EXPEDITION TO TURKEY

Alpine rock flowers and hardy bulbs
in the Taurus Mountains
(4th / 18th April 2012)

Travel Report for Merlin Trust and Alpine Garden Society
By Giulio Veronese, PGG Trainee and Merlin 569

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Front cover: Tulip tank vase on display in the Amsterdam Tulip Museum.

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ACKNOWLEDGEMENTS

I would like to thank first of all Merlin Trust and Garden Alpine Society for this funding. Without their generous assistance, traveling to Turkey and climbing the Taurus Mountains would not have been possible.
I am truly grateful to had Robert and Rannveig Wallis as tour leaders. Their passionate knowledge and helpfulness was indubitably the first guide and source of information for me during the expedition.
I have also got to thank everyone in the group for teaching and guiding me over the trek. The noble humanity of John and Hillary, the genuine enthusiasm of Fred and Pat, the gentle humour of Tony and Ruth, the heterogeneous competences of Pat, the experience of Estella, the insatiable curiosity of Abby Jane, were all the driving forces for me.
A particular thank and greeting go to Richard, the Merlin student who shared with me this experience. I should write a second report to explain all the adventures of the notorious "Baklava Bandits".
The expeditions wouldn't also be possible without the local guide Alper and the bus driver Muzzafer (Muza), really pleased to share every experience and to join us in all our activities. A warm thanks goes to them.
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Last but not least a special thanks to Katie, my flat mate in West Cowes, who bought for me the very last day two clamp binders for presenting this work.

Finally, excuses go to my little ugly dog China, who was waiting for me in Italy for Easter holidays and came to know with disappointment about my journey to Turkey.
Sorry China, next airplane will be yours.

INTRODUCTION

TURKEY

Geography

Turkey is a large country spanning Europe into Asia. Its geography is very diverse and everything from snow topped mountains to sandy beaches can be found in the country.
It is situated between southeastern Europe and southwestern Asia (that portion of Turkey west of the Bosporus is geographically part of Europe), in the ancient Anatolian and Balkan regions.
Turkey borders the Black Sea, between Bulgaria and Georgia, and bordering the Aegean Sea and the Mediterranean Sea, between Greece and Syria. Its wide terrain is characterized by a high central plateau (Anatolia), narrow coastal plain, several mountain ranges and long coastlines.
The wide area of Turkey is divisible in geographic regions: the Black Sea Region (a mountainous area in the north), the Marmara Region (which cover the European part and the northwest Anatolia), the Aegean Region (extending from inner parts of western Anatolia to the Aegean coast), the Mediterranean Region (located in the south of Anatolia), the Anatolia Region (the central plateau of the country, divided in central Anatolia, eastern Anatolia and southeastern Anatolia).

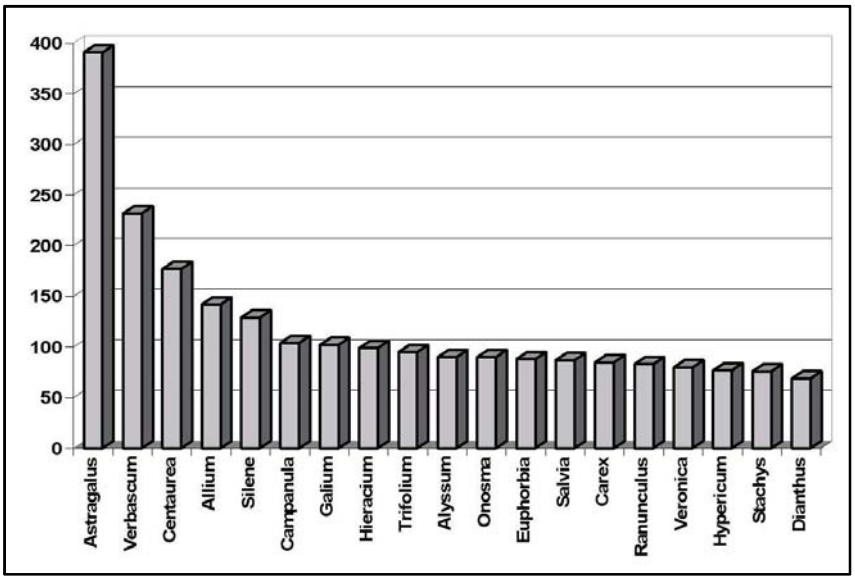
Geographic regions of Turkey
[imagine from internet database]

Climate

Although Turkey is situated in a geographical location where climatic conditions are quite temperate, the diverse nature of the landscape, and the existence in particular of the mountains that run parallel to the coasts, results in significant differences in climatic conditions from one region to the other.
It's possible to divide the terrain in three different macro climate zones:
1) Mediterranean (Aegean Sea and Mediterranean Sea): hot and moderately dry summers, mild and rainy winters.
2) Oceanic (Black Sea): temperate and wet all year long. The coast receives the greatest amount of precipitation and is the only region of Turkey that receives high precipitation throughout the year (the precipitation are higher than in London so far).
3) Continental (Anatolian Plateau): hot and dry summers, cold and harsh winters. Mountains close to the coast prevent Mediterranean influences from extending inland, giving the interior of Turkey a continental climate more subject to extremes than are the coastal areas.

Flora

Turkish flora includes about 9.300 species of vascular plants. The importance of this number becomes evident when compared with the European flora as a whole, containing about 11.500 species of vascular plants distributed over a thirteen times larger area.
Among those plant species then, nearly one third is endemic to Turkey and the nearby Aegean Islands. For the British Isles the respective value is about 1.5%. That high endemism in combination with a degree of climatic and edaphic variety is the most important reasons for Turkey's high plant biodiversity.
The evolution of local endemics is explainable in the light of the two different histories of central or north European mountains and the Anatolian ones. During the glacial periods the former were covered by thick shields of permanent ice. Thereby pre-glacial endemism was mostly destroyed (in the instance Gerhard Pils speaks about *tabula rasa*). Only the so called "massifs de refuge" (less glaciated, peripheral areas) offered suitable conditions for the survival of local endemics. In Anatolia ice cover during glaciations always remained restricted to the highest peaks. As a logical consequence, species with small distribution-areas are a rather common phenomenon and nowadays Turkey shows all degrees of past and recent speciation.

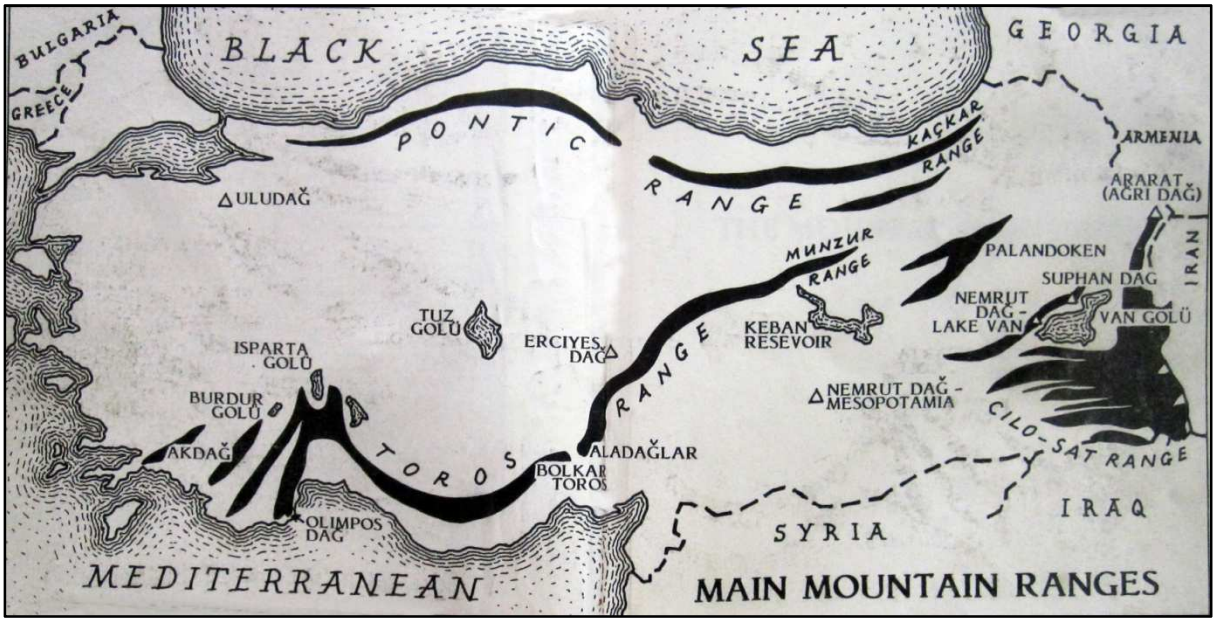


Species-numbers of the most influential genera in Turkey
[imagine from *Flowers of Turkey, a Photoguide,* by Gerhard Pils]

TAURUS MOUNTAINS

Broadly speaking, there are three main mountain ranges in Turkey, being:
1) the Anatolian Plateau (a large mountain peninsula that connects Asia and Europe).
2) the Pontic range (close to the southern coast of the Black Sea).
3) the Taurus range (in the southern coast and eastern inland of the country).

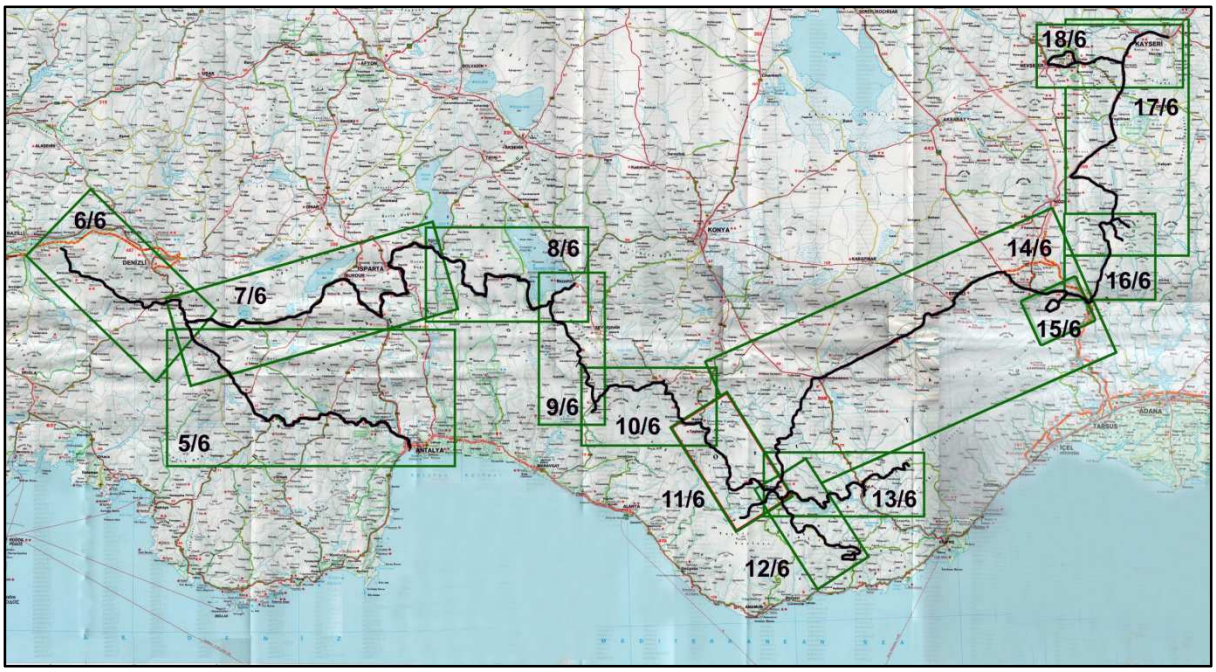
Taurus Mountains are the mountain complex of southern Turkey, dividing the Mediterranean coastal region of Turkey from the central Anatolian Plateau. The system (which geographically is part of the so called "Alpide Belt" in Eurasia) extends along a curve from Lake Eğirdir in the west to the upper reaches of the Euphrates and Tigris rivers in the east.
The complex is divided into four ranges:
1) Beydaglari mountain range, western, highest peak Mt. Kizlarsivrisi 3,086 m.
2) Aladaglar mountain range, central, highest peak Mt. Demirkazik 3,756 m.
3) Bolkar mountain range, southeastern, highest peak Mt. Medetsiz 3,524 m.
4) Munzur mountain range, northeastern, highest peak Mt. Akbaba 3,462 m.



The three main Mountain ranges of Turkey: Pontic range, Taurus range and Anatolian Plateau
(from *The Mountains of Turkey*, by Karl Smith)

ITINERARY OF THE EXPEDITION

We are going to be a relatively small, well-controllable group composed by thirteen people: nine Alpine Garden Society members, two Merlins and two locals (a qualified Turkish guide and a bus driver).
The tour will be in a small bus, which will make frequent stops at interesting sites and also store the food supplies in order to have quick dinners on the road.



Day by day itinerary (total distance travelled: ~2050 Km.)
[Digitally elaborated imagine from *Western Turkey Map* – 1:750.000]

April 4th
We are due to arrive in the Mediterranean fishing port of Antalya in the late evening. We will pick up our bus at the airport and go straight to the Santa Marina Hotel.
April 5th
We will begin by journeying north-westward to the Pisidian city of Termessos. This is a fabulous amphitheatre set in wild forest and is the home of many interesting plants which will give us a flavor of the intermediate forest zone in a delightful and historic setting. Our way onwards to Acipayam goes over a number of small mountain passes and we will alight some of these to explore the flora as we progress inland. A couple of nights stay in Acipayam will allow access to some of the mountains adjacent to the famous Honaz Dag which is now closed to visitors.
April 6th
Boz Dag is just a few km west of here along a wide surfaced road. With serpentine at lower altitude, we will spend some time looking at the huge colony of *Fritillaria serpenticola* here coupled with a few of the sweetly scented *Muscari muscarimi*. Heading on upwards the rock dramatically changes too and we should find *Cyclamen alpinum* with a few flowers still together with *Anemone blanda* and many other things too. The road goes much higher and eventually will become blocked by the snow. At this point, the snow melt flora is wonderful with an array of *Crocus* and *Colchicum* including the fabulous blue *Crocus baytopiorum*. If there is time we will drive to Ak Dag, another close

by mountain in where once again Crocus abound together with the diminutive *Hyacinthella lineata* and *Corydalis wendelboi*. It is an easy run from here to Acipayam.

April 7th

Today we might have to paddle across a small river at our first stop because on the far side, the oak scrub has just a few green and brown stripped Fritillaria which we think fits best in *F. kittaniae*. A paddle back to the bus and another short trip to the Saldabeli Pass will transport us back to superb serpentine flora. Many of the *Fritillaria serpenticola* here have a wonderful bronzy exterior and share their hillside with lots more *Muscari muscarimi*. On the way to our overnight hotel, we will pass by the huge Pisidian amphitheatre of Sagalossos. Most of the flowers around here will be over but the site is worth a good look. We will end up at the lakeside Atingöl Hotel in Eğirdir for one night.

April 8th

There is a new ashalt road now which goes over Dedegől Dag towards Beyşehir Lake and will allow us to explore the numerous *Crocus*, *Muscari*, *Eranthis cilicica*, *Corydalis wendelboi*, *Romuleia crocea* and, if it is still in flower, *Galanthus gracilis*. The windy lakeside road will then take us into Beyşehir for the night.

April 9th

Today we will cross the main chain of the Cilician Taurus Mountains, from north to south, on the old road. Hopefully there be time to stop to try and find *Iris stenophylla* ssp. *allisonii* (although it may have finished flowering now), Fritillaria elwesii and several other bulbs, before we twist around and come up on the old Irmasan Pass just north of Akseki. This is limestone karst country and very easy to get lost in so we will take great care to stay close to the new path up the mountain to see if we can find *Fritillaria whittalli* and/or *F. pinardii* in flower near the tree line. This is a lovely mountain and has many things (*Crocus biflorus* subsp *issauricus*, *Eranthis cilicica*, *Tulipa armena*) both around the parking place and on the limestone pavement at the top. We will stay nearby Akseki.

April 10th

Working our way north again we will go via the Alcabel Pass with its huge colonies of *Scilla bifolia*, *Crocus biflorus* and *C. chrysanthus* and their hybrids and a few *Galanthus elwesii*. *Fritillaria pinardii*, *F. acmopetala* subsp *wendelboi* and *F. crassifolia* are also recorded from here. A small road will take us through the mountains to Bozkir and onwards to Taşkent where we will stay the night.

April 11th

This is something of an exploratory day as we are passing over some massive limestone passes. It was from here that new *Tulipa cinnibarina* was described and *Fritillaria acmopetala* subsp *wendelboi* is also around here. It is only a short ride to Ermenek where we are due to spend three nights.

April 12th-13th

A series of circular trips will be used to show off the limestone cliff flora and associated bulbs. It will also allow us to investigate the variation in the newly described *Fritillaria sororum* which grows under the oak scrub around here. We might expect to find: the fantastic blue flowered *Alkanna aucheriana* (also some other *Alkanna* species are known from here), *Fritillaria persica* in its westernmost station, *Fritillaria elwesii*, *Salvia tormentosa*, *Hyacinthella lazulina* and *H. heldreichii* and we will seek out the very hard to find *Fritillaria assyriaca* subsp *melananthera*. We also believe that there is an undescribed *Colchicum* in this region which Jim Archibald found. It will only have two leaves at this time of the year but if we can locate it, it would confirm the locality for a future publication. We would like to name it *Colchicum archibaldii* after its discover.

April 14th

A small road to the north will take us over yet more poorly explored passes towards Karaman and then onwards along the north side of Bolkar Dag. We will penetrate as far as we can with the bus and then walk to seek out a mystery which has been in literature since 1914, *Fritillaria subalpina*.

April 15th
Our two night's stay in a "thermal hotel" near Ciftehan will permit us to access the road along the north slope of Bolkar Dag where *Iris danfordiae*, *Tulipa humilis* and *Muscari massayanum* are reported.
April 16th
It is a short trip to Ala Dag from here. This massive mountain is more or less the end of the Taurus and the area is often referred to as the Anti-Taurus. This will be a day of walking up to and around the snow patches where *Anemone blanda* forms a multi-coloured tapestry along with *Crocus*, *Muscari azureum*, *Scilla ingridae* and numerous other bulbs. We are probably going to be too early to find *Fritillaria aurea* in flowers but this is one of its sites.
April 17th
Kayseri is not too far away so we might stay on Ala Dag for the morning before heading northwards over the Kavlatepe Pass with its colonies of the rare *Crocus siehianus* via the edge of Cappadocia to our last hotel.
April 18th
Our departure is not until mid afternoon so the morning is free or we could go a short distance to see some of the fairy chimneys in Cappadocia.

AIMS AND OBJECTIVES

The tour is designed to show the incredible diversity of bulbous species a we criss-cross the scenically inspiring mountain range of the Taurus.
New species are still being described from the Taurus region and one objective of the tour will be to find out such recent novelties e.g. *Fritillaria sororum* and *Tulipa cinnabarina*.
Following the main targets expected to be observed during the expedition:

5/6	*Fritillaria acmopetala.*
6/6	*Fritillaria serpenticola, Crocus baytopiurom, C. biflorus.*
7/6	*Fritillaria serpenticola, Muscari muscarimi.*
8/6	*Galanthus gracilis, Fritillaria elwesii, Romulea crocea, Crocus chrysanthus, C. Biflorus and hybrids, Eranthis cilicica, Scilla bifolia, Corydalis wendelboi, Ornithogalum cydnei.*
9/6	*Fritillaria pinardii, elwesii, whittallii, Tulipa armena.*
10/6	*Fritillaria acmopetala ssp acmopetala, F. acmopetala* ssp*. wendelboi.*
11/6	*Tulipa cinnabarina, Arum gratum.*
12/6	*Fritillaria sororum, F. persica, Alkanna auceriana, A. saxicola.*
13/6	*Fritillaria assyriaca* ssp*. melananthera, Euphorbia kotschyana, Hyacinthella heldreichii, Muscari massayanum, Colchicum sp archimbaldii, Alkanna sieheana, Salvia tormentosa, Euphorbia macrostegia, Hyacinthella lazulina, Iris stenophylla.*
14/6	*Fritillaria subalpina, F. assyriaca* ssp*. melananthera, F. acmopetala ssp. wendelboi.*
15/6	*Iris danfordiae, Tulipa humilis, Muscari massayanum, Hyacinthella glabrescens, Muscari coeleste.*
16/6	*Muscari azureum.*
17/6	*Crocus sieheanus.*
18/6	*Iris galactica.*

THE JOURNEY

Setting out

Tuesday 3rd April is my last day working in the gardens of Osborne House, Isle of Wight, before the departure. In the terraces and in the herbaceous borders, the daffodils and the hyacinths are falling down in these days, while the tulips are just coming up. So I spend the morning deadheading and dreaming about the celebrated bulbs of Turkey.
Meanwhile in my room things are still cumulated on the floor, next the little luggage.
In addition to the clothing and climbing shoes (which actually are the safety boots from my everyday work as a gardener), I pack three books about alpines and bulb plants. They are: *Mediterranean Wild Flower*, *Flower of the Mediterranean* and *Bulbs* (see bibliography), which I all found in a charity shop only few days ago. The camera is a digital single lens camera Canon, already tested in photographic reportages in the Alps. Sadly I left home my beloved *Leica R4*, which is a cartridge camera not suitable for such an expedition. Quite honestly LR4 is nowadays more suitable for artistic works rather than botanic expeditions.
I meet the day after the rest of the group at Heathrow Airport. The team is composed by nine members of the Alpine Garden Society and two Merlins. After stopping over at Istanbul, we arrive in the Mediterranean fishing port of Antalaya in the late evening. Just outside the airport doors we join our guide, Alper, and the bus driver, Muzzafer. Straightaway Alper gives us a drink of raki, the Turkish national aperitif, as a welcome while explains some information about the accommodation for tonight. We pick up our bus and go straight to the Santa Marina Hotel, which is just next the Mediterranean coast.
It's a strange mixture of feelings for me. I was expected to be in Italy in these days, back for my Easter holidays. Instead I'm in this large country spanning Europe into Asia, overlooking "my" Mediterranean from unknown far-eastern coasts.
Tomorrow we will officially start our expeditions to the Taurus.

Thursday 5th April

After having our first approach with the typical Turkish breakfast (which invariably consists in olives, cucumbers, tomatoes, few slices of bread), we leave the Hotel and the city of Antalya, directing to the Pisidian ruins of Termessos.

A picture from the window of the hotel in Antalaya
The Mediterranean Sea is laying in the background and in the morning fog

Crossing the busy city of Antalya, we start to appreciate the exotic flora of Turkey.
Many palm trees and shrubs, *Eucalyptus* and obviously tons of tulips planted in every single border and bedding. I'm particularly attracted by the vivid yellow-flowering *Euphorbia dendroides* (tree spurge), growing literally everywhere.

A glorious *Euphorbia dendroides* growing wild in the Antalaya suburbs.

Leaving the city center we can appreciate the natural landscape and its width. On the way north we see now the dramatic scenario of the Taurus Mountains. Our guide Alper tells us that, together with some regions near the Georgian border, this part of Turkey shows the maxim biodiversity of the country.
Soon we start to climb up and enter in a cultivated wood of *Pinus brutia*, just at the mountainside of the Termessos archeological site. Speaking with other fellow travelers I find out that *Pinus brutia* is naturally diffused in the east Mediterranean regions, while *Pinus halepensis* is more typical in the west Mediterranean (and also more familiar to me). In some higher hills we can see Cedars of Lebanon too, which are here known as Taurus Cedars because of their wide diffusion in this area.
We finally enter in the natural park of Termessos. At this altitude we are basically in a dense wood of conifers also populated by many wild *Prunus*, *Euphorbia* (the beautiful *E. characias* ssp*. wulfenii* included) and many climbers, among those the nasty *Smilax aspera*, significantly known in England under the name of rough bindweed.

