

## Introduction

Currently I am a freelance gardener, working mainly with domestic gardens in and around my residence in Mid Derbyshire, very recently I finished studying at Cambridge University Botanic Garden through their traineeship. I've been interested in Mediterranean flora for a long while, I greatly enjoyed working in the Mediterranean Garden at Cambridge and learning about the different types of habitats in Mediterranean climatic ecosystems, though the planting is heavily focused towards those from the Mediterranean Basin. The range of geophytes in the glasshouses and alpine areas proved to be of great interest and this trip certainly to highlight many geophytes found in this region, always important understanding first-hand the conditions species face.

## Aims

- ❖ Observing the different habitats in situ from the main compositions; *phrygana* which is the lowest, most open form of *garrigue* found in the drier eastern part basin and especially common in the Aegean Islands, and *maquis* which is the taller, dense vegetation found in slightly wetter areas with deeper, often acidic soils, contains many sclerophyllous species and common culinary herbs, more common in the wetter Ionian Islands. Both are a result of habitat disturbance, often by human hand, and kept open by grazing and cutting. Another, main component is also the coastal flora, though much of what can be found is widespread across the basin.
- ❖ Observing the rich plant communities that are associated with cultivated land, in the parched Aegean scattered stands and terrace pockets of carob and olive predominate. Also, the herbaceous species associated with rocky, upland areas and chasmophytes found on walls, houses, and other human habitation.
- ❖ As I am not greatly acquainted with the eastern seaboard of Greece, to become familiar with some of the Aegean endemics.
- ❖ To gain ideas on planting to replicate in back in the UK, from native plant communities but also how people garden domestically, also to see species that with climate change might become very important to horticulture in the UK.

## Overview

The island of Rhodes is part of a group of islands called the Dodecanese, meaning ‘12 islands’ though many more islands comprise this group which is a sub-group of the Aegean Islands; those Greek islands found in the Aegean. These islands are drier than the Ionian Islands, with mean precipitation 619mm annually compared to the latter’s 1038mm (Iliadou *et al*, 2014). During the summer there is little to no rainfall, continuous sunshine, and prevailing westerlies. The southern and easternmost islands are further influenced by the North African and Anatolian coastal climates. Collectively (excluding Crete) these Islands hold around 3420 species (Thorogood, 2019), more than the estimated near 2000 species found on the Ionian Archipelago, and a high number of endemics especially those islands close to the Anatolian mainland, the latter (Iliadou *et al*, 2014) is comparatively poor in endemics and those that exist are only found on the larger islands. This is largely down to the more recent separation and closer proximity to the mainland than the former. Rhodes itself has some endemics, such as *Anthemis rhodensis*, *Fritillaria rhodia*, *Centaurea lactucifolia* and *Campanula rhodensis* but is quite low compared to other islands such as Crete and Cyprus.

