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Patron Brian Mathew MBE VMH

Committee Mat Murray

Wim Boens

Tony Goode

Crocus Group Newsletter Autumn/Spring 2021

It has certainly been an interesting year, in so many respects of the word. Apart from the obvious topics. There have been a number of new species flower for me the very first time. Some unexpected. It is always exciting to see what flowers from seed.

This newsletter has a couple of articles from other members of the group. It is always great to read of other growers experiences. Sometimes from different parts of the world and with some challenging Crocus species. There is some great information contained in them.
Jamus Stonor is a Crocus enthusiast from Adelaide, Australia. His article details some of the Crocus he has grown in the “Mediterranean” climate of south Australia.
Poul Erik Erikson is a Crocus enthusiast from Belgium in the EU. His article on growing the beautiful, but difficult for many of us to grow Crocus scharojanii is very interesting and informative.

Normally I have a section on species/cultivars …. But I think there is quite enough information in this newsletter as it is.
I really hope you enjoy this newsletter and if you feel inspired to contribute an article yourself. I would be very happy to hear from you. Happy growing and stay safe.
Mat

My experience with Crocus scharojanii and its hybrids.

By Poul Erik Eriksen

Background

I live in Denmark and have grown Crocus on hobby basis for more than 30 years. The climate is well suited for humid loving crocus like C. autranii, banaticus, gagaricus, nudiflorus, vallicola, veluchensis and scharojanii just to mention a few.

I have been fascinated by especially scharojanii for many years for 3 reasons:

1. It is one of only two yellow autumn flowering crocus species. The other is a close relative - Crocus lazicus which grows in the most eastern part of Turkey
2. The flower has a very elegant shape somewhat similar to vallicola
3. The very early flowering – often in July

Unfortunately the pure Crocus scharojanii is difficult to grow and even more difficult to get hold of. It has therefore been on my wish list for many years. Finally in 2011 I got hold of 1 Crocus scharojanii flavus corm and seeds of C. scharojanii.

In this article I will share my experience growing these.

Crocus scharojanii flavus

Crocus scharojanii flavus is regarded as a natural hybrid between C. scharojanii and C. vallicola. It flowers in august a little later than scharojanii but earlier than vallicola. The color is also an intermediate between the two parents - it has a most beautiful pale yellow hue.

Growing experience

In 2011 I bought 1 corm from Janis Ruksans.

I do not find it particular difficult to grow. It has flowered almost every year and increased quite good as the following record shows:

Year	Corms	Flowers	Comment
2011	1	1	
2012	2	2	
2013	4	2	
2014	4	4	
2015	10 (6)	4	4 corms swapped, 1 seed pod (self-pollinated)
2016	7	5	3 seed pods (scharojanii flavus x scharojanii)
2017	8	0	
2018	7	3	
2019	7	3	1 seed pod (mentor pollen and self pollinated)
2020	7	0	




Crocus scharojanii flavus

Growing conditions

They are grown in plastic pots 9x9 cm 12,5 cm deep. These are plunged in moist sand in an open frame where they get sun most of the day. In the same frame are C. autranii, C. gilanicus, C. vallicola and C. banaticus alba. I try to keep the sand and compost moist all the time.

In the recent years we have had some hot and dry spring/summers and maybe the compost has become to dry and hot during summer which could explain the missing flowering. Some years ago I divided them in 2 pots and one pot is now placed in a more shaded frame together with C. scharojanii, pelistericus and scardicus.

I repot them every year when the leaves has withered in June/July. The compost I use is 1 part loam, 1 part leaf mould, 1 part sharp gravel + some bone meal. After flowering I sprinkle a little potassium sulphate on top of the gravel.

Seeds

Every year I have tried self-pollinating them in hope of getting seeds. I succeeded one time and got a seed pod with a few seeds. One of them germinated but unfortunately the seedling died after 2 years. In 2019 I tried a pollination trick by using mentor pollen that sometimes is helpful to get seeds when self-pollinating the same clone: I wetted some vallicola pollen with ethanol to make them inactive. These are the mentor pollen. After drying I transferred these to the scharojanii flavus stigma. Then I self-pollinated them with their own pollen. This overcome the self-incompability and opens up for the scharojanii flavus pollen to do the pollination. This turned out to be successful and I got one seed pod. See more about that technique in [Ref 1] and [Ref2].