View from the Termessos Natural Park

Forest of *Pinus brutia*

FIRST SITE

After few meters from the park entrance we see pinky and white little spots from the windows. They are the real first interesting flowers of the tour, so we decide to stop and see what they exactly are.

Soon we realize it's a small group of *Orchis anatolica*, in beautiful variations of white and violet.
This terrestrial kind of orchid has tubers instead of bulbs. It produces an erected stem with the typical, spectacular (and quite complicate structurally) inflorescence of the orchid family.
We are not surprise to find this plant in such kind of dark woodland habitat. In the matter of fact, like many other Orchids this is a "saprophytic" plant. That means that it's capable of obtain its nourishment from the decaying leaves, thriving in the among leaf mould.

Orchis anatolica (in variations of white and violet)

The orchid family is strongly represented in the Mediterranean area and Turkey is no exception.
The flowers of plants within the orchid family are often spectacular but structurally they are complicated. The outer three parts, the sepals, are often prominent and highly coloured and they are all similar, but the inner three, the petals, are quite differently arranged. The upper two are often small and may come together to form a hood, as in *Orchis* or *Dactylorhiza*, or may be reduced to small appendages as in the case of *Ophrys*. However the third, central petal is always exaggerated in shape, colour and markings, and this is known as the lip. It is often the most distinguishable feature of the particular species and may be basis of the *Orchis* name etymology (see Appendix, Dictionary of Bulbous Plant Names).

Nearby the Orchids we find two other very interesting plants. They are *Daphne sericea* and *Arbutus andrachne*.
Daphne sericea (Thymelaeaceae) is a very fragrant Daphne species widely distributed around the east Mediterranean Sea. It bears pinky, waxy flowers in February and May. It likes stony slopes or wild meadows and prefers limestone. Curiously specimens from Greek area have the special characteristic that old flowers change their flower colour into yellow (Omlos form). Even if poisonous, this plant is well known and grown in the English gardens for its fragrant pink blooms.
Arbutus andrachne, the Greek Strawberry Tree, is an evergreen shrub or small tree. It belongs to the Ericaceae and is often cultivated for its attractive bark.

Daphne sericea

Arbutus andrachne

SECOND SITE

We stop at the parking area of Termessos archeological site.
Before to become a Roman settlement, Termessos used to be a Pisidian city and is now one of the best preserved ancient sites of Turkey. It's was build at the south-west side of the mountain Solymos (modern day Güllük Dağı) in the Taurus. It was founded on a natural platform on top of Güllük Dağı, soaring to a height of 1.665 meters from among the surrounding travertine mountains of Antalya.
It was known to be very inaccessible. Alexander the Great surrounded the city in 333 b.C. but couldn't conquer the place and he likened Termessos to an "eagle's nest".
Because he knew he could not capture the city, Alexander did not undertake an assault, but instead marched north and vented his fury on Sagalassos, which is a place we're going to see in the next days.
Later on Termessos became an ally of Rome and so in 71 b.C. was granted independent status by the Roman Senate. This independence was maintained continuously for a long time. Some of the ruins belong to the Roman period.

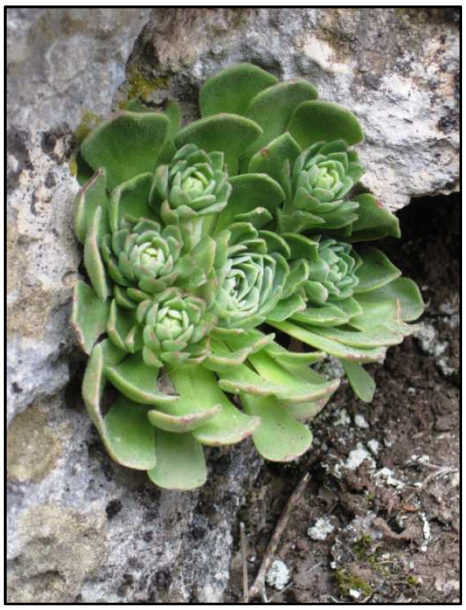
Drammatic scenario in Termessos Archeological Site

Because of the huge synthesis of rare plant and animal species, Termessos is today a Natural Park. Just after few steps we notice how both natural and historical riches give the site a distinct and impressive atmosphere.
We'll spend about three hours botanizing around the ruins in a garrigue habitat with great interest for both biodiversity and human history. We are around 900 meters of altitude.
Just after hundred meters climbing the rough path, we already have seen many interesting bulbs. After few *Colchicum baytopiorum* we discover a small group of *Corydalis paschei*, both plants in flower now.
Above all the Corydalis has a great interest for us. This is a real specialty being Termessos one of only two locations reported for this newly described species. Feature of *C. pashei* is the dimension of the pedicel which is much longer than the bract.
Other bulbs not in flower now and identifiable only by the leaves are *Cyclamen alpinum* (autumn flowering), *Lilium candidum* (may-flowering), *Nectaroscordum siculum* (genera related with *Allium*).

Corydalis paschei

Ranunculus ficaria

Lilium candidum



Rosularia libanotica

The garrigue soon shows itself as a dense community of evergreen shrubs and small trees, maximum 1-3 meter height. Among the huge number and variety of plants, we can identify here: *Phlomis fruticosa*, *Quercus coccifera*, *Juniper* oxycedrus, *Asparagus acutifolius*, *Ephedra* sp. (related with conifers), *Ferula communis*, *Colutea melanocalyx*, *Cistus nobilis*, *Calicotome spinosa*, *Euphorbia characias spp. wulfenii*, *Anagyris foetida*, *Verbascum sinuatum* and *Dorystoechas hastate* (which is a monotypic, endemic plant of this region). Then attractive ferns, like *Ceterach officinarum* and *Cheilanthes graeca*, and also climbers such as *Hedera helix*, *Smilax aspera*, *Clematis cirrhosa*.
Above all some big groups of *Phlomis fruticosa* left a big impression on me. I find really interesting to see now this plant in its own habitat and habit, whit all the beautiful seed-cap from the last year. In Osborne house we grow two gorgeous specimens just out the door of the walled garden, but quite frankly the effect here is totally different.


Phlomis fruticosa


Euphorbia characias ssp. *wulfenii* (pollinated by ants)


Clematis cirrhosa

Colutea melanocalyx

After one hour trekking the area, we reach the astonishing ruins of the Roman theatre of Termessos, right in the middle of the natural park.

Commanding a view out over the Pamphylian plain, this building is no doubt the most eye-catching in the entire Termessos archeological site. It shows quite clearly the features of the Roman theatre, which used to preserve the Hellenistic period theatre plan. It makes use the mountain eco and is considerably steep, in order with the geological conformation of the ground (but the steepest old theatre in the world is in Pergamon, not far away from here).

The view is amazing. Cedar trees looking stately in the background.

Alper

The Roman theatre of Termessos

Views from the ruines in Termessos archeological site

Among the bulbs and alpine flowers we notice many interesting specimens, many of those often literally inserted in the rocky crevices. *Muscari muscarimi*, *Muscari armeniacum*, *Gagea* sp., *Arum* sp. (possibly *A. dioscoridis*), *Alkanna orientalis*, *Arabis verna*, *Arabis deflexa*, *A. deflexa*, *Alyssum muralis*, *Silene coronaria*, *Lamium cariense*, *Doronicum hirsutum.*

Muscari armeniacum

Gagea sp.

Lamium cariense

Arum (possibly *A. dioscoridis*)

The familiar "grape hyacinths" (Hyacinthaceae) represented by the usually blue-flowered, dense-headed *Muscari* species, are known to all gardeners. All species have basal leaves and a raceme of separated fertile and sterile flowers. The six stamens are attached about halfway up the tubular corolla of the small flowers, which are often constricted at the mouth. The outer lobes of the corolla (the so called teeth) are often a contrasting colour to the main bell. They all spring flowering exempt for the *M. parviflorum*.

Muscari armeniacum is a wide spread species in Anatolia and common even in cultivation. The dense head has many, mid-blue, fertile flowers with small white teeth, and a few, paler, sterile flowers. It is often present in large number in damp pastures. It also grows on stony places and in open woodlands and scrubs.


Alkanna orientalis


Rosularia libanotica

Doronicum hirsutum


Silene coronaria

Arabis deflexa

On the way back to the main park, it's the lucky find of two different orchids, *Limodorum abortivum* (just in buds now) and *Aristolochia lycica*.
The beautiful *Aristolochia lycica* (Aristolochiaceae) is commonly known in England as "Dutchman's Pipe" and "Pipevine", which are allusion to old-fashioned meerschaum pipes at one time common in Netherlands and Northern Germany.
All the *Aristolochia* species have a specialized pollination mechanism. The plants are aromatic and their strong scent attracts insects. The inner part of the perianth tube is covered with hairs, acting as a fly-trap. These hairs then wither to release the fly, covered with pollen.

Aristolochia lycica

We have our lunch at the car park, and then we go on the bus again driving in the direction of Acipayam.
We are now driving through a flat, agricultural landscape. After about 70 km. from Termessos, we start to notice rocky, serpentine slopes with mixed deciduous and evergreen species. In the weak light of the afternoon, this is quite dramatic scenery.

THIRD SITE

By Çomakli Pass, 1460 meters of altitude we decide to have our last stop of the day.
We don't have any references about this specific area but we go botanizing here because it seems to be a good habitat for *Muscari* and *Fritillaria* species. Above all, we are expecting to find here *Muscari mirum*, not in flower yet, but with the characteristic deep bluish green of the foliage.
Climbing the serpentine slopes, I see a quite scattered and heavily grazed flora, mainly composed by shrubs and small trees. *Pinus brutia*, *Juniper oxycedrus*, *Juniper excelsa*, *Quercus coccifera* compounds the ecological climax of the area.
Just after about 200 meters climbing up, the scenery changes again, showing now even smaller shrubs such as many *Astragalus*, *Verbascum* as well as few *Acantholimon* species.

Serpentine slopes by Çomakli Pass
good example of a heavily grazed habitat

A part for surviving the rigors of the climate, plants in the mountainous regions of Turkey have to survive a big threat, grazing by animals. This activity characterizes the aspect of the landscape and keeps the shrubs and trees lower than they should naturally be.
Of course grazing affects bulb plants too, which have for that reason evolved adaptations to protect themselves against it.
Another very harmful threat for bulbs is human collecting, which is twofold, for food and for horticulture.

Juniper oxycedrus

Quercus coccifera

Astragalus sp.

Verbascum sp.

Finally we notice few *Fritillaria* leaves and buds, just below the north-facing shrubs which also provide shapes, nutrients and protection by the glazes. It's not in flower now. We guess it's probably self-seeded by the wind. Anyway, considering our location and according with *Flora of Turkey*, this is probably *Fritillaria acmopetala*.

Fritillaria acmopetala (leaves and buds)

Fritillaria acmopetala (Liliaceae) is native of south-west Turkey along the coast to Lebanon as well as Cyprus and is likely to be found in well drained, sometimes humus-rich soils on limestone, and (rarely) a weed in cornfields, from sea level to 2000 meters.
It flowers from March to May, depending of the altitude.
In England it's easy to grow in any good, well-drained soil.

Muscari mirum (leaves)

Muscari sp. (leaves)

Gagea granatellii

Gagea (Liliaceae) is a large genus of spring flowers found in Europe and western Asia. They were originally described as species of *Ornithogalum*, which, together with the usual yellow colour of the flowers, explains the English name "Yellow Star-of Bethlehem" for the most common species in Europe, the beautiful *Gagea lutea*.
Gagea granatellii have stems 5-15 cm tall, two basal, relatively short leaves and flowers in umbellate clusters, yellow hairy on the backs, on densely wooly pedicels. It is diffused in the Mediterranean area east to the Caspian Sea, by steppe country, rocky slopes, limestone cliffs, sometimes in scrubs and open woods.

Colchicum sp. *(C. burtii* or *C. triphyllum)*

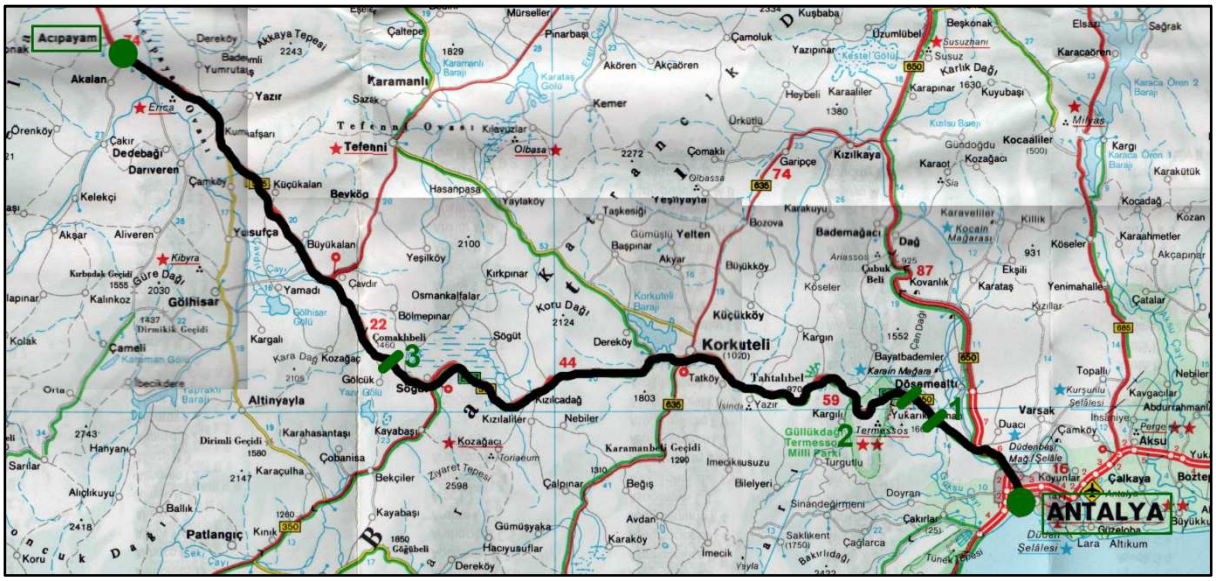
We carry on botanizing all over the slopes, always looking next the grazed shrubs (only *Astragalus* species seem to resist effectively this activity).
We notice many *Crocus biflorus* ssp. *punctatus* which are easy to identify because the flowers are slightly spotted outside (botanically speaking, external flecking).
Then the lucky find of single specimens of *Colchicum* and *Hyacinthella* in bloom.
We are not able now to identify the species, so we take some samples to key out tonight at the after-dinner meeting.

These meetings, which will come along with us during the expedition, will are precious opportunity (especially for Richard and me) to list and name properly the plants recorded and also to key-out the unidentified species with the help of *Flora* and precision instruments.

On the way back, looking down the fields in the lower valley, the agricultural landscape is dominated by coppiced willows and tall poplars.
The local poplar (*Popolus nigra* var. *pyramidalis*) seems to be the Turkish version of my better-known Lombard poplar (*Popolus nigra* var. *italica*). In the matter of fact, according with some botanic literature, they are synonyms. Jennifer said to me that these trees are quite reliable and used in Turkey for timber and give also shelter by the wind to the houses.

View of the botanized serpentine slopes with the agricultural landscape in the foreground

DAY RESUME



180 km - 1) Pine Forest mountainside Termessos (750m).
2) Termessos National Park (900m). 3) Çomakli Pass (1460m).

The first day lived up to our expectations.
We covered about 180 kilometers and visited very interesting sites. We couldn't see any *Fritillaria* in flower, but were able to identify some specimens of *Fritillaria acmopetala* by the leaves.
During our after-dinner meeting, Richard and I have an interesting lection about how key out plant specimens, in the instance *Crocus biflorus* ssp. *punctatus* and *Hyacintella heidreichii*, both found in the third site and still in their integrity now.

Hyacinthella (Liliaceae) represent a small group of bulbous species with blue or violet flowers, formerly included in *Hyacinthus* species.
All the sixteen species of the group have narrow and totally basal leaves, naked erected scapes and racemes of narrowly bell to urn-shaped flowers.
Hyacinthella heldreichii has the typical pair of leaves with the first relatively broad and the second narrower. The 5-15 cm stem elongates in fruit, and bears 10-15 dark violet flowers. These flowers are usually sessile or short pedicelled (about 1-2mm, according with the *Flora of Turkey*), but can sometimes have longer pedicels.
It grows in scrub, in open pine forest and on stony hillsides in Southern and Center Anatolia.
This dinky bulb is awarded first "Plant of the Day" (POD), the evening contest among our bulbs.

Hyacinthella heidreichii

Crocus biflorus ssp. *punctatus*

Tomorrow we are going to visit the fabulous region below Boz Dag, with many local natural specialties. It is expected to be a "*Crocus day*", botanizing among the snow patches.
Corydalis, *Cyclamen*, *Scilla* species are also likely to be seen.

Flora of Turkey, magnifying glass and vernier caliper will are our tools to key out the unidentified bulbs

Friday 6th April

We exit from the city of Acipayam, travelling north-west and following the road to Boz Dag Mountain.
After few kilometers we enter in a narrow valley with a little stream flowing down and serpentine slops very rich in heavy metals. Going up that way and also on the higher hills there are wood of *Pinus nigra* (European Black Pine) with specimens to six meters.

FIRST SITE

First site botanized (lowest point)

Cyclamen alpinum

After the town of Mevlutter, we decide to stop exploring some serpentine slopes under pines and on banks of stream. We are now about 1230 meters of altitude.
We should start to see in the north-facing slopes little yellow dots. They are the first signs of *Fritillaria serpenticola*. It likes to grow a in the partial protected shade but at this altitude pines cover too much the superficies.
As soon we start climbing up the Pine area (which gradually turns into a serpentine), many interesting bulbs come out. We can record: *Cyclamen alpinum*, *Crocus biflorus* ssp*. punctatus, C. fleischeri, C. baytopiorum, C. biflorus ssp*. *crewii.*
The leaves of *Cyclamen alpinum* are mistakable with those of *C. coum*, but the lobes of the corolla are twisted so that they resemble the blades of a helicopter (the previous name *C. trochopteranthum* derives from Greek *trochos* "wheel" and *pteron* "feather", "wing", probably meaning propeller-flower). The lobes are also pale or deep pink in color with a dark basal blotch. It is likely to be found in forest or stony grounds in south-west Anatolia.
Cyclamen species belongs to Primulaceae. "Primula family" does not contain any proper bulbous species, but the one genus which does come within the scope of this tour is *Cyclamen*. All species of Cyclamen grow from a corm, and these can live for many years and become large in size. Turkey has more species of Cyclamen than any other country and individual population can be very extensive.

Crocus genus (Iridiaceae) includes 80 species of cormous perennials from the northern temperate zone ranging from North Africa, through the Mediterranean to the Middle East with outliers in central Europe and central Asia.
The corm is of annual duration, a new one developing above the old during the growing season. Some species produce multiple corms or corm-lets, a few are stoloniferous.
Flowers are characteristically almost stemless direct from the corm, having a stalk like perianth tube surmounted by six perianth lobes (tepals). Flower colour ranges from lilac to purple, white or yellow. Flowering period ranges from late summer to late spring.
Leaves are always narrow.

Crocus biflorus ssp. *crewii*

Crocus biflorus is one of the few plants which I already knew, because of its distribution in the southern Italy (particularly Sicily).
Anyway, I never went across the subspecies *puncatus*, which is not too difficult to identify, being the outside of the sepal slightly spotted outside, like a dusty cover (botanically "flexing"). Other features are the number of the leaves (four to five), flowers lilac with yellow throat and anthers generally yellow though sometimes with blackish basal lobes.
It grows in Southern Turkey, in grassy places and scrub.

Crocus biflorus ssp. *crewii* is naturally very similar to ssp. *punctatus*, but it is characterized externally by having brownish stripes (instead of the flexing). Throat is yellow and anthers are black.

Crocus baytopiorum

Crocus baytopiorum is a different looking species, having pale blue flowers with darker blue veins, late winter to spring.
It grows in screes up to 2700m in southwestern Turkey. Though first described only in 1974 has rapidly become very popular. Cultivation not difficult in frame or alpine house.

At the first sight, *Crocus* genus is very similar in aspect to *Colchicum* genus (among gardeners Colchicum are often called "winter-flowering Crocus"). In reality they are quite different plants, belonging to different botanic families (*Crocus* is in the Iridiaceae, the Iris family; *Colchicum* is in the Colchicaceae, close to the Lily family).
I get familiarized in identifying them with an easier tip: while *Crocus* species have always three stamens, *Colchicum* species have six.
Other tip is the number of leaves: *Colchicum* species always have three leaves, *Crocus* may have more.

Colchicum sp.

Merendera trygina

Merendera (Colchicaceae) is a genus of about ten species of bulbous perennials from southern Europe to western Asia and North Africa.
They resemble (and used to be) *Colchicum* but differs in having the tepal bases separate from each other (and not fused into tubes as in *Colchicum*). The more visible consequence is that, when the flower-time finish, the flower falls apart.
Merendera trigyna (syn. *Colchicum caucasicum, Bulbocodium trigynum*) have two to four leaves, linear to narrowly lanceolate. Flowers are white to purplish-pink. It grows widely in Turkey, Iran and Russian Caucasus, in pine forest up to alpine grassland at edges of snow patches and also in screes, 1300-3400 meters.

Other interesting bulbs we find here are *Scilla bifolia*, *Gagea granatellii, Muscari armeniacum* and *M. muscarimi*. Plants suitable for the rock garden are *Arabis*, *Thlaspi*. They both are beautiful, but I am particularly impressed by the pale-rose, really well-scented inflorescence of *Thlaspi*.
Somebody also point out a *Cystopteris dorycnifolia*, the so called Fragile Fern.

Arabis sp.

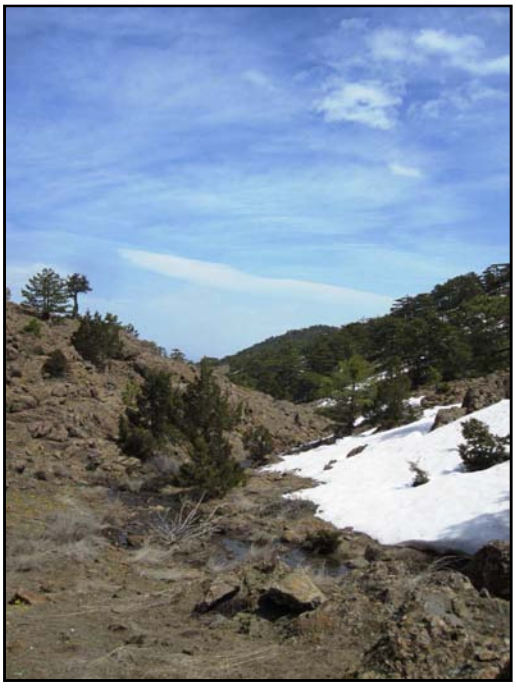
Thlaspi sp.

Muscari muscarimi

The distinctive *Muscari muscarimi* species has a lax spike of ivory, cream or grey-green flowers with prominent teeth, which start the same colour of the rest of the flower but later turn brown. It has more, broader leaves than *Muscari armeniacum*.
It is strongly, beautifully scented (see Appendix, Dictionary of Bulbous Plant Names).

SECOND SITE

We carry on climbing for the road to Boz Dag. We start to see the first snow now. It's like a promise of crocuses. At 1540 meters of altitude we stop again and start botanizing in a bare serpentine slope with few conifers.



Serpentine slopes

First of all we come upon a group of crocuses. Apparently they are *Crocus baytopiorum*, but without the typical sky-blue colour. These ones are white and so we concluded that this is a genera more variable than we was supposed.

Groups of *Crocus Baytopiorum*

A single *Crocus baytopiorum*

Fritillaria serpenticola

In a slightly warmer slope there is a yellow dot. It's the first specimen of *Fritillaria serpenticola* we find.
This is a real aim of this expedition. We literally surround the yellow and make a photo session worthy of a diva.
Nearby other *Fritillaria* leaves are coming up and also other specimens in bud or in bloom, among those a double-header.