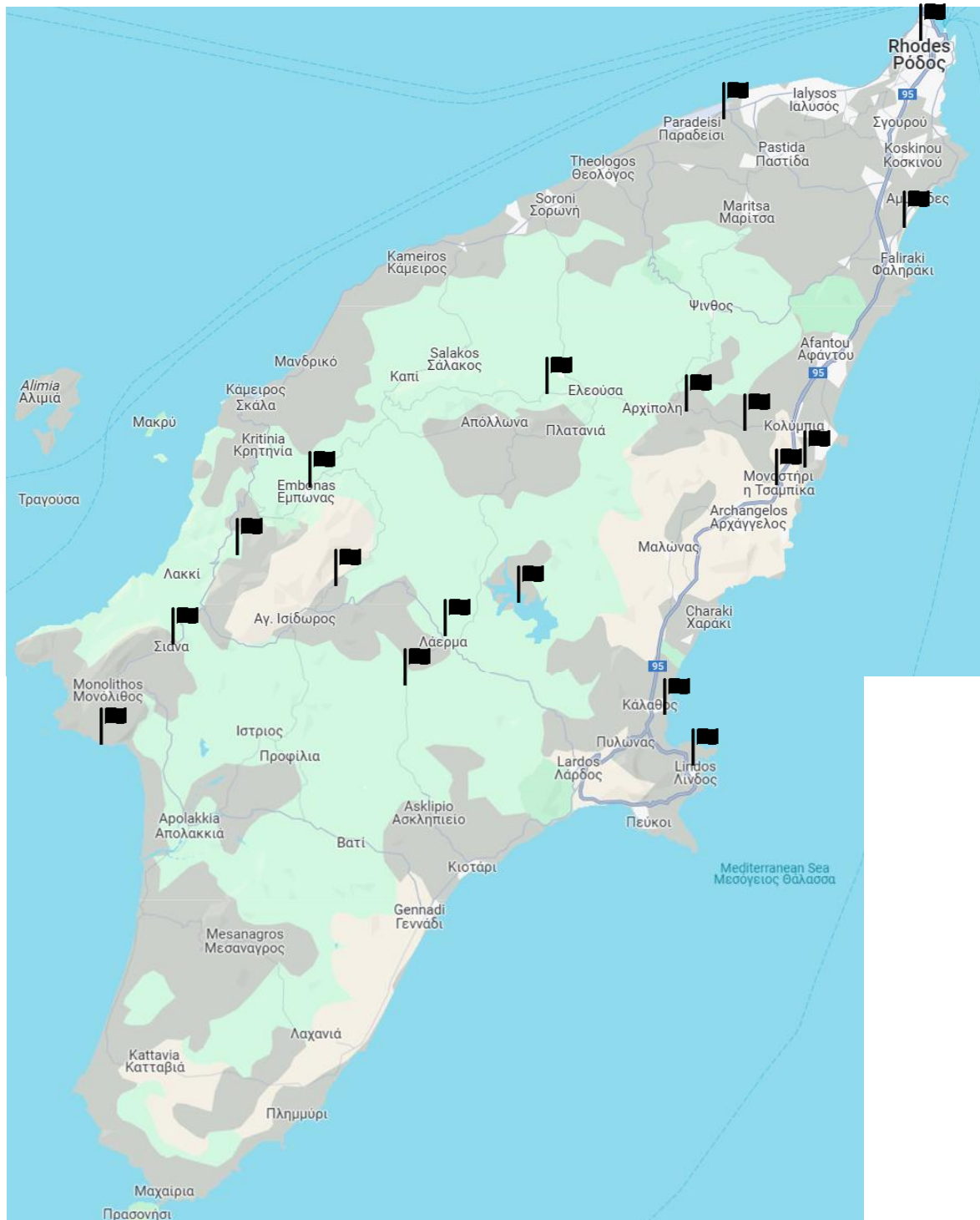


Fig. 1. Map of Rhodes with areas we visited and spots specifically visited, verified using satellite imagery.



## Diary

Wednesday 1<sup>st</sup>

I arrived in Rhodes in the evening from Stansted Airport on a flight, that later I heard was common amongst our group, of very few people (15<sup>th</sup> passenger being me), a gracious experience I don't think I'll likely face that often. Some arrived early and had already had a stroll, others slightly before or later than me. I quickly joined and sat down to quell my hunger, talk was greatly varied but the pertinent subject of the Mediterranean refugee crises came to the fore, the resurgence of the Greek economy and the tourist season that was virtually at its end. Our American contingent also quickly drew out the looming spectre of Donald Trump due to their perspectives.

Thursday 2<sup>nd</sup>

After breakfast met our guide Yiannis Christofides. We made introductions. Yiannis gave a brief overview of the Island of Rhodes and the Mediterranean biosystems. This was very interesting. The geology of Rhodes was mentioned being like many of the Aegean Islands predominantly limestone, but with some areas of igneous rock and schist, a metamorphic rock common on Rhodes. Many islands also contain large deposits of marble. Other islands have more igneous rock from volcanic activity as the African plate lies underneath that of the Aegean. Turkey has over 30 species of *Crocus*, Greece similarly with 14 endemic species or subspecies (Karamplianis et al, 2013), should be considered as Greek endemics, compared to only one found on Rhodes, which has not long been separated, this was pointed out largely due to the uniformity of the geology on the island. Another interesting point challenged my preconceptions of the seasons, in the Med the autumn is considered the first spring and our spring the second spring, this made sense in a climate which has 2 seasons, dry and wet.

After the safety talk, we made our way on foot to the old town and Palace of the Grand Master of the Knights of Rhodes. Quickly we noticed the street trees which varied considerably. Older plantings often consisted of *Ficus* with the lovely steely grey bark, the newer *Platanus orientalis* we debated as some were unmistakable in the heavily lobed leaves and three-fruited racemes, others were marginally lobed and bore one or two fruits, as well as being markedly upright in habitat and with degree of greater browning of the leaves. I could only surmise that hybridisation has occurred with imports of trees, London plane being more pollution tolerant or ultimately the hybrid originates in large scale growers in Europe, and the hybrids seemed more prone to the heat and drought. Drawing nearer to the sea we came across more ornamental horticulture, young *Morus alba* with the distinctly hairless, glossy leaves and what I suspect was *Bauhinia purpurea*, and *Casaurina equisetifolia*, the first two must be pollarded routinely due to the great length of new growth. Bougainvillea, oleanders, and great banks of *Lantana camara* abounded.



The first plant was another non-native often planted *Schinus terebinthifolius*, being dioecious the females were bearing the red berries, the family *Anacardiaceae* is well represented on this trip and species of mastic (*Pistacia*) we encountered later.



(Left: *Schinus terebinthus*. Right: *Schinus terebinthus*)

We then made our way up the historic Street of the Knights (Οδός των Ιπποτών), we stopped in the French Consul which dates to end of the 13th century. Other ornamentals were flowering such as *Commelina*, *Hibiscus rosa-sinensis*, and *Eriobotrya japonica*. It was interesting to note the gutter spouts, one of which was dripping. We were unsure of where it originated but the flow was clearly enough as in the crack of a wall *Adiantum capillus-veneris* had very nicely seated itself. Others identified the smell of *Jacaranda mimosifolia* in one of the gardens, though my sense of smell is woeful. We then made our way to the Palace of the Grand Master of the Knights of Rhodes; there I noticed a *Capparis spinosa* had self-seeded into a minute gap and looked in rude health compared to others we saw which had been eaten by something or were still in summer dormancy. A plant that keeps on giving, from edible flower buds to fruit and very young shoots.



(Left: *Capparis spinosa*. Right: *Adiantum capillus-veneris*)

In the palace we could see the Italian influence where living quarters had been tiled and rendered and then painted, but of interest were the large numbers of late Hellenic mosaics mostly transported from Kos. One in the group was especially interested in the wooden model of one of the galleys used in the battle of Lepanto in 1572 between the Ottomans and the Venetians. Having lunch outside we noticed growing in a very small planting hole at the base of the wall, a substantial *Hibiscus syriacus* with some lilac flowers, it would have been attractive if the leaves not covered in sooty mould from woolly aphid and mealybug. Part of one wall was covered in moss and slime mould, showing how valuable a north-facing position can be in this very dry climate.

