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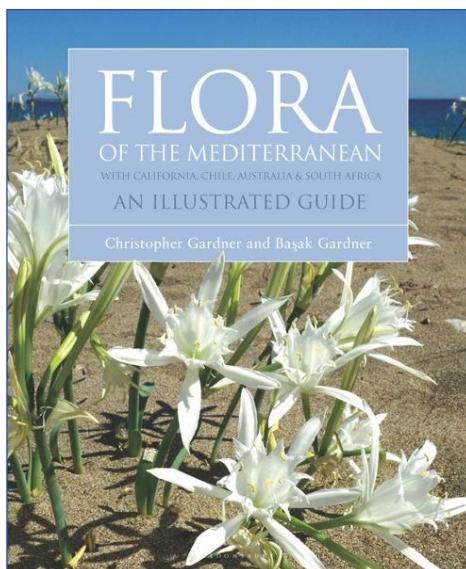
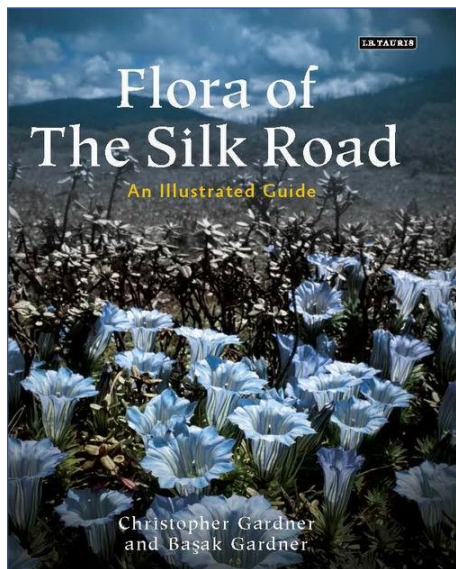
The Scottish Rock Garden Club

March 2021



A month with our usual variety of plants, places and people - thanks to our contributors, we are able to bring this magazine free to all on the internet. Across the world there has been great frustration at the inability of late to travel and enjoy plants in the wild – Christopher (Chris) and Başak Gardner, planthunters, authors and organisers of [Vira Natura Tours](#) are hopeful, as are some others, of being able to resume tours soon. Meanwhile they have given us a whistle stop guide to the flowers of the Silk Road (ISBN-10: 1472969103 ISBN-13: 978-1472969101 – the subject of their substantial – and very beautiful – book, *Flora of the Silk Road*. The cover of their latest book, the *Flora of the*

*Mediterranean* (ISBN-10: 1472970268 ISBN-13: 978-1472970268) is also shown below.



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Photo: *Crocus wattsonii* from Turkey by Christopher Gardner

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Also this month: Wim Boens from Flanders appeals for assistance in the clarification of a long-running confusion over the correct identity of a fine old *Colchicum* cultivar. Can you help?

From Chile, John and Anita Watson bring a change of rank for the infraspecific taxon of *Mutisia subulata* Ruiz & Pav. and also clarification of the species' differing morphology and its vertical distribution.

Cover image: *Omphalodes luciliae* photo Chris Gardner.

Vira Natura organises Botanical Holidays and Tours.

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## --- Plant Naming ---

### **A change of rank for the infraspecific taxon of *Mutisia subulata* Ruiz & Pav. (Asteraceae, *Mutisiae*); also clarification of the species' differing morphology and its vertical distribution.**

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#### **Threading through a taxonomic maze**



Illustrious William Jackson Hooker, botanist, explorer, father of the equally famous Joseph Dalton, both to become Directors of Kew, described a species of *Mutisia*, which he named *M. linearifolia* (Hooker 1830) [fig.4]. However, this was discovered to be an illegitimate homonym, as the same epithet had been published 31 years earlier (Cavanilles 1799).

fig.1: *Mutisia subulata*.  
(3 Dec 2020. ARF)

As a result the species was given an appropriate new name, *M. hookeri* (Meyen 1834) [fig.4]. Even that became a synonym when it was discovered that the plant was identical to what we now know as *M. subulata* (Ruiz & Pavón 1798) [figs.1-3].

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But meanwhile, during the period that *M. hookeri* was still current, a variant of the species was discovered and named *M. hookeri* var. *rosmarinifolium* (Poeppig & Endlicher 1835) [fig.4]. This had to wait another 131 years before finally being linked to *M. subulata* by Cabrera (1965) - but with the rank changed to form: i.e. *M. subulata* fma. *rosmarinifolia*, which is how it has stood up to now.



fig.2: *Mutisia subulata* with prehensile tendrils arrowed. (3 Dec 2020. ARF)



fig.3: *Mutisia subulata* var. *subulata*. (botanical painting by Andrés Jullian, courtesy of Adriana Hoffmann)

### The name says it all

How apt it is that the varietal epithet *rosmarinifolia* (with foliage like rosemary) provided by Poeppig and Endlicher (1835) may be judged by our illustrations. Their description in the protologue [fig.4] leaves no doubt that the foliage is broader than that of the species sensu strictu, and that it ends either in a hooked tip or with an extremely short non-twining tendril [figs.6, 7]. Thus it has never been synonymised with the species itself, and the only authority to modify it merely changed its rank from variety to form (Cabrera 1966).

**IX. MUTISIA HOOKERI.**

**M. erecta vel scandens; ramis strictiusculis; foliis linearibus, acuminatis, acumine saepius in cirrhum elongato, sessilibus, basi aequalibus, apice margineque revoluto integerrimis, utrinque glaberrimis; capitulis terminalibus; ramis usque ad apicem aequaliter foliatis; involucri foliolis acuminatis, acumine reflexo interioribusque glabris, membranaceo marginatis.**

**A. MUTISIA HOOKERI ROSMARINIFOLIA. Caule abbreviato simplice, erecto; foliis lato linearibus, acuminatis, acumine hamato, inflexo vel in cirrhum lamina multoties breviorum producto.**

**M. LINEARIFOLIA. Hook. bot. misc. I. 11. tab. 8. non *CAF.* M. HOOKERI. MEYEN. Reise um die Erde I. 348.**

***Florentem legimus mense Novembre in Chile borealis montibus aridis ad Rio Colorado, Andes de Sa. Rosa.***

fig.4: Original 1835 type description of these two infraspecific *Mutisia* taxa by Poeppig & Endlicher (courtesy of Biodiversity Heritage Library)

So what is the difference between a form and a variety? Hamilton & Reichard (1992) provide an answer backed by statistics. A form lacks any extramorphological integrity\*. That is to say, inter alia, it does not have a separate ecological niche, nor significant geographical or elevational separation. They noted that a survey of relevant publications they made from 1987 to 1990 revealed that of infraspecific divisions, only 3% were presented as forms.

\*However, in our experience distinct and discontinuous flower coloration forms, even within the same population, can be an exception. They may attract different and exclusive pollinators. If so, then the stage is set for gradual future evolution into distinct taxa above the rank of form.

Considering all these factors, we judge that Poeppig and Endlicher (1835) were undoubtedly correct in assessing this infraspecific as var. *rosmarinifolia*., If nothing else, it is adapted to inhabit significantly higher Andean elevations than var. *subulata*, despite some overlap of the two taxa. Accordingly, we restore it to variety here in combination with its legitimate specific epithet.



fig.5: *Mutisia subulata* var. *rosmarinifolia*. (botanical painting by Andrés Jullian, courtesy of Adriana Hoffmann)

### Neither fish nor fowl?

Essentially, var. *subulata* is equipped with flexible tendrils for climbing support on the tips of most or all its leaves [fig.3]. Various sources (e.g. Rodríguez & Marticorena 2019) indicate it as not exceeding 500 m. elevation, which confines it relatively close to the Pacific, or in the southern lowlands. The same sources give var. *rosmarinifolia* as occurring between 1700 and 3000 m. As Poeppig and Endlicher (1835) make absolutely clear, the latter lacks binding tendrils, as noted above. Be all that as it may, a large number of plants of the species sensu lato with narrowly linear leaves appear at subandean and Andean elevations. These only develop tendrils on their uppermost foliage, and none are even present in the juvenile stage [figs.1-3]. How to interpret these intermediates? Obviously, since they exceed 500 m, they are regarded by those who set that limit as var. *rosmarinifolia*. But the type description leaves no doubt that the variety only has hooked tips, not tendrils. We therefore prefer to regard those with only a few upper tendrils as the actual species, but with the reservation that they may well be intermediates. The only possibility (not certainty) of discovering the answer lies with molecular analysis.

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To further our judgement we cite Flora Patagónica (M.N. Correa 1971). Entries of volume 7, covering the then Compositae, were authored solely by Angel Cabrera, the unchallenged authority on South American taxa of the family to this day. *Mutisia subulata* occurs in the geographical sector covered and is described in detail together with a botanical drawing by Josefina Lacour. It has long, narrowly linear leaves all of them equipped with a flexible tendril. Cabrera identifies it as *M. subulata* (he includes all the synonyms of that species), and without infraspecific rank. Five years earlier (Cabrera 1966) he had published his forma *rosmarinifolia*, so his judgement is unimpeachable. Although no actual elevation is given, the location is stated as 'la cordillera de la norte de Neuquén en la Argentina'. Now the lowest elevation in northern Neuquén Province is approximately 800 m in the main river valley, while the highest in the Andean cordilleras exceeds 2500 m. Quite obviously therefore, *M. subulata* itself must considerably exceed 500 m. Further support for this may be found in Hoffmann et al. (1998), where the difference between the two is clearly illustrated [figs.3, 5], and the elevations given are 100-2000 m for var. *subulata* and 1700-3000 m for var. *rosmarinifolia*.

