

International Rock Gardener

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Our first article this month, about a Scottish garden, is republished with agreement from the journal 'Folium Alpinum' of our sister society, the Dutch Rock Garden Club (NRV). Jānis Rukšāns takes us to Berkara Gorge in the Karatau Mountain Ridge of Kazakhstan to describe a tulipa species. Martin Hajman reviews a new book on the Tian Shan and we finish with a look at a gem of the Cyclamen genus, originally written by Václav Jošt for 'Skalničky', the Czech rock garden journal.

Cover photo: Candelabra primulas in Sue Simpson's garden.

---Alpine Allure---

Sue Simpson who lives in south-west Scotland, explains her fascination with extending her love of gardening to exhibiting plants at alpine plant shows in the UK. Sue and her husband George Watt have made an extraordinary garden in just a few years – and their dedication to having their potted plants be every bit as well-looked after as their garden is remarkable – and pays off well, as readers will learn!

ALPINE ADDICTION: text Sue Simpson, photos Sue Simpson and George Watt

My fascination with alpines goes back about 20 years when a friend, now my husband, took me to a Scottish Rock Garden Club Show. I was captivated by the beautifully grown plants on the benches and there were nursery folk on hand, willing to sell me some of these jewels! Fast on the heels of the show I was treated to a visit to Jim Sutherland's family run alpine nursery - [Ardfearn](#), near Inverness - rows and rows of neat little alpines in their pots were laid out before me – absolute heaven, much better than clothes shopping, although I am sure not all women would agree with me!

I spent a fortune and we came away with trays of pots!

At that time I lived in Peebles in south east Scotland where the weather is cold and on the whole much drier than in the west where we live now. It seemed to be so much easier to grow alpines outside over there but I suspect that generally, our Scottish weather has become much wetter in recent years.

We moved to Ayrshire in December 2005, taking over a former smallholding of 2.6 hectares. We were faced with three flat fields, a burn, a 250 year old cottage and a very old shed. We both felt it could be what we had been looking for – not the area perhaps in which we had hoped to settle but it showed much potential.

The property as Sue and George first found it.



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George had always wanted to create a [small arboretum](#) and a suitable habitat for his rhododendrons and other ericaceae. At that time I was quite content with the thought of building a rockery, scree and a gravel area for all our troughs. Naively, I envisaged something similar to my small garden in Peebles. George, fortunately, has much clearer vision than I and realised that in keeping with the size of the property, all our constructions would have to be large. And so the lorry loads of rock started appearing!

For the first few years I grew many of my alpines outside. Phlox, saxifrages, dianthus, campanulas, small iris, dwarf conifers and helianthemums all flourished in the rockeries and raised bed whilst many others, particularly primulas, androsaces and saxifrages, only lasted a year or two. I tried covering these in the winter but we live in a very windy spot so that proved difficult.



Rockery, raised beds and trough areas.



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Raised rock bed.

At that time we were still attending all the Scottish Rock Garden Club show and three of the Alpine Garden Society shows in the north of England. As with most members who decide to have a shot at showing, I began to think that one or two of my alpinas would not look out of place on the benches – Section 2 (the beginners' section), of course! And so it began!

Frames with potted alpine plants.



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Dianthus 'Baby Bubbles' flowering in a raised bed.

The Glasgow Show in 2012 saw my first attempts at showing and the beginning of concentrating on growing alpines in pots with protection. Initially this was in frames constructed by George for my new found obsession. We had erected a large tunnel house as one of our early projects but I did not find this to be a particularly suitable place for alpines – too hot and humid during summer. It is, however, a useful place during very cold spells in the winter for protecting the slightly tender plants. Nowadays we use sand plunges in this tunnel for arisaemas, iris and larger fritillaries.

After a fairly successful first year at showing, we decided to build our first alpine house for my ever-expanding number of pots. In September 2012 we erected a 6m x 3.6m glasshouse with 19 louvre vents in the sides, 6 large roof vents and 3 constantly running fans. George designed 23cm deep plunge benches to make the most of the space but left an area in a corner to construct a tufa wall as a small homage to the much larger one we admire at Edinburgh Botanic Garden. This house was filled within 24 hours with my amassed collection. At that time this mainly consisted of primulas – allionii, auricula and marginata, saxifrages, and some of the smaller bulbs.



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Glasshouse with, at back left, the tufa wall.



Cushion plants in tufa; *Dionysia* 'Marika' and *Dionysia* 'Inca Gold'

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Tempted by the perfection of dionysias I also indulged in choosing a few of these. I had hoped that with the continually running fans and numerous vents that growing some of these more difficult alpiners would be simple. How foolish I was! The dampness in the west of Scotland is a real challenge for many of these plants. I find, as we all do, it really upsetting to watch the slow death of a plant that has been previously looking good. Sometimes there appears to be no reason for these deaths – too dry, too wet, too hot, aphids or perhaps something in the roots?

After a couple of years entering Section 2 I had amassed enough points to be promoted upwards into Section 1.



Staging plants at the Glasgow Show.

George was convinced that I would need another alpine house when he saw how quickly the first one was filled. I was absolutely sure that this was not the case until, of course, we paid another visit to one of the shows and, of course, met with the nurserymen again! My goodness, lots of new possibilities to try! My collection of saxifrages had been growing gradually and many of these needed repotting. Where was I going to put them? I finally agreed that a second alpine house might just be the answer!

In 2015 George, ever helpful and encouraging, came up with a plan and a suitable place for this house which would be the same size as the original. It would be sited on an area of our ground which flooded occasionally but would be constructed on a raised concrete base.

Initially this house was home to all the plants that I could not fit into the first one, but gradually I realised that in fact this was in a lighter and slightly airier position - what better place for my saxifrages! Both houses have roll-down blinds on the roof and initially blinds for one side each. I found that having to move the side blinds depending on the direction and strength of the sun was proving to be very time-consuming so we subsequently bought enough to cover both sides of each house.

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The area
sometimes
floods.....



Early morning sun and condensation show up the vents on the house.

---International Rock Gardener---



Developments continue....



Pelargonium and Lewisia in a glasshouse during summer.

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A very small 40 year old glasshouse came with the property and in the early days I used it for raising seedlings, then for a few pelargoniums in the summer. In 2016, after a visit to a large estate nearby and admiring their huge glasshouses full of pelargoniums, I wondered how to create our own. Once again George came up with the answer and suggested that we replace the old glasshouse with another larger alpine house. This could be used for bulbs in the winter and spring and then as they died down and required a dry summer baking, the pelargonium collection would take over. Thus alpine house 3 was born.