Following this we looked round the archaeological museum, we were all amazed when one member observantly pointed out rock-crystals (quartz) that had been shaped and encased in copper to make rudimentary magnifying glasses, all dated from the 7th to 6th centuries BC. The museum did have a garden and I was surprised to find some citrus trees shrivelled up but bearing fruit, others very chlorotic and all seemed peculiarly to be planted in concrete pits or just the top of the soil was encased, and they were joined together by rills. I can only assume that this was for irrigation so that water gets to the roots as quickly as possible. Of note were *Cyperus* growing near one tree which usually signify moist soil, overwatering could be a possibility. Rosemary was also in flower and a very healthy specimen of *Liquidambar orientalis*.

We then made our way to the ramparts, on the way a small *Euphorbia* was pointed out, one of a few species native to the Americas. *E. serpens* seemed common. At the entrance on the walls though not flowering was *Hyoscyamus*, a genus with distinctive leaves but easier to distinguish when in flower. As we continued more *Capparis* appeared, often high in the walls. We noticed different forms of *Myrtus communis*, cultivated forms with large, pale berries and the wild with smaller, dark berries, this is also uniquely the only member of the family present here. The much-dreaded *Ailanthus altissima* was quickly spotted.

Moving along to more uneven terrain, and where green grass was somehow growing, we came across *Tribulus terrestris* bearing small yellow flowers and white veined leaves, known as the small caltrops because of the very small fruit in the shape of the weapon. Only an annual but attractive enough to warrant a place in the garden.



Following this was another, very small annual with glaucous, paddle-shaped leaves, *Andrachne telephioides*. Unremarkable besides the small fruit which are held upright at first then bend over due to the weight, sole food plant of the Grass Jewel butterfly. Interesting to me in my unfamiliarity of the family *Phyllanthaceae*. Next, we came across *Heliotropium hirsutissimum* with the characteristic scorpioid cyme inflorescence and salver-form flowers, unfortunately unscented. Another member of this family in flower was *Echium angustifolium*, almost burgundy when opening, fading to purple. Low-growing *Micromeria* and *Calamintha* were also flowering, *Reichardia picroides* had closed their flowers.

Heading back, we noticed the remains of the bases of some palms, mostly *Phoenix*, this was likely due to a non-native introduced pest, red palm weevil, which is worryingly efficient. As well as white wagtails (Pied being the British subspecies), we encountered rough-tail rock agamas climbing up the ramparts in places.



(Clockwise. Top left: *Andrachne telephioides*. Top Right: *Tribulus terrestris* flowering. Bottom right: *Tribulus terrestris* bearing distinctive fruit. Bottom left: *Heliotropium hirsutissimum*)

(Following page. Left: *Echium angustifolium*. Right: remains of a *Phoenix* possibly killed by red palm weevil damage)

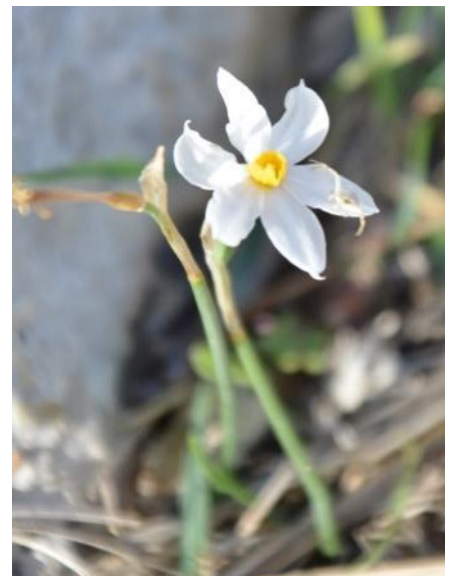




Friday 3<sup>rd</sup>

This time we used the minibus and first made our way out of the town centre onto the Isiodou road which climbs up the cliffs and on to give views of the west coast and town. We encountered straightaway many of our target species listed by our guide Yiannis. Firstly, *Cyclamen graecum* ssp. *anatolicum* though this subspecies isn't recognised by all, the colour varied from white to purple though it seemed to me the more sunlight the lighter colour the flowers. Many were finishing and the lovely, marbled leaves were emerging on some. *Narcissus serotinus* was in quite a few places, with very delicate flowers; even easier to overlook was *Muscari parviflorum*, the specific epithet meaning 'small flowered' being very apt.

In the bigger dips and preferring some shade were the shrivelled remains of what has undergone many name changes, I will use the name provided: *Atractylis gummifera*. A lovely stemless thistle with many still flowering strongly, with purple ray florets surrounding the contrasting white-centred yet purple-tipped disc florets. Nearby we came across the delightful *Plumbago europaea* which should be grown more often, tipped by lilac-pink, purple striped flowers. There shrubby *Thymus capitatus* was also in flower. We then walked on the inland side of the road and as expected encountered fewer flowers in general, more exposed and less moisture drifting inwards. Though *Ferula* was in leaf only the substantial remains of one inflorescence remained, laden with seeds. The area as everywhere else was covered in the seedheads of *Drimys maritima* and many were beginning to or had sprouted new growth, its poison means little to nothing will consume it, most places we went it was in profusion. *Leontodon tuberosus* was along with the *Reichardia* the only composite on display, slightly glossy compared to British hawkbits. Clusters of *Eryngium campestre* were producing new basal growth, and one or two flowers were still present on the clumps of *Echinops spinosissimus* which were a somewhat underwhelming washed out blue. Positioned in a dip by the road I've always found putting these plants in a wet place mitigates their spreading nature slightly. A lonely *Reseda alba* was also in flower.



