THE FRITILLARIA GROUP

The Fritillaria Group of the Alpine Garden Society
Journal 45

Committee members and contact details can be found on our website: www.fritillaria.org.uk

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A small specialist journal such as ours relies heavily upon contributions from the members. The Editor welcomes all articles on the genus *Fritillaria*, in cultivation or in the wild, short or long. Please share your thoughts, insights and images with your fellow enthusiasts. The journal won't happen without you.

Front cover picture: *Fritillaria maximowiczii* S&V 93-101 in cultivation in Gothenburg Botanical Garden.
Photo by Johan Nilson

Back cover picture: *Fritillaria eastwoodii* is one of those that Colin Everett grows well and which will be presented at the Autumn meeting 2019.
Photo by Colin Everett

Autumn 2019 Contents

Fritillaria Group Autumn Meeting and AGMs

Birmingham Botanical Gardens

Westbourne Road, Edgebaston, Birmingham B15 3TR

Saturday November 23rd 2019

08:30 Set Up

09:30 Arrival, Tea & Coffee

10:00 AGM of the Fritillaria Group of the AGS

AGM of the Fritillaria Group

11:10 "Growing Fritillaria: What I do and Why".

Colin Everett

12:30 Lunch Break and chance to view the Botanical Garden

14:00 "Growing a Farrer Medal winning Rhinopetalum"

George Elder

14:30 The Rhinopetalums. Rannveig Wallis

16:00 Raffle & Close

The meeting is open to the public from 11:10

Chairman's Chatter

Newsletter 45 finds us still in the interregnum between the AGS and independence but we shall just carry on as before for the time being.

I hope that you find this newsletter informative. Pat Huff has resigned as editor so I have taken over temporarily and I am still looking for articles for the next issue so that Rannveig and I do not have to write most of it. I really must thank John Ingham for his wonderful description of local people creating a festival around the flowering of their local species. Are Kyrgyzstan and some of the southern England villages the only fritillary revellers in the World? Please let us know.

With this issue we are going back to a printed version as an additional experiment so that we can get a better idea of the cost differential between electronic and hard copy. We aim then to reflect this in our annual subscription. Please let me know what you think.

Finally, since Wisley is still rebuilding its conference facilities we are going back to Birmingham Botanical Gardens for our autumn meeting and AGM. We have a great programme based on cultivation so please come and ask lots of questions.

The Fritillaria Collection at Gothenburg Botanical Garden

A lecture by Johan Nilsson

In March 2019 we were entertained by a superb and informative lecture by Johan Nilson on the Fritillaria collection at Gothenburg. Rannveig Wallis has kindly put together this synopsis supported by some of Johan's excellent slides.

Being nearly 100 years old, Gothenburg Botanical Garden is well established. It holds a large plant collection specialising in bulbs and alpines. Whilst precipitation and summer temperatures are similar to that in SE England. Winters are colder and usually snowy but the temperatures can be quite variable (mean 0.6^{o}C. London 5.3^{o}C). Summer average = 18.4^{o}C (London 18.7^{o}C). The rainfall of 948 mm pa is somewhat higher than that in SE England (London 602mm) and is evenly distributed through the year. The soil in the garden is naturally acidic and the water is soft so artificial watering confers no problem.

A particular feature of the Botanical Garden is the richly planted rock garden where more than 6000 accessions are growing. It is divided into geographical areas and about 30 accessions of *Fritillaria* are grown successfully outside here. Behind the scenes there is a 200 m^2 area where a large greenhouse houses the main bulb collection. These are grown in pots plunged in sand in the 18 raised beds each 1.5 x 4m. Over 400 Fritillaria collections are accommodated here. This area gets very warm in summer in spite of shading on the roof and the doors being open at each end.

The alpine house has another 150 mostly Asian accessions of *Fritillaria* which need a sunny rest. Shady areas near the wall of the house have a plunge which is kept moist during the dormant period. This suits species which need moister conditions including *F orientalis* and *Galanthus*.