I used the same technique successfully to get seed on the single Russian C. vallicola corm I have. Also here I used 'killed' pollen from the Turkish form of C. vallicola as mentor pollen and then pollinated with the Russian vallicola pollen.

Crocus scharojanii

Crocus scharojanii is a high mountain crocus growing in grassy meadows near mountain streams in Caucasus with cold humid summers and long cold winters with lots of snow. They grow in grass turf that never get totally dry. They keep their leaves well into summer, sometimes even when they flower in July/August in cultivation. They need a long growing season to develop the new corm. If they go into dormancy too early, the new corm is small sitting on top of the old corm.

To be successful with scharojanii it must be given the same conditions in cultivation.

The compost must be free draining and at the same time moisture retaining as the corms do not like drying out. Watering is tricky: If too wet it will rot and if to dry it will not thrive.

Repotting is also difficult as it has a very short dormancy. In nature the old leaves are often present at flowering time in July to September. New roots are forming before the old ones dies. That means that repotting often disturbs the growing cycle and gives some set back.

Growing experience

In September 2011 I received about 80 wild collected scharojanii seeds from a friend.

They were sawn right away in 4 plastic pots in the compost recommended by Rudi Schlamm [Ref 3]:
2 gravel, 2 peat, 1 turf (loam), 1 humus.
The pots were plunged in sand in an open frame exposed to 6-8 hours sun daily. The pots were kept moist all the time. 40 of the seeds germinated the next spring. The seedlings grew well and 30. June 2013 I repotted 3 of the pots as I do with most seedlings. The leaves had almost withered, but the corms had started forming new roots and a new shoot on one of them as you can see from the picture below. They were carefully replanted in fresh compost and watered.

Crocus scharojanii seeds

2 year old Crocus scharojanii corms. The grid is 5mm.

However this turned out to be a failure as the 3 replanted pots performed very poorly the following year. Only half of the corms survived and the leaves turned yellow as a sign they were not happy. The one pot which was not repotted did quite well and some of the corms had 2 leaves.

Replanted pot. Spring 2014

Pot not replanted. Spring 2014

During 2014 I made my second mistake by keeping the seedlings too wet. As the frame gets a lot of sun, I was afraid that they became too dry so I watered them quite often. Later in the summer it rained a lot, and all this wetness was too much specially for the repotted seedlings but also for the fourth pot. In spring 2015 many corms had rotten and I lost the last seedling in 2016.

Luckily Leonid Bondarenko offered Crocus scharojanii in his 2015 bulb list and I bought 3 corms. I received them in the beginning of June and they were immediately potted as they had long flower shoots. They were of excellent quality and all of them flowered July the same year.

Crocus scharojanii corms from Leonid Bondarenko. The grid is 5mm

Corms from Leonid flowering July 2015

Corms from Leonid flowering July 2015

During the summer 2015 I crosspollinated them and also cut of some of the anthers to be able to make hybrids with other species, which flower later. The anthers were put in a glass jar with some silica gel to dry them for 24 hours at room temperature and then placed in the freezer in a glassine bag with silica gel.

The pollination was successful and I got one seed pod with 17 seeds of the pure scharojanii.

Crocus scharojanii seed pod and seeds 2016

Learned by experience from my first seedlings I decided to treat the seeds a little different.

The seeds were sawn a few days after harvest in two square clay pots in the Rudi Schlamm compost mentioned above modified with a little more gravel to secure excellent drainage. The pots were plunged in sand in another frame placed North West of some Rhododendrons which give shade most of the day. The frame is mostly open, but is covered in periods with heavy rain during summer and all the time during winter. In that way I can control the moisture level.

7 seeds germinated in April 2017, but during the first two year 2 of them died. The 5 remaining have done very well and this summer (2021) 4 of them started flowering. The corms have never been repotted.