(Left: *Cyclamen graecum* ssp. *anatolicum*. Middle: *Atractylis gummifera*. Right: *Narcissus serotinus*)





(Left: A particularly nice clump of magenta-coloured *Cyclamen*. Right: *Plumbago europaea*)

Moving along the coast you quickly notice the *Agave americana* that has proliferated in these areas, some forming large clumps and, at first, I assume the dead rosettes were the natural process of flowering, some were but others looked to have been killed by the agave snout weevil. Further one we explored the cliff edge again and came across wild olive, and a young *Cupressus* which had been damaged by salt spray on one side, *Petrosedum sediforme* (syn. *Sedum*), some very nice clumps of purple *Cyclamen*, *Smilax aspera* bearing its bright red berries, and inexplicably only one *Crocus tournefortii*, a lovely pure white specimen with the characteristic white stamens, this was likely the one out because of the slightly damp, shaded gully.



(Left: *Crocus tournefortii*. Right: *Agave americana* I suspected damaged by the agave snout weevil)

From there we headed inland and higher in search of *Colchicum balansae*, this genus we were hard pressed to find. The first place Yiannis spotted a plain tiger butterfly, but I wasn't quick enough. He thought the area too recently disturbed for bulbs and to prove it large clumps of *Ecbalium elaterium* were in flower, most often seen on waste ground, the fruit wasn't quite ripe enough no matter how much Yiannis prodded with his stick. Both species of *Dittricia* were present here, the tall, woody, perennial *D. viscosa*, and *D. graveolens*; slender, smaller flowered, and only annual. Both were common by roads which often kept some adjacent areas damper for longer.



From there we headed towards the east coast, to a small area of *maquis* amongst heavily cultivated farmland, Yiannis quickly spotted what he was looking for and this species, *Allium archeotrichon*, we found surprisingly often and normally where dirt roads and tracks had been cut or worn into the hills. A species interesting in itself, as it's only found on the islands of Rhodes, Tilos, and Symi. Chicory was also flowering and other places it was more common. A common *maquis* species of mastic was pointed out, *P. lentiscus*, evergreen and without terminal leaflet. From here we headed to the beach at Faliraki (Φαληράκι), there large areas behind the foreshore were covered in the glaucous, strap-shaped leaves and ripening seed pods of *Pancratium maritimum*. Fortunately, there were many flowers to observe, pure white and curious to note the filaments protruding from the tips of the corolla, seems the only morphological difference from *Narcissus*. I imagine the salt spray is less slightly off the beach and possibly the water table not as high. An unexpected find was, *Ipomoea imperati*, native to the warm coastal areas around the world with plain white flowers. It was interesting that on the beach itself areas around beach huts had been irrigated presumably to green them up, with the invasive *Carpobrotus edulis*, palms, tamarisk, *Lantana* and *Arundo* growing together.



(Clockwise. Top left: *Allium archeotrichon*. Top & Bottom right: *Pancratium maritimum*, showcasing its habitat. Bottom left: *Ipomoea imperati*)

The last stop today was, heading back to town, on a rocky ridge which was a perfect example of phrygana. As we scouted, a herd of devouring goats passed in front of us, driven on by the shepherd. It was curious in that they grazed



constantly and very quickly as they moved and wandered without much cohesion. Here we came across a *Drimia* in flower, makes one wonder why it isn't grown more in British gardens, mostly under glass, especially as the similar looking *Eremurus* commonly is. Another insight we learnt is how plants flower in this climate, the drop in temperature higher up means flowering occurs first and follows accordingly the lower the altitude, opposite to cold climates where temperatures rise in the spring low down first. The dryness of the soil showed how little rain Rhodes had received recently and this continued throughout the trip, meaning the season hadn't started properly. We headed back to the hotel, but I did notice *Aristolochia gigantea* being used very nicely as a trellis climber in one domestic garden.



(Top: a very good example of *phrygana*, with goats that are found throughout the island. Right: *Drimia maritima* in flower)



Saturday 4<sup>th</sup>

This day we made our way to Lindos (Λίνδος) on the east coast, stopping along the way. First, we headed up the Kolumpion-Archipolis road from Kolympia (Κολύμπια), stopping at a place called Seven springs (Επτά Πηγές). This was an area of mostly pine forest, the most common being *P. brutia* but other species are present, most of the hinterland consists of these forests. There were also fewer goats. Here we saw the seed heads of *Atractylis cancellata*, notable by the bracts that form a delicate cage round the involucre and were still green at this point. What we all noted as well were strange concrete aqueducts crossing many of the hills, I presume carrying water from the roads for storage or just to carry it off the road. *Arisarum vulgare* we found with one white, green-striped flower by the roadside, by it were a species of *Biarum* which we weren't expecting and only in leaf. We came across many more clumps of *Arisarum* with more flowers, possibly less rampant than the more commonly grown *A. proboscideum*. *Prospero autumnale* (syn. *Scilla autumnalis*) was flowering, which is one of the earliest autumn bulbs, we followed the track up a small spring but other than debating over an oak, later transpired as *Q. coccifera* but with comparatively large leaves and acorns but importantly with spiky cupula, perhaps due to the more advantageous position it was in.