## ***Noli me tangere***

There is no mention at all of *M. subulata* in the RHS Encyclopaedia (Brickell 1996), but one nursery offered it in the outdated Plant Finder on our home book shelves (Lord et al. 2003). Unsurprisingly though, since one of us made the entry, a full description appears in the AGS Encyclopaedia of Alpines (Beckett & Grey-Wilson 1994).

Those references serve for nothing these days, however. Sadly for any whose mouths are watering at thought of owning and growing this gorgeous little beaut, there is no comfort to offer - nothing to say but 'not for sale'. That situation is not due to lack of potential collectors either. It is the result of the 'Thou Shalt Not Collect' commandment of the ruling conservation body.

## **Thought for the day**

All ornamental plants in cultivation were either collected directly from the wild by somebody, or if they are cultivars or ex situ hybrids, must derive from such collected plants.

## **Taxonomy**

***Mutisia subulata* Ruiz & Pav. var. *rosmarinifolia* (Poepp. & Endl.) J.M. Watson & A.R Flores, stat. nov. [figs.5-7]**

**Basionym:**—*Mutisia hookeri* var. *rosmarinifolia* Poepp. & Endl., Nov. Gen. Sp. Pl. 1: 19. (1835).

**Synonym:**—*Mutisia hookeri* fma. *rosmarinifolia* (Poepp. & Endl.) Cabrera, Opera Lilloana 13: 124. (1966).





fig.6: *Mutisia subulata* var. *rosmarinifolia*. (10 Feb 2012. JMW)



fig.7: *Mutisia subulata* var. *rosmarinifolia* showing lamina tips without tendrils. (10 Feb 2012. JMW)

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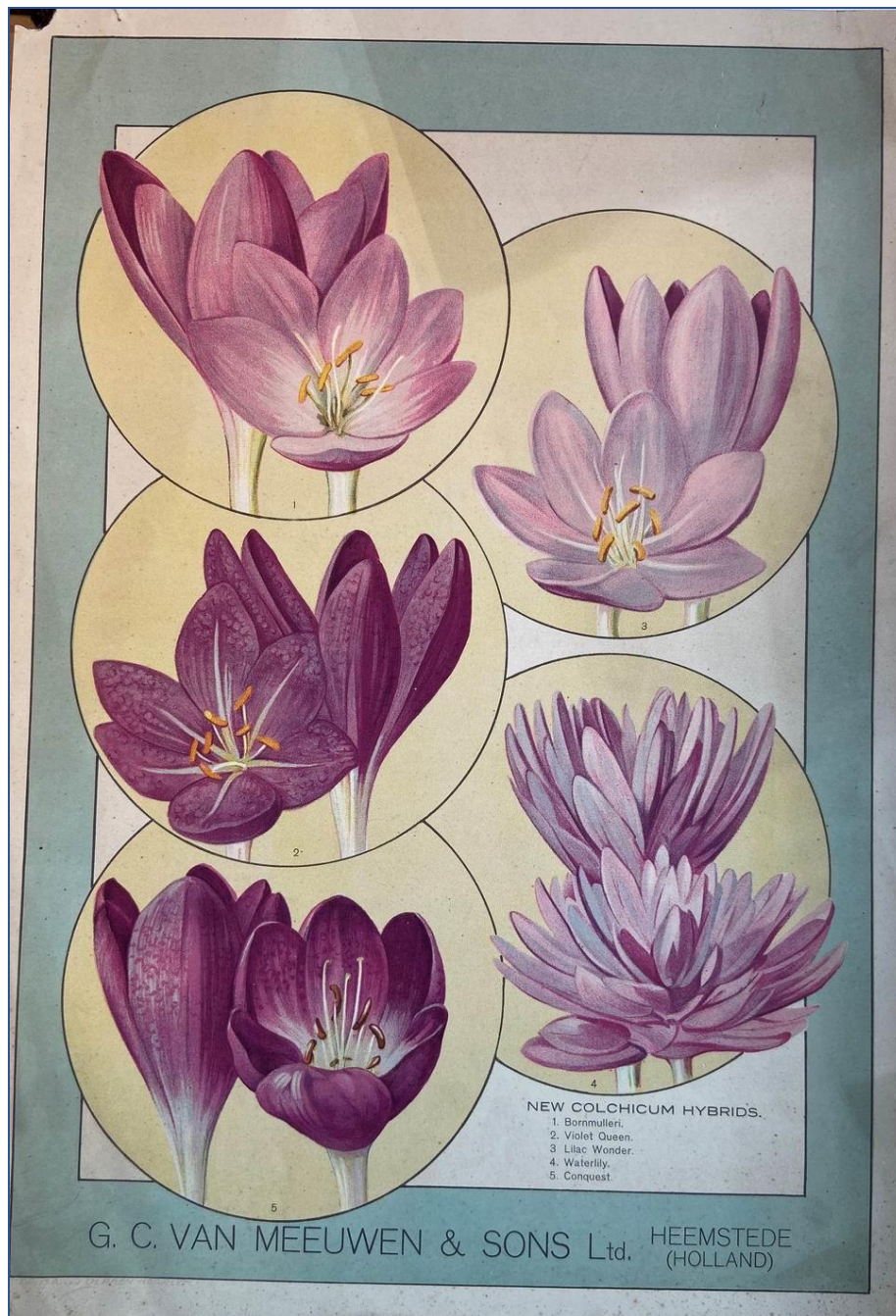
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## --- Searching for a Cultivar ---

### The quest for the Violet Queen by Wim Boens

With the publication of the wonderful new monograph on Colchicums by the botanical masters Grey-Wilson, Leeds, and Rolfe, it became clear that one of the older cultivars of naked ladies has disappeared from cultivation for some time. Neither the RHS Colchicum trial of 1996 at Felbrigg Hall, nor the RHS Colchicum trial of 2014 at Hyde Hall was able to find the real 'Violet Queen'. This has spurred some plant enthusiasts in Germany to embark on a quest to find this cultivar which might be hiding still in some old gardens or collections.



Lithograph by the nursery Van Meeuwen & Zonen circa 1928.

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## What we know for certain, the clues.

The origin of this cultivar was not really clear: it was assumed *Colchicum* 'Violet Queen' was created by the bulb nursery Zocher & Co (which was closed in 1918) from Haarlem in The Netherlands between 1900 and 1905. But Johan Van Scheepen (KAVB) was not able to find any information in the catalogues of Zocher & Co from that period. The earliest mention is the sale of a batch of unnamed seedlings in 1917, just before the nursery closed. These were hybrids created by J.J. Kerbert who was a hybridiser for Zocher & Co. The sales advert mentions: "*Colchicum* seedlings. Beautiful large flowered hybrids of *C. giganteum*, *C. speciosum* and others x *C. sibthorpii*. Many retain the beautiful pattern of the latter and they are much stronger. There's also a large fl, double flowered lilac pink, a hybrid with *C. aut. fl. albo pleno*. Not yet marketed and the entire collection for sale for a good offer. Come see them in flower at Zocher & Co., Haarlem" After some further research by Johan, he found a reference to 'Violet Queen' receiving a "certificate of merit" at the flower bulb assessment in Haarlem on the 13<sup>th</sup> of September 1926 as a new introduction from



nursery Van Meeuwen & Zonen. It was noted as being "seedling no 97" and described as "*single coloured, with violet reflexion*". At the flower bulb assessment in Haarlem 12<sup>th</sup> of September 1927, the certificate received the year before was elevated to a "certificate first class". Thanks to Johan's research it is now clear this cultivar was named and marketed by Van Meeuwen & Zonen in 1926. It seems plausible these are the original seedlings by Zocher & Co, which Van Meeuwen & Zonen had bulked up and were now starting to sell. The "large, double flowered lilac pink" from the Zocher sales advert must be 'Waterlily' which was marketed for the first time by Van Meeuwen in 1926 as well.

Lithograph as drawn by Esther Bartning, 1937.

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## Lithographs

Two lithographs of this cultivar were published in the beginning of the 20th century:

The earliest is one by nursery Van Meeuwen & Zonen who published it as a new hybrid, possibly in 1928. It clearly shows a dark pink/violet, tessellated flower with a striking white stripe on the tepals.

The second was drawn in 1937 by Esther Bartning and published in "Gartenschönheit" in 1938 opposite page 388 and in 1939 as a chromolithograph on the dust cover of "Das Blumenzwiebel-Buch" and the same in black and white on page 69. This lithograph shows a characteristic which is not clearly visible in the other lithograph, the white stripe along the centre of each tepal is clearly visible on the underside of the tepals as well.

I'd give priority to the "Van Meeuwen"-litho, since they are the original sellers and Bowles did say it came closest to how the plant looked in reality. So the white stripe on the underside of the tepals should probably be overlooked.

## Descriptions

The oldest catalogue with the description of Van Meeuwen & Zonen I could find, does not offer a lot of information. It dates back to 1937 and mentions *Colchicum* 'Violet Queen' as such: "*Violet Queen, lilac, tinted violet, Certificate first class Haarlem 27*".

