processing & facilities tour of Chaboco Natura

3rd Travel back to the UK





Beginning of the PR1 path | *Echium candicans*, ready to flower at Pico do Areeiro

Pico do Areeiro

At some point during my trip I wanted to embark on a self-guided hike to see endemics, improving my ability to identify and record plants, and overall put them into context in-situ. The 6am 'sunrise bus' from Funchal takes you to Pico do Areeiro, 1,818m, the third highest peak in Madeira. Immediately upon disboarding the bus I recognised a plant so readily I forgot it's Madeiran heritage. Before garden cultivars such as 'Bowl's Mauve' there was simply *Erysimum bicolor*. This member of Brassicaceae produces linear to lanceolate foliage and terminal clusters of four-petalled flowers. The flowers emerge initially purple or violet in colour, fading into shades of pink and white. The clusters I saw were covered in both faded flowers and newly developing seed-heads, which for Brassicaceae are elongated capsules resembling thin tubes.

It's yellow neighbour, *Ranunculus cortusifolius*, is a Macaronesian native and counterpart to our creeping buttercup. The petals on new flowers are glossy, almost plastic-looking, whilst spent flowers look like peeling paint - I realised at this point that I needed to set a precedent for the rest of the day - the characteristics I would take photos of, the environmental features I would take notes about, the aspect, the substrate, neighbouring plants, etc.



Erysimum bicolor, Mountain wallflower | *Ranunculus cortusifolius*, Canarian buttercup

I joined the main path, trail PR1, which eventually connects to Pico Ruivo, the highest peak at 1,862m. The paths were originally used by Madeirans to transport goods between communities, before being designated as hiking routes in the 20th century. Whilst crouching to view an endemic - *Saxifraga pickeringii* - a tour guide passed me in the middle of telling their group about the volcanic ecology of the area: "The cracks in the rock are due to the quickly changing temperatures. The basis for all of the roots of the trees and plants you see are these cracks". I later learned that the phenomena the tour guide was referring to is *hotspot volcanism* - where, millions of years ago, columns of magma rose from deep within the Earth to melt the crust above, creating spots or chains of volcanic islands as we see today with Madeira, the Canary Islands, and other archipelagos such as Hawai'i and Réunion. Moving through the area, the alternating layers of basalt and volcanic ash are stark, alternating between shades of brick red, khaki brown, and slate grey. I noticed throughout my hike that plants had made their homes amongst the ridges and cracks between these different striations - likely to access the little bit of moisture that these peaks collect, and shelter them from the harsh winds.



Rock striations of basalt and iron-rich tuff | *Saxifraga pickeringii*

I was pleasantly surprised to come across *Saxifraga pickeringii* (formerly *S. maderensis*, since identified as a separate, lower elevation species) so soon into my hike, a saxifrage that only a few months ago I was propagating in my placement within Kew's Alpine Nursery. The flowers are standard saxifrage faire - the leaves are the true giveaway that this *Saxifraga* is adapted to Madeira's warm, windy peaks, feeling fleshy and thick with slight red colouration along the margins. In Kew, *Saxifraga* grows into dense balls in the nursery, unrestricted by rock. Here, they cling horizontally onto rockfaces, or grow in grassy shelves alongside other endemics.

Seeing it in its native habitat made me reflect on whether the montane species I had worked with previously are grown and displayed in ways that best demonstrate their habit. Could they be mounted horizontally? Could they be grown amongst pieces of rock? I really appreciated seeing *S. pickeringii*, amongst other endemics, in its native context as it forced me to consider how propagation and cultivation is influenced by ecology.