We then drove further up the road, stopping outside the monastery of Agios Nectarios (Ιερά Μονή Αγίου Νεκταρίου), one in our group astutely pointed out the tomatoes that had self-seeded in the culvert of the road edge, had no doubt originated in effluent from one of the buildings. On another track we found on a boulder many interesting species, more *C. tournefortii* high up in a pocket, *Asplenium ceterach* which was in its dormant phase and



a *Rosularia* sp. The shaded position most important, other rocky areas we saw exposed to the sun often had little growth of this kind.



(Clockwise. Top left: *Prospero autumnale*. Top right: *Atractylis cancellata*. Bottom right: *C. tournefortii*. Bottom left: *Asplenium ceterach*)

From there we stopped for a break at the Monastery of the Holy Virgin Mary in Tsambika (Μοναστήρι η Τσαμπίκα), there an old and venerable *Quercus aucheri* had branches oddly propped up using concrete props painted white, neither good for the tree nor concrete which was wearing significantly on the top of some. From here we drove across the valley up a road that eventually leads to another much higher monastery, some suggested only those monks blessed with youth could be living in such steep isolation. Here again was *Q. aucheri* which bears smooth (adpressed) cupules though we couldn't see any, other than that there were only very tame and rather hungry goats that quickly ate the leaves given to them, which without human help are just out of reach. Restricted to E. Aegean Islands and SW. Turkey. The red ochre soil again bone dry. From there we made our way to Lindos, some chose to make their way up to the acropolis, others to explore the town and beach, and including myself some visited the Church of the Panagia which was originally built in 1300 but frescoes mainly date to 19th century. If wearing shorts expect to be given a shawl to cover, an amusing sight to many. Lastly on the way to the beach came across a very nice



patch of *Datura innoxia* bearing flower and the spiky pale fruit. On the way to the hotel another brief stop at a beach, not much to say except seeing and hearing the crested larks, and a fine patch of *Cakile maritima* by the open shower.

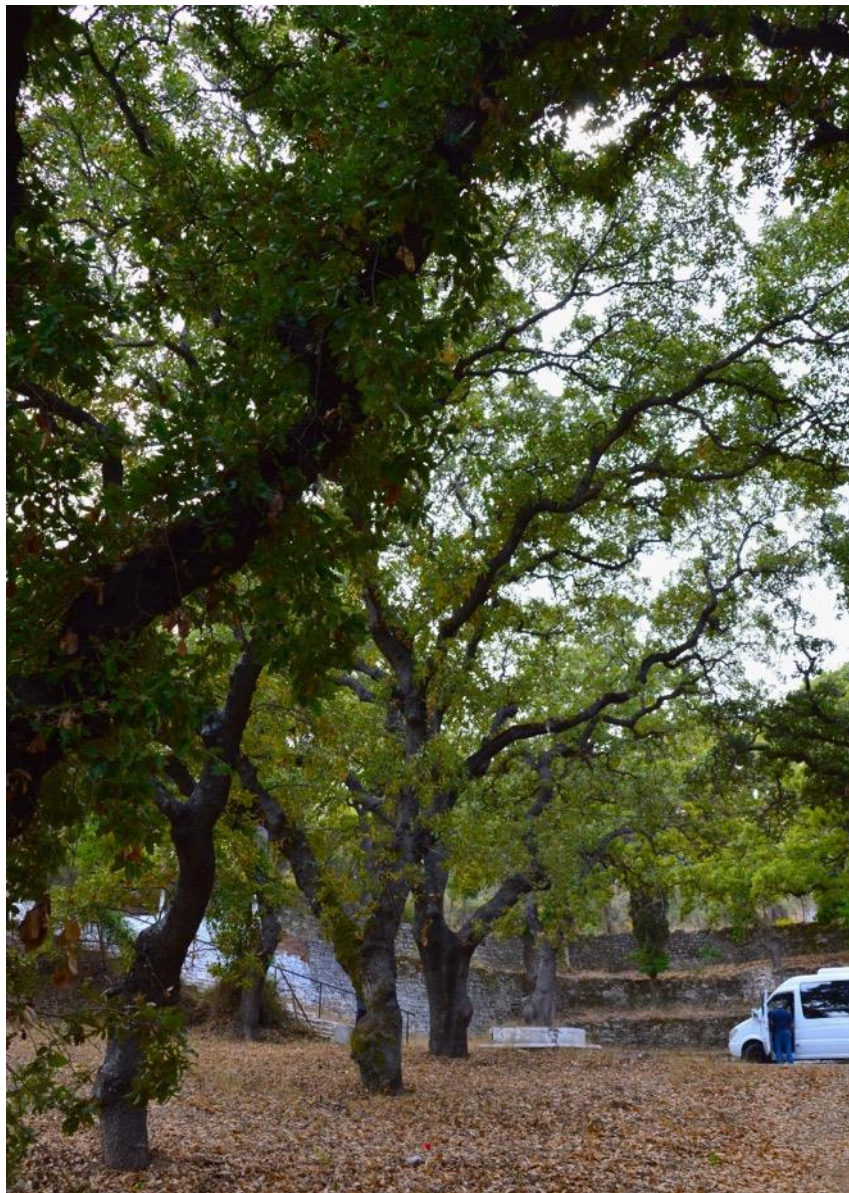


(Top: view from the higher monastery, with the Monastery of the Holy Virgin Mary visible across the valley. Left: observing *maquis*, road edges proved useful habitat. Right: bonsai shrub from heavy grazing and drought)