In Foerster's "Das Blumenzwiebel-Buch" (1939), 'Violet Queen' is described as: "*Dark violet, big Colchicum with an extraordinary intense colour, striking when grown between rushes or grasses, when combined with dwarf conifers or yellow thyme, lilac purple with a big white throat, a robust and floriferous form, combined with variegated grasses they create a wonderful effect.*"

In Bowles' special 1955 edition of "A Handbook of Crocus & Colchicum", he describes 'Violet Queen': "*'Violet Queen' also has long pointed segments closely tessellated on a bluish lilac ground contrasting pleasantly with the conspicuously white throat and central channels of the segments.*"

Patrick Syngé describes this cultivar in his 1961 book: "Collins Guide to Bulbs" as such: "*Deep purplish violet with pointed petals and conspicuous white throat, moderately tessellated. Mid-September.*"

The description of this cultivar on page 548 in "Colchicum The Complete Guide" was based on one of the imposters in the 2014 trial and should not have made the book, so that description may be ignored.

Judging from the plates of Bartning and Van Meeuwen along with the description by Bowles and Foerster we can deduce the following: 'Violet Queen' should be a cultivar (*C. speciosum* x *bivonae* hybrid) of **average size** with **long, pointed segments** and a **dark colour**, almost as dark as 'Conquest' and 'Danton', if the plates tell the truth. 'Violet Queen' is, along with these, the only

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cultivar Foerster describes as dark (violet or lilac), and the plates show a *Colchicum* much darker than 'Lilac Wonder' or 'Waterlily', for instance. The conspicuous white throat is not visible on either of the lithographs, it seems to just have a white star in its heart.

### Pretenders to the throne.

Two impostors of this cultivar have been found. (Who does not want to be a queen, after all?)

The impostor mostly sold as 'Violet Queen' in The Netherlands is now called *Colchicum* 'Pride of Holland' and differs by having non-tessellated flowers which are pale pinkish-purple in colour without a hint of violet and the plant is a bit smaller in all parts. And the second most common impostor, now named as *Colchicum* 'Felbrigg Violet' is mostly found in British private collections, it's tepals are uniformly coloured and only very lightly tessellated.

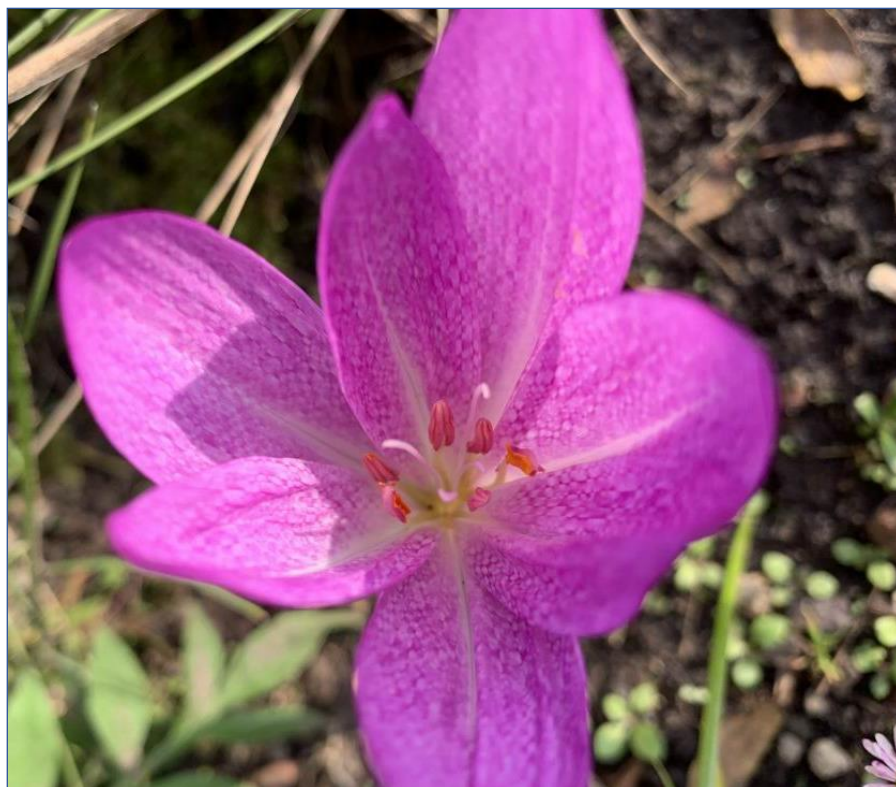
### Is this the true queen?

For the moment three possible correct Violet Queens are in the running. One is sold by Leonid Bondarenko as 'Violet Queen,' it originated in an old Czech collection which he bought years ago. Two others are German and considered as good contenders by one of the German *Colchicum* specialists, Hagen Engelmann, one of which was once sold in the GDR as *Colchicum* x *agrippinum*. In the coming years we'll try to get them growing together in one garden and have some UK and European specialists have a look at them, let's hope they can decide on which should be the true queen.

### The candidates:

Candidate 1:

The form sold by Leonid Bondarenko ( Photos Ingo Kaczmarek)

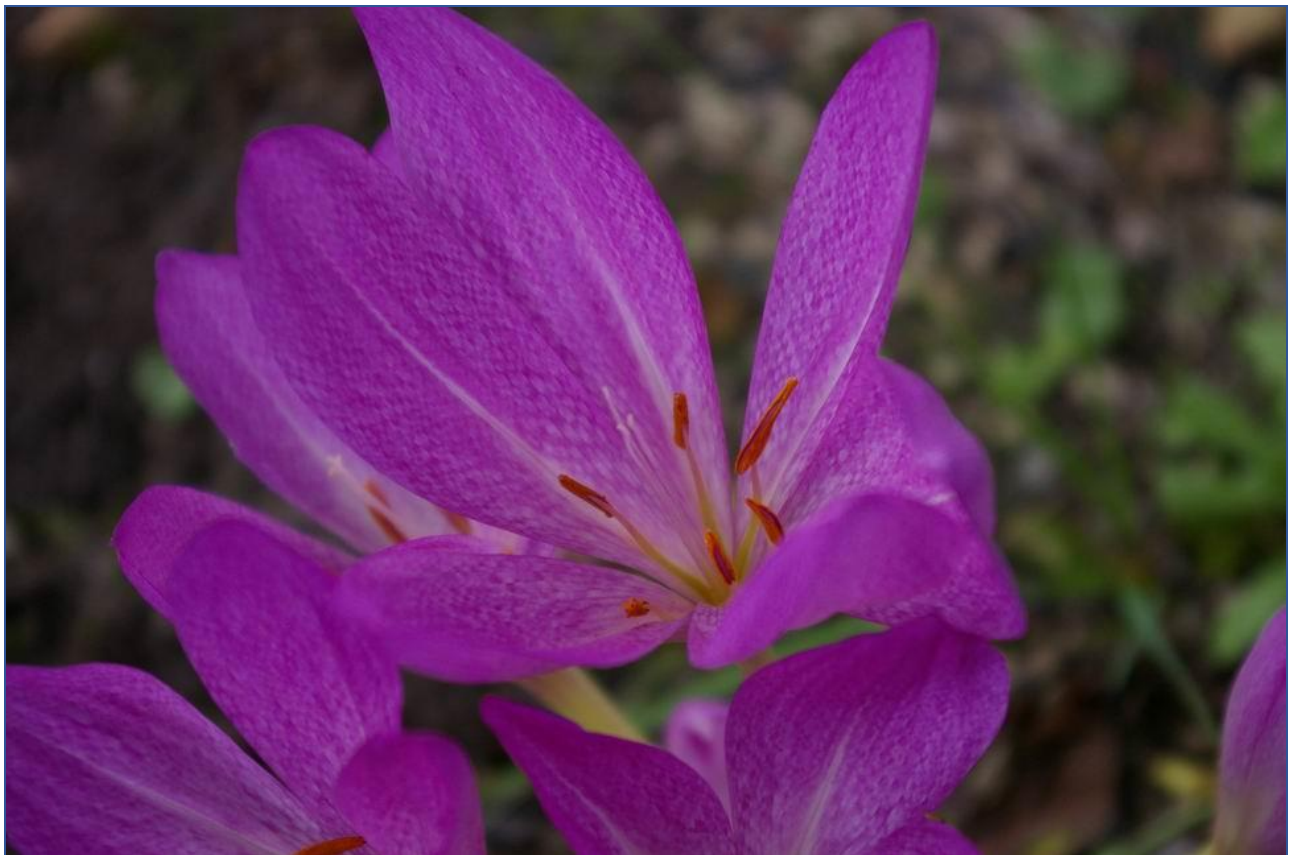


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Candidate 1:

Two more images of the form sold by Leonid Bondarenko ( Photos Ingo Kaczmarek)