Fritillaria serpenticola is a newly recognized species. It used to be *F. carica* ssp. *serpenticola* just two years ago and is still a subspecies in our *Flora of Turkey*.
Native to the south-west regions of the country, it grows on serpentine scree at circa 1700 meters and flowers in April.
It is a very dwarf species, which requires careful cultivation in a frame or alpine house.

We realize a very interesting fact.
The leaves of these specimens have broader basal leaves, than the ones seen yesterday.
This is a slight but significant variation of the species.

After photographing *Fritillaria*, we come across an unexpected bulb, *Sternbergia fischeriana*.
This is really a great surprise because *Sternbergia* (Aramilidiaceae) is not supposed to grow in groups, not at this altitude, not just among the snow. According with somebody of us, this fact only confirms the theory that "plants don't read books", which is indubitably true.
Sternbergia fischeriana is native and nearly endemic of Turkey. It grows in stony slopes and flowers in February and March. Few years ago, a double-flowered form was collected in north Iran by Mrs A. Ala, and has been named "Golestan". In our climates is best grown in a pot or bulb frame where it can receive a good baking in summer to help initiate flowering.
The *Sternbergia* genus (rather resembling Crocus) produces golden-yellow goblet-shaped flowers borne on stalks some way above the ground that open during the autumn or early winter. The flower is composed of six stamens and a single style attached to an inferior ovary.
In Turkey there are only two species of spring-flowering *Sternbergia*: *S. candida* and *S. fischeriana* (the latter being more wide spread than the former).

Sternbergia fischeriana

A yellow carpet of *Sternbergia* and *Fritillaria*

Hands in hands

Beautiful double-header *Fritillaria sepenticola*

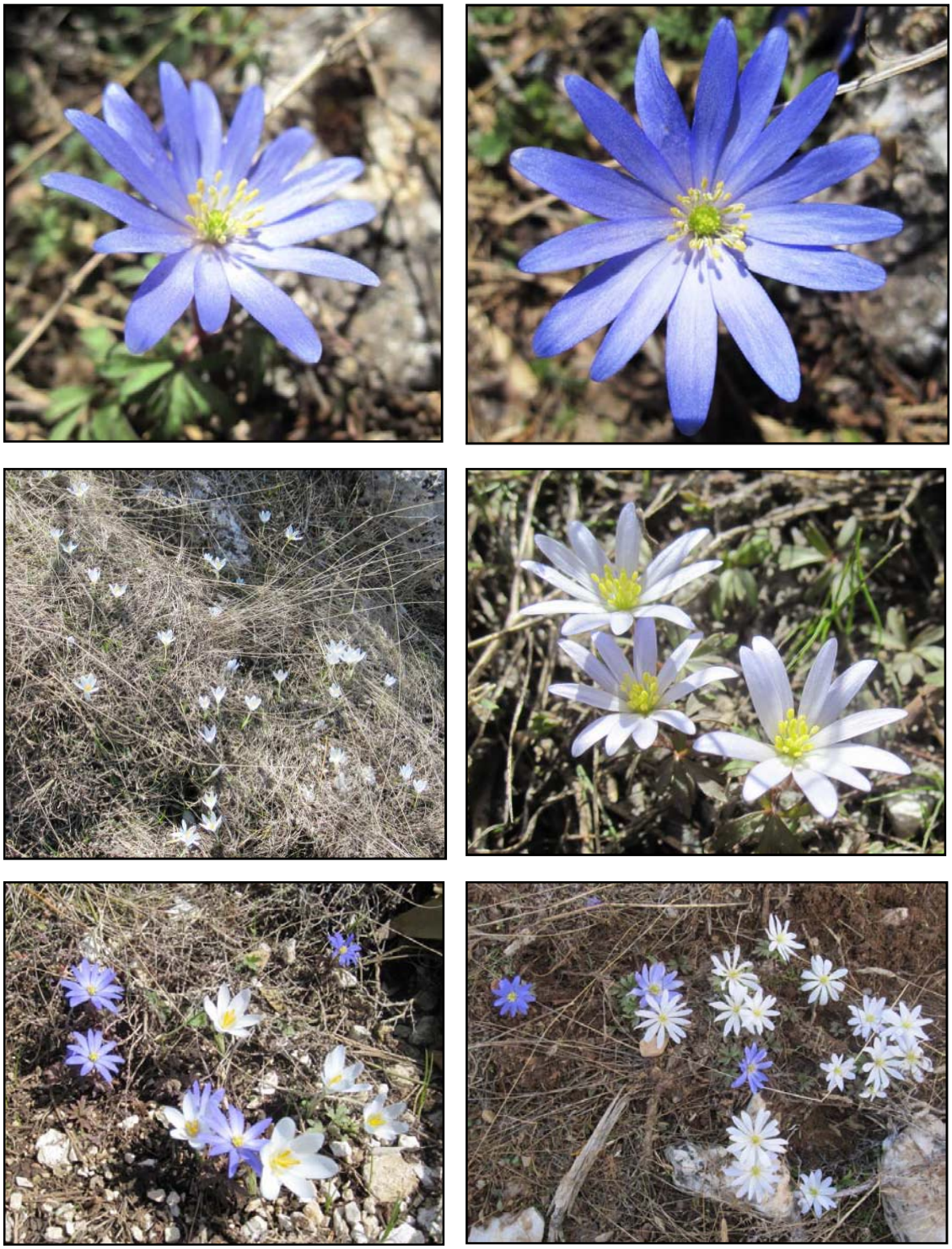
Fritillaria serpenticola and *Sternbergia fisheriana* apart, we can also record other interesting flowers such as *Crocus baytopiorum, Merendera trigyna, Gagea villosa* var. *hermonis, Colchicum triphyllum, Viscum album* (the notorious Mistletoe, happily parasitizing on the pine canopies).

THIRD SITE

Scenery changes dramatically from the brown of the serpentine to a grey limestone. We decide to stop and botanize in this area, about 1700-1800 meters height.
The area is characterized by limestone slopes and summits with few conifers.
Flora is composed by *Pinus mugo*, *Junipers oxycedrus*, *Cupressus sempervirens*, *Verbascum* and *Astragalus* sp., *Daphe oleoides* (only a few and unfortunately not in flower).
We also observe lots of *Arceuthobium oxycedri* (Dwarf Mistletoe), which is a species that parasitize members of Pineaceae and Cupressaceae.

Daphe oleoides

The real addition here is *Anemone blanda*. We find huge colonies among the snow patches. They seem to be variable in colour (entirely blue or white-eyed).
Anemone blanda (Ranunculaceae) is widely distributed and usually found in open woodland situations, but it also grows in stony places high in the mountains, often neat melting snow. *Anemone blanda* is closely related with *A. caucasica*, but *A. caucasica* has smaller flowers and is only founded in NE Anatolia and Iran (we'll see only *A. blanda* in our expeditions).
An interesting fact is that, when first raided up from the snow, they tend to have purple leaves and stems. Only later the foliage turns green.



Anemone blanda

Colchicum triphyllum (left) and *Crocus biflorus* ssp. *crewii* (right)

Scilla bifolia

Corydalis wendelboi

One last, very lucky find at tea break, casually looking under a picnic table.
It's a beautiful, well-maintained (despite the location) specimen of *Corydalis wendelboi*.
C. wendelboi is a quite attractive species with an upright habit, bright green leaves and many small pink or red flowers.
A characteristic feature of this species is the length of the pedicel which is much shorter than bract.
The closely related *C. tauricola* has fewer and larger white or pinky flowers.
Corydalis genus belongs to Fumariaceae. This is a family with mostly "non-bulbous" species, but many Corydalis species have tuberous roots.
There are about twenty *Corydalis* species in the Turkish area and many quite similar and difficult to tell apart, but their localised geographical distribution limits the choise. In Turkey and Iran only tuberous Corydalis species are present.

In addition to the bulb pictured above, other bulbous plants we record in this site are few *Crocus trifillium* (some of them with black anthers) and several groups of *Cyclamen alpinum*, mostly just below the junipers.

The peaks of Ala Dag in the distance

FOURTH SITE

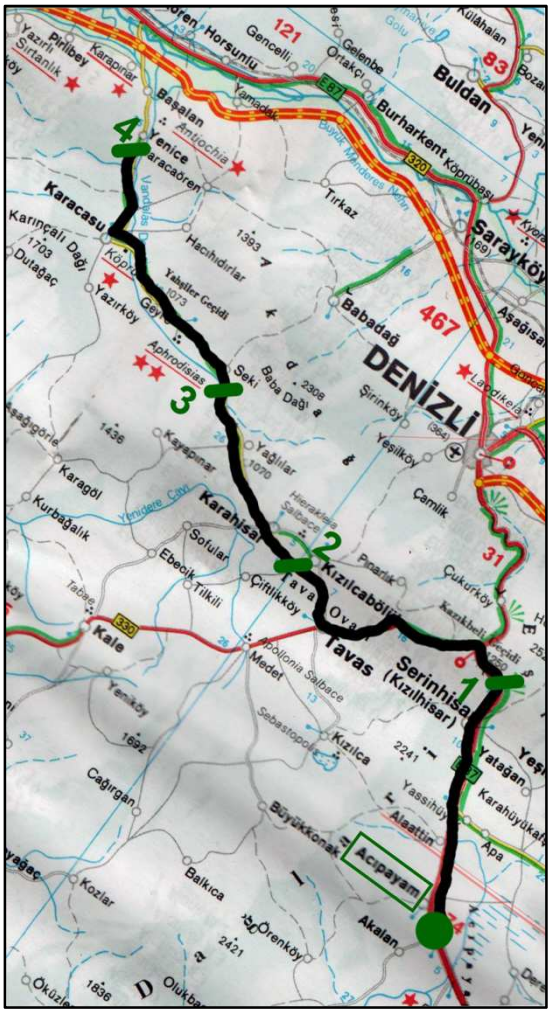
Rising up, cypresses are really knackered by the severe weather.
At 15:25 we reached the end of the road. After that the road becomes too steep and slippery for the bus. So we spent the last two hours we've got botanizing on this point. We are 1950 meters of altitude. The vegetation is always sparser.

Climax is represented by *Berberis* and *Astragalus* species.
Astragalus, the so called "Vegetal Hedgehog", is largely diffused in Turkey. There are more *Astragalus* species in Turkey than in all the rest of the world. We could say, it is one of the plants representing the incredible biodiversity of this country.

Astragalus sp.

Interesting plants we find are *Scilla biflora* and *S. trifolia*, also many *Anemone blanda*.
Just before to leave the site, we can report the lucky find of a single *Corydalis erdelii* specimen.

DAY RESUME



Today has been a beautiful excursion in mountains never much botanized before. As Robert promised yesterday, it was a real "Crocus Day" and we can record now five Crocus species and subspecies.

Plant of the day is the stricking *Sternbergia fisheriana*. Second placement for *Fritillaria serpenticola*.

Following for Richard and me a lection of identification via dichotomous keys using *Flora of Turkey*.
We focus tonight on *Gagea* species, and at the end of it we are able to key out *Gagea vibrosa* and *G. villosa* ssp. *hermonis* (the latter after 25 keys!).

120 km – 1) -facing serpentine (1230m.) 2) Bare serpentine (1680m.) 3) Limestone slopes (1770m.) 4) Limestone (1850m.)

Two *Gagea* sp. to identify

Gagea vibrosa

Gagea villosa ssp. *hermonis*

Saturday 7th April

After two night, we left Acipayam and go on eastward.
While travelling and digesting a nice breakfast with some lovely cheesy bread, our guide Alper tell us that the area we'll visit today used to be populated by a big Jewish community. After a decision by the Roman emperor Vespasian, this people were forced to leave their lands but hereinafter they were able to keep the control of the region, controlling the commerce from the Egypt. They also became one of the biggest economic supporters of the Temple of Salomon.

How largely actually looks a Turkish garden center

FIRST SITE

Just after15 kilometers from Acipayam we decide to stop in a wide valley crossed by a small stream. We aim to reach the steep, north-facing slopes at the other side of the river, so we have to wade across it.
Finally we reach those slopes, which are covered by an oak scrub, ideal habitat for many alpine bulbs. We are about 1000 meters in altitude.

Approcing the stream and...

…wading across it

Close to the river we see many *Euphorbia rigida* and *Eryngium* species.
Euphorbia rigida (Gopher Spurge or Upright Myrtle Spurge) is everywhere in Turkey and often considered a pestering weed. However, in America (above all California, where grows spontaneously) and British Isles is used in the gardens.
Going onwards there are groups of *Robinia pseudoacacia*, under those growing *Astragalus* and again *Eryngium* species.
The oak scrub is also composed by *Quercus infectoria* (Aleppo Oak) and *Q. coccifera* (Kermes Oak). I'm impressed by the size of the acorns of *Quercus infectoria* (syn. *Q. lusitanica*). This oak species, an evergreen shrub growing to six feet, produces very big acorns which are the source of commercial nutgalls. These galls are produced by the infection from the insect *Cynips gallae tinctoriae.* They are still used in Turkey for dyeing.
This valley is quite clearly in the former bed of an old river (many seashells are scattered all over the serpentine slopes). The geological material here is a big mixture of many things due the old river activity. I come to know that the mountains of this particular region are relatively young from a geological point of view.

The big acorn *of Quercus infectoria*

A shy fellow

Euphorbia rigida

The newly described *Fritillaria* species

The low oak scrub is the perfect place for find out the mysterious *Fritillaria*, which we aim to record in this site today. It should grow in the north-facing slopes under the partial shade and protection of the scrubs. At a certain point we start to notice the first buds, seed caps of the previous year and finally few specimens in bloom.
This is a great plant hunting experience for me. I'm enjoying the privilege to observe a real speciality, rare even in its own restricted habitat. This could be a newly described species (closely related with *Fritillaria kittanie*).
It's a little, dinky flower, greenish and brown stripped.
To me, its gentle and fragile beauty is like the quintessence of *Fritillaria* genus.
We can also record: *Muscari armeniacum, M. muscarimi, Crocus chrysanthus, Gagea foliosa*, *G. villosa.*

Fritillaria seed cap from the last year

Precious *Fritillaria* seeds

The north-facing and the south-facing sides of the valley look very different.
While the south part is populated by a forest of conifers, the north part is a barer serpentine. Altitude and nature of the ground are exactly the same from a side to the other. Only change the aspect and the exposure to the sunlight.

Panoramic view of the slopes

south-facing side

north-facing side

SECOND SITE

After about 10 km we reach Saldabeli Pass (1305 meters a.s.l.), located west of Yesilova. Again, the kind of landscape we find is compounded by serpentine slopes with few conifers. Climax vegetation is represented by *Quercus infectoria* and *Q. ithaburensi* ssp. *macrolepis* (which is a real speciality of this area). Besides that, flora is quite similar to that observed in the precedent station, but we can see more *Pinus nigra*, *Juniper oxycedrus* and some new observed *Alyssum* species.
Then, as usual, are several groups of thorny *Astragalus*. According with *Pflanzen der Türkei*, a specialist German book about the Turkish flora, *Astragalus* species likely to be seen in this area are *A. angustifolium*, *A. lycius*, *A. odoratus*, *A. pinetorum*, *A. tauricolus*. Unfortunately it's impossible for us identify the genera in this time of the year, without observing the inflorescence.
Our object here is to show how much *Fritillaria* species could be variable. In the matter of fact in this serpentine slope we aim to find the same *Fritillaria serpenticola* of yesterday. But, because of the lower altitude as well as the different location, frits here are supposed to be just a bit more in flower and with some possible variation in colors.
So we start botanizing really focusing our attention under the oak shrubs, where the frits are expected to be seen (the rough, steep, stony ground is an ideal habitat for them). Finally we found scattered groups of *Fritillaria serpenticola*.
They are really nicely rusty colored, with variations in yellow, orange and brow.

Fritillaria serpenticola showing many variations of colours
(in the last picture, a double-header frit with a pollinator in it)

The sloped is also marked with rows of stones and primitive dry stone walls.
We assume that these have been built as a guide for planting trees.
Other interesting bulbs we find here are *Crocus chrysanthus, Tulipa armena, Gagea foliosa.* We can also see leaves of *Muscari mirum and Allium* species (unfortunately it's too early now for the flowers).
Some *Allium* look already big and quite impressive They are recognizable because the typical round-shaped leaves in section.

Allium sp.

Approaching Salda Gölü Lake, we take a diversion for a lovely sandy beach. Just the time to take pictures of the peaceful scenario and the first group shot of our trip (somebody looks grumpy in the picture because of the strong reflection of the light is on the white sand). After having our lunch on a beautiful bird-watching site, we carry on direction east and take over the towns of Yesilbaskoy and Aglasun (where a stately, old plane tree is just in the center of the main square, well showing the tradition for Turkish people to plant this species of trees once settled an area).

Salda Gölü Lake

Members of AGS expedition to Turkey

The landscape is mountainous but still intensively cultivated with cherry trees in flower now and grapevine.

THIRD SITE

Climbing up few miles from the city of Aglasun, we reach the ancient site of Sagalassos, located at 1500 meters of altitude circa in a geological conformation represented by limestone slopes. We have a visit here for the historic interest of the site, rather than for botanic purposes.
Alper tells us that in Turkish, when there a double *S* or *T* is present in a Turkish word that originally referrers to a Pisidian name.
In Roman Imperial times, the town was known as the "city of Pisidia", the region in the western Taurus Mountains, currently known as the Turkish Lakes Region. Already during the Hellenistic period, it had been one of the major Pisidian cities.
Large-scale excavations started in 1990 by a Belgian team. A large number of building, monuments and other archaeological remains have been exposed, documenting the monumental aspect of the Hellenistic, Roman and early Byzantine history of Sagallassos.

The Roman amphitheatre

The library of Flavious Severianus

The Northwest Heroon

Tourist group-shooting by the Antonine Nymphaeum

Flora is composed by *Phlomis fruticosa*, *Euphorbia rigida*, *Berberis crataegina*, and many *Alyssimum*, *Verbascum*, *Astragalus* species. Richard and I notice a bare *Prunus spinosus* and an herbaceous lamiacea wich we believe being *Marrubium astracanicum*.
Bulbs present here are *Gagea foliosa*, *Colchicum triphyllum*, *Merendera trigyna*, few scattered *Corydalis* sp. and several *Allium* sp. not in flower now.

How is actually possible to bonize the carved blocks of a Roman temple

DAY RESUME

200 km - 1) Next Guney, oak scrub on steep north-facing slope (1000m.) 2) Saldabeli Pass, serpentine slopes with conifers (1300m.) 3) Sagalassos Archeological Site, limestone slopes (1500m.)

Plant of the day, of course, the new described *Fritillaria* so far.
Tonight at the meeting, the incredible story of a yellow-scaled snowdrop (*Galanthus woronowii* "Elizabeth Harrison") sold last February on e-bay for £725 to Thompson&Morgan by a Scottish rock gardener.
The bulb was apparently imported from Georgia.

Sunday 8th April

We run along Eğirdir Lake and then leave it behind, taking the direction for Sutculur. Climbing the mountain over Agilkoy we find a nice spot for take a shoot of the lake. This lake is believed to be the last eastern location of *Cycalmen mirabili* (even if it is only in leaves now, as the majority of *Cyclamen* species).

Eğirdir Lake, eye of the landscape

We go through a pass populated by *Pinus nigra* and rich in springs and rivers.
Bob and Rannveig, who were here last here exploring the area, tell us that the slopes above the valley last year were just a blue splash of *Muscari*. This is a good omen for the day. We go past the villages of Yilanli, Pazarkoy, Ayvalpinar and, one seen deciduous oaks and their leaves mould on the floor, we realize that this could be a good spot to find snowdrops.

FIRST SITE

This is a steep north-west-facing slope under ancient oak trees (*Quercus cerris*) and smaller shrubs. Shady cliffs are visible at the top. We start climbing starting from 1175 meters of altitude.

Bulbs favorit habitat: bare, north-facing serpentine slopes

Climbing the slope about 100 meters, we find a place literally out of this world.
It's a real bulb garden: *Scilla bifolia, Anemone blanda, Corydalis wendelboi*, *Cyclamen alpinum* (especially between rocks), *Ornithogalum cydni, Ranunculus kochii, and species of Muscari.*
We also find leaves of tulips. It's not possible to say at this stage which species is it, but assume to be *Tulipa sylvestris* considering its propensity to produce large vegetative colonies.

Astonishing splash of yellow

Suddenly we sight yellow dots in the slope. Getting closer, we realize they are tons of crocuses, to be exact *Crocus chrysantus.*
It grows wild in the Balkans and Turkey with vivid orange-yellow flowers. The common name "Winter Crocus" derives from the fact that it is an early crocus, blooming about two weeks earlier than *Crocus vernus* (Giant Dutch Crocus, another winter-flowering crocus) and may emerge through the snow in early spring. This species have many cultivars and hybrids (mainly with *C. biflorus* and *C. aerius*) used as ornamental bulbs in the English rock gardens.

Crocus chrysantus

We also find some lilac-colored *Crocus biflorus* ssp. *puncatus*.
At this point, my enraptured mind goes to the verses of the Italian poet Montale

Don't ask me for words that might
Define our formless soul, publish it
In letters of fire, and set it shining,
Lost crocus in a dusty field.

Translating a poem is always a challenge. After all Howell once said (quite appropriately) that some translations are no unlike to be the wrong side of a Turkish tapestry.

There is also a new-entry bulb, *Eranthis cilicica* (Ranuncolaceae).
Eranthis (Winter Aconite) is a genus of six of seven species from western Europe to Japan (but with only two species present in Turkey: *E. cilicica* and *E. hyemalis*). They all are perennials with tuberous rhizomes and stalked, rounded leaves. Flowers are buttercup-like, yellow or white. All species flower from winter to early spring.
E. cilicica is native to Turkey, north Iran and Afghanistan and grows on open hillsides and in pine and fir forest.
It's very similar to *E. hyemalis*, and now considered synonymous with it, but tends to have leaf segments usually narrower and flowers larger.
Both *E. cilicia* and *E. hyemalis* are popular ornamental plants grown for their winter or early spring flowering. In consequence of that they are now widely naturalized in North America and in UK.

Eranthis cilicica specimens thriving in the leaf mould

Bulbs galore

Crocus biflorus ssp. *punctatus*

Cyclamen alpinum

Anemone blanda

Scilla bifolia

Muscari armeniacum

Corydalis wendelboi

Colony of snowdrops

Galanthus gracilis

Carrying on our climb through this heaven of alpine bulbs, we find a spot populated by *Galanthus gracilis*. They grow here in quantities in the rock crevices.
It's our first time in the trip observing snowdrops.

They are in Amaryllidaceae family.
This family is very close to the Liliaceae but is distinguished by having flower with an inferior, rather than a superior, ovary. For the British gardener, the best known representative of this group is Narcissus, which is barely present in this area with only two species, anyway. For Turkey and Iran flora the most important genera are *Sternbergia* (already observed) and *Galanthus*.

Snowdrops are a really addiction for the British gardener. When first arrived in England, I was surprised coming to know that there is a term describing someone who collected snowdrops, "Galanthophile" (anyway, after the account of the last night, nothing could surprise me now… see 7/4 Day Resume)
I still see something similar to the notorious "Tulipomania" about having, for example, the sought-after varieties.
Nowadays there are around 500 named varieties and many cultivars are too similar to given distinct names. Single- and double-flowered cultivars of *G. nivalis* are particularly popular, as are cultivars of *G. plicatus* and *G. elwesii*. There are also hybrids between these and other species.

Galanthus gracilis has narrow, upright, glaucous leaves and flowers with distinctive green patches at the base and apex of inner petals.
When the seedling emerges from the ground, its leaves are close.
It strives in wet places in meadows or in damp leaf mould under the trees and is diffused in north-eastern Greece, western and south-western Turkey.