Sunday 5<sup>th</sup>

From Rhodes town we moved to Embonas (Εμπωνας) on the western side of the island, which is far more sparsely populated than the places we previously visited. Along the way we stopped in an area of *maquis* and mixed forest where we came across another oak but this time deciduous, *G. pubescens* meaning 'hairy'. One or two *Centaureum erythraea* were still flowering but most had gone to seed. It was also quite interesting to note the spreading and dominating nature of *Arundo* in this region and a genus best avoided in the future for most gardens. *Rubia peregrina* though not in flower was also present, some leaves of *Cyclamen* were also present but without any noticeable sign of flowering, the marbling was also different and Yiannis thought it could possibly have been *C. persicum*. We then moved onto another spot; there we saw *Galatella cretica* which is a daintier version of the more widespread *G. linosyris*, but alas it was still in bud. The range is quite restricted in Greece to Crete and the Eastern Aegean islands. More *Allium* was present as was another species of mastic, *P. terebinthus*, this time with a terminal leaflet. We then made our way to Agios Andreas (Ιερός Ναός Αγίου Ανδρέα) right by the airport, there we came across another deciduous oak with the most elaborate cupule yet, *Q. ithburiensis* ssp. *macrolepis*. Present on the leaves were also galls. Though we didn't find colchicum we also saw *Asparagus aciphyllus* in leaf and spotted many snake-eyed skinks.





(Clockwise. Top left & right: *Quercus pubescens*. Middle & Bottom right, Bottom left: *Quercus ithaburensis* ssp. *macrolepis*)



From there we climbed, the habitat quickly turning to pine forest, the first stop was at Saint Nikolaos Fountoukli Holy Orthodox Church, a 15th-century byzantine church, first passing through the village of Eleousa (Ελεούσα) built by the Italians in the early 20<sup>th</sup> century. Here were many venerable oriental planes, one was completely hollow and had a gap to allow entrance to look inside. The leaf litter was quite thick, but many *Arisarum* were producing new growth and we found a very nice clump in flower, I also found a good specimen of *Salvia fruticosa* which is used more often than sage here, distinctly 3-lobed. Having looked around we continued along the road to Profitas Ilias (Προφήτης Ηλίας) village, at the foothills of the mountain of its namesake. One place we stopped we saw more *Crocus*, leaves of the wrong *Biarum* and more *Prospero*. Passing the village which contains the ruins of a summer residence intended for Mussolini, we stopped, due to the altitude it was noticeably cooler meaning flowering would be more likely to be triggered. Moss was also in abundance in certain places and surviving on some of the tree trunks. From there we headed for our accommodation in Embonas, passing through areas of forest that had been burnt but other areas we saw later were more dramatic.



(Left: *Arisarum vulgare*. Right: entrances to the venerable, hollow *Platanus orientalis*)

Monday 6<sup>th</sup>

This was a day of exploring the village on foot. A small village on the north side of the highest mountain in Rhodes, Attavyros (Αττάβυρος), it was a welcome change from the bustle of the city. Firstly, we followed a track up towards the mountain, which apparently does receive some snow in winter. More deciduous trees were present, and most plants looked less stressed than they had been lower down. Outside the hotel *Oxalis pres-caprae* was growing which appeared very invasive and even growing in remote areas, *Catharanthus roseus* was being grown in wall planters, one member of the group was very keen to point out the important anticancer properties of the plant, I also enjoyed watching a hummingbird hawkmoth visiting them one morning.

On the roadside we saw what I mistook to be *Populus alba* growing in a damp gully near some houses, it turned out to be *P. nigra* but the bark was very white, and the habit upright compared to the native British subspecies. A cultivar that has sometime been treated as infraspecific taxa, 'Afghanica'. We also saw an almond with ripened seed pods, the invasive *Robinia pseudoacacia*, more *P. terebinthus* which is deciduous and so should be hardy in most British gardens, which also was covered in bright red galls along the leaf margins, caused by an aphid. Covered in fruit was a substantial *Pyrus spinosa*, all trees looked somewhat unhappy, probably due to the steep bank and thereby greater drainage. We then turned onto a track which led us up to fields of grapes at the foot of the peak, this led to more upland and herbaceous species, a habitat contrasting to others we had seen. We quickly saw more *Crocus* and in certain sheltered areas moisture could be seen on the leaves and ground, as the very top of the mountain is above the cloud line. *Eryngium glomeratum* was both flowering and many had gone to seed, we also admired the patches of golden *Picnemon acarna* which had gone to seed. Also bearing seed was *Styrax officinalis*, small and chestnut



brown. The remains of *Muscari commosum* were also noted. Though not flowering *Euphorbia acanthothamnos* was a nice find and seemed restricted to the more upland areas. I continued slightly further as a large 'unkindness' (gathering) of what looked and sounded like juvenile ravens had formed. Even up here were more *Drimia*, suggesting given drainage and open habitat it would be happy outside in many gardens back in England. Stunted specimens of *Quercus coccifera* also bore small acorns.