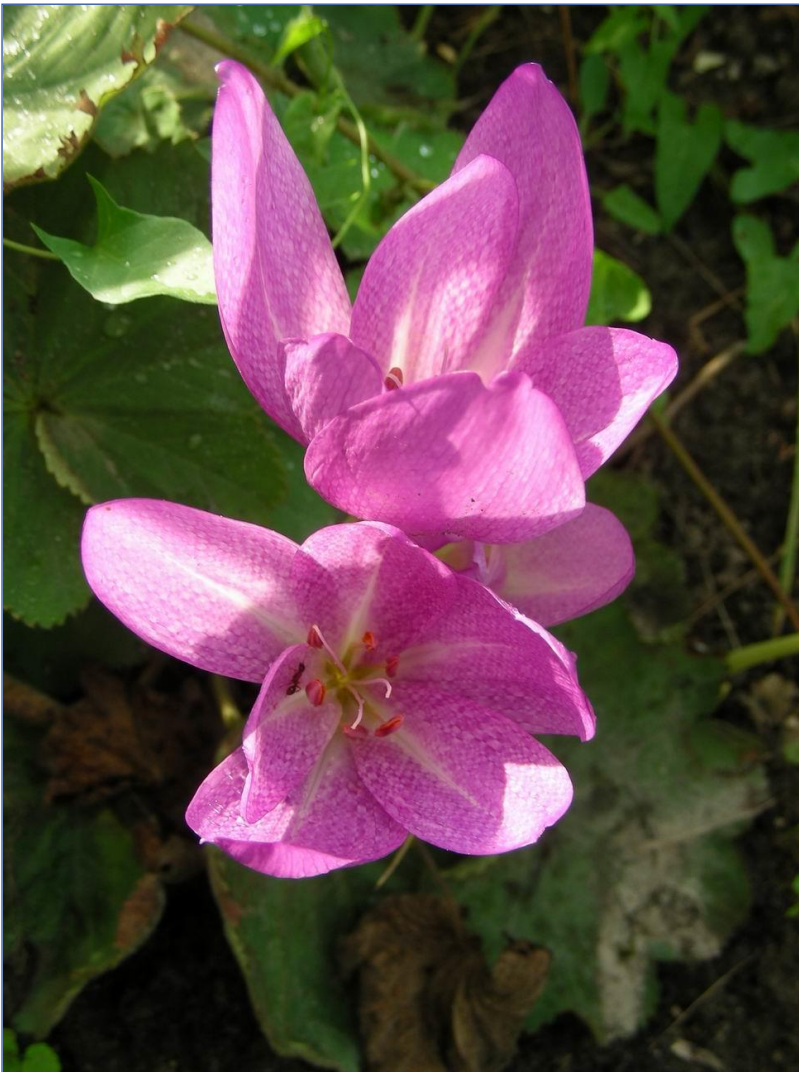
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Candidate 2: Two images of the form sold by Horst Gewiehs Blumenzwiebelimport  
(Photos Hagen Engelmann)





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Candidate 2: Two more images of the form sold by Horst Gewiehs Blumenzwiebelimport (Photos Hagen Engelmann)



Candidate 3: the form sold as *x agrippinum* in the GDR ( the former East Germany) (Photo Uwe Kersten)

### **Conclusion and other lost cultivars**

When the search for this naked queen has been brought to a satisfactory conclusion, we can then focus on the search for some of the other noble Colchicums that seem to have been lost to time: 'Danton' (this one might still be sold in Germany), 'Ferndown Beauty', 'Glorie van Holland', 'Guizot', 'Hidegkut', 'James Pringle', 'Klondike', 'Naeisanum', 'Petrovac', 'President Coolidge', 'Purity', 'Ruby Queen', 'Surprise' and 'W. Kerbert' might all be found lurking in forgotten gardens and/or collections.

### **Bonus: Colchicum 'Altmarkstern'**

Missing from the previously mentioned monograph is this recently named cultivar, which originated with Uwe Kersten in the Altmarkkreis Salzwedel in Germany. He acquired this plant in GDR-times as *Colchicum neapolitanum* from a plant-collector near Zwickau. When it flowered, it became clear it was not *C. neapolitanum*. Nevertheless, the flowers of 'Altmarkstern' are so striking and unique that

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Uwe named it at the suggestion of some *Colchicum* friends, who were visiting his garden regularly. The variety has large flowers and resembles the *C. speciosum* selection 'Dombai' (it's probably a *speciosum* hybrid) but the individual tepals are relatively narrow, giving it a star-shaped appearance ("Stern" means "Star" in German). Another striking characteristic of the flowers is their big white throat, which covers more than half of the segments.



*Colchicum* 'Altmarkstern' (Mariette Timmerman)

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Based on the info found in **Grey-Wilson C., Leeds R. & Rolfe, R. (2020). *Colchicum* The Complete guide. London: RHS.**

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## --- On the Trail ---

### WHERE TO GO ON THE SILK ROAD? Chris Gardner

Given the vast extent of the former Silk Road, the Asia-spanning 8000 kilometre (5000 mile) trade route that linked the Mediterranean-based Roman Empire with the near-mythical Chinese Empire to the east, where does one begin to understand its 50,000 species of plants? Whilst such a number may seem mind-boggling at first it is possible to break such a big area into manageable pieces. There are a number of standout regions within it that contain exceptional diversity. Defining these further it is even more straightforward to look at the climatic variation along the Silk Road and further cherry-pick the best spots. Personally, I've always looked the Silk Road as running west to east, probably because I'm based in Turkey, even though convention often has it the other way around. Yet it seems to me it was the yearning for Chinese silks (as well as other things) that initiated the birth and growth of the route, so the west did indeed desire the east rather than the other way around. The following selection of six locations is not only my personal choice, but it intended to encompass the widest possible range of plants, each different and each accompanied with a compendium of standout plants. Of course, this only scratches the floral surface and there are many other species and great locations across the vast alpine belt that traverses much of temperate Asia, but to visit just these few would render the average plant enthusiast botanically dizzy.



*Asyneuma pulvinatum* in Lycia.

#### LYCIA

There is nowhere better to begin the journey than south-west Turkey, a diversity hotspot in a country that is brimming with wonderful plants. The Taurus Mountains run the length of the Mediterranean coast, eventually diverging inland near Adana, from where they arc around and essentially continue as the Zagros Mountains of Iran. Offshoots plunge southwards into Syria and beyond. They contain the highest number of endemic species in Turkey, with the west and east each having around six hundred. Lycia, where I live, is defined as the ancient territory of the Lycians who built so many fine towns and cities between 600 BCE and 200 CE, but it also conveniently represents the modern

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Teke Peninsula that juts into the Mediterranean Sea. It sits squarely within the Taurus, hemmed in by two ranges; the Bey Daglari and Ak Daglari, with the coastal peaks of Tahtali Dag rising abruptly from the sea and reaching 2365 m in just a few short kilometres. Each of these mountain areas has its own endemics, each possessing different microclimates, added to which the twists and turns of the coast combine with a varying limestone-serpentine geology to create myriad micro-climates and highly localised endemics confined to very small areas. Tahtali Dagi alone has at least 865 taxa.

The entire area can be considered to have a Mediterranean climate. Broadly speaking it is one of mild, wet winters and warm (to very warm) dry summers. There is a lot of variation within this definition, especially where altitude is concerned, but even above the treeline (c2300 m) the flora can be termed Mediterranean-type flora since it contains so many similar floral elements as lower down. The mountain ridges create rain shadow and the flora slowly tends more towards steppe-like as we move inland (more on this later). This only adds to the richness and Lycia contains upwards of 2400 taxa (species, subspecies and varieties). It should be noted that although Mediterranean climate regions (and there are five: Mediterranean Basin, California, central Chile, southern Australia and the Western Cape) only occupy 2% of the world's land surface they contain 12% of the plant species, a remarkable amount that has some locations rivalling rain forest for diversity.

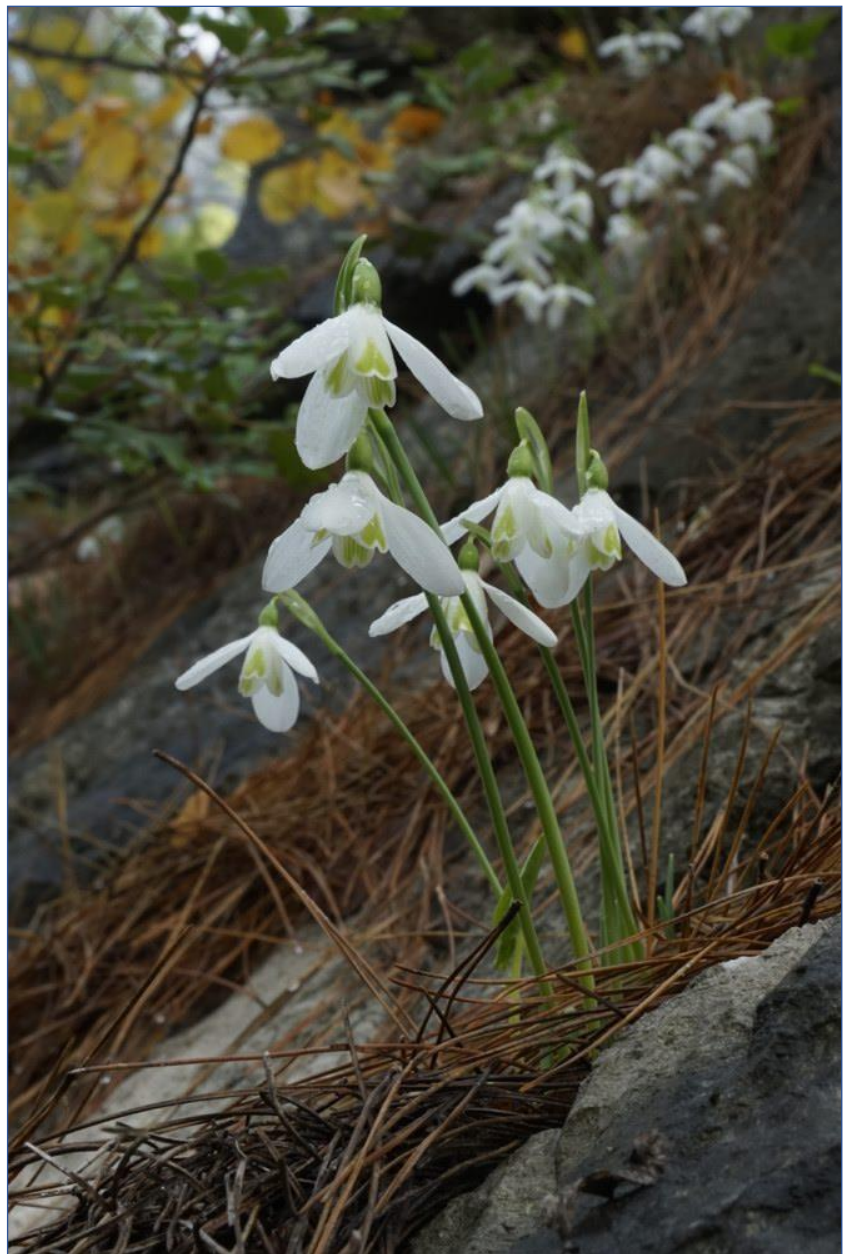


*Crocus biflorus* subsp. *nubigena*.