This house is slightly narrower but has a similar number of roof and side vents. It is also situated in the sunniest part of our garden and close to the house. Hopefully it would work for both very different collections. I found that it was also a perfect place for lewisias, mainly cotyledon and tweedyi. I also have a large streptocarpus collection which lives on the kitchen floor!



Streptocarpus on the kitchen floor.

We open our garden to the public during spring and summer and find that many of the groups show a great deal of interest in the alpine collection and the tufa wall. The majority of our visitors have not come across the wide range of plants that we now grow.

As mentioned above, our wet weather has become a major problem here, even more than we had anticipated. I find that, although not an ideal way to grow alpines, growing in pots and being able to give them protection has proved fairly successful. It does cause a massive amount of work with constant repotting, monitoring for water and generally checking the status of each plant almost daily. I do not have an automated watering system but use a watering can with a thin spout. I do, however, have a water supply situated in each house, and lighting so that I can work on into the night!

---International Rock Gardener---



Sue can work on into the evening - she keeps endlessly busy!



Showing alpines has become a major part of my life here and appeals to my liking for neatness and order. There is nothing better than a smart plunge bench full of beautifully flowering saxifragas.

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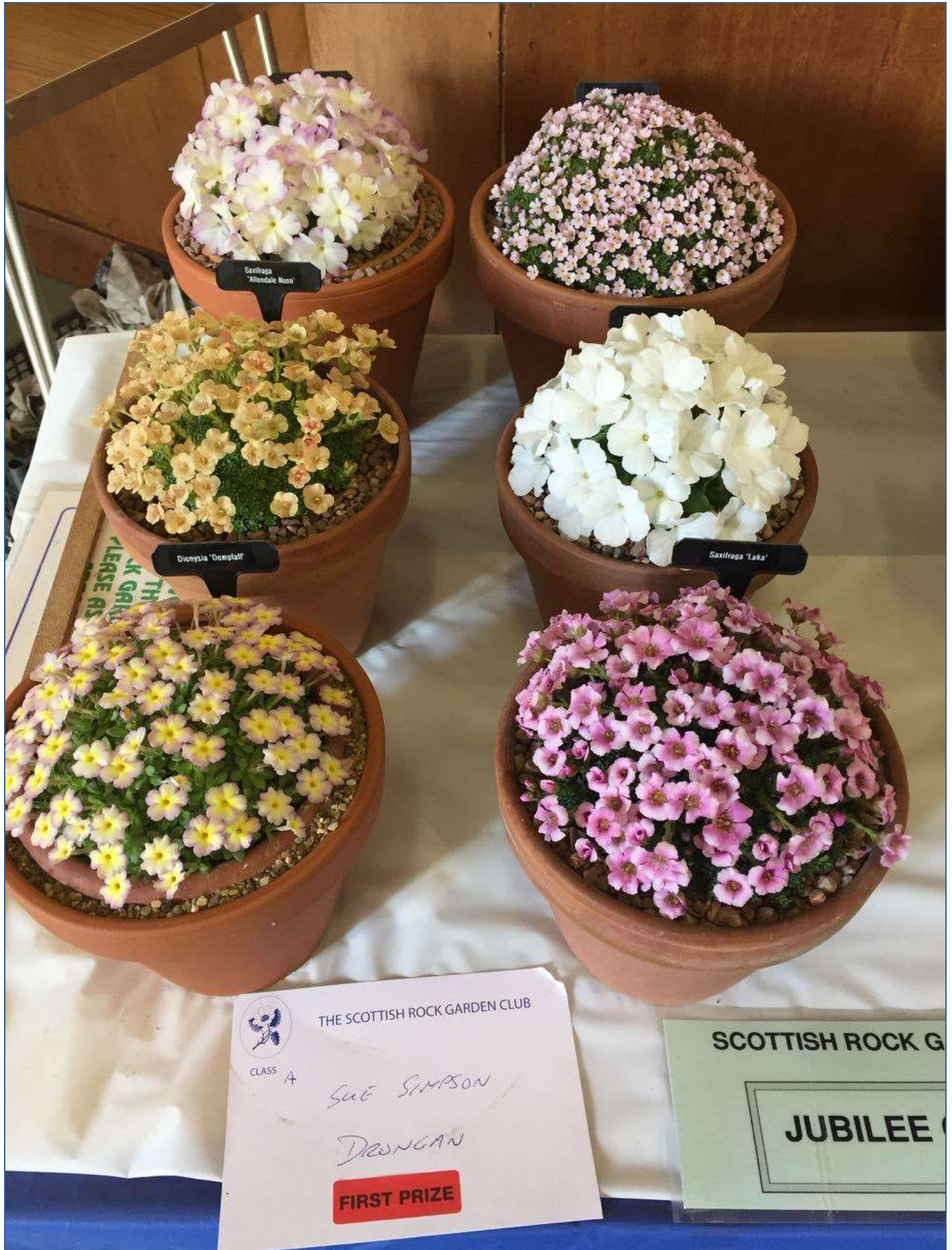
Saxifragas in flower.

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A first prize at Kendal Show in 2018: *Saxifraga* 'Auguste Renoir' (raised by Karel Lang), *S. x poluanglica* and *Saxifraga* 'Allendale Elf' (raised by Ray Fairbairn).

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A winning entry of six small pots (under 17.5cm).

---International Rock Gardener---



Junellia coralloides



Sue and George with the winning *Junellia* at Glasgow 2017 – photo Stan da Prato.

Last year I was very surprised to be awarded the top prize, the Forrest medal, at the Glasgow show. This was my second attempt at growing *Junellia coralloides*. Many of the other junellias seem to have a longer lifespan but are not as interesting as this one. *Calceolaria* 'Walter Shrimpton' also excelled last year. This year the six year old *Benthamiella patagonica* has been looking

particularly good and was awarded a Certificate of Merit. *Saxifraga* 'Dawn Frost', *S.* 'Allendale Bonny', *S.* 'Allendale Jinn' and *S. stoltzkae* have all won Certificates of Merits this year. *Anistome imbricata* v. *imbricata* won the best cushion plant at the Edinburgh Show and *Clematis columbiana* var *tenuiloba* 'Ylva' was recommended for an Award of Merit. I love this little clematis but have not been successful in growing it outside.

I really enjoy the small six pan entry (pots 17.5 cm or under) for our Scottish shows. Given that I usually have plenty of choice between the 3 houses, it can take days to make the final decision!