S. pickeringii seedling in-situ | A 5 month old cutting I took in Kew

I came across numerous other plants on this hike, with others of note including:

- Endemic *Aeonium glandulosum*, *Aichryson villosum*, *Armeria maderensis*, *Echium candicans*, and *Orchis mascula* subsp. *scopulorum*
- Native *Erica arborea*
- Invasive *Cytisus multiflorus* and *C. scoparius*

I made an effort over the day to record my observations about the plants and their habitat - whether, like *A. glutinosum*, they grew horizontally and in distinct crevices, or like *O. mascula*, in grassy ridges alongside other endemics. I also noted how plants differed to related species, such as the flowers of *Armeria maderensis* being larger and more densely clustered than *A. maritima*. It was a great opportunity to challenge myself "in the field" to be more observant. I was particularly interested in how invasives were being managed, seeing repeatedly neatly cut lines of *Cytisus*. I later confirmed that this is part of an invasives management programme by LIFE Pterodama4FUTURE, a government-run and EU-funded conservation project that aims to improve populations of *Pterodama madeira* and *P. deserta*, petrels that are endemic to the Madeiran archipelago. *Cytisus* complicates the ability of *P. madeira* to nest in the area around Areeiro, but also poses a risk of wildfire. The last significant wildfire in Madeira was in August 2024 and affected 14% of the island's forests.



Aeonium glutinosum | *Aichryson villosum* | *Orchis mascula* subsp. *scopulorum*

Additional Areeiro photos



Ulex europaeus along the path | *Echium candicans*



Orchis mascula meadow | *Aichryson villosum* seedlings



Sinapidendron sp. growing on the rockface | *Cytisus scoparius* tunnel



View of the central lake

Monte Palace Gardens

After recovering from my hike, I went to Monte Palace Gardens to see the nursery facilities and help out the team for the day. The gardens sit on the historic estate of Charles Murray, a 19th century diplomat who established the area as a "Pleasure Estate" for the wealthy of the time. Since the 1980s, Monte Palace has operated as a garden-cum-art gallery, owned by Madeiran-South African art collector José Manuel Rodrigues Berardo. The gardens cover 70,000 square metres, and include an Oriental garden, Orchidarium, a comprehensive collection of cycads, and numerous Madeiran and Macaronesian endemics, alongside many sculptures, art pieces, and a geology collection.

The nursery facilities are currently undergoing a major transition, led by recently appointed Botany Coordinator Miguel Andrade, and Kew-trained horticulturist Michael Benedito. They tell me that in previous years plants were being propagated but not on a huge scale - cycads were experimented with, for example (Monte Palace has 30 of the 65 known species) but not necessarily other plants.



Tree ferns in front of *Laurus novocanariensis*



Dioon sp. | Lower part of the gardens, nursery in the distance

The acquisition of a neighbouring property (which notably, and *randomly*, has Portugal's largest specimen of *Liriodendron tulipifera* at 41m) means the nursery facilities can be rebuilt and allow Monte Palace to propagate more of it's own plants. Currently, Miguel and Michael are propagating and growing bedding plants to add more colour into the gardens, but also because as Michael tells me, seasonal bedding is not as easy to come by in Madeira as it is in the UK. The abundance of colourful tropical plants, or plants *perceived* as tropical by Europeans, such as South African *Pelargonium*, *Strelitzia*, and *Osteospermum*, which grow year round in Madeira, makes the market for seasonal bedding small, so options for colour and texture are more limited. It was interesting to see how different horticultural infrastructure is here - bedding plants, whether UK or Dutch-grown, can be found in UK *supermarkets*, let alone garden centres, all year round.



Part of the nursery | Helping in the nursery (Photo courtesy of Miguel Andrade)

I gave Miguel and Michael a hand organising the nursery area - just like Kew (and most UK gardens for that matter), *Cardamine hirsuta* creeps into pots and crevices, so in readiness for weed suppressant membrane it needed removing. We then worked through some surplus *Begonia minor*, selecting the best to add into the 'begonia wall' that lines a nearby sloping path. I really appreciated the opportunity to get involved practically, as it made me feel more comfortable to ask questions about day-to-day operations and talk about my experiences as a student at Kew. It began a great exchange of information into how Kew and Monte Palace manage issues like plant and soil waste, plant health, record-keeping, and changing weather conditions. Funchal's steep incline means, Michael tells me, that there are plants that can be grown in Monte Palace that couldn't be grown closer to sea level due to the heat.