Geophytes (bulbs, corms, rhizomes and tubers) are one of the most obvious and appealing types of plant that thrive in the Mediterranean, their ability to retreat underground during the inclement drought is an ideal strategy. Turkey abounds with them and can be justly-considered a geophyte hotspot. Crocuses are one of the standout genera, beginning with some gorgeous spring species such as *C. biflorus* subsp. *nubigena* and *isauricus* with their attractively feathered outer tepals to ice-blue *C. baytopiorum*, followed in the autumn by the violet-infused goblets of *C. mathewi* and my personal favourite *C. wattiorum*, a particularly lovely species that bursts from rock crevices in November and December. Spring crocus taxonomy is currently

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undergoing some sort of explosion, with the splitting of species into incomprehensible new species. Having seen various populations within Turkey I personally disagree and defer to the older classification for now. At this time, it is invariably joined by the crisp elegance of *Galanthus peshmenii*. This in turn yields to its cousin *G. elwesii* in the spring and in years of good snow I can still find these in flower in May alongside *Eranthis hyemalis*. One of the most diverse genera across the Silk Road is *Fritillaria* and Lycia has a fine selection with *F. acmopetala* and the lemon-peel bells of *F. carica* both locally common. *F. crassifolia* chooses to grow in limestone scree, in places alongside the sweet-smelling spikes of *Muscari racemosa* a plant that has more catholic tastes, being at home on both serpentine and limestone. The latter is the dominant rock in the Taurus and if one were to travel further along the coast one would find mountain areas with the golden cubes of *F. aurea*. The graceful chequered bells of *F. whittallii* favour cedar woods and up onto limestone pavement where they rub shoulders with some of Lycia's finest alpines. May-June would see them flowering alongside *Omphalodes luciliae*, *Pedicularis cadmea* and *Arenaria tmolea* among an alpine garden of *Geranium cinereum* subsp. *subcaulescens* and *Aubrieta deltoidea*, the latter a mainstay of Taurus mountain flora that provides tumbling mats of colour for many weeks. Mounds and mats of *Silene pumilio* are plastered with pink and *Androsace villosa* with white, as the summer season pushes on with mats of *Salvia caespitosa* sprouting outside pink flowers alongside fabulous outside alpine brutes such as the endemic *Echinops emiliae*. I have to confess to a liking for these big, thistles that emerge in stout towers of armoury topped with impressive tennis-balls of jade-green.



*Galanthus peshmenii*

They occur only on Tahtali Dagi and a few other spots.

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*Fritillaria carica*



*Fritillaria whittalii*



*Echinops emiliae*



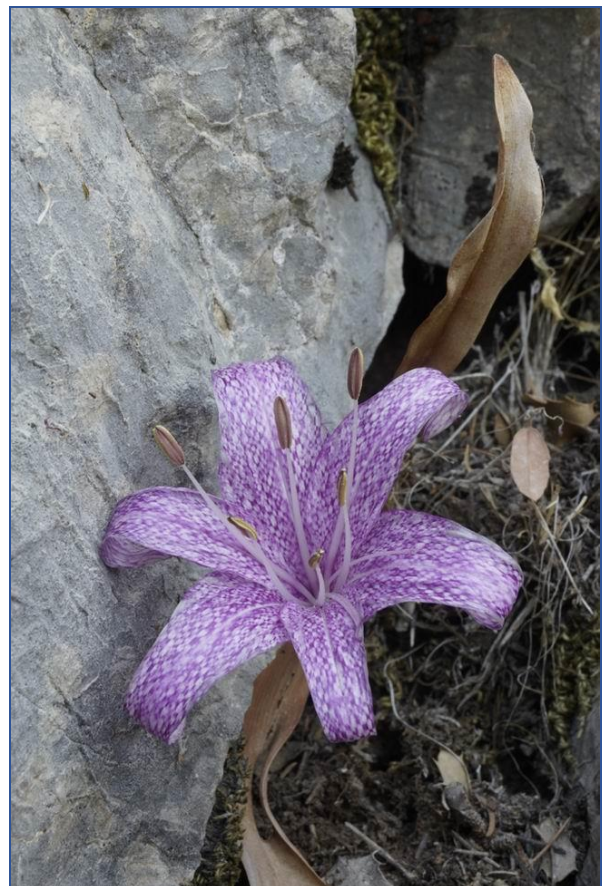
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*Omphalodes luciliae*



*Muscari racemosa*



*Colchicum variegatum*



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*Saponaria pumilio*



*Asyneuma pulvinatum*

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And, it is here that I also find a true alpine gem that chooses to flower at the height of summer. *Asyneuma pulvinatum* is endemic to Tahtali Dagi and is quite unlike other members of the genus, forming dense, hard mats of tiny leaves, studded with lilac stars in August. I first came across a population following an ascent of one of the more challenging ridges of the mountain in April and made note of where they were. Even though I was able to take a short cut of sorts to reach them again in summer, the teleferic that travels to the top of the mountain only got me so far. From here I had to descend three hundred metres and then traverse a trackless terrain of jagged limestone, sharp enough to wear away fingerprints and leave hands like sandpaper. In high summer it is still warm and sweaty going. After an hour and a half, I arrived at my location. No flowers, I was too early! A second attempt two weeks later found cushions with flowers, but since this species only grows on a sheer, west-facing cliffs they were tantalisingly out of reach. Scanning with binoculars (an essential botanising tool to search for plants) I found a beautiful cushion wedged in a 'relatively' accessible rock crevice, where there was just enough of a ledge below to put a boot and hang on to get the photographs. This singular plant only grows at 2000 m and above, so with impending global warming it has few places to go on a 2365 m peak!

Autumn rains see the season begin again as the chequered stars of *Colchicum variegatum* burst from the limestone, spires of *Drimys aphylla* crowd the macchie (maquis) and *Cyclamen graecum* subsp. *anatolicum* fills the pine woods with pink butterflies, followed by their exquisite marbled leaves.

### EASTERN ANATOLIA

Moving inland to the steppe-like regions of Inner Anatolia we find some of the most exciting plants in the Silk Road. Steppe is broadly defined as a semi-arid habitat, with low rainfall, that endures a long cold winter and warm dry summer. Despite, this seemingly unappealing combination it has given rise to a robust and diverse flora that falls within the Irano-Turano floristic region, one which extends across much of the Silk Road at least as far as western China and north to the borders of Russia. Such habitat is also found in western and central North America, southern parts of South Africa and Argentine Patagonia.

*Iris iberica* subsp. *elegantissima*



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*Fritillaria michailovskii*

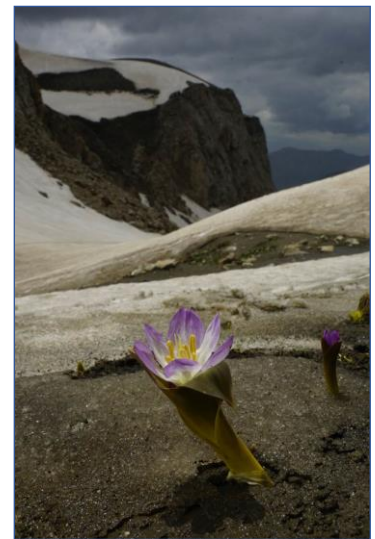


*Fritillaria alburyana*



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Bisecting the Turkish steppe is the Anatolian Diagonal, a mountain region that runs from Adana in the south to Trabzon in the north, moving from the Mediterranean to the rain-soaked Black Sea. It also raises the average altitude of the Anatolian plateau with areas to the east roughly 500 metres higher than to the west. The geology can be complex with limestone, metamorphic and igneous rocks, each harbouring unique species. Once again, we find geophytes are diverse and star species would include gold-rimmed *Fritillaria michailovskii* and pink-belled *F. alburyana*. The latter grows on igneous rocks and the latter on the stark serpentine of the Palandokens with patches of intense-blue *Gentiana verna*, purple Iris reticulata and *Tulipa julia*. Head into the mountains near Lake Van and one can find another selection with *Fritillaria minima* growing with *F. kurdica*, pink *Tulipa humilis* and the big pink goblets of *Colchicum kurdicum*, among a sea of pale blue *Puschkinia scillioides*.