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I use John Innes No2 as my base substrate for all plants. We have been fortunate in finding a quarry fairly close to us where we can access grit. I also use perlite and vermiculite for extra drainage and for some of the larger clay pots to help with the weight problem. I feed very occasionally and always with a half strength/low nitrogen mix. The plants in the sand plunges are obviously in clay pots and any sitting on the benches are in plastic. I have tried siting the plastic pots on capillary matting, on gravel and on a bed of sand but have yet to make up my mind which is most successful. Each year brings new challenges.

The temperature during the last few winters, since we erected the alpine houses, has not dropped below minus 12 degrees centigrade and so I have yet to discover which plants would be affected if it dropped lower. Our summer temperature is very variable but rarely rises above 20 degrees, although it is obviously much warmer in the glasshouses. The shading is kept on during most of the summer months and used during the spring months when I am trying to prolong the flowering period of the show plants.



Left: *Benthamiella patagonica*
Below: *Saxifraga* 'Dawn Frost'



Calceolaria 'Walter Shrimpton'

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Repotted bulbs - in the spacious potting shed.



Lewisia cotyledon



Arisaema in the polytunnel.

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Primulas in the alpine house.

Right: *Clematis tenuiloba*
'Ylva'



Androsace 'Conwy Jewel'



Silene hookeri
ingrammii



---International Rock Gardener---



Primula 'Lindum Golden Orb'



Multi-coloured *Pulsatilla vulgaris*



Cassiope lycopodioides 'Gracilis' – in a trough.

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Paraquilegia anemonoides growing in the tufa wall of the glasshouse.

Choosing saxifraga show plants.



Staging completed and plants placed in greenhouse #2.

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I have no formal training in horticulture but I have had tremendous support not only from George but from others in the Scottish Rock Garden Club and the north of England Alpine Garden Club members. The shows are a great place to meet friends again after a long winter and of course, an opportunity to buy a few more plants! In recent years the internet has also become a valuable source of information and I use the SRGC forum and the closed group section of Facebook. I can post a photograph of one of my saxifrages and within minutes be told that it has an incorrect name! We also have an extensive library. I keep a database of saxifrages and George makes a note of all the plants we bring into the garden. He produces labels for each one with name, source and date of acquisition. We successfully entered these into a general database for the first few years but recently have not managed to keep it up to date – one quiet day perhaps!



Woodland walk with *Meconopsis* and *Primula*.

As well as the 3 alpine houses, tunnel house, frames and over 50 troughs we have many areas in the property which require attention throughout the year. The general maintenance of the garden is a huge task and unfortunately we cannot afford much help. I suspect that as we age we may have to ignore some of the larger herbaceous beds. Our woodland area alone consists of a 160 metre long bed filled with erythroniums, trilliums, hellebores, primulas etc.

George will be 78 this year and I have had my 68th birthday. During our time here we have had between us a fractured collar bone, wrist, hip and greater tuberosity (top of the humerus)! Of course, there are always the day to day problems too – sore backs, feet and generally weary bones. We did take a little time off three years ago to get married!



Our way of life has certainly changed since moving here – would we do it again? The answer would definitely be yes! It is a busy way of life but surely that is the best way to be!

S.S.

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Above: Border walk with Meconopsis Below: massed primulas



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Scottish Rock Garden Club Shows and Events 2019

16th February Early Bulb Display, Dunblane* – with Talks
16th March Kendal Show (Joint AGS/SRGC)
23rd March Stirling Show # (in Dunblane)
30th March Hexham (Northumberland) Show* (Joint AGS/SRGC)
13th April Edinburgh and the Lothians Show*
20th April Perth Show
4th May Glasgow Show* (in Milngavie)
18th May Aberdeen Show
31st May - 2nd June SRGC display* at [Gardening Scotland Show](#)
22nd* and 23rd June David Boyd Event, Lockerbie
17th August - Summer Event in Dunblane
21st September - Late Bulb Day, Glasgow
5th October Hexham Autumn Show (Joint AGS/SRGC)
11th to 13th October SRGC Discussion Weekend in Grantown on Spey
9th November AGM and Autumn Event #, Burnside Hall, Scone



* denotes Joint Rock Garden Committee Meeting # denotes Photographic/art competition.
Entry to SRGC shows is free to members and only a couple of pounds for non-members. Entry to most other events is by donation.

The Third SRGC David Boyd Event will be “Himalayan Day”

This event, to be held in Lockerbie in the Scottish Borders, will be on the Himalayan flora in the mountains and in cultivation. One of the themes will be how introducing plants from the wild is increasingly difficult because of laws and restrictions in place on wild collecting. Therefore it is even more important that we conserve what we have in our gardens.

We are liaising with the Meconopsis Group, the Royal Botanic Gardens Edinburgh, the Royal Caledonian Horticultural Society and the Scottish Rhododendron Society to try to bring together as many gardeners with an interest in the Himalayan plants as possible. There will be a plant display, plant sales from the Club and Nurseries as well as garden visits. Attendees will find their own accommodation in Lockerbie, Dumfries, Annan or Gretna. Full details can be found in the January 2019 edition of [Dryas](#).



Scottish Rock Garden Club

For people who love plants

established 1933



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---Species description---

Some geophytes from Berkara Gorge in Karatau Mountain Ridge (Kazakhstan) and *Tulipa berkariensis* Rukšāns species nova – an “old” new species of *Tulipa* (Liliaceae).

Jānis Rukšāns, Dr. biol. h.c.

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Summary: A validly published name for a long-standing new *Tulipa* species from Kazakhstan – *Tulipa berkariensis*.

Key words: Kazakhstan, *Tulipa kaufmanniana*, *Tulipa berkariensis*.

My first expedition to the Central Asian mountains took place in 1975. I think it would be more appropriate to call that undertaking an “excursion” – I was so inexperienced then and had so little knowledge of the taxonomy of bulbous plants that the use of the word “expedition” seems to be rather exaggerated. Although before that I had worked in the laboratory of plant taxonomy and seed exchange of the National Botanic Garden, where we explored the dendroflora of the Baltic States (then republics, which actually were colonies of the USSR), in that job I had no link with bulbs. But I learned there the art of herbarium mounting, how to search for data in literature and a great number of other technicalities needed in plant taxonomy, botanical researches and publications. As to bulbs – at that time I already was a quite experienced grower and had a very good collection of mostly cultivars and a very few wild species, although even in those early years I was particularly interested in the latter. You can read about all this in my book “[Buried Treasures](#)” (Timber Press, 2007).