(Top: view of Attavyros from the hotel. Right: a typical stunted specimen of *Quercus coccifera* bearing acorns, and a very healthy specimen found at seven springs. Left: a golden patch of *Picnemon acarna*)

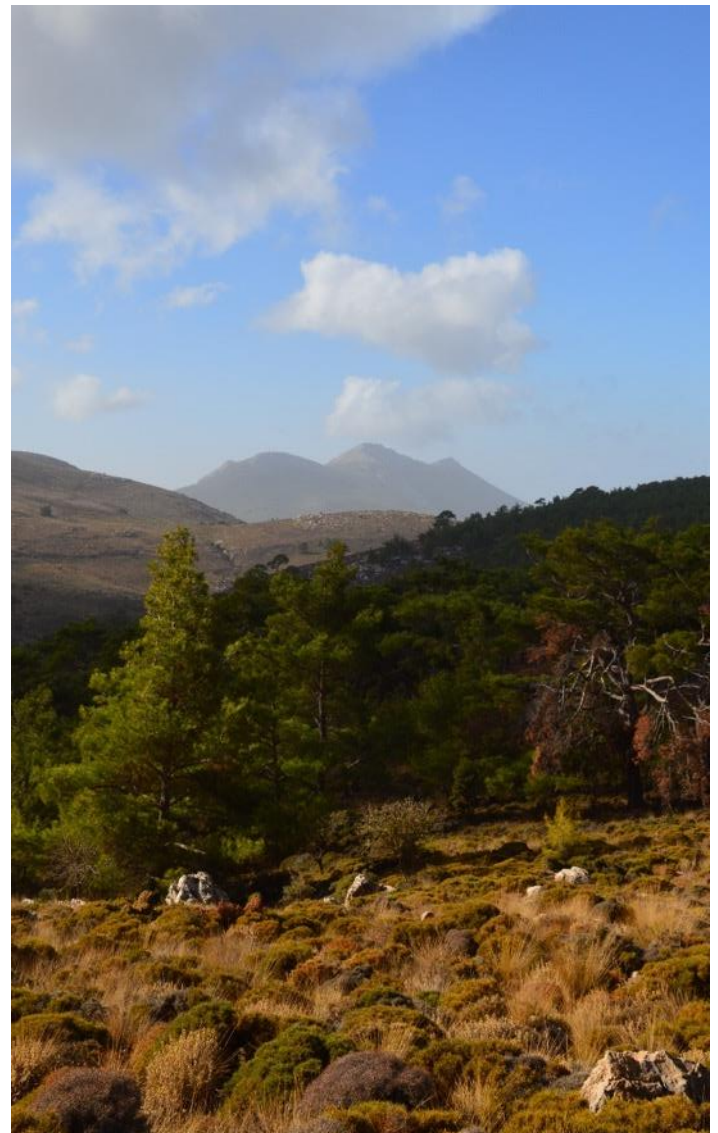


The next walk we did was down the hill from the hotel, past the poplars. First, we came across *Solanum villosum* on waste ground, another more open *M. parviflorum*, *Umbilicus rupestris* in leaf on rocky outcrops, large banks of *Ptilostemon chamaepeuce* which had gone to seed and the seedhead of an *Allium ampeloprasum* which we didn't see as much of as I would have expected. Much of the dirt path was schist.

Tuesday 7<sup>th</sup>

This time we made our way to Monolithos (Μονόλιθος) on the north-west point of the island, first we went higher up Attavyros on the western side of the mountain, but again very dry and the wind is more prominent on this side. We walked through old pine forest, stopping at the beginning of the tree line. The only flower we saw was another *Drimia*, but we did come across nests of the Pine processionary moth and a very stunted specimen of *Rhamnus lycioides*.

We then made our way to Siana (Σιάνα) where we stopped for a break, and there noticed self-sown *Mirabilis jalapa* in flower, Yiannis pointed out the flowered remains of *Centaurea lactucifolia*, behaving more like a chasmophyte on the cliff face, an endemic to Rhodes and adjacent islands. Continuing to the shore the landscape was more noticeably drier, pines became fewer and *Cupressus sempervirens* more common, by the shore the wind had curtailed their growth. We stopped before the beach but other than seeing *Salvia*, *Cistus* and *Lithodora hispidula* looking deeply unhappy, many beyond wilting and looking close to expiring, far more so than elsewhere we had seen wilting. Lastly, we made our way down the very steep, winding road to Fourni beach, a very quiet one to go for a dip. Some of us then chose after getting back to the hotel to try an area on the edge of the village, this was fortunate as the *Galatella* that so frustratingly been in bud last time was in full flower and this time in abundance along the roadside.



(Different habitats we observed. Left, old pine forest. Right, treeline with and upland and more herbaceous flora beyond)





(Clockwise. Top left: *Centaurea lactucifolia*. Top right: deeply looking unhappy *Lithodora hispidula*. Bottom right: *Galatella cretica*. Bottom left: wilting *Cistus*)



Wednesday 8<sup>th</sup>

Our final full day and my hope of finding *Colchicum* and *Biarum* was waning. We made our way to Gadoura dam which is in the centre of the island. First, we made on the south side of the mountain which was far drier and more exposed than the other side, though the ascent from the road did not look as great. Where grapes had been growing many had been abandoned, though some fields were still irrigated. In one area looking for crocus we found *Prospero* but only beginning to flower suggesting crocus would be a little bit later, a paltry *Lactuca saligna* managed to bear a flower in a shaded crook. Some olive trees had been pruned nearby and different material grafted onto the bark, the rootstock wild to give more resilience. We then moved to the other side of the road where I manage to spot, regrettably, spent *Colchicum balansae* flowers, coming from the rut in a dirt track.