*Colchicum kurdicum*  
*Gentiana verna*



*Tulipa humilis*

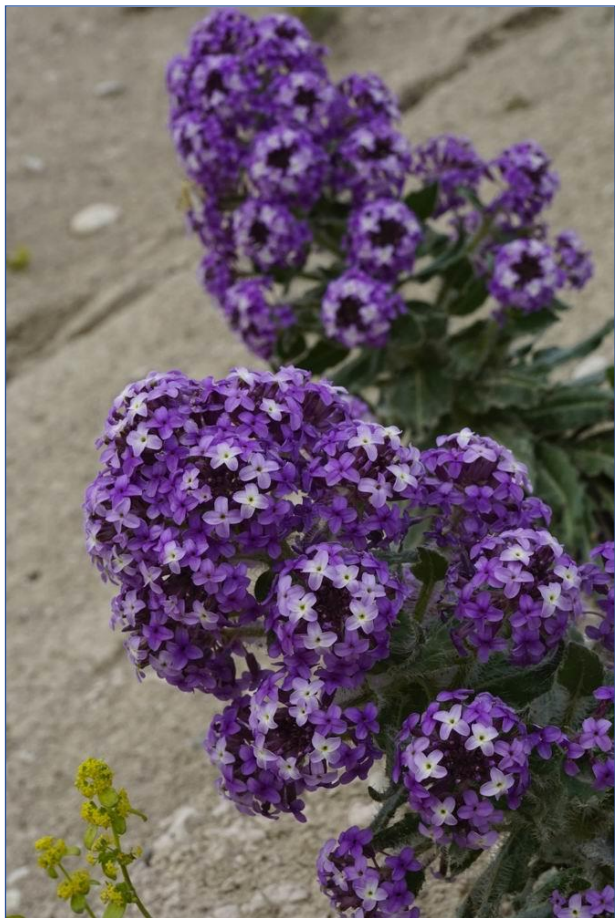


*Puschkinia scillioides*



*Phelypaea tournefortii*

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*Trehis isatidea*



*Iris iberica* subsp. *elegantissima*

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Lower down the steppe flora is surprisingly rich and some amazing plants have evolved here such as fiery scarlet *Phelypaea tournefortii* (a parasite of *Tanacetum*), *Arnebia densiflora* and the weird and wonderful *Tchihatchewia isatidea*. However, the most remarkable and sought after must be the Oncocyclus irises. Members of this flamboyant *Iris* group typically have large showy flowers, that often seem too large for the modest tuft of leaves they emerge from. Some are real giants such as highly localised *Iris gatesii* or the more common and truly striking *I. iberica* subsp. *elegantissima* that peppers lava flows and slopes with bicoloured chocolate and cream flowers. Others include violet *I. barnumiae* (with its lemon variant forma *urmiensis*), the many shades of *I. sari* and the singular *I. paradoxa*, which has largely dispensed with falls and has showy blue-veined standards that wave in the steppe breeze and are visible from afar. The latter two species will sometimes hybridise too, to give wildly different progeny that incorporate elements of both parents. I vividly recall my first encounter with the wonderful *I. paradoxa* in a grubby hotel lobby in Van, where a local botanist suddenly produced a magnificent plant with six flowers from a polythene bag and gave it to me! He also passed on the location, where we rushed to the next day to find more, good (unmolested) specimens. It is also popular to plant this on local graveyards and some strong populations are now well-established in such places.



*Iris paradoxa*

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Mention should be made of the landscapes of this region too, vast undulating plains punctuated by immense volcanoes, the extraordinary volcanic ash formations of Cappadocia and the eastern limestone ranges of the Taurus Mountains that skirt the southern shore of Lake Van.

Eastern Turkey is a world apart from the Mediterranean.

*Iris paradoxa*

TAKTAKARACA PASS



*Eremurus olgae*

Shifting attention east the nexus of the Silk Road was always Central Asia, a region that is now much easier to travel in, allowing access to another rich flora. Not only that, but there is the opportunity to see the restored grandeur of Samarkand and Bukhara to lend farther appeal. With one's head still



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spinning with blue tiles and fabulous architecture it's best to head south an hour from Samarkand and climb into the relatively low granite hills of the Hissar Range. Despite the modest altitude snow falls in winter and as it melts this extraordinary boulder strewn landscape starts to offer up treasure. The range continues into neighbouring Tajikistan, where valleys are coated in countless golden *Iris bucharica* in April. They occur on the Taktakaraca Pass too, but here fewer. Instead, we find the stunning lilac *I. warleyensis* and impressive clumps of taller *I. magnifica*.



Two forms of *Iris warleyensis*



*Iris magnifica*



*Colchicum kesselringii*

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*Fritillaria bucharica*



*Bellevalia turkestanica*



*Corydalis and Gagea*



*Primula fedtschenkoi*

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Foamy masses of *Crambe kotshyana* and the towering fennel *Ferula kuhistanica* sometimes combine with *Astragalus sieversianus* to create a big-herb overload as one climbs stony slopes for colonies of white *Fritillaria bucharica* or deep indigo *Bellevalia turkestanica*. Closer to snow patches both yellow *Crocus korolkowii* and white-and-purple *Colchicum kesselringii* can be found too. On top of this is a swirl of *Corydalis ledebouriana* forms quite unlike any other, often hybridising with *C. maracandica* to add to the confusion. Look carefully among these and there are also the cerise flowers of *Primula fedtschenkoii* too.

*Tulipa fosteriana*

Central Asia excels at tulips and here a fiery injection of colour is provided by *Tulipa fosteriana*, perhaps one of the most vivid tulips to be seen anywhere, the tepals an intense shining red, with a bold gold and black centre. Unfortunately, this is their undoing as they are avidly collected to sell by the roadside. Thankfully, a word in the right ear can gain access to private areas where above the orchards and walnuts can be found stands of this stunning plant.



*Eremurus olgae*

Fast forward a month and the sapphire bells of *Gentiana olivieri* are plentiful, bushy clumps of *Dianthus uzbekistanicus*, *Astragalus eximia* and great stands of *Eremurus olgae*, one of the forty or more species of foxtail lily that grow in Central Asia. A visit here is worthwhile anytime in spring or early summer and I can think of few locations with a better combination of flowers and culture so close to one another.

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### TIEN SHAN

Staying in Central Asia, arguably the most interesting plant area is the Tien Shan or Celestial Mountains. This beautiful mountain chain rises first from the steppe near Tashkent and continues for thousands of kilometres to western China. There are southern and northern ranges, which ultimately collide in Kyrgyzstan before reaching China. The increase in altitude moderates the climate, creating more humid microclimates and allowing a diverse mix of plants. Yet, the drier steppe lands are never far away, and one can experience a kaleidoscope of colourful rocks, semi-desert, high emerald pastures, tall spruce forests or stark alpine scree fields in relatively short distance. Though the flora has distinctions it is heavily influenced by the surrounding steppe.



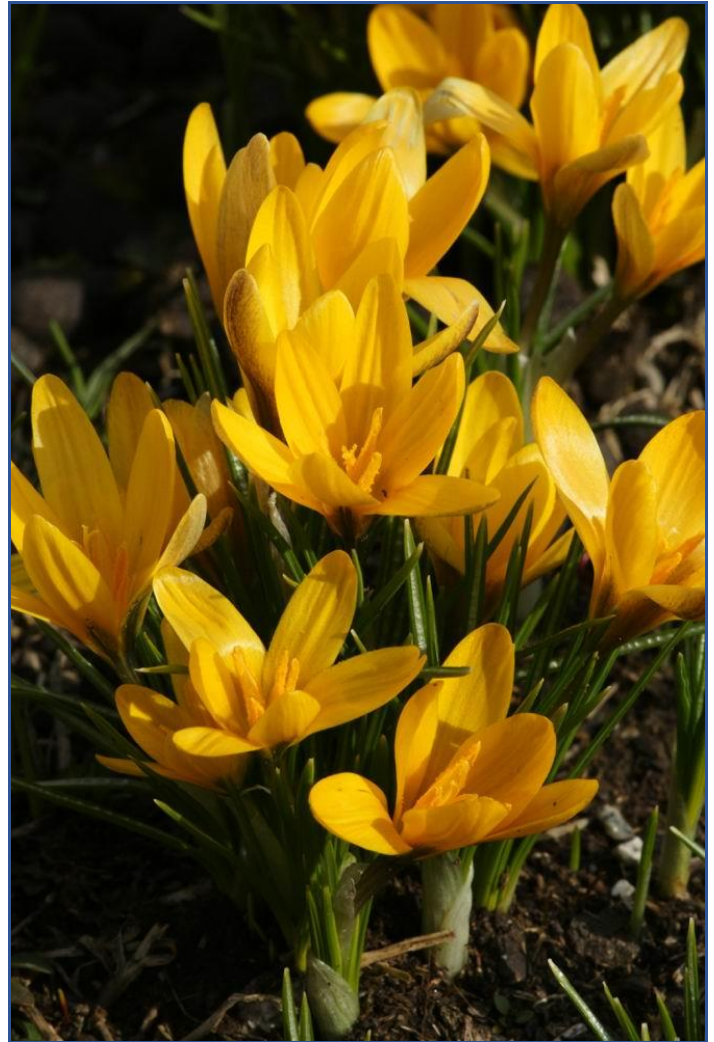
*Tulipa tschimganica*

The western end is drier, dominated by well-spaced juniper woods and rocky montane steppe. Near Tashkent one can access the hills easily via ski-lifts and find fabulous displays of *Tulipa tschimganica*, *T. bifloriformis* and *T. dubia* in spring alongside *Iris orchoides*, plentiful white-and-purple *Crocus alatavicus* and golden *Colchicum luteum* (the colour mirror of *C. kesselringianum* and *Crocus korolkowii* seen on the Taktakaraca Pass). The two species of *Colchicum* occur in huge numbers on the Ala Bel in Kyrgyzstan, near big stands of *Fritillaria sewersoi* and immense drifts of *Corydalis ledebouriana*.