SECOND SITE

After crossing a landscape cultivated with cherry and apricot trees, we decide to have a short stop (lunch time is next) botanizing a very damp slope about two kilometers north of Karağı. We are here 1290 meters of altitude.
We see many things already observed, like *Merendera trigyna, Crocus biflorus* ssp. *punctatus* and some new entry such as *Romulea crocea* and *Ornithogalum lanceolatum*.
Ornithogallum (Hyacinthaceae) is a genus of bulbous plant from Europe, Asia and Africa. The inflorescence is usually white or green whit tepals spreading widely to create a starry flower or point forwards to give a bell-shaped flower.
For the British gardener the better-known species is *Ornithogalum arabicum*, Star of Bethlehem, native to European areas.
Ornithogalum lanceolatum has very short stems (compared, for example, with O. *narbonense*), several leaves. Buds are green and flowers white. It's likely to be found in Turkey, Syria and Lebanon, in pine forest, mountain slopes and alpine steppe country at 1000 to 2500 meters.
It always like to seat in wet places, like damp woods or canal beds.

The soggy slope

Ornithogalum lanceolatum

THIRD SITE

While having our lunch, somebody notices *Fritillaria* leaves under a low shrub.
The shrub is obviously a *Quercus* sp., which as usual provides the necessary shade during the summer season as well as protection by the grazing activity.
We are not so sure about the species of *Fritillaria*, but according with the literature and the stage of growth, it should be *Fritillaria elwesii*.
This species is endemic to Turkey and also restricted from the Antalaya to Adana regions. It grows in scrubs, forest and cornfields, usually in terra rossa grounds.
It's very similar to *F. latakiensis*, which differs in its slender, glabrous and divided style, and its more tubular flower.
It's very close to *F. assyriaca* too, but usually taller, with a lobed style.
A special feature of *Fritillaria elwesii* is the production of a lot of bulbils at the base. In the matter of fact, this frit couldn't grow in the open spaces, where is too sunny and dry and also grazed. It propagates and increases well itself by bulbils. This way of propagation is actually the reason why we are able find its leaves only under a single shrub, not in others even if close.
We find also a very tall seed cap

Fritillaria elwesii (leaves and seed cap)

I can also appreciate the characteristic features of the rural landscape: fields of apricot trees are sprayed with copper sulfate, while barks of trees are painted white.
This is to protect the bark against too much hot sun directed onto them. Day after day it may not leave behind a nice sun tan, but it will cause damage to the bark that will become noticeable over time.

…like an anti-burn cream

FOURTH SITE

Mountainside of Vali Çesmesi Pass

About 2pm we finally reach the mountainside of Vali Çesmesi Pass (1810m). Everywhere is melting snow in woods of pines. The rest of the flora is composed by *Berberis*, *Astragalus* and *Verbascum* species, *Quercus cerris*, *Juniper oxycedrus* and few *Euphorbia rigida.* All these plants are heavily grazed.
It's clearly visible that we are exploring now a perfect habitat for many bulbs.
In the matter of fact among the melting snow in open position we start to see many thing such as *Scilla bifolia*, *Anemone blanda*, *Colchicum triphyllum*, *Ornithogalum cydnii*, *Gagea foliosa*, *Merendera trigyna*, *Crocus biflorus* ssp. *punctatus* (in white and violet variations), *Colchicum szovitsii* and even few leaves of *Primula vulgaris* and *Tulipa* sp. (probably *Tulipa australis*).
We continue climbing up and we find a huge colony of *Crocus chrysanthus* (the second today!). After this find we decide to postpone the time of the stop and keep going botanizing for another hour. It is a lucky stop; at the end of it, we find everything except *Fritillaria* sp.

The second big group of *Crocus chrysanthus* found today


Striking groups of *Colchicum triphyllum*

Colchicum szovitsii

Crocus chrysanthus (pollinated by ants)

Crocus chrysanthus

Crocus sp.

Alper snow racing on the slopes of Vali Çesmesi Pass

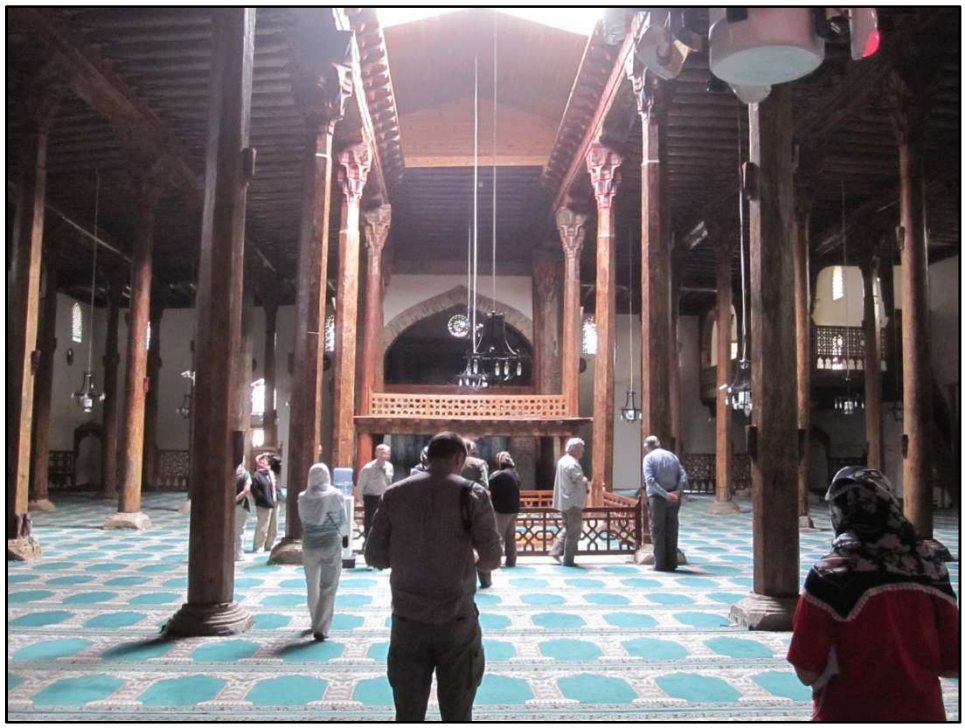
We gradually move to the top of the pass. Same plant as above, with a noticeable increment of *Colchicum szovitsii*.
Colchicum szovitsii is relatively bigger than *C. triphyllum* (in his best form it can be even bigger than a tulip) and has broad leaves and usually pink flowers. Petals are pointed at the top. This is a classic bulb for wet places and isn't a surprise to find big groups of it at the top of the pass. Like *Primula* species, all *Colchicum* perform really well among the melting snow, which is full of microbes and nutrients (while other plant can get moldy…).

FIFTH SITE

We botanize just after the top of the pass in a site located 1720 meters in altitude, expressly searching hybrids of *Crocus*. The top of the passes are usually the best places for hybridization, and soon we find beautiful hybrids between *Crocus biflorus* and *C. chrysanthus.*

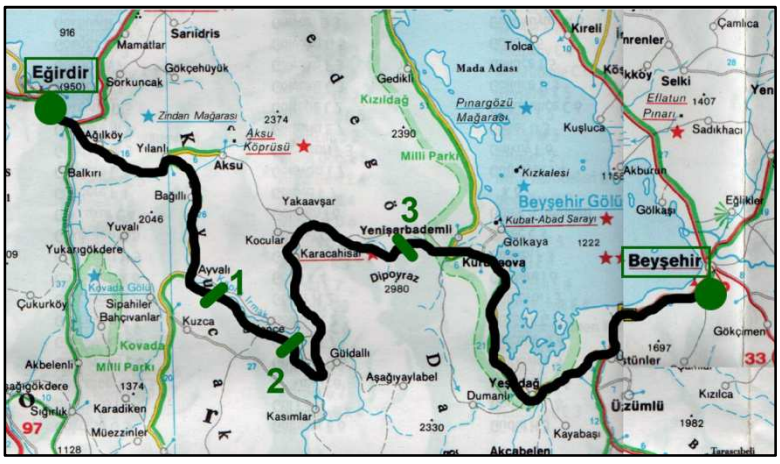
Crocus chrysanthus x *biflorus* hybrids

Approaching Beyşehir, we have a visit at Eşrefoğlu Mosque (end of 13rd century). This is the largest of timber column mosques in Turkey and is decorated with beautiful glazed tiles.
In the late afternoon we finally reach our hotel, just facing on the Beyşehir Lake.
This is part of the Lake District and the largest freshwater lake in Turkey. It was declared national park in 1993 and today is a haven for wildlife and a prime spot for bird-watching (there is a special nesting zone for storks nearby). The climate here is a mixture of mild Mediterranean and harsher Central Anatolian conditions.
I asked to locals about fishing activities (I'm a fisherman too) and they told me the fish species on the lake are primarily carp, perch, tench, European chub.



Visiting Eşrefoğlu Mosque

DAY RESUME



120 Km – 1) S of Ayvali, NW-facing slope and shady cliffs at the top (1175–1300m.) 2) N of Karagi, wet flushes (1290m.) 3) Stop for lunch, oak scrub 4) Vali Çesmesi Pass. Snow melt in pine forest (1810m.) 5) Side of Vali Çesmesi Pass, snow melt in pine forest (1720m.)

Lection of botany keying out two species of *Ornithogalum,* in the instance *O. cydnei* and *O. lanceolatum*.
Two plants belonging to the same genus but really different each other. We found the former in the morning, the latter in the afternoon.

Award for Plant of the day is given to *Galanthus gracilis.*

Monday 9th April

We leave the hotel going south, to the mountain city of Akseki.
Exit from the city, we run all along the Beyşehir Lake.

Beyşehir Lake

Agricultural landscape near Űzűmlű

FIRST SITE

After the village of Űzűmlű, we stop in a sparse oak scrub, 1200 meters of altitude.
We are looking for *Iris stenophylla*, expected to be found mainly in open spaces between the trees (and not below them this time). Robert tells us that this site is recorded in very old literature, with no precise information about the altitude. So we are not so confident to be lucky like yesterday.
Serpentine flora is represented by *Quercus coccifera*, *Juniperus oxycedrus*, and many *Astragalus* species.
After about 20 minutes botanizing between the scrubs, we can record several *Muscari armeniacum,* one *Hyacinthella heldreichii, Globularia tricosantha* (syn. *Globularia cordifolia* var. *Borjae), Colchicum variegatum* (only the leaves)*, Ajuga chamaepitys*, plus two tortoises.
Unfortunately, not a single trace of *Iris stenophylla*.

Searching the deep blue of *Iris stenophylla*...

...finding the bright blue of *Muscari armeniacum*

SECOND SITE

After crossing the shabby town of Huglu, sadly famous for the production of guns, we climb the road up 1450 meters of altitude and decide to stop in undulating open areas and forest with small oaks & pines in melting snow.
We stop here for pure speculation. There is not a specific target. Considering the features of the site, this can be a good place for Crocus and other bulb species.
In the matter of fact this is a very interesting habitat, with a big range of expositions. The soil is also interesting and heterogeneous.
In a first moment, close to the melting snow we found crocuses. They are *Crocus chrysanthus*, but some may be *C. danfordiae.* They all can vary considerably: can be white, yellow, pale blue. They always are dinky, charmy things.
The, climbing up a bit further, we can record *Muscari armeniacum*, *Anemone blanda*, *Colchicum triphyllum*, *Cyclamen cilicium*, *Gagea foliosa*, *Ornithugalum cydnii*, *Corydalis wendelboi*, *Lamium garganicum*.
Finally, we come across the beautiful *Fritillaria pinardii*.

Fritillaria pinardii in variation of colours.

Fritillaria pinardii is a particularly widespread and variable species.
It has alternate rather broad leaves and flowers narrowly campanulate, usually purplish with grey bloom outside, yellow-green to orange inside. It's not scented.
It is distributed in north-western Turkey and Armenia to western Iran and Lebanon, on rocky hillsides and steppe, often by snow patches, at 1000 to 2500 meters.

Cyclamen cilicium (leaves)

Colchicum triphyllum

Gagea foliosa

Corydalis wendelboi

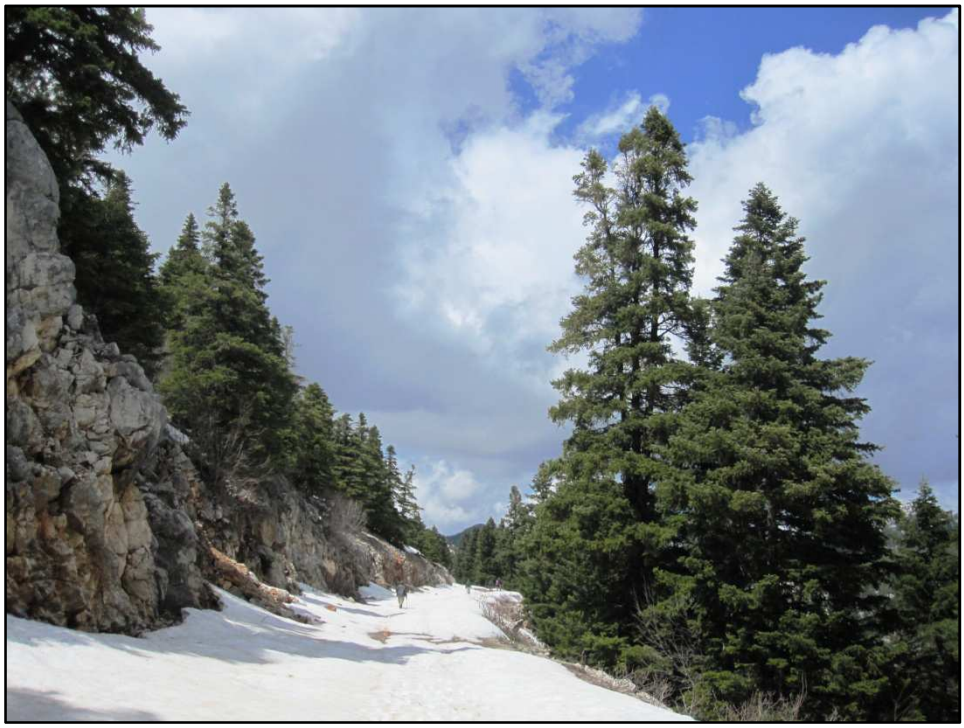


The eternal enigma: *Crocus chrysanthus* or *Crocus danfordiae*?

Then on the road again, always directed to Akseki.
We leave Bakaran behind us and carry on through a landscape covered of melting snow. From the windows I can see the yellows of *Crocus chrysanthus* and/or Crocus danfordiae. Finally we reach Akseki where we meet the hotelkeeper. We make some arrangements for the evening and then we carry on direction south, to Irmasan Pass next Akseki.
We climb up to 1360 meters thorough a rough mountain track. When the snow blocks the bus we are constricted to stop. After a brief lunch, we start exploring these hills.

THIRD SITE

This is a spectacular forest of firs (*Abies cilicica*) with some open mountainside.
We are particularly interested in searching among the snow melt areas.



Irmasan Pass

Everywhere where the snow is just moulded are groups of *Crocus biflorus* ssp. *issauricus*, most of them in pale blue and few white ones.
We also see hybrids *C. chrysanthus x biflorus.* In the light of this last find, we can make an interesting consideration: *Crocus chrysanthus* is diffused in the north side of the Taurus, while *C. biflorus* is more common in the south part of the mountain range. In same way, in the passes where the two sides join, we can have the formation of hybrids.
The same fact was happened yesterday by Vali Çesmesi Pass.
There are also *Anemone blanda*, *Cyclamen cilicium* (leaves), *Gagea granatellii*, *G. foliosa*, *Eranthis cilicica*.
Richard and I go exploring some south-facing steep rocky slopes. We find a thing not recorded yet, *Muscari neglectum*.

Viscum album

Muscari neglectum

Crocus chrysanthus x *biflorus*

Muscari neglectum is distinguished by its blackish-blue flowers with white teeth. It's very variable in size and easy to grow in any well-drained soil, where tends to increase by numerous bulbils.
Muscari neglectum is a species widely distributed in Europe. It is the only species native to the UK and occurs rarely on the light sandy soil of north-west Suffolk.

FOURTH SITE

Mellow mountain landscape near Akseki

Traveling westward to our last site, we observe from the bus windows a low pine with very long needles and long cones as well. It's *Pinus brutia* (Turkish Pine). There are also many taller, fastigiated junipers.
The agricultural landscape is just enchanting, characterized by many dry stone walls and cultivated terraces.

We keep west-west-north direction from Akseki, crossing a beautiful valley rich in water streams and lush flora. We decide to botanize a heavily grazed and eroded garrigue on limestone at 970 meters altitude.
We are looking now for *Colchicum minutum*. This is a species of *Colchicum* not seen yet and is expected to be found under the trees. I's a pinky-flowering blub disliked by the sheep, like every *Colchicum*.

Arum sp.

Dactilorasia sp.


Onosma taurica

After half an hour botanizing the area, we are not able to find *Muscari minutum*.
We can anyway record few interesting bulbs (like *Fritillaria elwesii, Muscari armeniacum* and *M. neglectum)* and many interesting plants very useful for the rock garden. These are *Onosma taurica, Alkanna pamphylica, A. sieheana, Trigonella monspeliaca* (syn. *Medicago minima*).
There are many damp-loving plants such as *Arum* and *Dactilorasia* species and many ferns, like *Ceterach officiniarum*, which seem to be particularly happy in the limestone.
Dactilorasia is a new plant for me. It's a hardy orchid, with heavily spotted leaves, thriving here in a damp and shady cavity in the stones.


Arabis sp.

Trigonella monspeliaca

DAY RESUME

Plant of the day is without any doubt *Fritillaria pinardii.*

This evening Richard and I have our lection of botany keying out specimens of *Muscari armeniacum*, *Hyacinthella heldreichii*, *Fritillaria pinardii* and *Crocus biflorus* ssp. *isauricus.*
We also appreciate and learn to know the differences between *Crocus* and *Colchicum* corms.
Some *Crocus* species present what they call "annual rings", other species not.
Colchicum species present generally a more solid structure without annual rings.

120 km - 1) S of Űzűmlű, sparse oak scrub (1200m.) 2) S of Uğurlu, open areas and forest with small oaks and pines in melting snow (1450m.) 3) Irmasan Pass, snow melt area amongst large Abies forest with some open mountainside (1360m.) 4) Next Ibradi, garrigue on limestone (970m.)

Crocus and *Colchicum* corms

Typical *Crocus* corm

Tuesday 10th April

This morning we find a quite chilly and humid weather.
After having our breakfast, we get on the bus, traveling eastwards, direction Bozkir.
After about one hour we go over the top of the Alacabel Pass (1824).
According with the literature, these slopes should be the habitat of few Fritillaria species. Unfortunately the conditions don't consent in this time of the year any botanical survey, so we spend only few minutes here, just to observe the scenery and the habitat.


Stowy slopes on Alacabel Pass (1824m)

FIRST SITE

We stop in the Tinaztepe recreation area (1490 meters) next a petrol station showing an incredibly huge plastic giraffe. The ground is just a soggy layer of mud and conifer needles. It's like walking on the shifting sands or in some summer music festival in UK. Nevermind, once the Italian singer Fabrizio De Andrè said: "Nothing comes up from diamonds, flowers raise from dung". So, with the help of a very humid weather, the snow around the recreation area is melting literally under our eyes. This process allows seeing patches of ground which are the ideal habitat for many bulbs.
After few steps from the bus we can also record specimens of *Scilla bifolia, Anemone blanda, Galanthus elwesii* and tons of *Crocus chrysanthus* (mostly yellow, some white).
After a while we find out *Iris stenophylla* and *Primula vulgaris* too.
They both are the targets expected to be seen here.


Anemone blanda (in variation of colours)

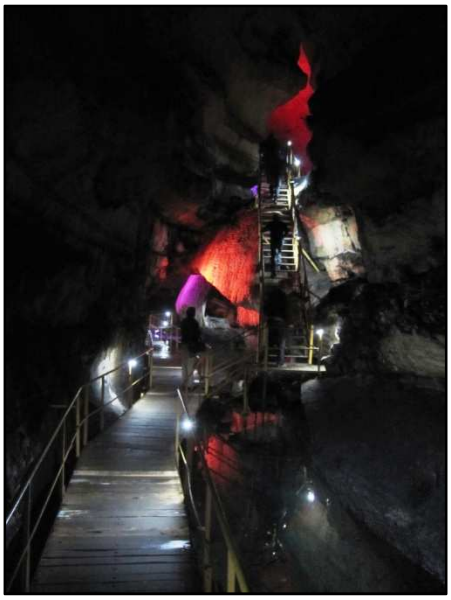
*Iris stenophylla (*ssp*. stenophylla?)*

Iris stenophylla (Iridiaceae) is the real find of the morning. It is the *Iris* species we aimed to see yesterday morning in the first site botanized.
This species is native to central Turkey, where it grows on stony slopes and screes usually on limestone. It's very similar to *Iris persica*, apart for the flowers colour (flowers of *I. persica* is usually yellowish). The specimens we record here present wide variations in colours (but unfortunately we can't see the really rare, white-flowering one). These Iris are also likely to be *Iris stenophylla* ssp*. stenophilla*, which is the northern subspecies.

Primula vulgaris

Primula vulgaris (syn. *P. acaulis*) is the well-known English Primrose, a widely distributed species, common in southern and western Europe (but present in the British Isles too), northwest Africa and southwest Asia (especially in Caucasus).
As all the *Primula* species, *Primula vulgaris* has mainly clump-forming with the entirely basal leaves in rosettes. It flowers in early spring, one of the earliest spring flowers in much of Europe. Flowers are borne singly on a slender stem, pale yellow, white, red, or purple. It likes shady, wet places. The problem in cultivating in UK is keeping the plant in cold places, especially in summer, when the red spider (most harmful pest of *Primula*) is active.
There are many subspecies and some hybrids (especially with *P. veris*).
Both flowers and leaves are edible, the flavour ranging between mild lettuce and more bitter salad greens. The leaves can also be used for tea, and the young flowers can be made into primrose wine.

Then, before lunch, we had a nice diversion in the caves.
Once outside, we can see snowing heavily. Somebody proposes to go back in the caves, but we have many sites to visit today. After having a nice (and warm) lunch in the touristic restaurant of Tinaztepe, we get on the bus again.



Tinaztepe Caverns from outside... ...and from inside.

SECOND SITE

We reach and go over the second pass of the day Gevnebeli Pass (1890), being the weather is still grizzly and quite nippy.
Just after the village of Korulan, somebody notices snowdrops from the bus windows.
So we stop. They are snowdrop, but cultivated in a private garden. We believe they are *Galanthus elwesii* and also take a sample, to key-out tonight at our meeting.

Galanthus elwesii

Galanthus elwesii is a very variable species but is distinguished by its glaucous leaves. Height and width of leaves are very variable. Native of ex Yugoslavia, Romania and Ukraine south to Greece and west Turkey grows widely in woods, scrub and among rocks. At of curiosity, exists a cultivar "Merlin" and seems to be a hybrid between *G. elwesii* and another species. It has a very dark green inner segment and apparently is easy to grown… why do not have a try?

THIRD SITE

Just few kilometers before reaching the Municipal Hotel of Taşkent, were we are going to stay overnight, we stop for a quick inspection through an interesting oak scrub.
This is a *Quercus trojana* scrub, located at 1420 meters of altitude and seems to be a good place because of a big variety of aspects and geological conformations of the slopes.
We record here specimens of *Colchicum triphyllum, Crocus chrysanthus, Anemone blanda, Cyclamen cilicium, Gagea villosa* ssp. *villosa, Iris stenophylla, Geranium tuberosum, Allium* species and *Crocus pallasii* (these last two only in leves).
The pale yellow flowers of *Viscum album*, the common Mistletoe, literally cover the canopies of the conifers.