Preparing substrate for potting (Photo courtesy of M. Andrade)

At every opportunity Miguel points out various endemics that feature in the garden, some I recognise (but mostly I do not!), readily explaining their scientific or cultural significance, as well the challenges that exist cultivating them. *Pittosporum coriaceum* for example, is endemic to mainland Madeira - and one of the many endemics that Richard Lowe, 19th century authority on Madeiran plants, identified and collected herbarium samples of, now in Kew's Herbarium.



Pittosporum coriaceum & *Musschia wollastonii* specimens, Kew Herbarium



Pittosporum coriaceum | *Erica platycodon* subsp. *maderincola*

At the time of my visit *P. coriaceum* isn't in flower, but the foliage closely resembles *P. tobira*, an Australian species often used in UK gardens. Miguel mentions however that conservation of this plant is problematic. The IUCN estimated in 2011 that there were 40-50 individuals of this species in Madeira, but recent genetic testing, Miguel tells me, has shown many plants are genetic clones of one another. The plant spreads via root suckering, meaning clumps of multiple plants may actually be one, self-proliferated individual. Pittosporum are also typically dioecious, meaning a plant cannot self-pollinate and requires another separate plant of a different sex - a complication if all of your plants are the same genetic individual! I really appreciated hearing this information firsthand from someone working in Madeira with endemics - it's easy in botanic garden settings to work with such a large and varied range of plants that you forget the unique reasons why a plant and its cultivation is important.

Besides *Pittosporum coriaceum*, the gardens have numerous other interesting endemics and natives, proving to be a great reference source for a student such as myself interested in Macaronesian plants. Some of the other highlights included *Laurus novocanariensis*, a laurel found in Madeira and the Canary Islands that is one of the many members of Madeira's *laurisilva*, and *Dracaena draco*, the iconic Macaronesian dragon tree that Miguel points out sends out aerial roots after flowering, explaining the masses of aerial roots that have emerged in clusters on the stems. The nursery also includes herbaceous endemics, such as *Musschia wollastonii*, *Digitalis spectrum*, formerly known as *Isoplexis*, and *Melanoselinum decipens*.



Dracaena draco

In the afternoon, I helped pot on some of the bedding, moving some familiar *Nemesia* cultivars such as 'Wisley Vanilla' from cell trays to larger pots of a loamy-perlite mix, whilst discussing with Michael and Miguel issues like compost availability and irrigation. Madeira's irrigation is dependent on *levadas*, channels built to transport water from the moist northwest to the drier southeast. Drier summers, as well as golf clubs and hotels using more water, has put a strain on Madeiran water supplies in recent years. At the time of writing, London has experienced its fifth heatwave of 2026, so water availability in the coming years is a shared concern.



Potting up *Nemesia* (Photo courtesy of M. Andrade) | Bedding plants in the propagation area

The propagation zone, like Kew's propagation set ups, is a plastic covered tent with heating and capillary matting. The tent is full of neat trays of *Coleus*, *Petunia*, *Bidens*, and *Nemesia*, as well as impressive examples of *Begonia rex* which clearly appreciate the humidity. The longer growing season in Funchal means propagation can produce results fairly quickly, but also that cuttings are quick to flower: pinching-out buds is a time-consuming necessity. Potted up cuttings are left to grow on further in the partially shaded lean-to, where the prop tent lives. A few weeks later, these plants are moved to the outer nursery area, where they will wait to be planted. The goal is to expand the nursery facilities, propagating and growing colourful bedding as well as endemics.