When I water them, ½ strength tomato type fertilizer is added and once a year a little potassium sulphate is sprinkled on top of the pots.

Part of shade frame August 2021. Crocus scharojanii pots on the right. Crocus pelistericus with green leaves on the left.


Crocus scharojanii seedlings flowering for the first time. August 2021.

The seedlings have done much better than the 3 mother corms, which have only flowered in 2015. The size of the corms decreased from year to year, probably because I repotted them annually and now only one remains. This one has been transferred to the new shade frame and has not been repotted the last two years. I hope it recovers and will flower again in the coming years.

I my experience the key factors in getting success with Crocus scharojanii are:

- Use a free draining but at the same time moisture retaining compost with relatively low pH value.
- Sow thinly to avoid repotting. Repot as little as possible.
- Control the moisture level closely. Never total dry, but not very wet, especially during winter.
- They like a cold site, that is not sun baked during summer
- Feed them regularly during growth with a dilute liquid fertilizer

Crocus scharojanii hybrids

As mentioned above, I stored some scharojanii anthers to be able to make some hybrids with other species which flower later than scharojanii. I did that in hope of getting an easier more floriferous yellow flowering autumn Crocus.

Crocus scharojanii flavus X scharojanii

The first one I pollinated with these pollen was scharojanii flavus. The pollination was successful and I got 3 seed pods with viable seeds.

Seed pods on Crocus scharojanii flavus and F1 seeds of the hybrid Crocus scharojanii flavus x scharojanii.

The seeds were sawn and treated in the same way as the pure scharojanii seeds. The germination rate was good, but during the first years about half of them died. After the first two years no further corms have died and the remaining 8 were happy with the growing conditions and grew well. Last year 7 of them flowered for the first time in the beginning of August. There was only little variation in the flowers and they looked almost as the pure scharojanii flowers.

Crocus scharojanii flavus x scharojanii. August 2020

I crosspollinated the flowers and it turned out that this hybrid is fertile. I got 3 seed pods with good looking F2 seeds. They have been sowed and I am excited to see how well they will germinate next spring and how their flowers will look.

This year (2021) 4 of my 8 corms are flowering about one week later than the pure scharojanii.

Crocus scharojanii flavus x scharojanii. August 2021. Another pot than the one above.

Crocus vallicola x scharojanii

The next one I pollinated with the pure scharojanii pollen was Crocus vallicola from Turkey. I expected to get flowers similar to Crocus scharojanii flavus which is regarded as a natural hybrid between the 2 species.