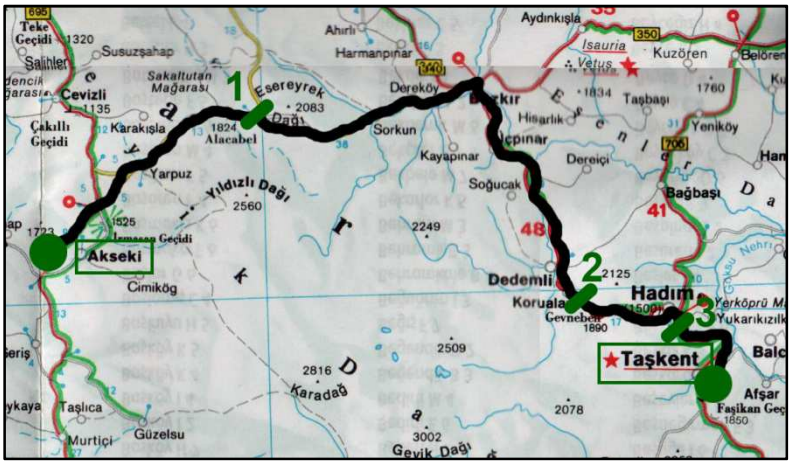
Colchicum triphyllum

Crocus chrysanthus

We finally arrive at the Municipal Hotel of Taskent (a massive and intimidating building which remembers to me certain Soviet Architecture).
We are exhausted: today the weather was harsh. Anyway, Richard and I have a second wind and decide to take a path through a steep cliff which leads to a panoramic view of the city. During that short excursion we find specimens of *Anemone blanda, Galanthus elwesii, Crocus chrysanthus, Arabis aubretioides.*

View of Taşkent from the bellavista over the city

DAY RESUME



100 km – 1) Tinaztepe area, pine goves (1490m.) 2) Gevnebeli Pass (1890m.) 3) S Hadim, oak scrub (1520m.)

Plant of the day: *Iris stenophylla* (unanimously elected).
No key-out tonight, Richard and I have a walk through the village after dinner. The aim tomorrow is Tulipa cinnabarina, but, because of the snow, the changes to find it out are really poor.

The friendly Turkish blacksmith in Taşkent who sold me a pruning knife

Galanthus "Merlin"
[imagine from internet database]

Wednesday 11th April

Apparently today the weather is worst than yesterday.
At a first moment steady sleet, then heavy snow.
This is not good news at all, because today we have to go over Faşikan Geçidi Pass, a difference in altitude of more than 300 meters from Taşkent. Climbing the rough road, our bus driver Muzzafer ask us to move in the back of the vehicle, in order to facilitate the climb.
Looking the stormy weather from the bus windows, silently some of us still dream his warm bed or a diversion in some sheltered cavern, like yesterday.

Faşikan Geçidi Pass in the clouds

Everybody in the back of the bus

Finally we arrive in Ermenek, where we are going to spend three nights in a modern hotel, provided with all comforts (included a table tennis, a passion of mine).
Once arrived, we are offered the inevitable Turkish tea, which gives us the time to plan the expedition for the rest of the day.

This gives me the starting point for a little play about bulb families. Using tea glasses and saucers, I try to figure out the flower structure of two bulb families. While the Amaryllidaceae family (*Sternbergia* and *Galanthus*) have flowers with an inferior ovary, in the Liliaceae (*Fritillaria*, *Tulipa*, *Gagea*) and Iridiaceae (*Iris, Crocus, Romulea*) the ovary is superior the stigma.
Quite curiously, the representation of the Liliaceae remembers the flower of daffodil, which actually is in the Amaryllidaceae and therefore has an inferior ovary.
Appearances are often deceptive…

Ovaries and sepals are now glasses and saucers

Same display with the ovules (sugar cubes)

FIRST SITE

It's afternoon when we have our first survey botanizing.
Due the weather conditions, this site is not as far located as it was supposed by our first itinerary plan. Anyway we are now exploring an interesting oak scrub on grey limestone, 1450 meters of altitude.
This is populated mainly by *Quercus coccifera,* with some *Juniperus excelsa*.
We see many things: *Ornithogalum lanceolatum, Gagea villosa, Colchicum triphyllum,* Muscari *armeniacum, Anemone blanda,* the already observed leaves of *Cyclamen cilicium* and then the unusual leaves of a *Sternbergia* species, which we believe being *Sternbergia clusiana.*
Unfortunately the conditions don't allow going much further, because it's too snowy and we are already two hours by drive away from Ermenek. At the end of the day, that is a half-day botanizing, but we can report two new things: *Viola kitabaliana* (which is a very dinky little thing) and *Corydalis tauricola*.
Corydalis tauricola is endemic to the east Taurus. It's very similar to *C. wendelboi* but is not so dense flowered and its diffusion in the Taurus Mountain is more eastwards. Another difference is that *C. tauricola* has the pedicel more or less same size of bract, while *C. wendelboi* has the pedicel slightly longer.
Corydalis tauricola flowers beautifully in white or very pale pink. As all the other species of its genera, can attract bees or other insects and tends to be scattered rather than in groups.

Corydalis tauricola

Ornithogalum lanceolatum

SECOND SITE

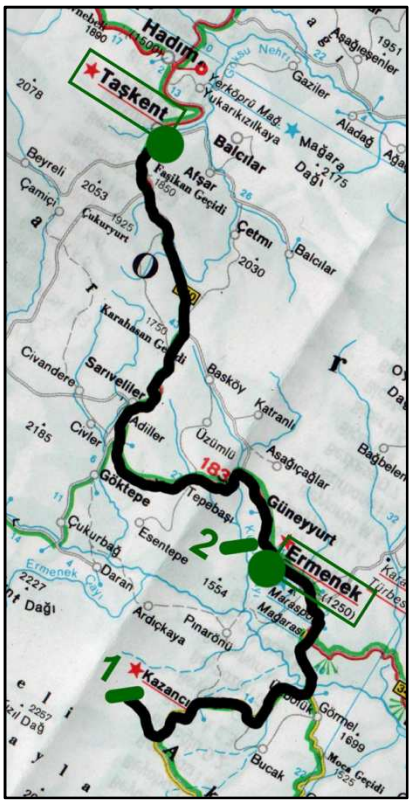
We are back to Selcuk Hotel, Ermenek.
It's about 4 so somebody decides for a survey around the hotel, in a quite disturbed land on conglomerate. There are exposed rock cliffs, tiny streams, and oak scrub (*Quercus coccifera*).
After one hour exploring this area we record: *Muscari armeniacum, Alkanna saxicola, Aubrieta deltoidea, Iris stenophylla.*
It's also recorded a single *Hyacinthella lazulina* specimen, which presents pedicels absent or at least less than 1mm. This species replaces *H. heldreichii* east of Anamur.

One of major responsible of the bulb endangerment

Robert is able to find a *Fritillaria*, which we are not able to identify.
It seems to be well-matched with *Fritillaria assiriaca spp. melanthera*, which was never recorded at this altitude, although in this area.
This could be a very important discovery (see 12/4 Day Resume for the sequel event).

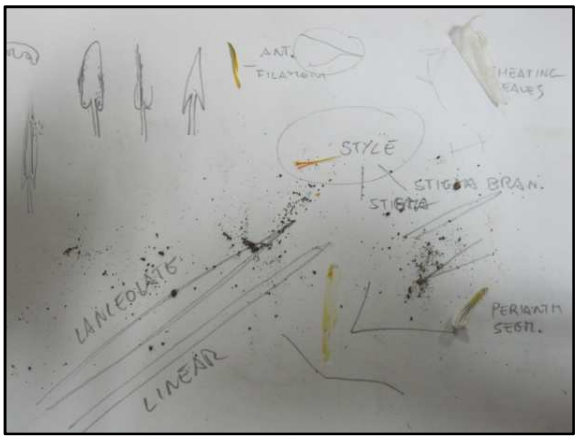
Views of the Ermenek

DAY RESUME



Today wasn't very productive.
The weather and the road conditions didn't help us and so we couldn't reach the site in the afternoon.
Anyway, we had a warm lunch in a lovely family restaurant (Turkish people is always so friendly) and we could see few new flowers.
Corydalis tauricola is in my opinion Plant of the Day.
Robert found also an unidentified *Fritillaria* next to the Hotel. We'll try to key it out tomorrow, perhaps confronting it with the set goal of the day, a rare green frit, (*Fritillaria assyriaca ssp. melananthera*) which is likely to be found in meadow fragments and other rocky habitats through the fields.
A particular blue flowering *Alkanna* is also a target for tomorrow..

100 Km – 1) S of Kazanci oak scrub on limestone (1450m.) 2) Ermenek Hotel, disturbed land on conglomerate.



Studying botany

Tuesday 12nd April

I wake up early this morning and go in the dinner room waiting the others for breakfast. I meat Estella there, already having her first cup of tea. We have a discussion about her country house in Turkey and the plants growing there. I cannot help but give some ideas about the lay-out for the garden and the selection of the plants. She mentions me some native plants performing quite well for hedging, such as the beautiful *Rosa damaescena* and *Calicotome villosa*, which is new thing for me (but not for long…).
After breakfast the group leaves Ermenek from the opposite way we arrived yesterday, routing south. We go over in succession the towns of Golmeri, Bardat, Gulnar and Bozağac, crossing a beautiful landscape progressively changing in forest of conifers, lush valleys, and wide plateau all cultivated with apple and cherry trees and limestone where the showy flowers of *Daphne* and *Asphodelus* species stand out against the rocks.

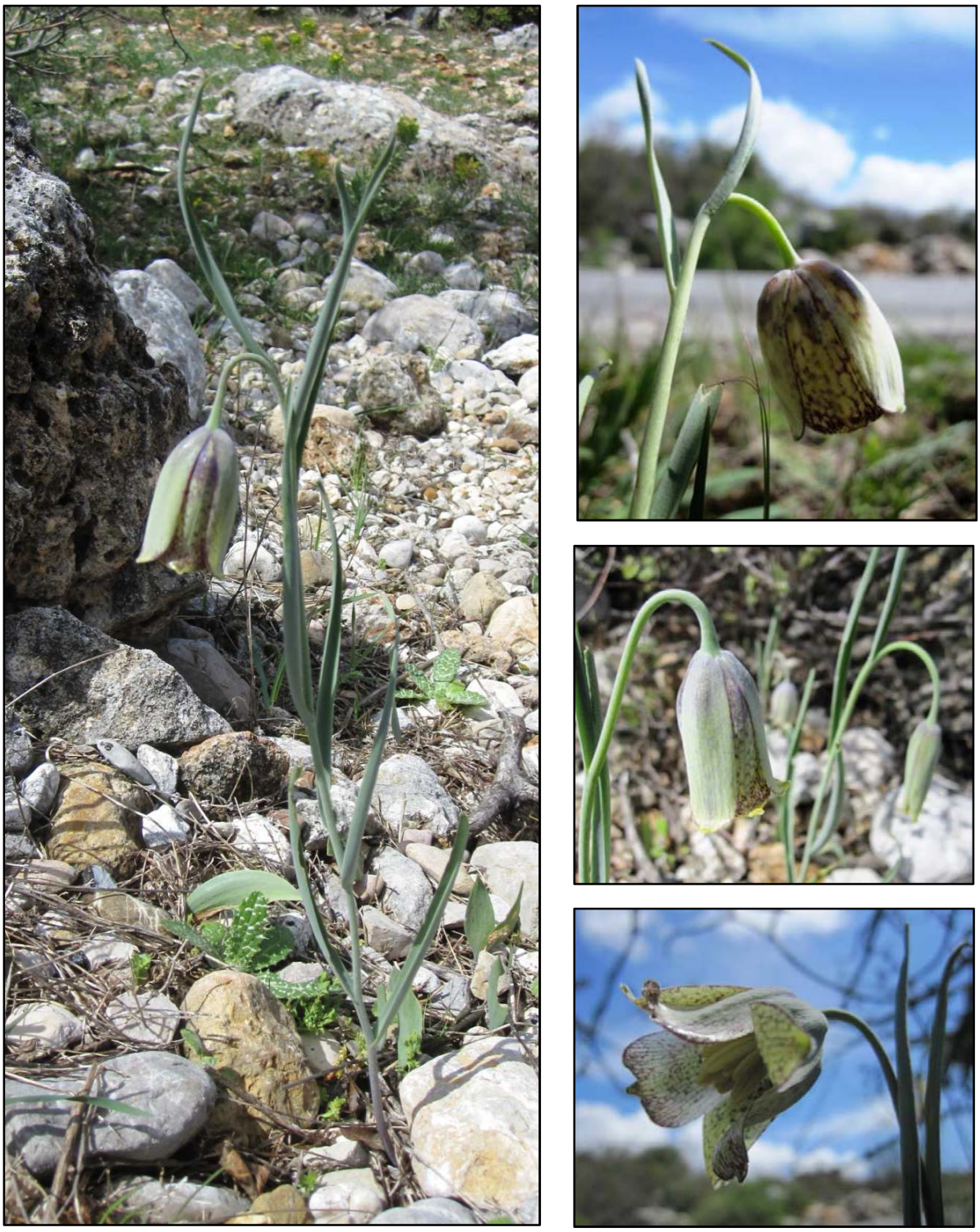
FIRST SITE

Routing just few miles south of the town of Bozağaç, we stop in a garrigue on limestone cliffs and small field fragments, 770 meters of altitude.
The Mediterranean coast is just 17 km far from here, but its influence is noticeable. This garrigue will reveal itself as one of the most interesting sites of our expeditions so far.

The densely populated garrrigue we botanized

Just outside the bus (literally few steps from one of the tires of the bus) we can see the Fritillaria of the day. This is a group of the very tall *Fritillaria persica*, second in height only of *Fritillaria imperialis*.
Just the time to photograph these giant frits, and cries of joy comes for nearby: somebody found something special in the limestone. It's a group of *Fritillaria sororum*, which is one of the targets of the day and of the entire trip too.

Vivid yellows of *Aphodeline lutea*



Fritillaria sororum

It is a flower to peer into. In order to appreciate its true beauty, you will have to learn to know it intimately. You must look closely at all its little squares, and also turn its bell up towards you so that you can look right down into its depths, and see the queer semi-transparency of the strangely foreign, wine-coloured chalice. It is a sinister little flower, sinister in its mournful colour of decay.

Vita Sackville-West, *Some Flowers* (writing about *Fritillaria meleagris*).

Fritillaria persica

Fritillaria sororum (left) and *F. persica* (right) competing in beauty

The striking *Fritillaria persica* is a widely distributed species in Asia Minor, being native of south Turkey, Syria, Lebanon, Israel, Jordan, Iraq and west Iran. It's likely to be found in rocky slopes, in scrub and at the edges of cornfields, in an altitude from 700 to 2800 meters.
Botanically, it's a characterized species. It has a very long stem (20-150cm), numerous alternate leaves (lanceolate to ovate), and flowers seven to twenty, blackish, grayish or greenish, narrowly to broadly campanulate. As most Fritillaria species, flowers are from April to May, and no scent is recorded. Curiously *Fritillaria persica* has almost invariably this purple form in Turkey. In Lebanon and in Iran is more variable in color.
Fritillaria libanotica (syn. *F. Arabica*) is a form from the cliffs near Petra and Jordan, particularly striking in its broad leaves and obovate petals.
It's possible to grow in the British Isles, but requires deep rich soil, either in a bulb frame, or in a very warm sunny place outside, such as a bed under a south wall.
The plant commonly found in cultivation outside its range is the cultivar *F. persica* "Adiyaman" (AGM), a particularly large and fine selection.

Fritillaria sororum it's a newly named species. Up to 1998 it used be F*. acmopetala*.
It's endemic of a restricted area in Turkey (South Anatolia, Içel, Taurus Mountains) and grows in stony grounds among oak scrub or in pine forest, up to 950 meter of altitude.
Flowers are singular (rarely three), broadly bell-shaped, green, marked with reddish-brown, but not checkered, with a spermatic scent. More rarely they can also be greenish-yellow.
Technically, *Fritillaria sororum* differs from *F. acmopetala* in having a tessellated perigon, smooth filaments, and uppermost leaves often with a tendril-like apex.
Recently *F. sororum* specimens have been compared with *F. acmopetala* ssp*. acmopetala*. Substantially *F. sororum* differs from *F. acmopetala* ssp*. acmopetala* by the uppermost leaves often with a tendril-like apex. All the other characteristics fall within the variation of *F. acmopetala* ssp*. acmopetala*.
Consequently*, F. sororum* is evaluated as a synonym of *F. acmopetala* ssp*. acmopetala*.

For once, the site is not grazed. This fact allows us to record a wide range of plants in excellent conditions.
Among small trees and shrubs, flora is composed by *Quercus coccifera*, *Phlomis fruticosa*, *Ferula communis* (the so called Giant Fennel), wild *Prunus*, *Rhus* and *Asparagus* species. Bulbs of interest we find are *Anemone blanda*, *Cyclamen cilicium* (leaves), *Corydalis tauricola, Gagea chrysantha*, *Muscari armeniacum* (included a white one). Other interesting things are *Dracunculus vulgaris* and many other *Arum* species, *Alkanna aucheriana, A. hirsutissima, Veronica cymbalaria, Daphne sericea, D. gnidioides*.

Ferula communis

Asphodelus aestivus

Anagyris foetida

Aphodeline lutea

Storax sp.

Daphne sericea

Valeriana sp.

Bongardia chrysogonum

Onosma sp.

Symphytum sp.

Aristolochia sp.

Geranium tuberosum

Orchis anatolica

Bellevalia modesta

Bellavalia genus (Hyacinthaceae) is represented by around 50 species from Europe, the Middle East and Russia. It's usually confused with *Muscari*, but *Bellavalia* species have usually more open inflorescence. A second difference lays in the appearance of the seeds. In *Muscari* they are shiny, in *Bellavalia* dull.
Bellavalia modesta has large bulb and flowers in a loose cylindrical raceme, cream, shaded purplish-brown. It's endemic to southern Turkey in macchie, field margins and waste ground in clay.

After having a nice picnic in this area, we move further on a place where many *Fritillaria* species are likely to be seen (our greed in fact of frits is never satisfied). After about two miles we see from the bus windows something we believe being tulips. It's a false alarm: only one reddish, grazed *Euphorbia rigida*.
From the windows I notice yellow shrubs of *Calicotome spinosa* (the plant Estella mentioned at breakfast).

SECOND SITE

After sifting out intensively that lucky site, we decide to turn back for the road we came, and north east of Gulnar we get off the bus again for the second survey of the day.
This is a slight north-west-facing slope with limestone rocks and mixed scrub. Altitude is 1100 meters a.s.l.
Flora is here dominated by *Juniperus drupacea* (the so called Syrian Juniper) and *Quercus coccifera* and *Q. Trojana*.
We are now looking for a mysterious frit having a record in the Flora dated 40 years ago.

Scrub on limestone rocks

Finally we find a spot populated by few scattered specimens of a newly observed *Fritillaria*.
This is *Fritillaria assyriaca* ssp. *melananthera.* It's a stripped, dinky species, looking very fragile and precious and is said to be very similar to *F. Chlorodhabdota*, another local speciality.

The specimens we can observe here are really well-matched with to the one that Robert found around the hotel in Ermenek yesterday.
Anyway these have broader leaves and slightly different colour in the inner and outer parts of the flower.
In the light of all the considerations, we believe that it could be a new subspecies.

(see 12/4 Day Resume for comparision).

Fritillaria assyriaca ssp. *melananthera*




Muscari armeniacum in variation of colours


Hyacinthella lazulina

Unidentified *Ornithogalum* sp.

Other interesting plants we record in this site are: *Hyacinthella lazulina*, *Muscari armeniacum* (in variation of colours), *Daphne sericea*, *D. gnoides* (not sure), *Genista albida, Cyclamen cilicium, Crocus* (several species still in leaves), *Viola* sp., *Hypericum* sp., *Digitalis* sp (in leaves), *Biarum eximeum (in leaves).*
An unidentified *Ornithogalum* is also recorded.

Agricultural landscapes

Cedrus libani

THIRD SITE

Already on the way back to the hotel, we decide for a last stop, noticing interesting shady, north-facing slope and rocky cliffs.
They are populated by a wild cedar forest with oak scrub (*Quercus coccifera*) and some young *Larix* probably planted by the forest management.
We are now just north-west of the agricultural village of Alkova, at 1400 meters of altitude.

Things recorded are: *Anemone blanda* (with variations in color), *Corydalis tauricola, Anemone blanda* (lots of dinky pinky ones), *Colchicum triphyllum, Ornithogalum lanceolatum*. *Crocus biflorus* ssp. *isauricus* (with both black and yellow anthers), *C. chrysanthus.*

Anemone blanda
(unusual pinky)

Anemone blanda
(characteristic sky-blue)

Galanthus elwesii

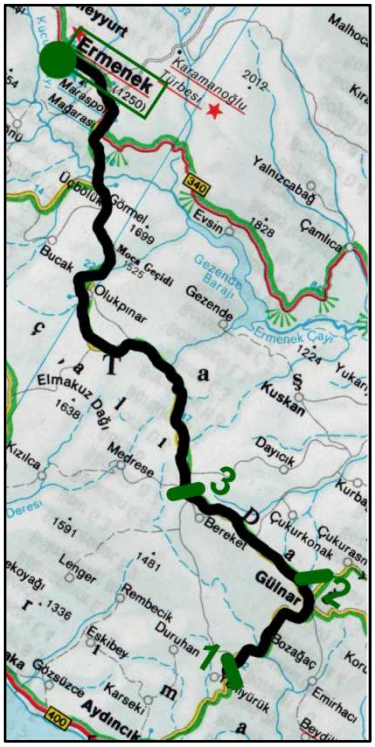
Crocus biflorus ssp. *isauricus*
(black anthers)

Crocus biflorus ssp. *isauricus*
(yellow anthers)

Crocus chrysanthus

Plant hunting limestone cliffs

DAY RESUME



250 Km – 1) S of Bozağaç, garrigue on limestone (770m.) 2) NNE of Gulnar, limestone (1100m.) 3) NW of Alkova, cedar forest with limestone (1400m.)

Variations in *Fritillaria assyriaca* spp. *melananthera*. Specimen discovered today (left) and yesterday (right)

It’s hard tonight to award the “plant of the day”: *Fritillaria persica* and *F. sororum* were just amazing. But, as they say, when two dogs strive for a bone and a third runs away with it.
So plant of the day is the third frit, *Fritillaria assyriaca* ssp*. melananthera*.

They seem to know their onions

Unidentified *Ornithogalum* sp.
(Found in the third site)

Dissecting
Bellavalia modesta

Corm tunic of *Crocus* species

Set goals of tomorrow are Muscari massayanum, a real speciality of this area, and the very rare, striking Alkanna sehliana.
Many Crocus species are also expected to be observed here, because the area near Ermenek is reported as a good place for them.

Friday 13 April

Grafting tequique on ornamental standing tree in the garden of the Hotel in Ermenek

Fish farms

We begin our route today traveling eastward, direction Palantepe.
The landscape is interesting and very variable in altitude, flora, and expositions. Just after few miles from the hotel we stop for taking a picture of the lake, in where it's possible to see fish farms (probably trouts) in the far bottom.
After about one hour from our departure, we are crossing a mild and lush valley (altitude 255, one of the lowest of our expedition), all cultivated with olive and pomegranate trees and characterized by beautiful, horizontal rows of dry stone walls all the way along the hills.
The clime here is clearly Mediterranean.
Robert says that this is the perfect habitat for the beautiful *Anemone pavonina* (Ranuncolaceae), the Peacock Anemone. Many *Orchis* species are also likely to be observed here.
We pass briefly the villages of Evren, Sucati, Hamam, Mut (all laying on a wide and barer plateau) and finally arrive Palantepe.
We also decide to stop just south of Palentepe, botanizing some fields next the main road.

FIRST SITE

It's about 10:50 when we start botanizing field margins and orchards of olive trees (*Olea europaea*) and pomegranate trees. (*Punica granatum*). Altitude is here 280 meters, one of the lowest in our trip.