I had never been to the mountains before, so I knew nothing about them. I had no idea what to wear and really I went there with a briefcase containing the traditional presents for people who I could possibly meet on the way. I had a suit on (fortunately, not my best one), city shoes, etc. Luckily a sweater and a small empty rucksack had also somehow found a place in my bag. While there, I met my long-time correspondent Vladimir Sudorzenko, a bulb enthusiast from Bishkek (then Frunze) in Kyrgyzstan, who sent me corms of my first wild crocus – *Crocus alatavicus*. He showed me how to collect bulbs in the wild, what kind of tools to use and a lot of other things that proved very useful in my later trips. He brought me to several localities, where I saw a lot of fantastic bulbs for the first time – alliums, corydalis, tulips, etc. Some of them I collected, but they were not sorted out for I hoped to do that at home.



Black shale stone-slide in Berkara Gorge.

The last place where he accompanied me was Karatau Mountain Ridge in Kazakhstan (there are several Karatau ridges in Central Asia, “kara” means black, “tau” – mountains and this name can be applied to any mountain where the primary rocks are black coloured). We went by bus and stopped somewhere in the middle of a black rocky steppe. There a walk started about 6 km long into the mountains that loomed in front of us over an absolutely flat though slightly ascending sun-baked steppe with a few very spiny low shrubs and dry ephemeral grasses. There we came to Berkara Gorge – something like a milestone in my career because just there I found my first new species. “Ber” means ‘stream’ and everything there is greyish black. The mountains there consist of greyish black shale-type rock, the natural slate. Although the stream was brim full with the purest water it looked dark because of the black rocks on its bottom. It rushed from a narrow valley, but very soon disappeared into the dry steppe. Vladimir brought me there to see *Tulipa greigii*.

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In Berkara Gorge their variability reached the extremes from very pale creamy yellow, even almost white, to the deepest golden yellow with various shades of orange to almost brownish in between. Red specimens there were rare. Very few had naturally increased vegetatively and had formed groups of two to three stems with identical blooms. I collected a few of them and from one such clump came one of my best *T. greigii* varieties 'Sunset'. It has very large, brightest yellow flowers and multiplies well by bulb splitting.



Different colour forms of *Tulipa greigii* from Berkara Gorge.

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Left: *Tulipa greigii* cv. 'Sunset' - selected from wild forms growing at Berkara Gorge.



Right and below: *Tulipa orthopoda* from Karatau Mountain ridge near Berkara Gorge.



Another *Tulipa* species growing there amongst stones was one of the most beautiful representatives of Section *Eriostemones* – *T. orthopoda*. It is a close relative of the well-known *T. turkestanica*, but with a very compact habit. The flower stem is short and up to five white flowers with a very large yellow base (up to two thirds of the petal length) form an exquisite, compact inflorescence. The inner petals are exceptionally wide, almost twice as broad as the outer petals, which makes the flowers look perfectly round. This unusual beauty, which grows freely in the open in Latvia, is so far almost unknown in gardens.

Near the entry into the gorge, deep within the shrubs one other small tulip bloomed with widely open yellowish flowers, which my guide V. Sudorzenko identified as *T. kaufmanniana*. The last place visited by me (and this time I went there by myself) was Chimgan, not very far from Tashkent, where I collected a few tulips, a Juno iris that was published by me later as *Iris pseudocapnoides*, *Gymnospermium albertii*,

Colchicum luteum, *Crocus alatavicus* and several other bulbous plants.

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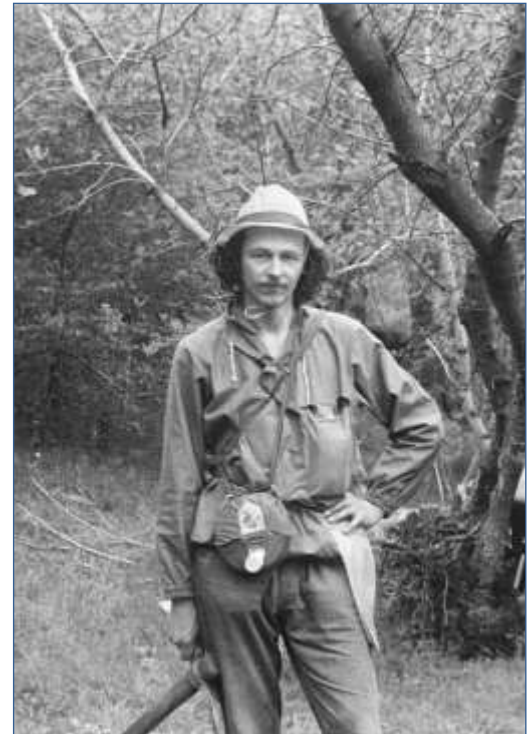
After returning home I tried to identify the collected plants consulting the Flora of the USSR and immediately encountered some difficulties. The so-called *Tulipa kaufmanniana* from Berkara, although similar to the true *T. kaufmanniana*, had some distinct features, such as the shape of the bulb and the number of leaves, which set it apart. But the most outstanding trait was the formation of very long, sideways growing stolons, which in a typical *T. kaufmanniana* grow downwards deeper into the ground. The Juno from Chimgan, although listed in the local floras as *Iris orchioides*, also differed from the descriptions in the botanical literature and other Floras. These issues demanded solutions, so a new trip to those localities was needed and two years later I returned to Berkara Gorge and Chimgan together with two colleagues who were very interested in tulip breeding and were intrigued by my stories about the variability of *T. greigii*. Now I was much readier for real botanical collections.

Jānis Rukšāns in Berkara Gorge (1977). Photo by Vladimir Kolbintzev.

We went there for a few days. On 26 April 1977 I stayed in the camp to guard our belongings and spent the time with my diary. Having nothing else to do I walked somewhat higher up the mountains where deep in a very spiny shrub of a dwarf rose I noticed leaves of a *Corydalis* sp. It was not easy to get to the tubers: the branches were extremely thorny and the day before we had found a few scorpions under the stones and the peaty soil inside the shrub was a good place for them to hide from the hot sun. *Corydalis* stems are fairly brittle, the tubers in the wild are usually tiny, black and almost invisible in the soil, therefore I had to remove the humus-like soil slowly not to lose this treasure – the first *Corydalis* found there. In total I collected eight small tubers.