It was a great experience to join Miguel and Michael for the day and hear their ideas about how to improve an already impressive garden, whilst highlighting endemics and improving the botanical value of the collection. They were extremely generous with their knowledge, providing information and stories I would not have learned without joining them for the day. Additionally, they recommended places I should visit during my trip to see both endemics and impressive gardens, such as Jardins do Lago and Palheiro Gardens, welcome additions to my itinerary that I would strongly recommend to any garden design enthusiasts.



Agryranthemum pinnatifidum | *Fuchsia boliviana*, which grows in Monte Palace "like a weed"



Aquatic plants area | *Woodwardia radicans*

Jardim Botânico Funchal

My next trip was to Funchal Botanic Garden. It sits on a former quinta (estate) owned by 19th century English family, the Reids, before becoming a botanic garden in 1960. I was kindly shown around by Carlos Lobo, a bryophyte specialist with extensive knowledge of the garden's endemics and conservation efforts. He explained that the endemics on display in the designated endemics beds are the result of seed collecting by botanic garden staff - the IFCN (Institute of Forests and Nature Conservation) which manages the garden, has collected seeds of Madeiran endemics since 1994.

The seed bank is comprised of a seed processing facility, where jars and vials of different seeds sit on a table, at various stages of processing; the main office, for cleaning and organising the seeds; a drying room, where cleaned seeds are placed into a drying chamber, and the storage area, containing a freezer that sits at a comfortable -15 degrees, as well as a fridge of germination trials. One of the seedbanks technicians, Olga Baeta, is responsible for painstakingly cleaning the seeds that are collected on yearly fieldtrips, weighing them, and drying them, before they join the collections of previous years. Routinely, seeds from previous field trips are sown in sterile agar plates to test their viability - some come up reliably years after collection, whilst others are still a puzzle. There are a number of seeds that simply cannot be stored in the seedbank - notably the laurels that make up Madeira's famous *laurisilva*. Seeds of *Laurus novocanariensis* or *Octoea foetens* for example are recalcitrant and will only germinate if sown fresh - they are unable to survive storage as their moisture content is too high, thus drying or freezing kills the seed embryo.

Successful germinations go to the nursery to be grown on, before eventually ending up in the garden. The nursery sits in the north-east corner of the gardens (as does the seedbank), and consists of several mesh-covered frames lined with different plants. One that Carlos points out is *Euphorbia piscatoria*, the fish-stunning spurge. To the untrained

eye, it looks like the average member of Euphorbiaceae - thick stems with lanceolate, lime green, red-tinted leaves. This *Euphorbia* however had a historical use. "Fishermen would chop up the plant and drop these pieces into the sea, making the fish drowsy and easier to catch."



Melanoselinum decipens going to seed | *Ocotea foetens* flowers

A plant that has made it to the endemic beds is *Melanoselinum decipens*, which I saw at Monte Palace as seedlings. It's known here as *aipo-do-gado*, cattle celery, with Carlos explaining that it used to be grown as cattle fodder - it's easy to see why. The plant looks like parsley on steroids, sporting fringed, compound leaves that can reach up to 1m in length, and large umbels which only a few weeks ago would have been covered in pink-to-white flowers, but now are heavy with developing seeds. Clearly it had thrived in the shade provided by the endemic laurels in these beds, alongside clumps of *Andryala subglabrata* and *Geranium maderense*, both coming to the end of their flowering seasons. Carlos was excited to hear that I have grown *G. maderense* in a previous job role - notably, it took much longer for my UK-grown specimens to flower (4+ years) than those in the botanic garden (2+ years).



Geranium maderense in the gardens | *G. maderense* I grew in my previous job role

Carlos explained to me that one of the major difficulties of seed collecting in Madeira is land use. Modern Funchal, he tells me, would have historically been covered in native olive trees, *Olea maderensis*, but they are not as bountiful with fruit as the trees we associate with olive oil production, *Olea europaea* (there is debate as to whether *O. maderensis* is a subspecies of *O. europaea*, actually called subsp. *cerasiformis*). As Funchal was established and expanded, local plants such as *O. maderensis*, and its relative *Jasminum azoricum*, the Azores jasmine, were replaced with more "profitable" plants such as *Musa*, which you can see in abundance throughout Funchal. "*Jasminum azoricum*" Carlos explains "has only three to four extant populations in Madeira", with the seeds not germinating reliably enough for populations to improve.