The Per Wendelbo Memorial Bulb Garden permits control of any precipitation

F poluninii

Many bulbs also grow in the Per Wendelbo Memorial Garden which is open to the public. This is an open-sided covered structure with raised beds where more than 1500 accessions are planted out including about 100 *Fritillaria*. Per Wendelbo came to Gothenburg in 1965, travelled to Iran, Afghanistan and Turkey and focussed particularly on *Dionysia* and bulbs. He was commemorated in 1983 by the naming of *F acmopetala* subsp *wendelboi* by Martyn Rix. Surprisingly this species is no longer grown in Gothenburg but Johan showed us the original herbarium sheet of the holotype. He also introduced a form of *F carica* (PW72-8A) from Samsun Dag which is reliable and a good cloner. Runemark and Wendelbo also collected *F poluninii* in Iran on the pass between Marivan & Pareh in 1978. This looks very like the type form from the Iraq side of the border. It is easy to raise from seed and grows well showing good variation in Gothenburg.

F sororum JP 87-97 (photo: Henrik Zetterlund)

Karin & Jimmy Persson have also been instrumental in the development of the collection. In 1987 they introduced a *Fritillaria* from between Ermenek and Anamur in S Turkey which turned out to be new to science and was named *F sororum* after the sisters Göte & Svea Blomqvist who left a large legacy which was used to develop the collections at Gothenburg.

F pinardii 'Ole Sønderhausen

Danish Fritillaria enthusiast, Ole Sonderhausen was the first person to find *F serpenticola* and also a good form of *F pinardii* 'Ole Sonderhausen' which can sometimes have double flowers if grown well. Ole sadly died in the 1990s but fortunately he left his collection to Gothenburg. He also introduced *F alburyana* OS 881 and OS 1230. Later a much darker form of this was introduced under the numbers LST 246 and LST 247. All grow well under the Gothenburg conditions.

F alburyana Erzurum, NE Turkey OS881 & OS1230 + LST 246 & 247
(photo: Henrik Zetterlund)

The highlight of the year is every summer when the whole collection is repotted. It is the opportunity to see how well the bulbs have done. The compost used is a mixture of sand, grit, peat and mineral compost with added bone meal (for phosphorous and nitrogen) and basalt meal (silicon, calcium and trace elements). Pots are filled to about two thirds with the mix, the bulbs are placed on a layer of sterile sand then covered with more sharp sand then grit.

Seed is sown in small square plastic pots and left in the pots until they are flowering sized and then they put into clay pots.

Water including a weak solution of liquid fertiliser (1ml/litre) is applied in October and then one or two times during the winter to ensure that they are kept adequately moist. They are given 2 – 3 waterings with full strength (10ml/litre) fertiliser (N:P:K 52:40:43) and when seed is forming this is changed to K-rich once or twice (N:P:K 39:18:75).

Johan went on to show us some of his particular favourites.

F pudica produces a lot of spawn bulbs so it is repotted very carefully so as not to displace them.

A collection of *F delavayi* S&L5505 was acquired in 1985 but it tended to split rather than flower and has not now flowered for 10 years in spite of the bulbs being perfectly healthy.

Seed of the Japanese species do better sown in clay pots where the humidity is easier to control. *F koidzuminana, ayakoana* and *shikokiana* were all a kind gift from Professor Kimihiko Ikebasu who is a frequent visitor to the garden.

F messanensis subsp *neglecta* Velebit, Croatia

Voytec Holubec donated what was originally thought to be *F tenella* but turned out to be the Croatian *F messanensis* subsp *neglecta*.

F aurea x *pinardii* Rix 1601, Kaseri - Malatya

Rix 1601 is a hybrid gathered from a pass between Kayseri and Malatya which seems to come true from seed. It is thought to be *F aurea x pinardii* so it is surprise that its progeny resemble the "hybrid" parent so closely when you would expect some variation.

F assyriaca LST 174 Erzincan, Turkey

In looking for *F baskilensis*, LST 174 was introduced but turned out to be *F assyraica*.

F reuteri T4Z110 is also very variable. This selection, made near Semirom, is completely brown on the inner tepals.

F karelinii from Kazakhstan has not proven to be very easy in Gothenburg. Perhaps it misses the dry climate of its natural home.

The American species are collectively the most colourful of the Fritillaria but are often quite difficult to flower. *F falcata* can get too humid and rots but the others grow reasonably well. Johan tries to get as much seed as possible on the American species so that they can be propagated.

A particularly beautiful form of *F aurea* was introduced from Bolkar Dag. It has wonderful deep orange checkering compared to the predominantly yellow forms from Kayseri or Malatya.