The floor is just a carpet of beautiful Mediterranean wild flowers and bulbs.
Among wild flowers we see tons of *Adonis aostovalis*, *Crepis sancta* and *Cardaria draba* (this is literally everywhere).
There are more scattered specimens of *Tragopogon pratensis* (in English Jack-go-to-bed, because of its habit to close the flowers overnight)*, Geranium tuberosum, Tordylium aegyptaceum, Ranunculus millefolius, R. scandicinum.*
I can first observe a weedy spurge, *Euphorbia hausknakii*, a find of which I'm particularly proud (I'm actually a big fan on *Euphorbia* species).
One specimen of *Anchusa azurea* is from others recorded; this astonishing blue wild flower is a new thing for me.
There are some members of Araceae family, such as *Biarum bovei, Eminium rauwolfii, and* also big groups of *Aristolochia* sp.
Among the bulbs are *Muscari comosum, Allium gayi, Bellevalia* (a species we can't identify), *Ornithogalum narbonense* (a very tall species).

Pomegranate trees

Olive trees

Field mixing olive and pomegranate trees


Adonis aostovalis



Euphorbia hausknakii


Tordylium aegyptaceum


Ranunculus scandicinum


Geranium tuberosum


Eminium rauwolfii


Aristolochia sp.


Allium gayi


Bellavalia sp.


Ornithogalum narbonense

After this first stop we turn back to the city of Palantepe and cross the citycenter.
The main street in Palantepe is a nice tree-lined road, planted with rows of plane trees. They are *Platanus orientalis*, a book-taught species for me, which I can finally see now. This is an elegant tree, with foliage pretty different to our European plane (or London Plane, I know, in the British Isles). In point of fact then, the European plane (*Platanus x acerifolia*) is just a very ancient hybrid between *Platanus orientalis* and *P. occidentalis*, and it's not sure if it was hybridized in Spain or England.
We leave Palantepe and approach the mountain village of Zeyker, where are going to have our next stop.

Platanus orientalis

SECOND SITE

We stop just after the village of Zeyker, before the top of the pass. The habitat is a grazed garrigue (probably the most heavily grazed ever). Altitude is 1420 meters.
Among the scattered low vegetation (oak scrub, *Astragalus* sp., other serpentine flora), we find flowers of *Iris stenophylla*, *Colchicum serpentinum*, *Ornithogalum lanceolatum*, *Cyclamen cilicum*, *Gagea foliosa*, *Corydalis tauricola*, *Hyacinthella lazulina*, *Teucrium polium*, *Rosularia* and *Arabis* sp.
There are also leaves of *Crocus pallasii*, *Cyclamen cilicium* and *Bellevalia* sp.

Plant hunters looking downward among a wide pavement of limestone

Two noticeable plants are recorded in this exact site by some literature. They are the very rare *Muscari massayanum* and the beautiful *Alkanna sieheana*.
They are targets now and so we start botanizing unfailingly through flat fields and steep stony walls.
After one hour searching, finally Richard finds the *Alkanna* and Robert the *Muscari*.

Alkanna sieheana

Alkanna sieheana (only two specimens recorded) is literally hanged on a rock face, very hard to reach. All the Richard's climbing skills were necessary to get there.
Alkanna is a genus of herbaceous plants including about 60 species of the family Boraginaceae. It's originally native of the Levant but is now found, wild and cultivated, throughout much of Europe and around the Mediterranean.
Alkanna sieheana is very similar to the more widely-distributed *A. tinctoria*.
A. sieheana "Royal Blue" is the most popular cultivar in England.

The *Muscari massayanum* specimens we find (again, only a pair of them) are actually plants from the last year, conserving now the seed caps. Anyway observing those skeletons is a quite interesting and indicative thing.
They were inside a closed fence and so protected by the grazing-demolition activity. In the matter of fact all kind of flora is heavily overgrazed all over the place and it's not likely to find *Muscari* in flowers out the closed fence.
Muscari massayanum is native to Turkey but was first described in German in *Gartenwelt* in 1931. There have been some misunderstandings about the name but it is now officially spelled as it is. It has been quiet around it since the introduction until it was rediscovered on the Mathew-Tomlinson expedition to Turkey in 1965, which helped to solve the question of what *M. massayanum* was and where it came from.
M. massayanum is a member of subgenus or group *Leopoldia*, and is unique in that group in having a dense, bright pink coma of pedicellate sterile flowers tinged with violet. In both morphology and karyo-type it comes closest to *M. tenuiflorum*, which is widespread in inner Anatolia.

Muscari massayanum

THIRD SITE

After lunch we route back through the road we came this morning. We can see fertile grounds and productive fields all over the wide plateau we are crossing. Nevertheless some people still picture in its mind Turkey as an arid, bare country…
Between the villages of Suçati and Evren, we decide for a stop in some apparently interesting north-facing sandy slopes with pebbles and some mixed scrub. At the foot of the slopes are fallow fields. Altitude recorded 1500 meters.
We think that, being this area a not cultivated land, it could also be a good habitat for the frit we found yesterday. We get out of the bus and start botanizing the slopes.

Gradualy approaching the serpentine slopes

Somebody see a red spot in the distance, on a sandy hill.
It's a tulip!
This is an important, emblematic moment in our expedition. Using an Italian idiomatic expression, we could affirm that visiting Turkey and not seeing a tulip (in its natural habitat of course), is like going to Rome and not seeing the pope.
We all are now in a big excitement around the flower. Suddenly a long queue forms for photographing the star. Now I can appreciate a bit better what the so called "Tulipomania" actually was.
Anyway we are not entirely sure about the species, if *Tulipa armena* or *T. julia* (only at the meeting tonight with the help of the dichotomous keys of the Flora, we'll state that this is *Tulipa armena* ssp. *lycica).*
Tulipa armena ssp. *lycica* represent the southern Turkish form of *T. armena* and is medium sized, striking bright red to crimson flower with a small black eye, picked out with a gold border.
It has fur lined bulb tunics protecting its small bulbs from the excesses of summer heat and dryness in its native mountain home.

Tulipa armena ssp. *Lycica* (flowers and buds)

Anyway These slopes are relatively ungrazed and populated densely by a rich and heterogeneous flora.
We record *Pistacia terebinthus* spp*. palestina* (a relatively tall pistachio tree species), a Quercus coccifera, Crataegus monogyna, some ungrazed Genista sp., Sarcopoterium spinosum.
I'm particularly impressed by the architectural habit of the *Sarcopoterium* (Thorny Burnet), which have a strongly-marked hexagonal texture. This is a dense, much-branched, anti-grazing shrub, very common in the Mediterranean countries.
Smaller flowers and bulbs here are *Arabis drabiformis*, *Bellevalia modesta, Gagea* sp., *Aristolochia* sp*., Biarum bovei, Eminium rauwolfii, Bongardia chrysogonum* (which we first thought was *Bongardia fancifolia* but it's not).
There are also some acquaintance from around the traps such as *Fritillaria assyriaca ssp. melananthera, Alkanna sieheana* and *Ornithogalum* sp. (may be *alpigerum*; it's really well-matched with a specimen observed yesterday which we coudn't key out because of too many contradictive characters).

Pistacia terebinthus spp*. palestina*, female (above) male (below)


Genista sp.


Sarcopoterium spinosum


Quercus sp.


Crataegus monogyna


Bellavalia modesta


Eminium rauwolfii

Ornithogalum alpigerum (?)

A jumpy fellow

DAY RESUME

150 Km – 1) S of Mut, field margins and orchards. 2) near Zeyker, garrigue. 3) near Suçati, n-facing slopes

Counting the inner veins of a *Biarum* leaf

Colchicum serpentinum

Anchusa sp.

An example of contracting root system

Plant of the day is *Muscari massayanum*. According with some member of the group, plant of the day should be the tulip, but *Muscari* asked too many efforts and researches.

Tomorrow we aim to see *Colchicum serpentinum* (which is a newly describted species with very silvery leaves) and the violet dinky *Hyachintella lazulina*.

Saturday 14th April

We have a long journey today. They are approximately 250 kilometers from Ermenek up to Çiftehan, going through any kind of roads and altitudes.
The landscape will also change dramatically, presenting mild valleys with lakes at the bottom as well as snowy mountain passes.

Variaty of the landscapes in the Taurus Mountains

FIRST SITE

Just few miles from the top of Yıldızbel Pass, we start to see from the bus windows yellow and blue spots among the melting snow.
They certainly are the first signs of *Crocus* (may be *C. chrysanthus* or *Crocus biflorus* ssp. *isauricus*) and *Iris stenophylla*.
So we decide to stop our bus aside the rough road and start exploring a landscape constituted by open rocky slopes and fell fields in melting snow. We are now 1830 meters of altitude and it's quite nippy.
We decide for a quick survey of ten minutes, just to see if we can find anything interesting.

Sifting through the rocks

Young specimens of *Anemone blanda*

Bulbs are soon here: in addition to the expected *Iris stenophylla, Crocus biflorus* ssp. *isauricus* and *C. Chrysanthus* (these with black marks too), we find out lots of *Anemone blanda and Colchicum triphyllum* as well as more scattered specimens of *Corydalis erdelii, Hyacinthella lazulina, Gagea foliosa*, *Muscari armeniacum.*

Colchicum triphyllum

A new observed *Astragalus* sp. (surprisingly not spiky)

SECOND SITE

The top of Top of Yıldızbel Pass (1925 meters) is the second site botanized, just few miles far from the previous one.
The landscape is represented by open mountain slopes and fell fields in melting snow. Basically same bulbs as the first stop apart from of *Iris stenophylla* and, possibly, *Gagea foliosa.*
Fond about *Gagea* sp., Rannveig enjoy searching and identifying the fine differences of these beautiful alpines. This site reveal itself as a really good spot for observing *Gagea* sp. and so we collect several samples, which, according with their features and literature, are likely to be *G. glacialis, G. fistulosa*., *G. bohemica*, *G. lutioides* (see Day Resume for the definitive results).

Wild landscape and its inhabitants

THIRD SITE

Tulipa armena subsp *lycica*

Carrying on through the mountain roads, we notice a solitary tulip from the bus windows, quite probably the same species observed yesterday.
So we decide to have 5 minutes of exploration in here. It's a north-facing steep rocky slope, 1050 meters of altitude.
Apart from the specimen of *Tulipa armena* subsp *lycica* and only few Corydalis *tauricola, Muscari armeniacum*, *Cyclamen cilicium* (in leaves), we can't see any new or particularly interesting bulbous plant.
Among the rocks there are ferns (*Ceterach officinarum*).
Nevertheless, just aside the road, I can notice a new, interesting shrub. This is *Paliurus spina-christi* (Christ's Thorn) and is probably the most thorny thing I've ever see. It's a much-branched, almost hailess shrub, about 3 meters tall, with zig-zag stems.
It's one of the (several) plants reputed to have been used for Christ's crown of thorns and, just touching lightly it, I can perfeclty understand why.

Paliurus spina-christi (plant and fruits)

Today it's really all up-and-down through mountainsides and valleys.
Now we are just lower than 800 meters and we can see olive trees and vines.
The cultivation of vine is really particular and different from any other way I sow in the other Mediterranean countries. In the matter of fact the plant is not trained or lined up in long rows, but kept standing and really hard pruned back.
I personally assume this have to do with the altitude, which is still considerable for a plant like vine.

We carry on climbing up the bare landscape and from the bus window it's possible to see *Aubretia* and *Onosma* sp. growing literally in the stony crevices and hanged on the rocks.
Their colours are absolutely beautiful and should perform really well in any rock garden.

Rustic field of vine really hard pruned back

Stricking, multicolored *Onosma* sp. photographed from the bus window

FORTH SITE

After an unexpected diversion through a rough mountainside road, we are able to reach the top of the Avkan Geçidi Pass (1370 meters a.s.l.), where we decide to have our lunch and then an exploration of the area. This is here a large rocky outcrop in meadow fragments.
Bulbs we find here are *Galanthus elwesii*, *Ornithogalum lanceolatum*, *Colchicum triphyllum*, *Gagea foliosa*, *Cyclamen cilicium* (in leaves), *Anemone blanda*, *Muscari neglectum*, *Crocus biflorus* ssp. *issauricus* and *Corydalis tauricola*. Other interesting things for the rock garden are *Aubrieta pinardii* and *Lamium gargaricum*.
Landscape is also typified by the parasitic activity of *Viscum album* and the diffused presence of a little sedge, *Blysmus compressus* (Flat Sedge, in English).

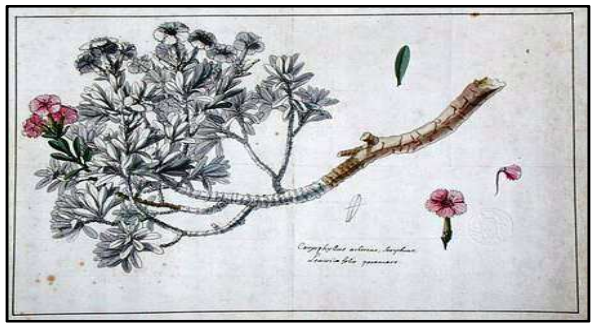
Galanthus elwesii

Muscari neglectum

Gagea foliosa

Aubretia pinardii

Aubretia (Brassicaceae) is a genus of about a dozen species. It is named after Claude Aubriet (1665-1742) a French illustrator and botanical artist.
It originates from southern Europe, east to central Asia but is now a common garden escape throughout continental Europe and British Isles. It is a low, spreading plant, hardy, evergreen and perennial, with small violet, pink or white flowers, and inhabits rocks and banks.



Caryophyllus arboreus by Claude Aubriet
[imagine from internet databese]

Verbascum sp.

Blysmus compressus

Going down the south-facing mountainside from Avkan Geçidi Pass, I can notice a more advanced degree of growth in the vine allotments, compared with those at the same altitudes in the north-facing side. Obviously this has to do with the different aspect of the two slopes.
Mid-afternoon we reach the important city of Karaman, which we cross without having stop (we still have many kilometers to cover). While we see the buildings from the windows, Alper tell us a bit of story of this influential city, which used to be a big Ottoman province and one of the strongest states in Anatolia.
From Karaman onwards we route in the flat Anatolian plateau, made even more boring by a dull sky. Impossible not take a catnap with this weather, and so I do.
About 6 we finally reach the Thermal Hotel in Çiftehan.

FIFTH SITE

After dropping our luggage somebody decide for a quick exploration around the village and on opposite side of the main road. This is landscape of steep, eroding muddy slopes under mixed forest (1000 meters). It's a no man's land dominated by a massive, modern Thermal Hotel, which makes everything even more homesick.

In such shabby scenery we are able to find anyway little, precious jewels like *Iris persica, Tulipa armena* ssp. *lycica, Crocus sieheanus, Anemone blanda*, *Colchicum cilicium*, *Gagea villosa, Vinca herbacea*, *Arabis* sp.

DAY RESUME

250 Km – 1) Before Yıldızbel (Karaman Bey) Pass (1830m.) 2) Top of Yıldızbel Pass (1925m.) 3) N-facing steep rocky slope (1050m.) 3) Avkan Geçidi Pass (1370m.) 4) Çiftehan, around the village (1000m.)

Plant of the day: *Tulipa armena* ssp. *lycica.*

Gagea fistulosa

Unidentified species
(firstly supposed *G. lutioides*)

G. glacialis

Sunday 15th April

We get onto the motorway from which we came yesterday and after two miles we start climbing the north-facing mountainside which is going to be botanized today.
We are routing a very rough mountain road and leave behind the shabby villages of Alihoca and Maden (which in ancient Turkish means "mines").

FIRST SITE

Mededsiz Tepe (3524 meters a.s.l.)

Melting snow, the anteroom for many bulbous plants

Our first stop of the day is south-west of Çiftehan, on a pass 4 kilometers above Maden. We are going to spend a couple of hours exploring a quite wide area between 1750-2100 meters. There are open fell fields with melting snow.
I come to know by Robert that this site is included in the area of the "Anatolian Diagonal", one of the most biologically diverse areas of Turkey (see Day Resume).
The "Anatolian Diagonal" concept was suggested by P.H. Davis in *Flora of Turkey and the East Aegean Islands* (1971). According to Davis the huge differences between the plant diversity of central and eastern Anatolia is mainly due to the mountains running from north-eastern Anatolia to the south-western Anti-Taurus Mountains and then dividing into two arms, one reaching to the southern Amanos Mountains, the other to the Taurus Mountains.
Davis indicated that the differences between the west and east of the diagonal cannot be explained solely by environmental factors and suggested that geological history is another important factor. According to this viewpoint, while the biodiversity within Anatolia was diversifying, this mountainous region served as a centre of speciation and dispersal barrier for some communities.

In this mountain ridge there are good possibilities of hybridization between *Crocus biflorus* ssp. *isauricus* and *C. chrysanthus*. These hybrids are one of our targets.
Another important reason why we botanize this site is to find out *Tulipa humilis* and *Iris danfordiae*, two things expected to be here in accord with the literature. Like Fritillaria crassifolia, Iris danfordiae is a good example of species with a distribution in the Anatolian Diagonal. After gathering information about the characteristics of these plants, I begin walking around with the firm intention of find out them as first (…and so I did).

Iris danfordiae

Iris danfordiae is a most attractive species, native to Turkey, where it has been recorded from several widely separated areas (Taurus, west Malatya, Amasya) at 2000 to 3000 meters, on bare, earthy hills.
Flowers are rich yellow with some greenish spotting, standard absent (better, it is reduced to bristles) and the falls ascending, creating a characteristic not fully open look.

Iris danfordiae apart, this is just a lucky site.
Many things are here, among them some new observed bulb. There are lots of *Crocus chysanthus*, *C. biflorus* ssp. *isauricus* (although there may be some ssp. *tauri* too), one recorded specimen of *Crocus sieheanus*, several *Colchicum* species (at least present *Colchicum szovitsii*, *Colchicum triphyllum*), *Anemone blanda*, *Corydalis tauricola*, *Muscari azureum*, *M. neglectum*, *Gagea uliginosa*, *G. taurica*, *G. glacialis* and *Cyclamen cilicium* (in leaves).
Other noticeable alpine plants recorded: *Draba bruneifolia*, *Globularia tricosantha*, *Aethionema oppositifolia*, *Hyacinthella lazulina*, *Daphne oleioides*, *Thlaspi rotundifolium*, *Convolvulus compactus* (only in leaves, unfortunately).

Muscari coeleste

C. biflorus ssp. *isauricus*

Colchicum szovitsii

Gagea sp.

While observing among the snow patches, I heard shouting of joy on a slope next to me. It's obviously a new find. I run in that direction and see Rannveig admiring an *Iris*.
This is *Iris persica*, a native of southern Turkey, north Iran, Syria and Lebanon, growing on bare eroded soil and among oak scrub at 600-2000 meters. Flowers are usually solitary and very variable in colour (greenish, brownish-yellow or grayish). It is characterized by the fact that bract and bracteole are different in colour and size (which is unusual in the irises).

Iris persica

Juniperus excelsa like an oasis in the serpentine

Serpentine flora and melting snow

Colchicum szovitsii

Fields of *Colchicum szovitsii*

Frugal lunch, extraordinary view

Just before lunch I leave the groups of *Crocus* and *Colchicum* in the melting snow and try to search *Tulipa humilis* in the limestone, walking all along a steep stone wall.
In the matter of fact *Tulipa* species prefer rocky or sandy grounds and south-facing expositions.
Unfortunately, even after many researches, I'm not able to observe *Tulipa humilis*.
This evening in the way back, a local farmer will tell us that it's too early in the season for them at this altitude.

SECOND SITE

We move a bit westwards, exploring a south-facing steep mobile screes, located 1050 meters in altitude.
Nevertheless we can record *Muscari massayanum* (in leaves), two different species of *Salvia*, Matthiola, *Erysimum* and a pink-flowering *Arabis* sp. Then, many leaves of *Colchicum cilcicium* scattered all over the place.
Anyway the real find is *Hyacinthella lazulina.*
Hyacinthella genus (Hyachintaceae) is composed by sixteen species of small bulbous plants from south-eastern Europe and western Asia, formerly included in *Hyacinthus.* They all have a few narrow, totally basal leaves, naked erect scapes and racemes of narrowly bell to urn-shaped flowers.
The *Hyacinthella* species we are likely to see in the Taurus are *H. lazulina, H. heldreichii* and *H. lineata.* They are really well-matched and is not easy to identify them at a first sight.
Hyacinthella lazulina is a new described species, not reported in our *Flora*. This is now a distinct species which must not be confused with *Scilla lazulina*. Botanically, it is characterized by having glaucous leaves and 10-15cm tall spikes of deep blue flowers, infused with deep indigo.
Hyacinthella lazulina was originally described from Gulnar in Icel, Turkey (where it grows in rocky fields over limestone) and as such it is one of the more easterly species, geographically separated from the more western *Hyacinthella* such as *heldreichii*. The latter has been considered its closest relative but *H. lazulina* has a darker, more intensely coloured flower and its chromosome count indicates a closer relationship to *H. siirtensis* and *H. venusta*.
In cultivation it is rarely seen but it is not difficult and enjoys all the typical Mediterranean bulb conditions, with a dry summer rest and fertile, loam-based composts.

Hyacintella lazulina

Crocus sp.

Muscari azureum

Arum sp.

THIRD SITE

The last botanized site of the day is just a hundred meter above the previous.
It's a quite similar habitat but, being higher in altitude (1150 meters) it's also barer and stonier.
We are happy to see again our new acquaintances *Iris persica* and *Iris danfordiae*.
Some "group photos" and we can finally return to the hotel.

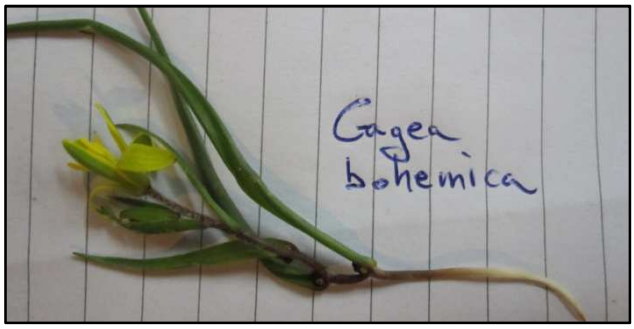
Group of *Iris persica*

A four-petals *Iris danfordiae*

Leisure kaleidoscopic times

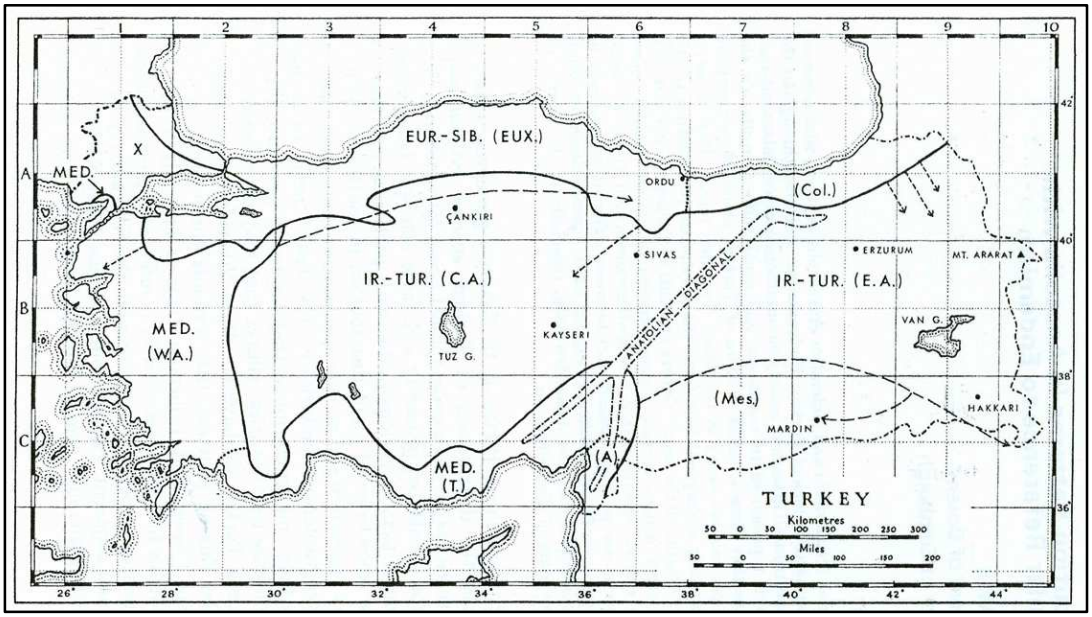
DAY RESUME

100 Km – 1) Fields with melting snow and limestone (1750-2100m.) 2) S-facing steep mobile screes (1050m.) 3) Limestone (1150m.)