Smilax canariensis | *Olea maderensis*

Furthermore, if property owners refuse to let IFCN staff onto their land, there is nothing that can be done. "30 people can say yes, but if 1 person says no we can't get to that

plant". Many Madeirans in the past emigrated to other parts of the world for work, such as South Africa, the West Indies, and Hawai'i, but have property in Madeira still in their name. "If we can't make contact with them, we can't go onto the land." It's evident that protecting vulnerable species is important but also extremely challenging, as it often requires the cooperation and interest of the public, not just botanical and horticultural experts. Whilst this account was frustrating to hear, Carlos showed a lot of motivation for the garden's seed-collecting and plant-monitoring efforts, demonstrating the need for perseverance within botanical horticulture.

I massively enjoyed my visit to the botanic gardens - it opened my eyes to the challenges faced by botanic gardens outside of propagating the plants - *collecting the* plant material in the first place.



Teucrium heterophyllum | *Cheirolophus massonianus*



Lava fields near El Islote

Lanzarote

Upon hearing I was heading to the Canaries, multiple people pointed me in the direction of the NGO Arrecife Natura, run by Matías Hernández González. Arrecife Natura is an initiative to conserve the plants of Lanzarote and La Graciosa, whilst also engaging local communities in ecology and conservation. Arrecife Natura is seeking BCGI Botanic Garden Accreditation in recognition of the various projects it is carrying out to sustain populations of endemic plants. When I initially reached out to Matías I was particularly interested to hear about Chaboco Natura, the core site in which Arrecife Natura operates and is developing its seed bank and nature reserve.

I was kindly accommodated during my stay by Matías in the village of El Islote, which sits within La Geria, a region known for its wine production. During the drive to El Islote, Matías explained to me that a series of volcanic eruptions in the 1700s transformed Lanzarote into this unique landscape, which a friend had described prior to my trip akin to "visiting the moon". The landscape is an expanse of black ash pocked with pits and heavily cracked lava fields, with smooth but steep inert volcanoes sporadically and suddenly emerging at every turn. The fertile, ash-covered areas are used extensively for wine production, with deep pits called *chabocos* dug into these areas, and low walls being built around these pits to shelter grapevines from wind. Fig trees, citrus, and mangoes are often grown in this way as well.

Seed collecting

Chaboco Natura functions as a nature reserve for endemics, with Matías hoping to expand the propagation facilities and train Lanzaroteans in propagation and nursery work. As part of this, Matías collects seeds of endemics across the island in order to have a bank of endemics in case in-situ populations are threatened by extinction. On our way to the first site, Matías explained to me the tension between local farmers and conservation efforts: "There is this idea that the black, ash fields are more beautiful than native, brown plants". The government in fact incentivises farmers to pull out endemics in

order to keep fields clear. Once he has pointed out one empty field, it becomes obvious how devoid the fields are of plants.



Orobanche andryalae | Barranco Elvira Sanchez | *Asteriscus intermedius*

The first site of seed collecting was a dried brook outside of the village of Haria, called Barranco Elvira Sanchez. Matías has collected seed here numerous times, most notably finding a new species of *Orobanche* with researchers at Oxford Botanic Garden, "I searched all around, only to find it along the wall near to the carpark". This species, *Orobanche andryalae*, or 'jopo morado' in Spanish (purple bushy-tail), is a parasitic plant that occurs in Lanzarote, Tenerife, and Fuerteventura. *Orobanche* are holoparasites, only completing their lifecycle with a host. In Lanzarote, *O. andryalae* parasitises *Asteriscus intermedius*. Once Matías has pointed out one spike of brown, dried flowers, I am able to spot them dotted all throughout the clumps of *Asteriscus*. Arrecife Natura goes by the principle of collecting only 20% of seeds from a plant, to ensure a natural population is not negatively affected by seed-collecting. We set out to collect seedheads from every *O. andryalae* we see, placing them into paper envelopes, noting down the area and habitat, and keeping a count of how many individual inflorescences we have collected from.