After this we headed to Laerma (Λάερμα), here the fires had burnt fiercely and widely, and came very close to the village but many of the shrubs were sprouting new growth, though the pines and possibly some of the olives will not. Many were cut down along the roads to act as firebreaks.

From there we headed to Gadoura dam, stopping along a bumpy dirt track to look for *Biarum*, finding instead *Erica manipuliflora* in flower down a gully in the shade of pine trees, I wonder how common this is on Rhodes considering the mostly calcareous geology. We continued to a different side where we stopped for lunch. There were more white wagtails. Then in an area burnt, to all our relief we came across *Colchicum variegatum* in flower and quite a few of them. The fire must have been fierce as there were many holes in the ground where stumps have been burnt completely out. Lastly, we stopped at a bridge on the Pastidas-Mesanagrou road, running across the stream flowing into the dam. Here we only found *Mandragora officinalis* in leaf. We headed back via Apollona, giving good views of Attavyros.



(View of Attavyros from the southern side)





(Clockwise. Bottom left: tree stump burnt out. Middle left: *Colchicum variegatum*. Top left: *Erica manipuliflora*. Top right: visible new growth on *Drimys* which grow very close to or in this case above the soil level. Bottom right: fire damage around Laerma)



Thursday 9<sup>th</sup>

This was the final day. We flew to Athens, there I spent a day observing species around the city, and I did see a couple of the target plants which hadn't emerged on Rhodes yet, *Sternbergia lutea*, which was most prolific amongst the *Opuntia* on Lycabettus Hill, probably due to more stable soil and less erosion. An interesting thought as some *Opuntia* are thoroughly hardy. Deceptive in leaf as it looks remarkably like the autumn-flowering *Galanthus reginae-olgae*. Also, present on the hill were *C. graecum* though they were near identical to the Anatolian subspecies and further on in the flowering stage due to being slightly further north, chasmophyte *Campanula topaliana* and I also managed heading back to the airport to see *Quercus aucheri* with acorns present.



(Clockwise. Top left & right: *Sternbergia lutea*. Bottom right: *Quercus aucheri*. Bottom left: *Campanula topaliana*)

### Conclusion

Though the season was quite late, and much couldn't be seen, it was pertinent to see the fire damage in the area, the dry conditions and the microhabitats favouring the different species and how it affects flowering and timing of growth. Also, learning characteristics of the plants whether in flower or foliage is always useful, and tests ones ID skills. It could also be a forebear of what could be to come and disconcerting to see if already so parched, how places like Rhodes could



change in the future, as the pine forests and the shrubs I mentioned that looked deeply unhappy might not be able to cope with future prolonged water stress. My aims of observing the different habitats, the species commonly grown for ornamentality and many of the Aegean endemics were certainly met. Learning about the geology and seeing the nature of the friable, clay-based soils was also very insight, showing the types of substrate to seek and those to avoid, but also the absence of sand in most of the places we visited,

In growing these species in the UK, I think right plant, right place is most apt as though conditions might alter with increased summer drought the winter will mean that many of our common species will cope, and the Mediterranean species will probably not unless given specific conditions. The variability in terrain is also I think a useful takeaway and should be done more to create specific microclimates within a garden, removing winter wet for some and storing it for some could be important. As I noticed in Rhodes, once soil becomes that dry it takes a long time to rewet, the runoff must be substantial there and in the low parts wide, dried riverbeds attested to the amount of water the uplands shed, a problem we might encounter more often. The extraordinary amount of grazing by goats also made a very peculiar landscape of lollipop trees and shrubs, and smaller plants domed or in places almost bonsai, this no doubt keeps areas for the geophytes open enough to remain and stops leggy growth. In the UK this is hard to achieve, much is deciduous which would hinder these species where leaves collect, and trees and shrubs left cast too much shade and often from ground up.

Another conclusion is also it is very hard to replicate such a habitat or ecosystem in the UK, the species composition shifts rapidly, many species are adapted to an ephemeral or annual lifecycle, death seems to be common, and germination takes place mostly at certain times of the year. In the UK weed germination is throughout the year and plants live for longer, therefore the effort to create enough changeability in the garden and to control dominance would be substantial. Often it leads to a very limited and discriminative species selection.

#### Funding breakdown

The initial funding, I received amounted to £1150, £550 from the Mediterranean Plant and Garden Society, £600 from Merlin Trust. The cost from the organisers amounted to £1105, this included all accommodation and main component of food and drink for the trip. A surplus remained which was split between participants, this came to £210, thereby the total funding was £1360.

Extras included €3.50 for the bus from the airport to Rhodes town, €12 city tax for the first hotel, €5 for drink at the second hotel. At the time of writing the costs in euro converted to £17.94. The taxi to Rhodes Airport came to £38.91 (\$49.34). £11.61 for travel insurance.

The flight to Rhodes was direct and cost £31.31, the return wasn't as once the tourist season ends most things shut down, the flight to Athens was £46.27 and the flight from there to Birmingham was £90.03. Public transport from Athens Airport to the city and back cost £12.77.

In total this amounted to a total spend £1355.84, leaving an overspend of £4.16.

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