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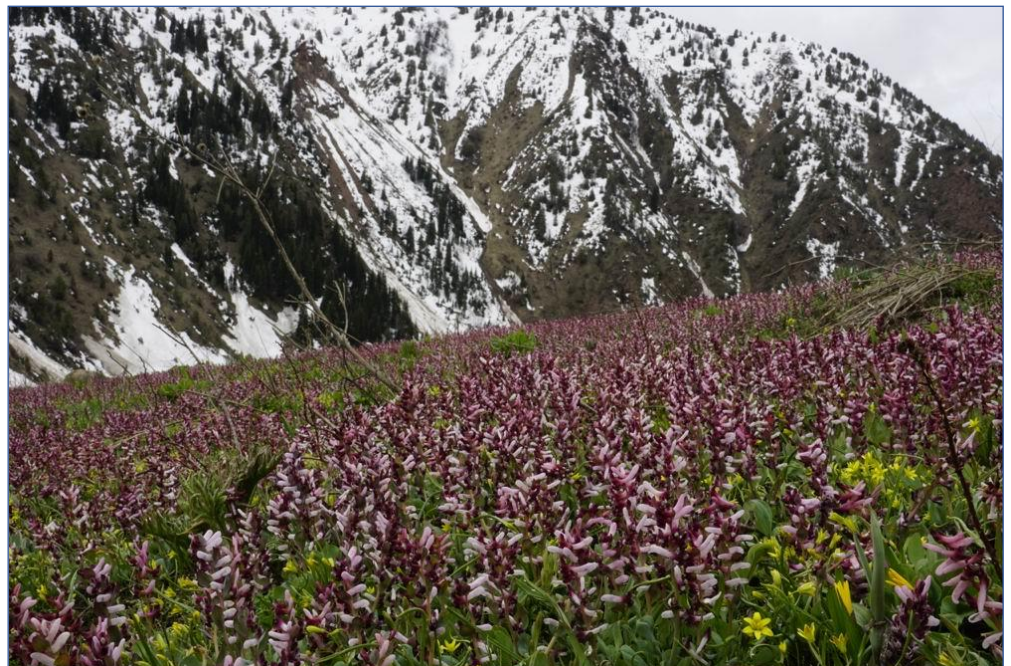


*Crocus alatavicus*



*Crocus korolkowii*

*Corydalis ledebouriana*



*Fritillaria sewrzowii*

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*Tulipa ostrowskiana*



*Tulipa tarda*



*Aquilegia atrovinosa*

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Spring tulips in the Tien Shan can be mind-boggling with new species dotted all along the range and north into the endless Kazakh steppe. In the northern Tien Shan, the valleys between Tashkent and Bishkek are very rich and we find handsome species such as stripe-leaved *Tulipa greigii* and vivid scarlet *T. ostrowskiana*, whilst on conglomerate there is *T. tarda* and by fringing snows is an abundance of *T. kaufmanniana*. The latter is common in the Aksu-Dzabagly nature reserve, a special destination, worthy of seeing in both spring and summer. With luck and good snow, summer still finds said tulip in flower, but by now they are joined by wonderful species rich meadows in an area that has had no grazing for nearly a century. Foxtail lilies do not dominate here as they do in heavily grazed areas, but instead they are part of the rich mix. Deep-wine red *Aquilegia atrovinosa* combines with spires of *Delphinium confusum*, drifts of *Trollius altaicus* and *Anemone narcissiflora* subsp. *protracta*. On the rocks and higher cliffs one can find the lovely pink *Primula minkwitzsiae* near the delicate, quivering beauty of *Paraquilegia caespitosa* and sky-blue *Stephanocaryum olgae*. Revisiting the western Tien Shan near Tashkent in early summer sees towering *Eremurus robustus* and the chocolate-veined *Iris korolkowii* amongst many others. Whereas the Ala Bel now supports truly astonishing carpets of countless *Primula algida*, vast ranks of *Eremurus fuscus* and colourful turf full of forget-me-nots, louseworts and globe flowers.



*Primula minkwitzsiae*



*Primula algida*

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*Trollius lilacinus*



*Allium semenowii*



*Callianthemum alaticum*



*Corydalis fedtschenkoana*



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All of which brings me to the wild and wonderful high alpine realms south of Lake Issyk-kul, the vast water body and the heart of Kyrgyzstan. Climbing into these, scree-draped, rugged mountains one reaches a wilderness of partially frozen lakes, where the weather can flip from spring to winter in an instant. This is the frigid realm of the Ice Queen – *Trollius lilacinus*, my favourite plant in Central Asia, a refined ice-blue crystalline gem that emerges in quantity near melting snow amidst a magnificent mountain back drop. For me it is not just the plant, but also where it grows or what it takes to reach it. *Trollius lilacinus* ticks the boxes. Accompanying them are golden *Allium semenowii*, screes full of *Callianthemum alatvicum*, big cerise heads of *Primula nivalis* and in a few spots the filigree-leaved *Corydalis fedtschenkoana*, surely one of the loveliest of the genus. The *Corydalis* is quite picky about its scree and is absent from large areas of similar-looking habitat, suddenly appearing in quantity once the right grade and gradient is found.

Below the Tien Shan flower-filled grassy steppe continues to the horizon...next stop China.

YUNNAN-SICHUAN



Anyemaqen Shan, Guoluo Tibet Autonomous Prefecture, west Qinghai Province.

The eastern terminus of the Silk Road was for so long a complete mystery, its culture and traditions hinted at by traveller's tales and hearsay. Few merchants (if any) would have covered the entire route, rather goods were passed from merchant to merchant at the bustling markets of Samarkand or

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the caravanserais that lined the way between there, Iran and Turkey. Not only was the Chinese empire so different from Rome, so too is its flora. There is a tremendous climate reversal in western China (by that I mean Yunnan, Sichuan, Qinghai, SE Tibet) to a monsoon one, where summers are wet and winters dry. This has encouraged luxuriant tall forests to grow at up to 4000 m or more and an explosion of *Primula*, *Rhododendron*, *Androsace*, *Meconopsis*, *Corydalis*, orchids and *Arisaema* to name but a few. However, the influence of this deluge weakens as we move inland, eventually fading until we reach the steppe lands farther north and west.



*Cypripedium tibeticum*

The first-time arrival is utterly bewildered, not helped by the breathless altitude many of the best plants grow at. After suitable acclimatising it is possible to enjoy these extraordinary highlands, much of which still remains today, though I'm sure the plant hunters of yesteryear would be horrified by the deforestation wrought in some places. Among this swirl of flora a few places leap out and we can move from Yunnan northwards, although this is just the merest of glimpses of what can be found. Starting, in the recently renamed city of Shangri-La (formerly Zhongdian), the surrounding area has diverse hillsides with up to five species of slipper orchids, where *Cypripedium flavum* mingles with the pretty pink of *C. yunnanense*, the red-

blotched *C. guttatum*, diminutive *C. plectrochilon* and big, bold *C. tibeticum* in a range of colours from pink to purple. Tall stems of *Anemone demissa* burst from the turf with *Incarvillea zhongdianensis*, *Aster soulei* and *Pedicularis monbeigii*, whilst the tall stems of bristly *Meconopsis prattii* stand among the shrubs or on rocky slopes. Nearby placid lakes are fringed by stunning drifts of *Primula sikkimensis* and *P. secundiflora*, growing among shrubberies of *Rhododendron wardii* heavy with pale-lemon bells. Diminutive *Lilium souliei* grows among dwarf rhododendron with the dainty white bells of *Cassiope pectinata*.

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*Primula sikkimensis* meadow with *Primula secundiflora*



*Rhododendron wardii*

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Even the journey here is punctuated with beauty, from the spotted discs of *Nomocharis aperta* to narrow violet spires of *Primula deflexa*, the curved spadices poking from sinister striped spathes of *Arisaema elephas* or papery yellow *Meconopsis pseudointegrifolia*. Autumn gives no respite here; the lake is fringed by countless *Gentiana sino-ornata* and even lovelier *G. arethusae* on drier ground. Indeed, Yunnan at this time is still very rich with a great diversity of *Gentiana*, *Swertia*, *Cyananthus*, *Delphinium*, bright yellow saxifrages and late-flowering geophytes such as *Allium beesianum* amidst clear, burnishing landscapes.



*Lilium soulei*



*Nomocharis aperta*

Head north and the Baima Shan immediately divides attention; granite on one side limestone on the other. Does one ascend the breathless rocky turf to see fabulous domes of *Chionocharis hookeri* studded with sky-blue flowers first or look for tufts of refined *Paraquilegia microphylla* instead. The former grows on the granite with *Diapensia purpurea*, *Primula dryadifolia* and *Androsace delavayi*; the latter has screes with *Corydalis melanocentra*, *Androsace wardii* and *Primula zambalensis*. Over the years I have used the same Chinese drivers, and not only have they become well-accustomed to my plant-hunting needs, but they have also taken a keen interest themselves and

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happily set off in search of blue poppies or whatever else is around. During a recent visit to Baima Shan, I had encouraged my group to slog up to see some cushions of *Chionocharis hookeri* and we were well-pleased with ourselves until my driver came down and started showing the pictures he'd taken of a far superior colony. Eyes on stalks, I suggested we might try again early tomorrow and instantly had two full cars. Pre-breakfast departure saw us climbing into the hills before sunrise and ascending the slope, revelling in the magnificent views that opened up around us.

The *Chionocharis* cushions were superb, but the overall experience of being up here so early was utterly memorable and high point of the trip.