Cistanche phelypaea amongst *Bassia tomentosa* | Charco del Palo

We then made our way to Charco del Palo, a nudist holiday village, where we began our search for *Cistanche phelypaea*, another Orobanchaceae which grows alongside the dirt road at one end of the village and parasitises *Bassia tomentosa*. Very quickly Matías

spots a specimen still in flower behind a signpost, presumably sheltered from the wind. Driving a little further, we started to see hundreds of specimens along the road, none as intact as that first example, but absolutely bursting with seed. Parasitic plants sit beyond my expertise, but seed-collecting is definitely within my wheelhouse.



Other seed collection candidates of the day, *Bitumenaria bitumenosa* & *Ononis pendula*

During the drive back, Matías pointed out the numerous empty fields in the area, as well as those with a few specimens of *Opuntia*. He explained that at one time the Canary Islands was a large producer of cochineal dye, the red dye derived from cochineal bugs, *Dactylopius coccus*. In fact, the Canary Islands still holds a Protected Designation of Origin for its cochineal products, an EU regulation that ensures all stages of a local product's production and processing occur within that specific region. Cochineal bugs are attracted to *Opuntia*, which were imported to the Canaries from Mexico. Much like Funchal locals went all in on *Musa*, Lanzarote locals filled their land with *Opuntia* to harvest cochineal. Unfortunately however another species of mealybug was introduced to the Canaries, *Dactylopius opuntiae*, which unlike its counterpart, completely decimates *Opuntia*. These nearly-empty fields are the remnants of previous cochineal farms that were destroyed by this more invasive mealybug. Although *Opuntia* is not a local by any means, Matías firmly believes it is important for people to understand how important cochineal production has been in Canarian history, and why there are so many examples of this cactus across Lanzarote.

Bioblitz Famara



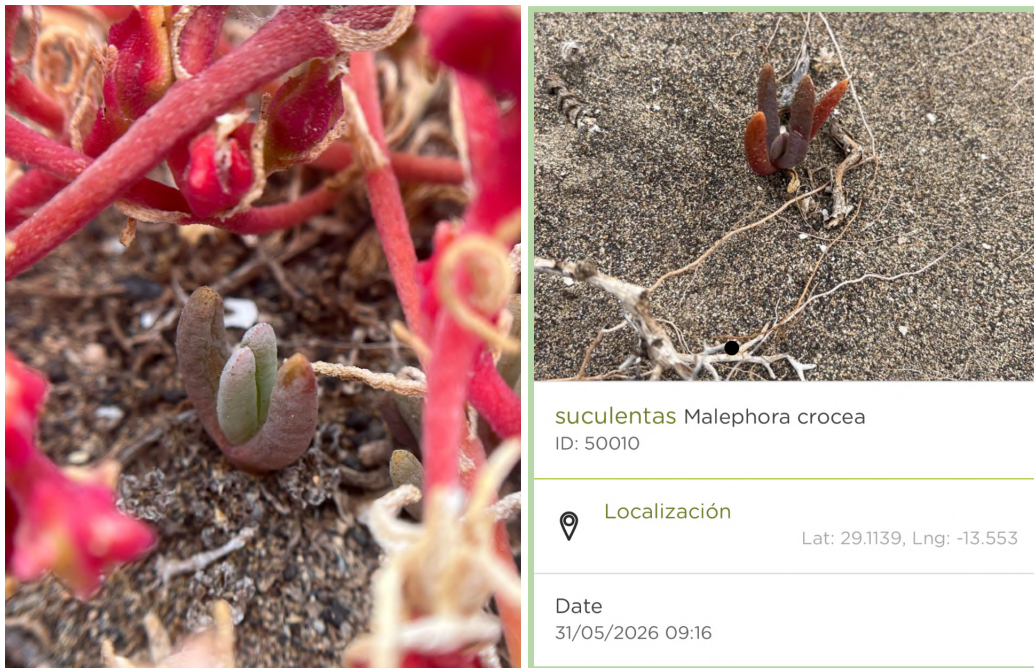
Our guides showing us how to remove invasives | Our area of operation, outside of Urbanisation do Famara