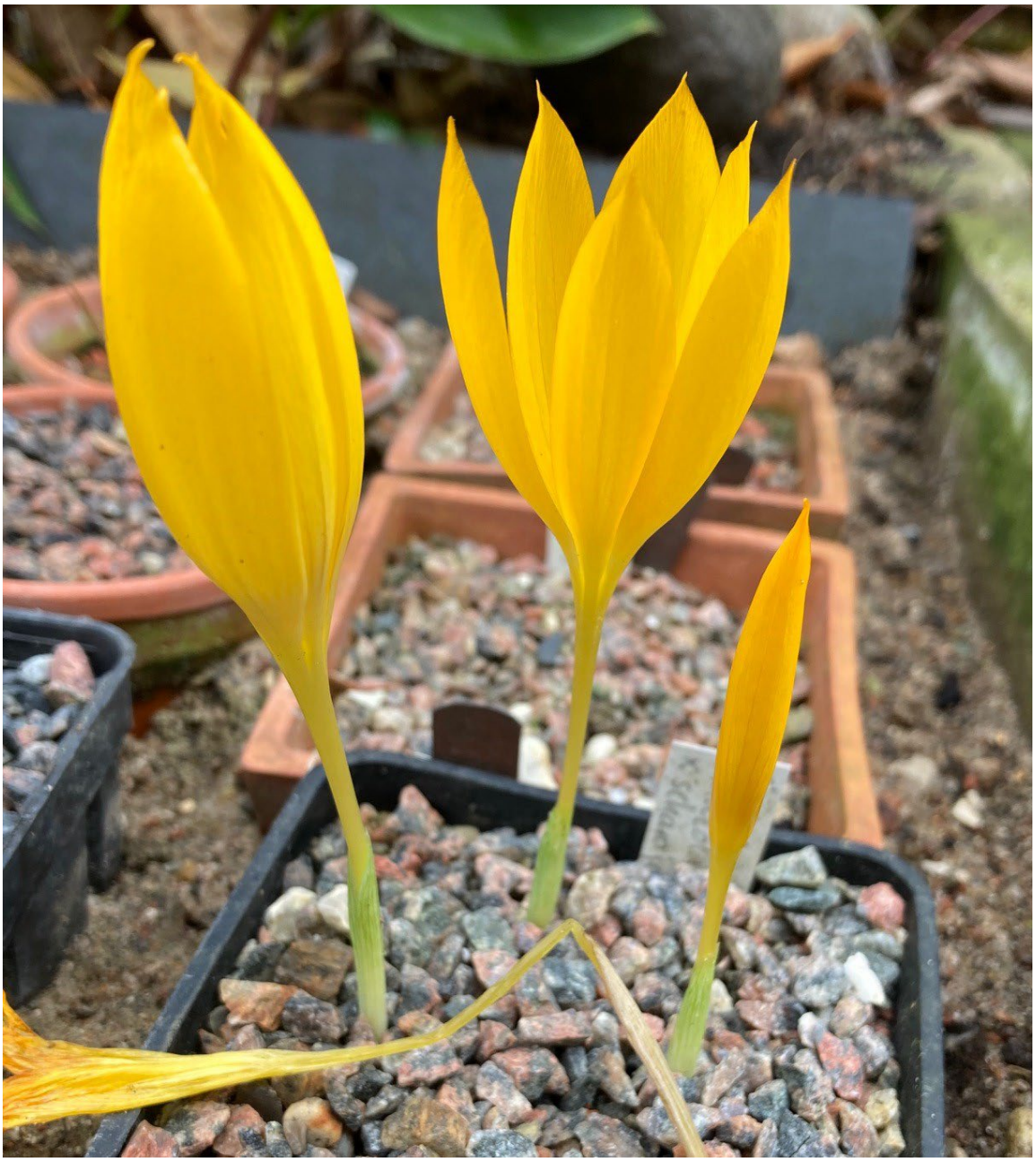
This resulted in two full seed pods. I divided the seeds in two pots. One was placed in the shade frame and one in a frame which gets much more sun together with Crocus vallicola. Otherwise they were treated like the pure scharojanii. They germinated very well and the leaves looked like an intermediate between vallicola

and scharojanii in contrary to the scharojanii flavus x scharojanii leaves which look close to pure scharojanii leaves.

They grew equally well in the 2 pots but the one in the shade frame flowered for the first time last year with 4 flowers out of 13 corms. The other pot has not flowered yet, but will probably do later this year.

I was very surprised when I saw the first flowers in September as these did not look like scharojanii flavus. They had a very beautiful yellow color much different from scharojanii flavus.

This hybrid is also fertile and I got some F2 seeds this year.



Crocus vallicola x scharojanii. September 2020.

Crocus vallicola x scharojanii and a single Crocus autranii. September 2020.

Crocus vallicola x scharojanii flavus

This is the first hybrid I have made involving scharojanii flavus.

Vallicola was pollinated with scharojanii flavus pollen in 2014 and the first flowers appeared in 2018.

It is almost pure white, but some of them have a yellow hue, when they are in bud. The perianth tube is also pure white where it is more yellow in vallicola.

They grow well and increase better than vallicola by corm splitting. They set a few seeds when crosspollinated, but the seedlings has not flowered yet. They get the same growing conditions as scharojanii flavus and I repot them annually.