Out of the Rannveig's pockets: *Gagea bohemica* collected yesterday on the second site and keyed out tonight during our meeting

Co-winners of the day are *Iris danfordiae* and *Iris persica*.
Third position in the podium for another new entry, *Muscari coeleste*,



Map prepared by P.H. Davis showing the Anatolian Diagonal (1971)
[imagine from Anatolian Diagonal Biodiversity Project, see Webography]

Monday 16th April

Wystan Hugh Auden once said: "Five minutes on even the nicest mountain are awfully long". Today we are going to demonstrate that sometimes even the biggest fail.
After breakfast we leave Çiftehan directed to north, reaching our pension located by Çamardi about 10. This is a rustic, cozy house run by a family. They offer us a cup of tea break and we can plan the expedition for the afternoon. We are going to climb the mountainsides of Demirçazik Mountain. This is the highest peak (3.765m.) of Aladaglar, the central range of the Taurus complex. We are not going to reach the top, but aim to climb to 2100 meters circa, which is going to be our record in altitude anyway.

Low mountainsides of Demirçazik Mountain

FIRST SITE

We park at Demirkazik camping place (the last point reachable by vehicles) and we pack some lunch for later. This is 1750 meters height; we aim climb approximately 300 meters were our target of the day *Scilla ingridiae* it's expected to be found.

The stately peaks of Aladaglar mountain range

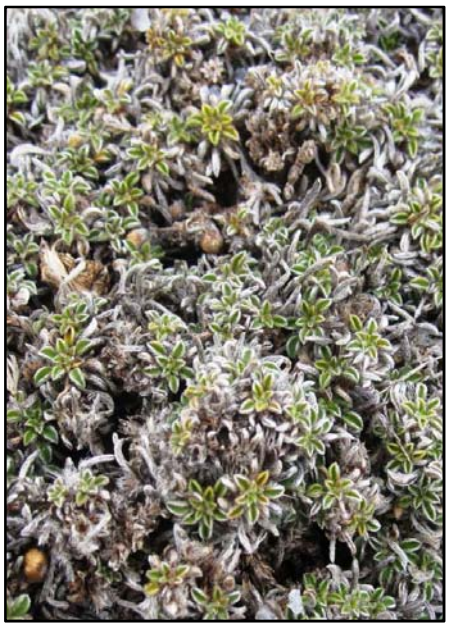
After climbing a difference in altitude of about 100 meters through sub-alpine slopes without any interesting bulb, we finally arrive to see the first melting snow.
As usual, where is snow, are crocuses too. This time is literally a meadow of many *Crocus* and *Colchicum* species. It's an amazing show.
Above all looking in the north-facing slopes, we are able to identify *Crocus sieheanus* and *Crocus danfordiae* (both yellow-colored and very similar in appearance, but the former is a true speciality) as well as *Colchicum triphyllum* and *Colchicum serpentinum.*
Colchicum serpentinum is a real speciality of the area. It's endemic in south Turkey and flowers in white, pink or purplish pink. It used to be *C. falcifolium*, which is now an invalid name.
Crocus *danfordiae* specimens show wide variations in color too.
Other interesting bulbs we see are *Anemone blanda, Corydalis tauricola, Gagea granatellii, G. foliosa, G. taurica, Muscari azureum, Iris schachtii* (in leaves).
The rocky crevices and slopes are literally packed with astonishing alpines, in the instance *Saxifraga kotschyi, Aethionema oppositifolia, Daphne oleioides, Asphodeline taurica, Ranunculus ficarioides, Potentilla speciosa, Draba brunifolia, Sempervirum* sp.

Crocus sieheanus

Autumn-flowering *Crocus*

Groups of *Colchicum serpentinum*

Draba brunifolia



Convolvolus compactus

Aethionema oppositifolia

Sempervirum sp.

Saxifraga kotschyi

Daphne oleioides

We gradually climb to 2100 meters of altitude, always searching *Scilla ingridiae*. After many researches, Rannveig find few buds first and then some just open flowers.
Scilla genus (Hyacinthaceae) includes almost 40 species of bulbous perennials from Europe, Asia, temperate Africa and Macronesia.
Botanically, they all have basal tufts of linear to elliptic leaves and few to many flowered racemes on naked stems. The starry to bell-shaped flowers have six free tepals, sometimes with their bases overlapping to create the appearance of a short tube.
Scilla ingridiae (syn. *S. sibirica* "Taurica" and *S. ingridiae* var. *taurica*) is endemic to south Turkey. It has multiple scapes crowded with sky-blue florets rise in March-April. The florets have a darker-blue midrib.

Scilla ingridiae

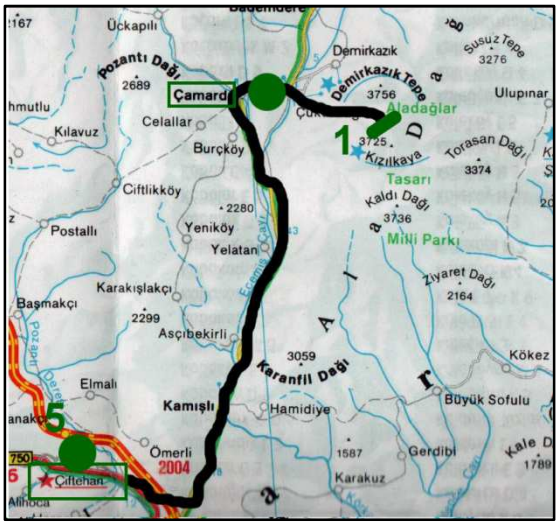
When we are finally back to the bus, somebody of the group tells us that in a gorge just a couple of miles away from there it's plenty of *Scilla ingridiae*.
The same flowers we have run after all day long! They were actually next to our bus, in the bottom of the valley. Probably we climbed too height compared to the coordinates accorded by the literature (in fact, at the top most of the *Scilla* were just in bud).
Anyway, quite sensibly, Robert said that "We need to work for our flowers".
And so we did.

Narrow gorge receiving *Scilla*

Scilla ingridiae

Well done Fred, that's better than the Friedrich's *Wanderer*

DAY RESUME



100 Km - 1) open mountain slopes and rocky outcrops above and in gorge (mountainside of Demirkasık, 1750 – 2100m.)

A friendly chap fond in hiking

According with Bob, the huge patch of *Crocus* was the best bulb-experience of the day.
In the matter of fact there were absolutely tiny yellow crocuses on the way up: these were *C. danfordiae*. The bigger yellow crocuses were *C. sieheanus* (a speciality of this area).
That immense field was yellow of those two species of *Crocus* and white of *Colchicum*.

Plant of the day is without doubt *Scilla ingridiae,* anyway.

But the dilemma of the today's meeting is about two *Muscari* species.
In the matter of fact, doubts are still spreading among us about the microscopic differences between *Muscari azureum* and *Muscari celeste*.
They practically are the same plant.
If we read in the Flora of Turkey, key 13 of Muscari species:
M. azureum: "inflorescence dense, 20-60-flowered; pedicels ascending or patent; infrutescence remaining dense"
M. coeleste: have "inflorescence ± lax, 6-25-flowered; pedicels deflexed or recurved; infrutescence ± lax".
Considering that at this time of the year we can't see the infrutescence and the number of flowers changes from the stage of the growth of the single specimens, the only possible way to key out these species is apparently by comparison of geographic location.
I find indicative observing the pedicels and tubes. *Muscari coeleste*, (just like *Bellevalia* species) has characteristic open tubes, while all the other *Muscari* species, Muscari azureum included, have usually a closer flowering habit.
The pedicels of M. coeleste are recurved, while those of M. azureum are erected.
But this habit can vary from specimen to specimen.

The final chapter of the "*Muscari Affair*" has not been written.

Tuesday 17th April

The tractor of the pension which drive us to the valley

FIRST SITE

Today we explore Emli Valley, locate southeast of Çukurbağ. This is a steep sided valley partly on limestone with large cliffs, rocky outcrops and forest of conifers (remarkable species of *Abies cilicica* indeed). We are going to start climbing at 1750meters, reaching a quote of 1950 meters.
All the conditions are perfect for a proper hiking-experience (apart from my boots, definitely close to retirement).
I go botanizing on my own, enjoying the day and the scenario.

The Emli Valley

At lunch time, when we are back to our bus-tractor, we can list *Muscari azureum, Crocus sieheanus, Crocus chrysanthus, Crocus danfordiae, Colchicum triphyllum, Colchicum serpentinum, Iris ?schachtii* (lf), *Iris ?sari* (lf), *Corydalis tauricola, Anemone blanda, Ornithogalum wiedemannii, Gagea foliosa* (all over the place). *G villosa, Scilla melaina, Muscari neglectum, Lamium garganicum,* Aethionema oppositifolium.
The only new thing we record here is Ornithogalum wiedemannii (near the tractor).

Corydalis tauricola

Draba aequalis

Two pale yellow *Crocus chrysanthus*

Muscari azureum

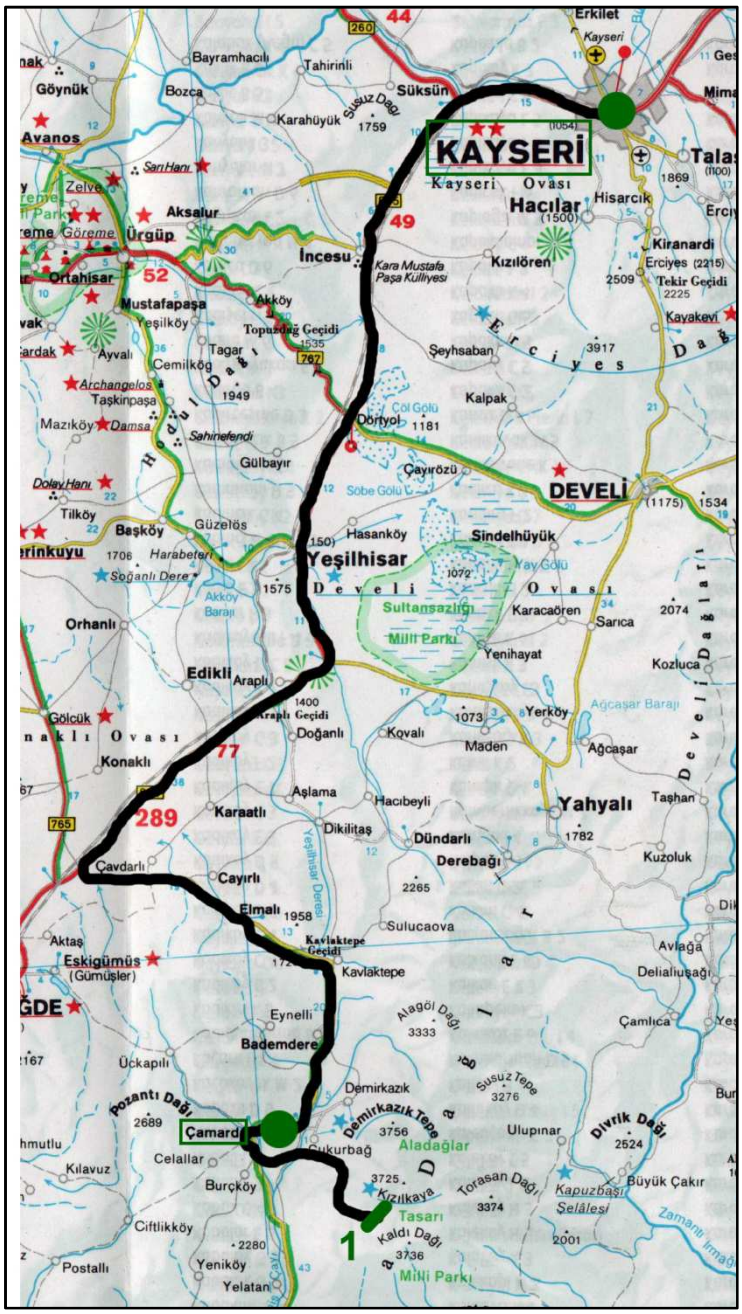
Ancient Pisidian settlements excavated in the tufe rocks on the road to the valley

After lunch and saying goodbye to the very friendly family that picked up us on the road again. We have now approximately 180 km to cover up to Incesu, the city of the next hotel and also the airport.
Crossing the rocky sites of the Cappadocia region, we see the Erciyes Mount, the highest mountain of Center Anatolia as well as of the Anti-Taurus range.
Mount Erciyes is a stratovolcano, which basically is a nearly inactive volcano characterized by a steep profile and quiet eruptions.

Just pruned standing almond trees

Mount Erciyes (3.916m)

DAY RESUME



180 Km – 1) Emli Valley, limestone with large cliffs, rocky outcrops and *Abies* forest (1750 – 1950m).

Plant of the day is a very pale yellow (almost white) *Crocus chrysanthus*.
The main target tomorrow is finding *Iris galactica*

Wednesday 18th April

Today we visit the Cappadocia, a region of exceptional natural wonders, characterized by fairy chimneys and a unique historical and cultural heritage.
Cappadocia was known since the late Bronze Age and in the century was ruled by feudal aristocracies, Persian satrapies, and Alexander the Great, later becoming a Roman and Byzantine province.
It contains several underground cities, largely used and decorated by early Christians as hiding places before Christianity became an accepted religion.
Today Cappadocia is UNESCO World Heritage Site and considered as a unique "cradle of history".

Fairy Chimney rock formation

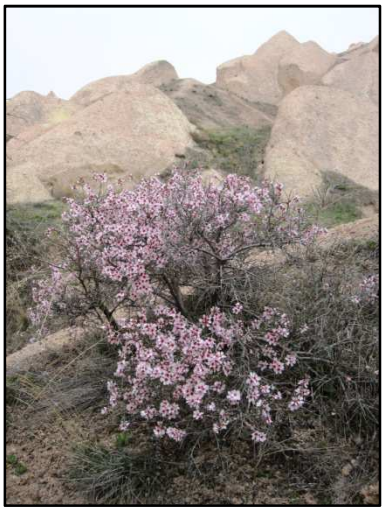
FIRST SITE

We park in a tourist station by the enchanting city of Ürgüp.
We start to go down in the so called Red Valley, one of the most incredible places I ever seen. Ground is all most volcanic tuff, altitude between 1150 and 1250 meters.

Iris caucasica

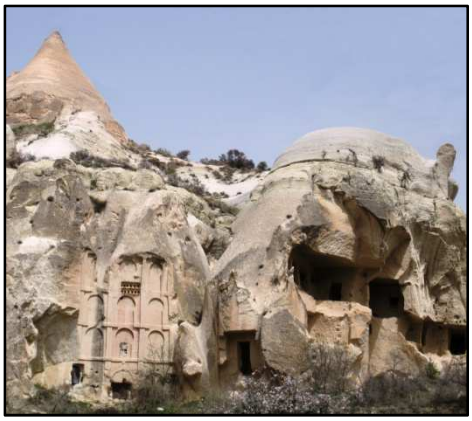
According with the literature, we are now in the area of distribution and natural habitat of *Iris galactica*.
So, while searching this enchanting sky-blue flower, we bump into a different Iris species.
This is the sturdy *Iris caucasica*, an old glory of Juno section. It was firstly described in 1808 by George Franz Hoffmann.
Botanically, it is characterized by leathery leaves 10-12cm long and l-2cm wide, ciliate, greyish-green beneath. Flowers about 5cm or more across, translucent greenish-yellow with a yellow ridge on the falls, late spring. It is native in Turkey, Iraq, Iran, and Caucasus, growing on limestone slopes at 1200 to 3500 meters.
Like most Juno Iris, this plant dislikes the competition and is easily findable in naked spots.
Unfortunately we can record *Iris galactica* (only few leaves are observed, it's too early now in the season for the flowers).

We can observe anyway, *Viola odorata*, *Gagea* sp., *Alkanna* sp., and many really beautiful wild *Prunus* in flowers.



Beautiful wild *Prunus* sp.

Alkanna sp.



How the facades look...

…and how the interiors actually can be

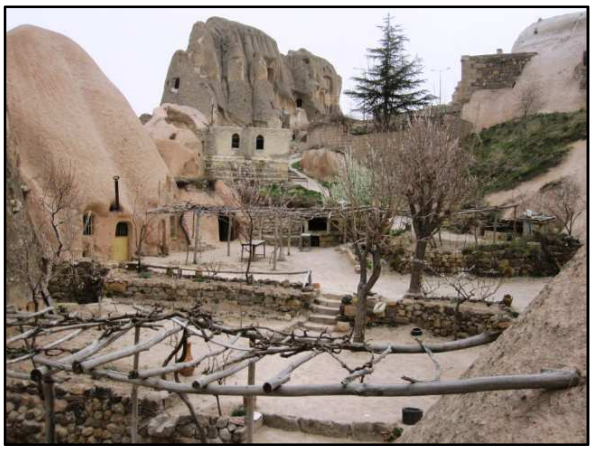
Iris on the graves in Goreme turisti town

After this valley, we start approaching the touristic village of Goreme. In its cemetery are big garden irises (not in flower yet) on the graves.
After spending a short visit in Goreme, we carry on up Uchisar, where we have our lunch.
Gathered around us are always incredible settlements grafted in the volcanic stones (and still occupied!).

Just before leaving the place, we can enjoy a visit into one a fairy chimney, today a private house and tourist bar too. After the inevitable cup of tea, we can see the rooms, the terraces and even an open-tip garden just in the center of the habitation.
To me, it seems almost the contemporary version of the hanging gardens of Babylon, and my mind goes to the verses of Stevenson:

Our phantom voices haunt the air
As we were still at play,
And I can hear them call and say:
"How far is it to Babylon?"

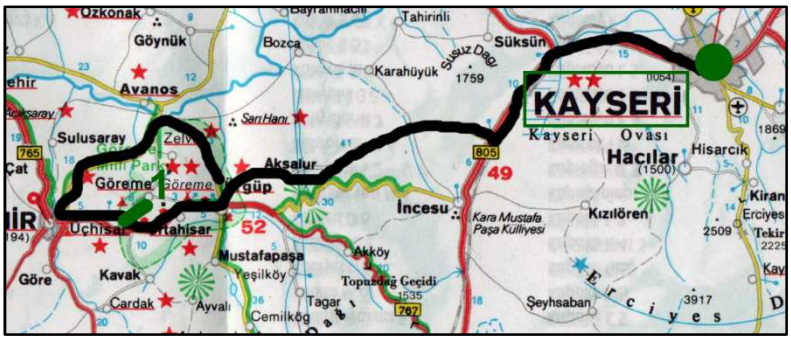
An absolutely incredible terrace in Goreme



Same house, the garden.

Last group shot of our expedition

DAY RESUME



Km 40 – 1) Red Valley, garrigue on volcanic tuff (1150-1250m).

Half-day excursion today
We had had our fair milesage, anyway.

Plant of the day is *Iris caucasica*.

Going home

In my letter of reasons for wanting to join the tour, I wrote: "*I frequently take photos of mountain views and close-ups of Italian Alpine flora. I have already photographed many mountain flowers such as edelweisses, gentianas, saxifrages, campanulas, aquilegias*".
Yes, I never used to work in an Alpine House – I reflected - but I sow anyway directly many mountainsides in the Alp Mountain range for years, in the Italian as well as the Austrian terrain.
Also debating with many British gardeners, I often celebrated the huge population of the Italian flora, the richest in Europe. According with recent assessments in fact, about 7000 species of vascular plants are recorded in Italy and about 700 of them are endemic. This is an incredible number - I reminded to my colleagues - considering that the amount of the vascular plant species recorded in the British Isles is less than 4000.
So, naïvely, I believed to have a reasonable experience in fact of Alpine and Mediterranean flora.
Obviously I wasn't been in Turkey yet.

The Alpine Garden Society tour to Turkey gave me the opportunity to discover a completely uncharted world and its flora.
Surrounded by the amazing setting of the Taurus Mountain, I appreciated for the really first time something of the beauty and diversity of bulbous plant, as well as understand that Mediterranean Sea and Adriatic Sea are not synonyms at all.
Even after a twice-weekly tour, the incredible variety of Turkish flora was clearly evident to me. The awareness of the endemism in Turkey was one of the most interesting things I ever study since I'm passionate in botany and ecology.
It was just like open a treasure chest and find a kaleidoscope of small jewels. Red-rubin in tulips, sapphire-blue in scillas, golden in crocuses, diamond-white in snowdrops, yellow-jade in gageas, they all are still vivid colours in my eyes.

Thank you, Merlin Trust and Alpine Garden Society.

Reporting some experience

Self-portraying in Istanbul Airport, fourteen days and a thousand of bulbs after

APPENDICES

GLOSSARY

Alpine flora: includes plant species that inhabit mountains or the Alps in particular, above the tree-line (i.e. 6560-7220 ft / 2000-2200 m).
High-mountain flora: when referring to plant species that grow at very high altitudes.
Mountain (montane) flora: refers to plants whose natural home is the montane zone (1500-2000 m in the middle latitudes). They are usually well-forested.

Macchie (Garrigue, Maquis): a scattered or dense community of evergreen shrubs and small trees, usually 1-3 m height in the Mediterranean Regions.
Phrygana: a more open community of dwarf evergreen shrubs, which allows smaller plant and bulbous species to flourish. Grazing maintains this habitat.
Oak scrub: this is a type of Phrygana where dominant tree is *Quercus* species such as *Quercus coccifera*, *Q. petraea*, *Q. libani*, *Q. infectoria*.
Serpentine: a dull green or dark reddish rock which, because of its mineral content, supports little but often interesting vegetation.
Steppe: dry, open grassland, often dominated by plants that are resistant to grazing.

Endemism: the ecological state of being unique to a defined geographic location, such as an island, nation or other defined zone, or habitat type. The extreme opposite of endemism is cosmopolitan distribution.

Bulb: an underground storage organ consists of modified leaves.
Bulbil: a small bulb which can be detached from the larger bulb on which it grows and form an independent plant.
Corm: a bulb-like, subterraneous swollen stem base. It is usually surrounded by the dry bases of old leaves. In the instance, Crocus is a corm.
Tubers or Rhizomes: swollen underground stems, i.e. the potato.

Annulate: splitting into rings at the base (of a *Crocus* corm).
Anther: the part of the stamen that contains the pollen.
Axil: angle between a leaf stalk and the stem.
Bract: a modified leaf below a flower.
Caniculate: u-shaped in section (of leaf).
Ciliate: fringed or surrounded with hairs.
Corona: tubular structure on the inner side of the petals (e.g. the trumpet of a daffodil).
Dehisce: to burst open.
Emarginate: with the apex indented.
Fall: the outer petals of *Iris* species.
Filament: the part of the stamen that supports the anther.
Glabrous: smooth, i.e. hairless.
Glaucous: a grayish "bloom" especially on leaves.
Nectary: the part of the flower which secretes nectar, generally at the base of the petal.
Ovary: the lowest or innermost part of the flower, which ultimately becomes the seed vessel.
Papillose: covered with small, fleshy protection.
Pedicel: the stalk of a flower.
Perianth: the outer ring of petals.
Petal: generally the colored part of the flower (often called tepals or perianth segment in the Lily family).
Scabrid: rough, with small knobs.
Scarious: having a dry and papery appearance.

Sessile: without a stalk.
Spathe: large leafy bract wrapped round the inflorescence, particularly in the *Arum* family.
Standard: the inner petals of an Iris flower, which are usually held erect.
Stigma: the part of the flower which receives the pollen, usually on the ape on the style which connects it to the ovary.
Tessellated: the term arises in the Liliaceae family, particularly in *Fritillaria* species. This describes the spotted appearance of the tepals (*Fritillaria meleagris* being the typical example).
Tunic: the outer skin of a bulb or a corm, especially of Crocus.
Whorl: group of leaves or flowers arising at one level around the stem.