On the Sunday, Matías invited me to join him for a "BioBlitz" in the region of Famara, utilising the RedEXOS network. RedEXOS is a citizen science tool, allowing people to identify and report outbreaks of invasive plant species. Spanish regulations, which differ from the British, do not allow members of the public to remove invasive plants from public areas - in the UK, invasives can be removed by the public as long as it is safe to handle and dispose of said invasive. The goal of the day was to demonstrate how to use the RedEXOS app, which allows individuals to pinpoint a suspected invasive plant, which RedEXOS then reviews and confirms. This process educates the public on what plants are local to Lanzarote, but also tells the organisation what hotspots need attending. The app extends beyond plants to any invasive species - at the time of writing, a nest of Asian hornets was removed from Gran Canaria.

The area we were working in is unique to British eyes, but increasingly common in Lanzarote. Famara is a modern 'urbanisation project' that sits adjacent to the village of Calleta de Famara. Matías explained to me that urbanisations are increasing, being built for the wealthy, tourists, or both, giving them seaside views away from existing villages and towns. The area sits at the base of El Catillejo, one of Lanzarote's many former volcanoes, and overlooks the northern coast, towards the island of La Graciosa. Not only do these urbanisations create issues for native plants through displacement, but as the organisers of the day demonstrated, the ornamental plants employed by the communities are liable to spread.

The main targets of the day were *Malephora crocea*, *Austrocylindropuntia subulata*, and *Opuntia microdasys*. *M. crocea* is a succulent perennial related to the ice plants sometimes used in UK summer displays. It's native range is South Africa, thus dry Lanzarote summers and volcanic ash provide a perfect home. The issue with *M. crocea* is the shallow root system exacerbates erosion. Furthermore, the high moisture content of the plant's leaves can become heavy, creating landslides on sloping terrains and cliff edges. It was difficult to spot at first, being low growing and, at this time of year, having grey-to-purple foliage that blends into the ashy landscape. Upon finding any, the group was tasked with utilising the RedEXOS app to report the sighting, and then shown how to

remove the plant carefully enough that minimal roots were left behind. *Austrocylindropuntia* and *Opuntia* were a lot less abundant, and fortunately for us we were not asked to try and remove these prickly invasives, but instead just report them in the app.



Malephora crocea | Reporting *M. crocea* in the RedEXOS app

Besides these, Matías pointed out the numerous endemics that covered this area. Some of the highlights included *Erysimum scoparium*, which grows at much lower altitudes than its Madeiran counterpart; *Bassia tomentosa*, a low-growing shrub that also occurs in the drier parts of Madeira, such as Selvagens, and *Zygophyllum fontanesii*. *Z. fontanesii* is a succulent subshrub called the Canarian Sea Grape, due to its smooth rounded foliage and dark red fruits. Interestingly, *Z. fontanesii* is not only a xerophile, but also a halophile, thriving in areas of high salt concentration. In the context of Lanzarote this makes sense, given its constant exposure to sea air and propensity for growing in areas at risk of high tides.