Crocus vallicola x scharojanii flavus

References

1. ‘13 Methods to overcome self-incompatibility in plants’
   Link: https://www.biologydiscussion.com/palynology/13-methods-to-overcome-self-incompatibility-in-plants/64557

2. G. Chichiriccò ‘Self-incompatibility in Crocus vernus subsp. Vernus (Iridaceae)’
   Link: https://link.springer.com/article/10.1007/BF00937799

3. Rudi Schlamm: ‘Crocus scharojanii in the garden’
   The journal of the Scottish Rock Garden Club, vol XVIII, part 3 No 72

Hardy on its head; Crocus in the great Southern land.

Gardening in Adelaide, South Australia we are conditioned to believe that many of the plants commonly seen in UK and European gardens are not suitable to our hotter, drier climate. When I first got into Crocus -a decade ago - I imagined that I would be digging them up and storing them in the freezer or some similar extreme care regime in order to see them survive and flower. Nothing could be further from the truth.

The Genus Crocus offers many beautiful and hardy garden plants for our essentially Mediterranean climate, albeit Mediterranean on steroids. Our summer maximum temperatures routinely reach the mid-forties (Celsius) with long periods of devastatingly dry drought. However, with a bit of shade and good deep planting many Crocus, even some more Northern species, sleep through the heat untroubled. Winters here are mild, balmy by English standards, with freezing temperatures relatively rare and snow only on *very* rare occasions (It literally makes the news if snow falls in Adelaide). Where I live in the "hills" behind Adelaide at an altitude of 300m (almost 1000ft) we have more regular frosts, particularly in spring, which helps with cultivation of the spring flowering species. *Crocus vernus, C. heufellianus* and *C. tomassinianus* flower reliably in the garden and increase well.

Of all the Crocus I grow in my collection none does better for me in the open garden than *Crocus goulimyi*. Endemic to Southern Greece, from almost at sea level up to 750m altitude in the Peloponnese, conditions here in Adelaide suit it perfectly and it flowers reliably for me and even self-seeds, spreading itself gently around the garden. They enjoy being overplanted with low growing ground covers which cool the soil by their shading of the summer sun and wick away excess moisture while the bulbs are dormant. One of the best companion plants I've found is *Veronica peduncularis*, a tough little perennial with fine foliage and thousands of tiny blue flowers. Its mat of wiry prostrate stems support delicate, tall Crocus flowers nicely and its fine foliage offer no resistance to the emerging buds as they push up in autumn.

Crocus goulimyi overplanted with *Veronica peduncularis.*

Crocus goulimyi ‘Mani White’

The well-known form ‘Manni White’ is spectacular in bloom and its beautiful goblet shaped flowers glow against the dark foliage of the Veronica. Another plant I use over Crocus is *Geranium incanum* from South Africa. Like many South African endemics, it needs no pampering and provides the same support without smothering, although it tends to want to grow taller than would be ideal so needs a good prune ahead of Crocus flowering season.

Crocus longiflorus self-seeds in the path

Equally well suited to my garden as *C. goulimyi* are other species from the Mediterranean, such as *C. longiflorus* and *C. laevigatus*. Both are no-fuss garden plants here and give us much joy for little or no effort. I have been surprised to see many seedlings of *C. longiflorus* along paths and edges near the parent clumps. In a few years I will be lifting and spreading these volunteers and weeding them out of the paths.

Crocus laevigatus, a lovely small flowered form

For Crocus in pots (which I have many) there is the essential annual migration from the sunny North facing garden to the shady back garden, under cover to keep the bulbs cool and protect from occasional summer thunderstorms. Apart from this heavy lifting exercise, and a splash of fertiliser after flowering nature does the rest, they are perfectly self-sufficient. *C. tournefortii, C. niveus and C. pulchellus* are all species which seem to be well adapted to our climate and build up quickly in pots or in the ground.

Autumn flowering Crocus in pots.

Crocus tournefortii

Sometimes what we see as our misfortune may turn out to be a blessing in disguise. It turns out that the blistering heat and the long droughts which burn our gardens to a crisp in Adelaide every summer suit the wonderful Crocus of the Mediterranean very nicely. Our gardening sisters and brothers in more temperate climates have to work much harder to keep these autumn flowering jewels happy. For me the first Crocus of autumn signal the end of the long, hot summer and the promise of what is to come.