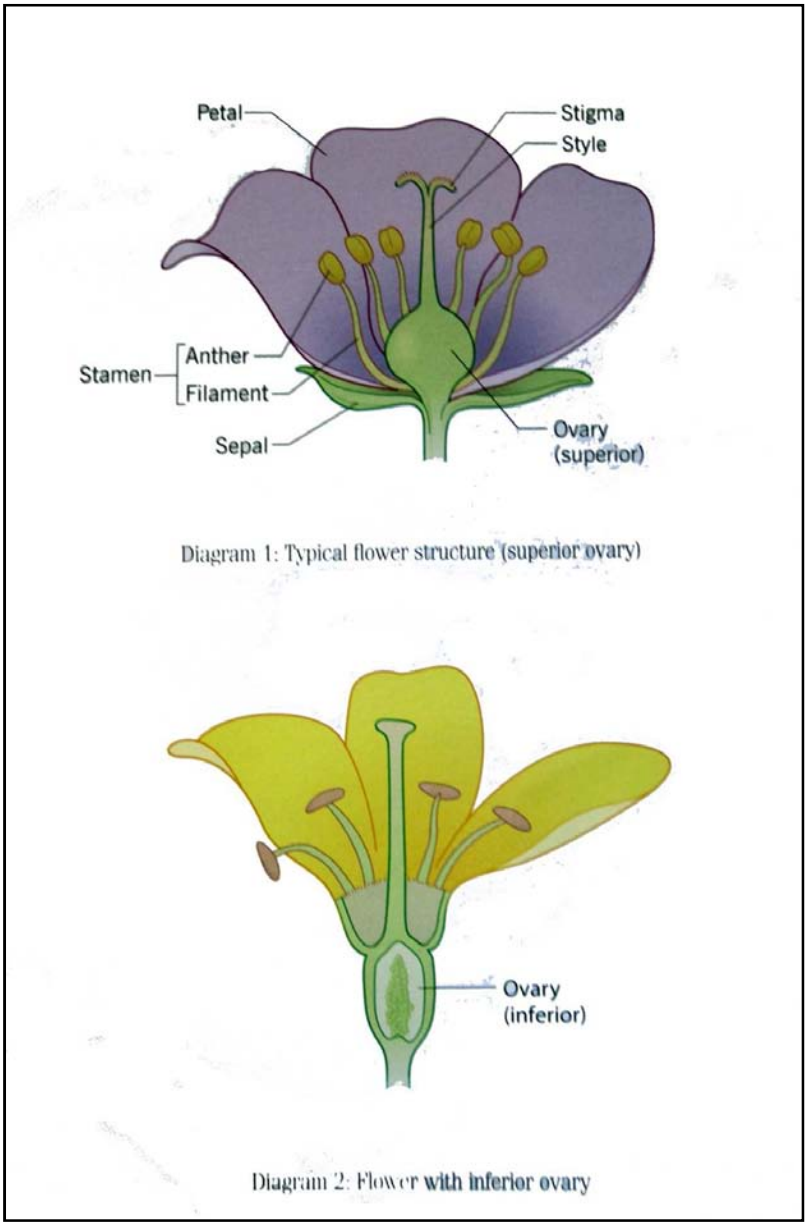


Diagram showing flower having superior and inferior ovary
(from Bulbous plant of Turkey and Iran by Peter Sheasby)

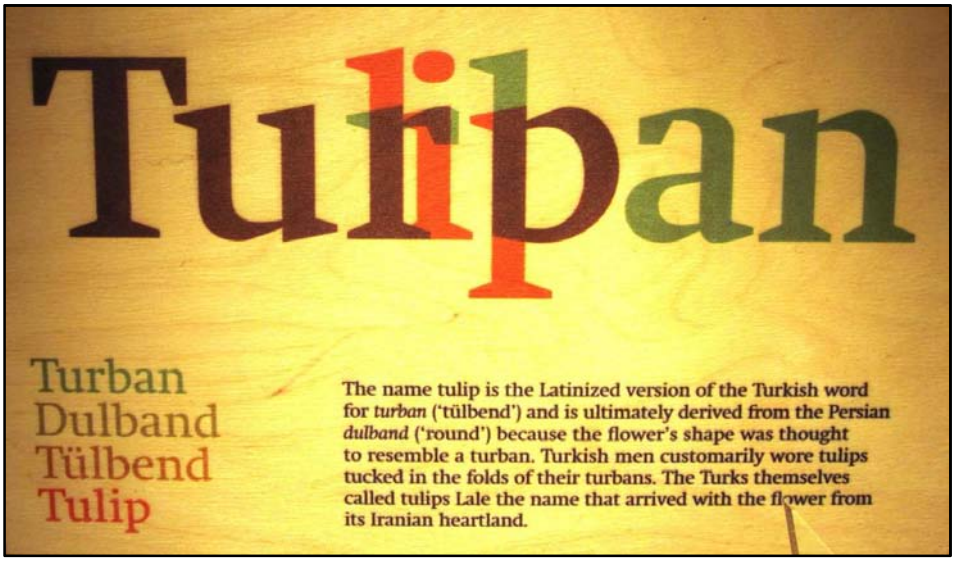
DICTIONARY OF PLANT NAMES
(The following list refers exclusively to the names of bulbous plants observed in the tour)

Allium: from the classical Latin name for garlic. The whole group (onion, chive, garlic) was prized by the ancients as possessing medicinal and aphrodisiac qualities as well as flavour.
acmopetala: having pointed petals.
allisonii: -
alpigerum: -
alpinum: alpine; from high mountains above the timber line.
anatolica: Anatolia, region of Turkey in Asia Minor.
Anemone: often said to be derived from ancient Greek *anemos*, wind, with which there is no evident connection, but more likely a corrupted Greek loan word of Semitic origin referring to the lament for slains Adonis or Naaman, whose scattered blood produced the blood-red Anemone coronaria or Adonis.
archibaldii: -
Aristolochia: some reference books state that the scientific name *Aristolochia* was developed from Ancient Greek *aristos* (*ἀριστος*), "best" and *locheia* (*λοχεία*), "childbirth" or "childbed," but according to an ancient tradition recorded in the 1st cent. B.C.E. by Cicero the plant was named for the otherwise unknown individual with the common Greek name *Aristolochos*, who had learned from a dream that it was an antidote for snake bites.
armena: Armenia.
armeniacum: Armenian.
assyriaca: Assyria, ancient Semitic Akkadian kingdom.
aurea: golden.
australis: southern Hemisphere.
azureum: sky-blue, azure.
baytopiorum: in honor of Baytop, Turkish botanist.
Bellevalia: named after Pierre Richer de Bellaval (1564-1632), founder in 1593 of the Montpellier botanic garden.
biflorus: twin-flowered.
bifolia: see above.
blanda: from Latin for mild, not strong or bitter, pleasing, charming.
burtii: -
chrysantha: with golden flowers.
chrysanthus: see above.
cilicim: Cilicia, a classical region of southern Asia Minor.
cinnabarina: cinnabar-red, vermilion.
clusiana: in honor of Carolus Clusius (Charles de l'Ecluse, 1526-1609), celebrated Flemish botanist and polymath, a much travelled, highly observant man who after many misfortunes ended his days happily as a professor at the newly founded University of Leiden.
coeleste: sky-blue.
Colchicum: said by ancient authors to be especially abundant in *Colchis*, the Black Sea region of Georgia, Caucasus.
comosum: furnished with a tuft, sometimes of sterile flowers, as in *Muscari comosum*, or conspicuous bracts, as in *Eucomis comosa*.
Corydalis: Greek word meaning a lark; the flowers have spurs like those of larks.
crassifolia: thick-leaved.
crewii: -
crocea: cross-shaped.
Crocus: saffron in Greek, derived from Semitic *karkamon*. This is one of the most ancient names.
Cyclamen: from the Greek *kyklos*, meaning circle, wheel or ring; referring to the twisted flower stalks of some species.

cydnei: -
danfordiae: named for Mrs. G. Danford, 19th century British explorer.
elwesii: in honor of Henry John Elwes (1846-1688), English naturalist, sportsman, traveler, dendrologist and horticulturalist, author of *Monography of the Genus Lilium* (1877-1880).
Eranthis: from the Greek *er* (spring) and *anthos* (flower), referring to the early-blooming nature of this spring flower.
erdelii: -
ficarioides: resembling *Ficaria* genus.
fischeriana: named for Friedrich Ernst Ludwig Fischer, 19th century German-born Russian botanist and St. Petersburg botanical garden.
fistulosa: hollow, like a pipe.
fleischeri: named for Franz Fleischer, 19th century Swiss doctor and professor of natural science in Hohenheim.
foliosa: full of leaves.
Fritillaria: from Latin *fritillus*, dice-box, which in ints turn had been named from a cheese or chequer-board. This referring to the typical square marking of many species.
Gagea: named for Sir Thomas Gage (1761-1820) of Hengrave Hall, Suffolk, who botanized in Ireland and Portugal. The greengage plum, the English name for Reine Claude, was named for his grandfather who introduced it in France.
galactica: milky.
Galanthus: from the Greek *gala*, milk, and *anthis*, flower. Referring to the color and shape of the flower.
gayi: -
Geranium: from the Greek *geranos*, crane; referring to the beak-like fruit.
glacialis: from icy-cold regions, especially the neighbourhood of glaciers.
gracilis: graceful, slender.
granatelli: -
heldreichii: named for Theodor von Heldreich, 19th century German botanist who settled in Greece in 1844 and became its indefatigable botanicl explorer, discovering some 700 Greek species new in science.
hermonis: of or from the Mt. Hermon area, a small range of mountains in the Middle East.
hulimis: low-growing, more dwarfish than most of its kindred.
Hyacinthella: diminutive form of *Hyacinthus*, the name used by Homer for the genus.
ingridiae: -
Iris: rainbow colored, iridescent. *Iris* was the Greek goddess of the rainbow.
isauricus: of or from Isauria, an ancient district of south Asia Minor.
kittaniae: -
kochii: -
lanceolatum: lanceolate, spear-shaped, i.e. of narrow shape with curved sides tapering to a point.
lazulina: -
Limodorum: -
lineata: with lines or stripes.
lisiaca: -
lutioides: -
lycica: Lycia, classical region of Asia Minor.
massayanum: -
melananthera: black-anthered.
meleagris: spotted like the guineafowl.
Merendera: from Spanish *quitamerindas*, ultimately from Latin *merenda*, midday meal; the flowering of Merendera in autumn warns the shepherds in the mountains that they must leave the pastures there.
melaina: -
millefolius: many-leaved; literally, with a thousand of leaves.
minutum: very small.

mirabili: wonderful, remarkable.
modesta: modest.
Muscari: Turkish name recorded by Clusius in 1583, the bulbs of *Muscari muscarimi* being received from Constantinople under the name *Muscari*, *Muschoromi* or *Muscurimi*, meaning musk of the Romans (i.e. Greeks) or *Muschio greco* (Greek musk), referring to the sweet aromatic scent of the flowers, hence from Persian *mushk*, Sanskrit *mushka*, testicle. The source of musk is a scent gland "pod" of the male musk-deer.
muscarimi: see above.
narbonense: of or from Narbonne, France (city near the Mediterranean coast).
Nectaroscordum: From Latin *nectar* or Greek *nektar* and *skorodon*, garlic. With reference to the large nectarines on the ovary.
neglectum: hitherto overlooked.
Orchis: classical Greek name, for orchis, a testicle; in allusion to the paired rounded tubers, thus herba orchis. For that reason, Orchis has been regarded since antiquity as an aphrodisiac.
Ornithogalum: from Greek *ornis*, bird, and *gala*, milk. The flowers are usually white. The bulbs of Star-of-Bethlehem (*O. umbellatum*) are supposed by some to have been the "dove's dung" of the Bible of which a "cab" measure was sold for a shekel during the Babylonian siege of Jerusalem.
pallasii: named for Peter Simon Pallas, 18th century German botanist, zoologist and geographer.
paschei: named for Erich Pasche, 20th century German bulb hunter and botanist.
persica: Persia, ancient kingdom.
pinardii: -
Primula: contraction of medieval name *primula veris* for daisy, meaning "firstling spring", being a diminutive of Latin *primus*, first, used for early-flowering herbs.
punctatus: spotted.
Ranunculus: the Latin name from the diminutive of *rana*, little frog, because many species grow in damp places.
Romulea: named for Romulus, legendary leader of the Romans and founder of Rome.
scandicinum: -
schachtii: -
Scilla: the Greek name *skilla* for sea-squill (Urginea maritime).
serpentinum: referring to a snake.
siculum: Sicilian.
sieheanus: -
sororum: -
stenophylla: narrow leaved.
Sternbergia: named for Count Kasper M. von Sternberg (1761-1838), Austrian botanist, clergyman and palaeontologist, a founder of the Bohemian National Museum in Prague.
subalpina: growing in the lower mountain ranges.
sylvestris: of the woods, growing wild.
szovitsii: named for Johann Nepomuk Szovits, 19th century Hungarian apothecary and plant collector in the Caucasus.
tauri: of the Crimea, in the ancient Geography Taurica Chersonesus.
taurica: see above.
tauricola: see above.
trigyna: having three ovaries.
triphyllum: having three leaves.
tuberosum: tuberous.
Tulipa: Latinized version of the Turkish *tulbend*, a turban.
uliginosa: of swamps and wet places.
variegatum: irregularly coloured, variegated.
villosa: covered with soft hairs.
vulgaris: common.

wendelboi: -
whittalli: named for Edward Whittall, 19th century botanist and plant collector in Asia.
wiedemannii: for 19th century physician and plant collector Edward Wiedemann.



A didactic panel showing the etymology of the word Tulip
(shot taken during a diversion to Amsterdam Tulip Museum)

Turkish ancient regions
[imagine from internet database]

TURKISH CROP PLANTS AND CUISINE

Cuisine has always been one of my favorite pastimes.
In the years this personal interest became closely related to my studies in horticulture and geography.
The link between the human art of cuisine and the natural world of plants is close.

During the trip to Turkey, I had the opportunity to discover a whole universe of food pretty different to the other internationally known Mediterranean cuisines (such as Italian, Spanish, and Greek).
The reason of this unique character lays in the fact that Turkish cuisine has not only a Mediterranean influence, but also a contamination from the Middle-East Asia regions.
In the recent year this cuisine is becoming always more popular and at a very high level is known under the name of Ottoman Cuisine.

A grocery store in Ermenek: like a parallel universe

Agriculture is the most important economic sector of Turkey so far.
According with 2007 dates, this country is the largest producer of hazelnut, cherry, fig, apricot, quince and pomegranate. The second largest producer of watermelon, cucumber, chickpea; the third largest producer of tomato, aubergine, green pepper, lentil, pistachio; the fourth largest producer of onion and olive.
Not surprisingly, Turkey has been self-sufficient in food production since the early Eighties.

Taking note of the many crop plants observed was a personal pastime of mine during the trip. While botanizing through the fields and the allotments, looking from the window bus or even on the tables of the restaurants, I gathered a decent number of plants which have an important rule for Turkey and its people.

List of important Turkish crop plants

HARVEST	BOTANIC NAME	FAMILY	TYPE OF PLANT
Hazelnut	*Corylus* sp.	Betulaceae	deciduous shrub
Pomegranate	*Punica granatum*	Lythraceae	shrub or small tree
Cherry	*Prunus avium*	Rosaceae	deciduous tree
Fig	*Ficus carica*	Moraceae	monoecious tree
Apricot	*Prunus armeniaca*	Rosaceae	deciduous tree
Quince	*Cydonia oblonga*	Rosaceae	deciduous tree
Watermelon	*Citrullus lanatus*	Cucurbitaceae	creeping vine plant
Cucumber	*Cucumis sativus*	Cucurbitaceae	creeping vine plant
Chickpea	*Cicer arietinum*	Fabaceae	legume plant
Tomato	*Solanum lycopersicum*	Solanaceae	vine-like plant
Aubergine	*Solanum melongena*	Solanaceae	creeping vine plant
Green Pepper	*Capsicuum* sp.	Solanaceae	semi-woody (bi)annual
Lentil	*Lens culinaris*	Fabaceae	bushy annual plant
Pistachio	*Pistacia vera*	Anacardiaceae	small tree
Onion	*Allium cepa*	Amaryllidaceae	bulb
Olive	*Olea europaea*	Oleaceae	small tree
Sugar Beet	*Beta vulgaris*	Amaranthaceae	herbaceous perennial
Tobacco	*Nicotiana sp.*	Solanaceae	herbaceous perennial
Tea	*Camellia sinensis*	Theaceae	evergreen shrub
Apple	*Malus domestica*	Rsaceae	small tree
Cotton	*Gossypium hirsutum*	Malvaceae	perennial shrub
Barley	*Hordeum vulgare*	Poaceae	grass (cereal grain)
Almond	*Prunus dulcis*	Rosaceae	small tree
Wheat	*Triticum* sp.	Poaceae	grass (cereal grain)
Rye	*Secale cereale*	Poaceae	grass (cereal grain)
Grapefruit	*Vitis sp.*	Vitaceae	creeping vine plant
Lemon	*Citrus limon*	Rutaceae	small tree
Sesame	*Sesamum indicum*	Pedaliaceae	herbaceous annual
Mulberry	*Morus* sp.	Moraceae	deciduous tree
Aniseed	*Pimpinella anisum*	Apiaceae	herbaceous annual
Walnut	*Juglans regia*	Juglandeaceae	small tree

And last but not least…

Saffron	*Crocus sativus*	Iridaceae	bulb

A purchase I coudn't renounce
As everyone knows the best saffron comes from Afghanistan, but Turkish saffron is still a good quality one.

Following some traditional drinks and foods I tasted in Turkey.
This is only a small part of the huge variety and quality of the Turkish cuisine.

RAKI

The *Lonely Travel* guide of Turkey warns that you'll inevitably be offered some tea – the national drink - within twenty minutes of your arrival in Turkey. We were even luckier. In the matter of fact, a glass of Raki was the first thing we had as a welcome gift from Alper once arrived in Turkey.
Raki is the national aperitif. It's unsweetened, anise-flavored hard alcoholic drink. It's consumed either straight or partly mixed with chilled water. When topped up with water, Raki becomes cloudy, similar to the louche of absinthe. Ice cubes are added rarely.
It's similar to several other alcoholic beverage available around the Mediterranean countries, like the French Pastis, the Greek Ouzo, the Middle-East Arak, the Neo-latin Aguardiente and the Italians Anice and Sambuca. I already had Ouzo and some other Italian anise-flavored alcoholic drinks. Raki seemed to me been quite rougher and stronger.

Raki straight (right) and water mixed (left)

TEA

Grown along the Black Sea coast since the 1930, tea is the national drink and essential social lubrificant. You can't start your day without having a cup of tea.
In the instance this is a quality black tea, typically prepared using two stacked kettles specially designed for tea preparation. Water is brought to a boil in the larger lower kettle and then some of the water is used to fill the smaller kettle n the top and steep several spoons of loose black tea leaves, producing a very strong tea.
Turkish people drink tea in thin glasses called *ince belli*, which means "slim belly" referring the dinky design of them.
Herbal teas are also diffused, being apple, rosehip and linden flower the most popular flavors.
I still enjoy some leaf loose linden herbal tea (from *Tillia* sp.) which we had as a gift from Hotelkeeper in Akseki.

Alper enjoying tea

TAHINI PEKMEZ

At breakfast, aside big bowls plenty of yogurt, apricot jam and honey, we have often seen two mysterious pastes, which locals used to mix together forming a dense, sweet dip. I questioned about them and people told me they were tahini and pekmez.
Tahini is a paste of ground, unhulled sesame seeds and olive oil. It's a major component of hummus and halva.
Pekmez is a molasses-like syrup obtained after condensing juices of fruit must, especially grape, fig or mulberry, by boiling it with a coagulant agent.
Together they form a delicious (and high caloric) jam, which was my real addiction at breakfast.
Both tahini and pekmez are largerly used as proper ingredient in the Ottoman cuisine. In the instance, I often enjoyed pekmez sucuğu, a nice pudding made with these two ingredients.

home-made and commercial versions. Which is the best?

SIMIT

Simit is another staple food showing the vital importance of sesame plant in Turkey. This is a circular bread with sesame seeds, very common all around the Balkans and Middle East such as Lebanon.
Drinking tea with simit is traditional in Turkish culture. Simit is generally served plain, of for breakfast with tea, jelly, jam or cheese.
Simit bread are often sold by street vendors, who either have a simit trolley or carry the simit in a tray on their head.
Street merchants generally advertise simit as fresh since they are baked throughout the day.
In the picture aside, Alpay is posing happily showing fresh simit breads in the street of Ermenek.
Other traditional Turkish breads are bazlama, misir ekmegi (plain corn bread), lavas, pide (a broad, round and flat bread made of wheat) and tandir (traditionally baked under the inner walls of a oven).

Alpay, simit seller in Ermenek

TRABZON EKMEGI

This is a traditional pasty thing, a food typical in rural areas, made of lavash bread or phyllo dough folded around a variety of fillings such as spinach, cheese and parsley, minced meat or potatoes and cooked on a large griddle.
It was a must-have in the breakfast during our expeditions.

Preparation...

…and appreciation

KEBAB

The notorious, super-commercialized Turkish kebab is in reality a wide variety of meat dishes originating in Middle East and later on adopted in the Middle East, Turkey, South Asia and Asia Minor, which are now found worldwide.
In English, *kebab* with no qualification generally refers more specifically to shish kebab served on the skewer. In the Middle East, however, kebab refers to meat that is cooked over or next to flames; large or small cuts of meat, or even ground meat; it may be served on plates, in sandwiches, or in bowls. The traditional meat for kebab is lamb, but can also be beef, goat, chicken, pork; fish and seafood; or even vegetarian foods like falafel or tofu.

How actually looks the original Kebab

DOLMA

There are two main categories of dolma. Those filled with a meat mixture, minced meat, onion, pinenut, rice, oil and some spices (real dolmas); and those filled with a rice mixture, olive oil, pine nuts, dried fruits, herbs and spices (false dolmas). Meat dolma is always eaten hot; meatless ones are usually at room temperature. Dolma with meat is a main course and always served with yogurt. An egg-milk sauce is sometimes used. With variations, it is a thing quite common in all the Middle West cuisine.

Dolma (right) and baklavas (left)

SUFLAC

This is the classic rice pudding from the Ottoman Palace kitchens.
Normally after cook in a pot it is finished in small oven –proof dishes and cook until they top of turn light brown.
While most of the other European or Asian countries use cream along with milk, the Turkish one is just made with milk.
Actually, I think it's one of the plainest rice puddings out there using simple ingredients. Originally, in the Ottoman palaces this dish was made with rosewater.
This is a simple and light dessert, very popular in the whole country.

Süflaç

HALVA

Halva is a sweet, firm paste containing either ground sesame seeds or a sugar- and flour-based mix. Ingredient variations include everything from pistachios to lentils. Halva originated in Turkey and Greece, with variations in countries such as Israel and Iran.
I particularly enjoyed the tahini-paste halva which we found almost everywhere.
Worth to mention is the local halva of Ermenek, website: www.toroshelva.com (I'm afraid, no English version available, but quite enjoyable website however).

Tahini and pistacio nut halva

BAKLAVA

Baklava is one of the national Turkish dessert, internationally known.
It's basically a rich, sweet pastry made of layers of filo pastry filled with chopped nuts (typically walnuts, pistachio) and sweetened with syrup or honey.
They are prepared on large trays and cut into variety of shapes.
Walking through the streets in Turkey, Baklava trays are pretty self-explanatory on a glance into the glass display cabinet.
Quite honestly, Baklava was the real addiction of Richard and mine during the expedition.

Baklava in display in Ermenek

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PLANT INDEX

Numbers in *Italic* type indicates the entries
Numbers in **Bold** type indicates the illustrations.

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(List includes Orchideaceae and Ranuncolaceae)

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Salvia
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