F aurea "cilicio-taurica" on Bolkar Dag

F collina "Green", Mt Elbrus, Russia is probably *F lagodechianus*

A group of Caucasian species are grown on the cooler side of the alpine house. Typical *F collina* is yellow with fimbriate edges to the tepals. In 1990 Ole Sonderhausen and in 1993, Dieter Zschummel presented green coloured plants from Mt Elbrus. These lack the fimbriate tepal edge and are probably referable to *F lagodechiana*. *F macedonica* shares similar conditions.

The garden has a number of accessions of *F delavayi*. One, KGB322 (Yunnan) has very dark leaves and flowers more regularly than others. SBLE513 (Lijiang) flowered 10 years ago but then stopped but in the last few years started flowering well again. Side by side the two look very different.

F delavayi KGB322

F delavayi SBLE 513

F roylei

F cirrhosa GG95.01.012
Sanakphu, India

Of the Himalayan species: *F cirrhosa* is one of the most widespread species. It grows well in the open garden on a north sloping area on acid soil in the high shade of tall trees. Planted in a similar position, *F roylei* just produced leaves for many years until enhanced mulching and feeding encouraged it to flower.

Regular *F imperialis* from Kashmir has not been surviving winters outside in Gothenburg. But material from Kashmir seems to be more hardy and has been a success in Henrik Zetterlund's summer house at Krokgarden (150 km north of Gothenburg). It grows there in an open position. The related *F chitralensis* produces rice when growing well but it is difficult to get a good seed set. A tip is to try pollinating it on a sunny day.

F regelii, Darwas Range, Tadjikistan

The tendril-forming *F ferganensis* was received in 1986 from Potterton and Martin as *F walujewii* with which it is confused in the literature. True *F walujewii* was obtained from RBG Edinburgh sourced from Heavenly Lake in the Chinese Tien Shan Range. Another of the climbing species, *F olgae,* originating in the Maracand Mountain, Urgut, Uzbekistan was obtained from St Petersburg Botanical Garden. Like the others it has large winged seed capsules if you are lucky enough to get a seed set.

The mysterious *F regelii* grows in the Darwas range of Tadjikistan. It is also one of the climbing group but is very rare in cultivation. The Gothenburg bulbs have recently been suffering from rot so the remaining bits of bulb were cut into pieces and kept in pure sand which is essentially sterile. They seem to be recovering now.

F ussuriensis

The Asian peat garden has proven a rewarding place to grow some of the Asian species. *FF camschatcensis* (both yellow and brown forms), *cirrhosa, dagana, pallidiflora, roylei* and *ussuriensis* all grow well here. However *FF davidii, ferganensis* and *verticillata* grew but were eaten by slugs. Planting in the garden has inherent risks so it is never a good idea to plant the whole stock outside.

The Altai species, *F dagana* grows well at Tromsö, Norway

F dagana and *Corydalis bracteata* grow together in the Sayan Mountains of SE Russia. They do badly in pots since they never die down, so they remain in the open garden.

F

maximowiczii S&V 93-101

F maximowiczii S&V93-101 originated in the Gorin River in eastern Siberia. In 2017, it was surprising to see well developed growth above ground in early December long before flowering in April the following spring. It is a robust plant with up to twelve leaves in a whorl plus a second whorl higher up the stem. It has a very complex bulb with large scales surrounded by smaller ones. All of these Asian species are planted in soil pockets comprising 1 part manure: 1 part peat and 1 part sand. *F maximowiczii* has not yet been tested out in the open garden.

Just finally a personal note: Gothenburg Botanical Garden is one of the "must see" gardens in the World, not only for its wonderful landscaping and habitat creation but for the unbelievably diverse flora that thrives there. Thank you to Johan for bringing it so vividly to life for us.

Moon flowers or *Fritillaria eduardii* in Kyrgyzstan

John Ingham

The entrance to Karabulak announces the Moon flowers.

Fritillaria eduardii – in Kyrgyzstan's Red Book – only grows in one locality, near Batken in the south west of the country. That site is called Aigul Tash which translates as Moon-flower Rock.

Aigul Tash is a free-standing ridge of rock north of the main mountain range that forms the border with Tajikistan to the south. It is a place of almost pilgrimage in April, when the flowers bloom, with families picnicking all over the hillside amongst the flowers or milling around the stalls in the car park below. In times past many would have been collecting the metre tall flowers to take home (or to sell) but that is now forbidden and the prohibition generally adhered to.