The next spring they bloomed in my garden with incredibly beautiful tricolored flowers – the spur was bright light pink, the front half of the petals was yellow, but the inner petals were tipped dark chocolate-purple, which made a striking contrast. All my attempts to classify the plant using the available floras were fruitless, so there was only one option left – it was a new species. I named it *Corydalis ainae* after my secretary of that time and sent some bulbs to Michael Hoog who distributed it further. In 1988 Magnus Lidén and Henrik Zetterlund in the Bulletin of the Alpine Garden Society (vol. 56, No. 2, p. 153) wrote about this plant: “you can never forget it if you ever get a chance to see it”. Later Magnus Lidén published it as *Corydalis schanginii* subsp. *ainae* Rukšāns ex Lidén, retaining the name given by me. Thus it became the first species discovered by me and officially recognised.

Very recently Lazkov & Sennikov (2017) raised its status to the species level. According to their researches, *Corydalis ainae* is widely distributed in the lower mountains of Kazakhstan, slightly extending into Kyrgyzstan and Uzbekistan. It is very likely that there are other localities because this species had been much neglected in the past. The distribution of *C. ainae* does not overlap with that of *C. schanginii* sensu stricto, contrary to the statement of Lidén & Zetterlund (1997). The species status of this taxon is justified by the prominent differences in morphology and the separate distribution areas. *C. schanginii* and *C. ainae* are capable of producing fertile progeny in cultivation (Lidén & Zetterlund, 1997), but there is no information about hybrids in the wild. So now the correct name is *C. ainae* (Rukšāns ex Lidén) Lazkov & Sennikov. The attached map clearly shows that *C. schanginii* is distributed in eastern part of common area, but *Corydalis ainae* replaces it in a westerly direction.



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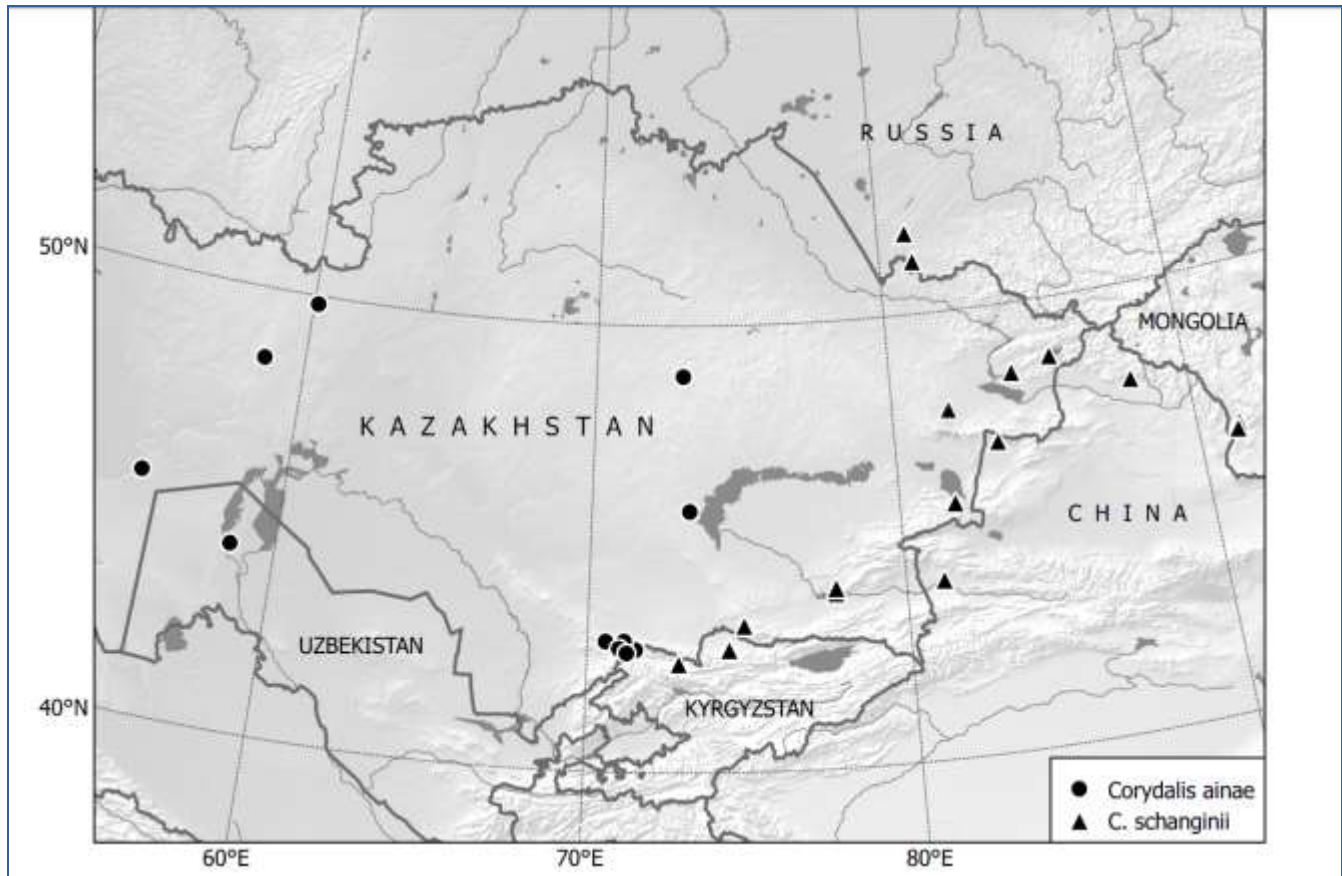


Corydalis ainae in the wild. Photos Alexander Naumenko.



Corydalis ainae in cultivation, looking more robust.

---International Rock Gardener---



Corydalis schanginii and *C. ainae* distribution map - Lazkov & Sennikov, 2017 (1 locality of *C. schanginii* added by author).

During this trip I paid more attention to tulips and this small “*kaufmanniana*-like” tulip was growing only within shrubs at the bottom of the gorge. There it had formed groups of identical plants that had multiplied vegetatively. As a rule, in the spots where a flowering bulb of this tulip had grown no replacement bulbs remained, but all the energy had been used to form 1-2 long stolons with a nice very round bulb at their ends. The longest stolons were 37 cm long. The plants resembled a minor *Tulipa kaufmanniana* by flower and as it is characteristic of this species the anthers opened gradually. The unique very round shape of the bulbs made me think that it was a new not yet described species, which I named a few years later as *T. berkariense* (which correctly should be *T. berkariensis*) after the gorge where it was found. There were a few samples collected from different groups and two clones were later named. One got the name ‘Morning Star’; the other was named ‘Little Ilze’ after my youngest daughter. The latter has intensely undulate deep purple leaves with a few narrow green veins and brownish red backs of the white petals. I do not think that the purple in the leaves is the result of hybridization with *T. greigii* which does grow in the vicinity, but at much higher altitudes and only in open places in grass. Purple leaves sometimes occur in other species too, for example, *T. dubia*, and probably it is some kind of protection against the intense solar radiation, although possible hybridization cannot be excluded, because one of the samples checked by Zonneveld (2008) was triploid.