*Gentiana arethusae*



*Paraquilegia microphylla*



*Primula dryadifolia*



*Rheum nobile*

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*Omphalogramma viola-grandis*



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*Primula chionantha*

Driving over the scenically stunning Da Xue Shan with its vast screes, home to *Rheum nobile* and stone-leaved *Corydalis benecincta*, we can then fast forward past sturdy Tibetan houses and over even higher passes with more blue poppies and androsaces until we reach the endless grasslands of Sichuan, which in summer are an ocean of flowers dotted with black yaks.

*Meconopsis punicea*

Here, the slopes have a blend of *Iris dolichosiphon*, *Incarvillea mairiei*, *Lilium lophophorum*, *Anemone demissa* and *Ajuga lupulina* with its peculiar overlapping bracts. Good plants come thick and fast, passes come and go and then one arrives at the Balang Shan, one of the finest locations in China. The upper meadows are fabulous with a succession of good plants from *Veratrum grandiflorum*, *Euphorbia pekinensis* and indigo *Corydalis calycosa*, superb clumps of swollen-pouched *Cypripedium tibeticum* vie with the pansy-faced *Omphalogramma viola-grandis*, the twisted beaks of *Pedicularis davidii*, and an abundance of *Primula*



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*sikkimensis*, *P. chionantha* and *P. munroi*, invariably mixed with mauve *Meconopsis lancifolia*, yellow *M. integrifolia* and that most bizarre of all poppyworts; *M. punicea*. This singular plant has drooping red flowers that lurk above the meadows. It is frequently seen together with *M. integrifolia*, especially if one takes on a further push north into Qinghai.



*Meconopsis lancifolia*

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In Qinghai, remote passes, endless landscapes and seldom visited alpine uplands have scree-growing gems such as *Saussurea wellbyi*, the wonderfully named *Desideria baoigoinensis*, huge chollies of violet *Meconopsis lancifolia*, spidery *Cremanthodium brunneopilosum* and turf dressed in a snow of *Androsace mariae*, all set among the vibrant and colourful Tibetan culture that colours the land with fluttering prayer flags and gold-topped monasteries.



*Saussurea wellbyi*

*Desideria baoigoinensis*



### ROHTANG LA

The north-west Indian state of Himachal contains a great deal of flora in common with neighbouring northern Pakistan and a branch of the Silk Road came through Leh in Ladakh, just to the north. The flora of this corner of the world is a fascinating blend of both Sino-Himalayan and Central Asia elements. Away from the monsoon-soaked southern ramparts of the Himalaya, the inner lands have flower-filled valleys, where stately *Meconopsis aculeata* stands above the rocky slopes and *Potentilla biflora* encrusted rocks below breathless passes. Sitting squarely on the divide above the bustling town of Manali is the Rohtang La and exploring the different versants and the high tops offer a rewarding and contrasting experience.

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*Meconopsis aculeata*



*Potentilla biflora*

Surrounding Manali are tall forests of *Cedrus deodara* and *Picea smithiana* with graceful weeping branches, that become filled with white-stemmed *Betula utilis* with increasing altitude. The wetter southern versant has rock ledges with the gorgeous creamy bells of *Primula reidii*, whilst heavy screes have lots of showy white *Anemone tetrasepala*, *Bergenia stracheyi* and *Fritillaria roylei*. Grassy slopes have the near black *Thermopsis barbatus* and then the upper turf is carpeted in *Anemone obtusilobus*, dwarf rhododendrons and blue drumsticks of *Lagotis cashmerianus*. The upper reaches are invariably swathed in cloud, making navigation tricky at times. I was on the trail of a plant I'd longed to see, a real high alpine and I'd set off across distinctly misty turf, which quickly became pea soup with big rocks looming out of the gloom every so often as I climbed, not quite knowing where I was headed. Scrambling over mossy rocks I reached an area of huge rocks that created a wonderful natural rock garden, each one studded with an assortment of wonderful alpine plants such as *Saxifraga lychnitis* and perfect buns of *Androsace delavayi* covered in white flowers. And then finally there they were, the remarkable woolly globes of *Saussurea gossypiphora*, one of a number of unusual species that protect their flowers amidst a generous swaddling of dense hair. Leaves stuck out from among the fuzz, creating extraordinary botanical spheres, more akin to

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something undersea than mountaintop. The mist did clear after a time and then I could at last appreciate where I was, surrounded by boulder-strewn high turf is studded with golden *Corydalis meifolia* and carpets of countless *Primula minutissima* that ran like rivers back down the slope.



*Primula reidii*



*Thermopsis barbata*

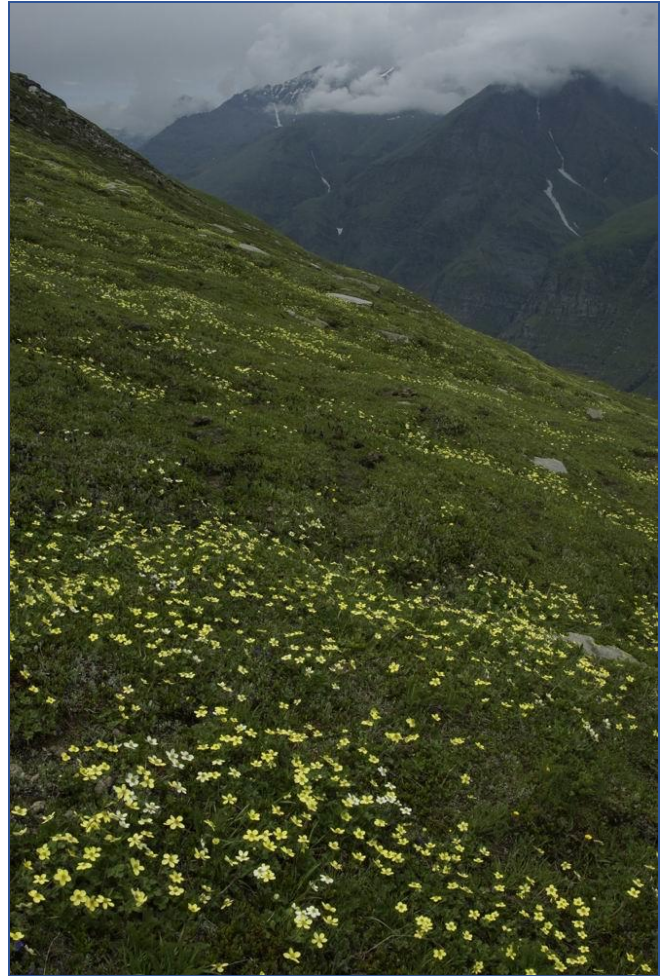


*Androsace delavayi* with  
*Saussurea gossypiphora*

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*Primula rosea*



*Anemone obtusilobus*



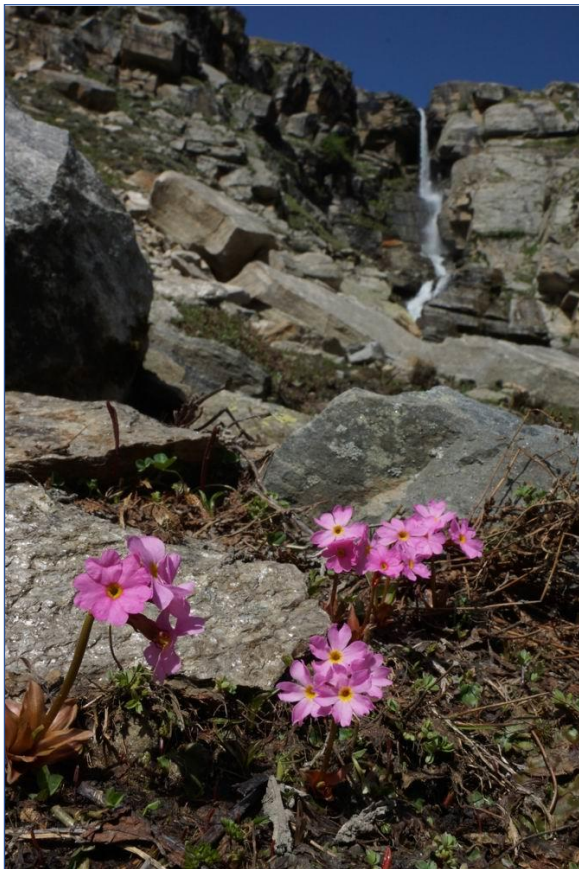
*Iris kemaonensis*

From the pass the road plunges down into the spectacular defile of the Lahaul Valley, a drier realm where snow-fed waterfalls plunge from the cliffs and vivid pink *Primula rosea* colours the edges of snow patches near clumps of spotted *Iris kemaonensis*. Reaching the drier valley floor, the flora is influenced more strongly by Central Asia, with *Morina coulteri*, *Cousinia thomsonii*, *Lindelofia macrostyla* and *Codonopsis clematidea*, the latter two found widely in Kyrgyzstan too. If we continue north, we will reach the breathless high pass of the Baralacha La, then Leh and ultimately the deserts of far-western China that led to the former Silk Road hub of Kashgar.

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Baralacha La



Başak and I have been fortunate to visit the countries of the Silk Road on numerous occasions, our recently reprinted book *Flora of the Silk Road* ISBN 9781472969101 was the result of at least sixty assorted tours and offers many more detailed insights into what a floral paradise this is. I encourage you all to make your first steps along the Silk Road..... C.G.

*Primula rosea*

During these difficult times Chris and Başak have been writing a series of COVID diaries, a taste of virtual travel to keep spirits up. These can be viewed at <https://www.viranatura.com/covid-diaries> or you can be added to their mail list, so you receive them directly each week.