Aigul's tears adorn the inside of the flowers

Legend has it that once upon a time there was a beautiful girl, called Aigul, her name – Moon-flower – based on her moon-like face. She was the daughter of a wealthy man who lived in the area. Many were her suitors but she loved only one man, a fearless warrior called Kozu Ulan (one website translates his name as meaning "a dash of wind"). He was called to defend his country and, though their wedding was already planned, he dutifully heeded the call … and sadly died in battle. His heart was brought back to his village where it was buried. Aigul could not bear her grief and, climbing to the top of the nearby rocky ridge, she threw herself off the cliff to her death. Her spattered blood became the flowers on the slopes below and the dew or nectar in those flowers is said to be Aigul's tears. Tradition has it that each plant, when it flowers for the first time, does so only at the full moon.

We visited Aigul Tash, near the village of Karabulak ("black spring" or "earth spring", presumably relating to a spring of water), south of Batken on 11 April 2019. The north slope of the ridge was

Visitors wend their way up the steep slippery slope

spattered with fritillaries in full, glorious, orange bloom. These were not the crowded fields of flowers such as of the Crown Imperials one sees in Iran, just small clumps and singletons spread across the slopes.

There were visitors picnicking, others climbing, stumbling and slipping on the steep and slightly muddy ground, children larking like children everywhere. We were greeted by all and sundry and often invited to join a picnic or at least to stop by for a drink – perhaps tea, perhaps something stronger. A happier, friendlier crowd would be hard to imagine. I think we were the only foreigners present and our coming to enjoy their festival – for these April visits are very much considered a festival – was much appreciated.

The flowers were a joy to behold and the welcome we received was the icing on the cake.

The Aiguls are much revered by the local people

Aiguls (*Fritillaria eduardii*) stud the upper slopes of the rock

Fritillaria ozdemir-elmasii – A new species

Bob Wallis

This new species has been published virtually: https://www.turkiyebitkileri.com/tr/foto%C4%9Fraf-galerisi/view-album/6048.html?fbclid=IwAR0j_WxVx0uyN70zTa1EcSw_0PJ8iXIkzzL-gWIE0qgGURivWIuSwXiTbaA

There is little information about it so far. However it is a pretty distinct looking leafy plant with alternate leaves which get narrower up the stem. The single flower is conical and the style is very narrow. It has been found in what look like quite large numbers not far from Fethiye in southern Turkey.

The narrow style is reminiscent of *F bithynica* or given the dark flowers: *F dasyphylla* Baker (= *F milasense* Teksen & Aydac).

There is also the century old mystery of *F "subalpina"* Siehe which is represented by herbarium specimens in Edinburgh but which has no formal description:

https://data.rbge.org.uk/search/herbarium/?specimen_num=348372&cfg=zoom.cfg&filename=E00329418.zip

The latter was collected by Siehe in 1906 under the number Siehe 45 on Bolkar Dag, admittedly a long way east of the new find. It is also a leafy plant with the leaves narrowing as they go up the stem and a narrow style inside the dark flowers. I hope that the authors compare with these similar species when the full article is published.

SUBSCRIPTIONS 2019 – 2020

Subscriptions are due on October 1st. If you pay by standing order you need do nothing. Otherwise please send your remittance to the Treasurer.

FRITILLARIA GROUP SEED DISTRIBUTION

If you have seed or bulblets available, please do donate. The seed list really does depend upon all members contributing if they can. And remember that donors get priority when requests for seed are being dealt with.

Details of this year's distribution are on the Group's website and will be emailed to all members for whom we have an email address. If you don't have online access, and wish to receive the information and/or the seed list in printed form, please contact me by email, phone or letter.

If you are unsure that we have your email address, or have changed it in the last year, please email patcraven24@gmail.com

KEY DATES

Deadline for donations: **28 August 2019** (If your donation will be later than this, please send details of species and whether it is seed or bulblets).

List publication: 3rd September 2019 (If you want a list, but have not received one by 8th September please inform Pat Craven).

Seed Manager: Pat Craven, 24 Leven Road, Yarm, TS15 9JE, UK. Email: patcraven24@gmail.com Tel: 01642 780109

Further details are available of the Group's website:

http://www.fritillaria.org.uk/seed-exchange.html

Two forms of *Fritillaria camschatcensis* grow extremely well in Gothenburg Botanical Garden. Photo: Bob Wallis

£3.50

www.fritillaria.org.uk