Together with *T. greigii* there grew another *kaufmanniana*-like tulip that was much larger and with very long downward-growing stolons. Although a few were collected, none survived in cultivation and were lost within a few years, so now I cannot judge about its taxonomy as no notes on its morphology were made, I only listed it in my diary as typical *T. kaufmanniana*. I used the two named clones of *T. berkariensis* in crossings with *T. vvedenskyi*. Many of the hybrids inherited the habit of very long stolons, but now they grew downwards with a slight sideways angle. So it is possible that those *kaufmanniana*-like tulips that grew alongside *T. greigii* were hybrids between *greigii* and *berkariensis*.

---International Rock Gardener---



Tulipa berkariensis in Berkara Gorge.



Stolons of *Tulipa berkariensis*.

---International Rock Gardener---

When I shared this information with the botanists from Tashkent Botanical Garden, the comments were that an “amateur” knew nothing about the taxonomy of tulips and that dissimilar clones should not be treated as a “new” species. Such an attitude did not affect my belief that I had discovered a new species, although the finding of 3 new taxa (*Corydalis*, *Iris* and *Tulipa*) by a then actual amateur during his first visit to the mountains really sounded somewhat incredible. I continued to offer this tulip in my commercial catalogues under the name of *T. berkariense* and there it was spotted by B.J. Zonneveld, who asked for leaf samples to check its genome. His research confirmed that the tulip from Berkara Gorge belonged to a new, unpublished species that was genetically significantly different from *T. kaufmanniana* (Zonneveld, 2009). It also showed that this tulip had much wider distribution. Several samples from Aksu-Zhabagly, Ulken Kaindy and Kshi Kaindy turned out to be identical with the plants from Berkara. Diana Everett (2013) included this species in her monograph “[The Genus Tulipa. Tulips of the World](#)” under the name used by me as *Tulipa berkariensis*, but as it was not yet officially published, marked this name as a synonym of *T. kaufmanniana*. It was included in the book “[Tulips of Kazakhstan](#)” (Valdshmit, 2010) under the name of *T. kaufmanniana*, but with a note that the true *T. kaufmanniana* was distributed in Uzbekistan, whereas Kazakh plants belonged to another species named by Rukšāns as *T. berkariensis*, after the place where it was for the first time discovered, though it would have been better to use the name “*T. kazakhstanica*” as it had much wider distribution than was supposed earlier. But I decided to keep the original name by which it had been distributed and is already well known to botanists and gardeners.

***Tulipa berkariensis* Rukšāns species nova**

Type: Kazakhstan, Karatau Mountain Ridge, Berkara Gorge, among shrubs. 42° 55.420' N, 70° 38.439' E, at altitude 630 m. Leg. J. Rukšāns 26 April, 1977. Ex culturae in horto Jānis Rukšāns, 18-04-2012. Holotype: GB (Gothenburg).

Habitat and distribution: among bushes in partly shaded areas, distributed in Kazakhstan: Karatau Mountain Ridge, Aksu-Zhabagly Reserve in the Tian-Shan Mts, ?western part of the Kyrgyz Ala-Too (Alatau)? (according to Valdshmit. 2010).

Flowering time: April-May.

Description: Bulbs globular, up to 2 cm in diameter, usually producing 1-2 up to 37 cm long sideward-growing stolons. Bulb tunics dark brown, thin, hard, lined with adpressed hairs, denser towards the apex and the basal plate. Leaves usually 2, rarely 3 (-4 – Clement, 2013), canaliculated, produced at ground level, glaucous green (occasionally purple with glaucous green veins), spreading, the lower leaf 16 x 5 cm, the upper leaf 12 x 3.5 cm and more erect. Stem up to 20 cm long ending with a single starchy flower. Flowers usually creamy or slightly greenish white to white with a large (up to 1/3-1/2 of the segment length) yellow basal blotch on the inside, sometimes at the tip of the inner blotch there are red marks. The outside of the outer segments (48-55-60 mm long and 20-22-26 mm wide; n=10) mostly stained red with a creamy edge and with a large triangular light blotch at the base, sometimes greenish with a creamy edge. Inner segments slightly smaller (45-53-58 mm long and 15-21-26 mm wide; n=10), of the same colour as the outer segments, but without the coloured middle zone on the outside and a smaller red blotch (if present) at the tip of the inner yellow basal blotch. According to Clement (2013), pure red forms are not rare, but have never been observed by the author. Filaments yellow, 9-11-15 mm long, anthers distinctly longer than the filaments, twisting as they dehisce (Section *Spiranthera* Vved ex Zonn. & Veldk.). Pollen grains yellow. Ovary greenish or yellowish, sometimes with reddish tinted ribs, shorter than the stamens (mostly ending around the middle of unopened anthers). Capsule up to 6 cm long, with ribs stained maroon, with a prominent beak and an overlapping stigma, triangular in section.

Chromosome number: diploid.

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Various forms of *Tulipa berkariensis* in cultivation.



The main characters separating *Tulipa berkariensis* from the closely related *T. kaufmanniana* are the globular shape of the bulbs and the habit of producing long horizontal stolons; less important is the number of leaves, although in *T. berkariensis* there are mostly only 2 leaves, whereas in *T. kaufmanniana* there are at least three, only rarely two.

---International Rock Gardener---

Cultivation notes: This species is not very difficult in cultivation, but in the outside garden it should only be planted in well-drained places where it can spread by its long stolons and where some aridity during the summer rest can be ensured. When everything is taken into account, *Tulipa berkariensis* can grow without lifting for several years. An ideal place for the species is a rock garden. If planted in pots, they must be well fertilized and watered until the end of blooming to guarantee an optimal size of the replacement bulbs, thus securing good blooming the following season. Later in the growing season the watering must be gradually stopped. The species requires annual repotting because the position of the new replacement bulbs in the pot is very unpredictable – sometimes the long stolons after the circling the pot even push the new bulb out of it. Because of the compact habit and large flowers, it is an excellent show plant. More challenging is its cultivation on a large scale, again just because of its stoloniferous habit. I recommend commercial growers to use containers to prevent the new bulbs from “escaping” from where *T. berkariensis* had been planted.



Named clone ('Morning Star') of *Tulipa berkariensis*.