The workshop, despite being delivered in Spanish (which I am yet to gain fluency in) was extremely engaging to be a part of. It was obvious how motivated both the guides and the attendees were - the backgrounds of the attendees ranged from biologists and botanists to those without any botanical experiences, motivated to maintain their landscape. Every plant we came across encouraged someone to share a story about the cultural or historical importance of that plant - lots of recipes for cooking *Opuntia* were shared, for example - or where else you can see strong populations of said plant in Lanzarote. The guides were keen to hear about how the UK manages its invasives and how the law differs. Despite invasives and their problems being the core theme of the day, I massively enjoyed hearing about the specific issues that Lanzarote experiences and how the RedEXOS network aims to address these. It gave me a lot of ideas about how to engage the public in plant conservation, and further demonstrated the plethora of stories and meanings that plants hold to different people.

Additional Lanzarote photos



Bassia tomentosa | *Frankenia capitata*, both coastal dwellers



Opuntia ficus-indica, invasive



A good *Malephora* harvest | *Ononis natrix*, coastal native

Final Thoughts

My 7 days in Madeira and 5 days in Lanzarote passed by too quickly - there are definitely more plants to see and gardens, nurseries, levadas, and mountains to visit. I was welcomed to both regions by local botanists and horticulturists,

My expectation for this trip was to gain familiarity with a small subsection of Macaronesia's flora, seeing them in their native habitats. Whilst this is true, my trip also exceeded my expectations, as I was also fortunate enough to be welcomed to both Madeira and Lanzarote by extremely knowledgeable individuals. Whilst I did learn a great deal about the native habitats of Macaronesian endemics and how they are cultivated in this region, I also learnt the stories and uses behind each plant, and the socio-cultural issues that locals face in conserving them. It demonstrated to me how important it is within the horticultural industry, especially botanic gardens, to share information with one another, and support each other in our shared goal of conserving at-risk plants.

Similarly, meeting so many knowledgeable and motivated individuals led me to reflect on my own motivations as an avid glasshouse/nursery horticulturist and propagator. Would I like to continue in botanical conservation, learning about and propagating unusual endemics from specific regions? Do I want to work with plants of particular environments, such as montane *Saxifraga*, subtropical *Ocotea*, arid *Aeonium*, or temperate *Cistanche*? Would I like to contribute to the development of a garden's or nature reserve's nursery facilities? The kindness of the people I met highlighted to me that, whichever direction I go, there will be numerous enthusiastic horticulturists and botanists there to support me in my endeavours. I will certainly be planning future visits to both Madeira and Lanzarote to see even more of their endemics.

References

Pittosporum coriaceum herbarium specimen:

<https://powo.science.kew.org/taxon/urn:lsid:ipni.org:names:684422-1>

(accessed 23rd August 2026)

Musschia wollastonii herbarium specimen:

powo.science.kew.org/taxon/urn:lsid:ipni.org:names:144184-1/images

(accessed 23rd August 2026)

Appendix

For information regarding the following hikes, gardens, nurseries, and conservation programmes, etc, please visit the following websites:

PR1 Hike:

visitmadeira.com/en/what-to-do/nature-seekers/activities/hiking/pr-1-vereda-do-aree-iro/

Pterodamas4FUTURE:

lifepterodromas-ifcn.pt

Monte Palace Gardens:

montepalacemadeira.com

Jardim Botânico do Madeira:

visitmadeira.com/pt/o-que-fazer/apaixonados-por-cultura/jardins/jardim-botanico-da-madeira/

Arrecife Natura

arrecifenatura.com

RedEXOS:

gobiernodecanarias.org/cptss/sostenibilidad/biodiversidad/redexos/

The following websites were extremely useful to me during and after my trip for learning and identifying endemic plants, and doing further research for this report:

Madeiran endemics:

madeira.flora-on.pt

Canarian endemics:

canariashistoria.com/en/islands/lanzarote/flora/

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Seed-collecting in El Islote (Photo courtesy of M. Hernández González) | Potting in Monte Palace (Photo courtesy of M. Andrade)