---International Rock Gardener---



Purple leaved clone of *Tulipa berkariensis* 'Little Ilze'.



Tulipa berkariensis in Aksu-Zhabagly Reserve. Photo Vladimir Kolbintzev.



Red form of *Tulipa berkariensis* in Aksu-Zhabagly Reserve. Photo Vladimir Kolbintzev.

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Tulipa berkariensis seed pod.



Tulipa berkariensis - Aksu-Zhabagly Reserve. Photo Diana Everett.

Below: *Tulipa berkariensis* herbarium sheets deposited in Herbarium of Gothenburg .



---International Rock Gardener---

Tulipa berkariensis - Design
Diana Everett.

Acknowledgments:

Firstly I want to express my greatest thanks to my then travel partners to the Central Asian mountains V. Sudorzenko (Kyrgyzstan), A. Krūmiņš and L. Sidrevics (both Latvia), and V. Vinogradov (Uzbekistan) who are sadly not among us anymore; to Diane Everett (UK), Henrik Zetterlund (Gothenburg Botanical Garden, Sweden), Arnis Seisums (National Botanic Garden, Latvia), Tony Hall (Kew) for their help in my researches and getting hold of the required literature, to Vladimir Kolbintzev, Alexander Naumenko and Alexander Sennikov for permission to use their pictures and distribution map; and all the others who assisted and supported me in my work. Of course, my thanks also go to my regular language corrector Mārtiņš Erminass. And I am especially thankful to my family and my wife Guna in particular for their hard work at the nursery during my absence while in the mountains.



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---Corrigendum re. IRG #108 – December 2018 ---

Short note about *Eranthis iranica* - Jānis Rukšāns, Dr. biol.

After publication of new species *Eranthis iranica* in [December issue of International Rock Gardener \(#108, 2018\)](#) I got two letters from Dirk Schnabel and Wim Boens - both of them noted that *E. longistipitata* (closest relative to *E. iranica*) seedlings have two seed leaves. Wim Boens wrote: "Nakai was the first to put *longistipitata* in the genus *Shibateranthis* in 1937. Later, in 1987, Tamura put it in the section *Eranthis*. And strangely enough Luferov put it again in the section *Shibateranthis* in 2004 (Turczaninowia 2004, 7(1) - in Russian - J.R.). In every case *E. longistipitata* and probably *E. iranica* are somehow the link between both sections. But maybe the sections should be redone completely."

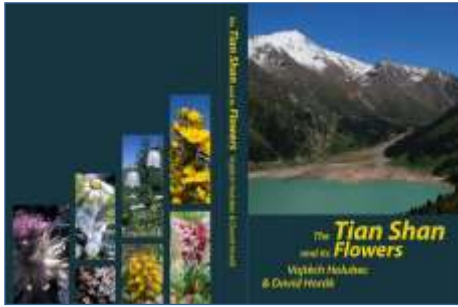
When we (J.R. and H. Z.) placed *E. iranica* under *Shibateranthis*, we followed S. K. Czerepanov's "Plantae Vasculares URSS" (Leningrad, Nauka, 1981) and other current botanical literature of former USSR, where genus *Eranthis* is listed only as synonym of *Shibateranthis*. We did not personally check seedlings of both aforementioned species. On page 3 (ED.: page 4 of IRG 108) of our article with caption "*Eranthis longistipitata* first year seedlings" most likely are pictured seedlings of *E. pinnatifida*. In 2013 the same picture was published in SRGC Forum by J.R. just as seedlings of *E. pinnatifida*. When few years later the same (?) pot bloomed, flowers were yellow and on long stalk, so name was changed on pot and on pictures. Most likely during replacing of nursery (which happened just in following years) when constructions of greenhouse were removed to new place and pots stood outside without any cover and protection or during transportation of pots to new garden some accidental misplacing of labels occurred.

Wim Boens recently put *E. longistipitata* in Subgenus (or Series) *Eranthis* because most of the characteristics point towards that subgenus and only long pedicel join it with Subgenus *Shibateranthis*. Under such treatment all yellow blooming species are forming series *Eranthis* with 4 species (*hyemalis*, *cilicica*, *iranica* and *longistipitata*) and the rest - all with white flowers - go into Series *Shibateranthis*. In any case this does not invalidate the name of *Eranthis iranica*.



Eranthis iranica T4Z 1150 at the Gothenburg Botanic Garden.

---International Rock Gardener---



The following book review is by the Czech born horticulturalist and speaker, Martin Hajman, who now lives in Norway, where he works at the Tromsø Botanic Garden.

This photo of Martin shows him in the Průhonice Castle Park alpine garden, in the Czech Republic, in the restoration of which he has been much involved. The photo is by [Marit Friberg](#), a Norwegian blogger, photographer and SRGC member.

---Book Review---

A true tribute to Tian Shan flora ! Martin Hajman

A long-awaited book came out last summer and has immediately become a hit across all continents. The book focuses on the beautiful plants of the Tian Shan Mountains and presents them, by means of high quality photos, in their natural environment. A broad team of co-authors and photographers shows the great international collaboration on the book.

Thanks to these breath taking portrayals, we gradually pass through the mountains and through the photographs we get great information about the habitats and therefore the needs of individual species in culture. Apart from the portrait, each species has a botanical description, including the distribution area and synonyms, as well as valuable information about their cultivation. This information is the result of the long experience of both authors and a broad network of rock gardeners and

encompass a summation of success and mistakes in various gardens. In the last decade many new species have come to our rock gardens from the area of the Tian Shan. The ideal plants for our sunburned rock gardens, where we are facing climate change the most in recent years, have evolved in the hot and sunny steppes. So this book comes at just the right time!

In addition to the portraits of plants, the book presents a wonderful introduction to the Tian Shan Mountains with botanical history and description of the mountains where Yaro Horacek has written a rich chapter of geology including maps and enriched with authentic photographs of co-authors. There is also a brilliant climate review of the whole area. The chapter on vegetation explains very clearly all the vegetation types and areas of Tian Shan, because in this diverse area everything between the hot steppes and the cool alpine meadow can be found.

It is worth mentioning the very wide range of photographers: there are contributions from Kazakhstan, Kyrgystan and Russia together with authors from many European countries and the USA. In addition to the photographs, the book contains some drawings from Vojtěch's daughter Klára, who also worked on the graphic design of the book. Vojtěch's book is dedicated to his wife and our rock garden friend Lenka, who sadly passed away before the book was printed.

This original work of the two authors deserves to be widely read and it has to be remembered that there has not yet been any such book about the Tian Shan. Vojtěch and David have launched the book as their own publication, which is surely proof of their true faith in their work. The first presentation and launch for a large audience came about through a lecture tour of Vojtech in USA with the North American Rock Garden Society, where the book was justifiably well-received.



---International Rock Gardener---

Some photos of plants included in the new Tian Shan book from the authors:



Androsace angrenica - prostrate cushions on limestone screes.



Cancrinia tianshanica – in rocky places on mountain slopes, meadows, gravel beds, floodplains.

---International Rock Gardener---



Eritrichium tianschanicum - flat hairy cushions in alpine grassland.



Lagotis korolkovii - prostrate rosettes with stolones, rich blue flowers in sessile racemes in mountain grassland and scree.

---International Rock Gardener---



Richteria leontopodium – the Asteraceae and Saxifrages are favourites of David Horák.



Scutellaria przewalskyi - another plant of alpine screes.

---International Rock Gardener---



Trollius lilacinus - a gem of alpine wet grassland.



Waldheimia tridactylites - neat, large-flowered plant of alpine screes.

---International Rock Gardener---



Left above: *Prunus tianschanica* - low growing on dry rocky shrub land.
Right above: *Saussurea gnaphalodes* - caespitose plant of alpine screes.

The TIAN SHAN and its FLOWERS ISBN 978-80-270-3617-2
By Vojtěch Holubec & David Horák



Order from the authors by [e-mail](mailto:) or from the [website](http://www.holubec.wbs.cz) www.holubec.wbs.cz

Illustrations for the book are by the authors and local photographers: Oleg Belyalov, Vladimír Epiktetov, Aleksandr Naumenko and many others, also from Plantarium.ru. Dr. Georgi Lazkov, head of the herbarium in Bishkek, (KYR) confirmed or corrected the determination of a number of plants on the pictures.

The book covers phytogeographic region of Tian Shan (Tien Shan) from Uzbekistan over Kazakhstan, Kyrgyzstan to China (Karlik Shan). Excluding Pamiro-Alai.

Description of over 600 species.

General chapters: Orography, Geology, Climate, Vegetation, History of botanical research.

---International Rock Gardener---

---Plant portrait---

CYCLAMEN MIRABILE by Václav Jošt of the Czech Republic. This article was originally written for 'Skalničky'.

To judge the degree of wonder of this miraculous cyclamen from the Middle East (its specific name coming from the miracle of the flowers appearing from the bare earth), I will give some of its modern history. In 1901, the Dutch company Van Tubergen received an import consignment of bulbs and tubers from Turkish Smyrna (now Izmir). Van Tubergen sent several tubers to Professor F. Hildebrand in Freiburg, Germany. After they bloomed, he found that it was a brand new species and gave it the name ***Cyclamen mirabile* Hildebrand**. Subsequent cultivated material ceased to exist and herbaceous items were destroyed during the bombing of Berlin. The species was therefore temporarily lost. In 1956, the botanical expedition of the Englishmen Peter Davis and Oleg Polunin collected more cyclamen tubers in the Turkish province of Mugla. The tubers were planted in the Royal Botanic Gardens in Edinburgh and found to be the lost species of *Cyclamen mirabile*. Until the seventies of the last century, this species was very little known or grown.



Typical open pinewood where *Cyclamen mirabile* is found.

In nature, it is found in southwestern Turkey in the area around Mugla - Aydin - Denizli - Isparta. It grows there on metamorphic rocks and limestone at an altitude of 160 to 1150 m, northwest of *Pinus pinea* and *Pinus brutia* pinewoods, wild and cultured olives and *Quercus coccifera* evergreen oak. I submit pictures illustrating happy plants in nature. One settled in the crevices of the stone masonry of the ancient ruins in the historic area of Caria, the other is protected by local round stones and manifests flowering before the leaves. The open pine forest is well-provided with the necessary shade, the beehive hives contribute to better pollination of the population.

---International Rock Gardener---



Beehives at a Turkish locality for *C. mirabile*.



Growing in the crevice of an ancient ruin.

---International Rock Gardener---



Cyclamen mirabile at Caria (above) and a Labranda form (below).



---International Rock Gardener---

The tubers are spherical 3-10 cm in diameter, dark brown with a cork-like surface. Roots grow on the lower circumference of the tuber. The leaves are broadly heart-shaped, dark green with gray-green or silvery markings, the edges are slightly toothed. Young leaves often have a raspberry-colored touch that disappears later. It blooms from the beginning of October to November. The flowers are fragrant, the scent resembles coconut. The colour from light to dark pink with a purple nose based on each petal. Flower petals have an irregularly serrated edge primarily towards the pointed peak. The flowers grow before the leaf is bursting or at the same time.



Cyclamen mirabile forma niveum

In 1993, Jill and Colin White found in Western Turkey the only pure white flower plant that was described as *Cyclamen mirabile forma niveum*. Since then, the pure white form has not been discovered in nature, and we are dependent on the selection of white seedlings that often have a pale pinkish nose at the base of petals.

The recently deceased lover of cyclamen, the English professional grower Peter Moore, was intensively devoted to the selection of *Cyclamen mirabile* and he named several cultivars after his Tile Barn nursery in Kent.

'Tilebarn Ann' - has bright silver leaves, which at first have a raspberry suffusion, the flowers are light and dark pink. **'Tilebarn Jan'** - leaves are dark green with gray-green, white flowers, seedlings often have a pinkish nose, the variety has been selected from many generations of pale pink types.

'Tilebarn Nicholas' - leaves brightly silvery with a dark green tree sign in the center, the leaves of the early leaves glow with the pink colour that later disappears, the flowers are light and dark pink. Seed progeny of the varieties are not 100% identical. The seeds flourish in the third to fourth year after sowing. In our conditions it is completely frost-resistant. There has been quite a long cultivation at the Beauty Slope in Czech Karst, where there is one old specimen partly shaded with large *Ulmus* 'Jacqueline Hillier' and neglected by the owner Zdeněk Zvolánek. This species does not self-sow there, although *Cyclamen coum* is a seed weed.

---International Rock Gardener---

*Cyclamen
mirabile*
'Tilebarn
Anne'



*Cyclamen
mirabile*
'Tilebarn
Jan'

---International Rock Gardener---



Cyclamen mirabile 'Tilebarn Nicholas'



Zdena Kosourová planted *Cyclamen mirabile* in a hole of a small stump at the Beauty Slope.



Cyclamen mirabile growing on the Beauty Slope, the garden of Zdeněk Zvolánek.