



THE

# FRITILLARIA

GROUP



The Fritillaria Group of the Alpine Garden Society  
Journal 23 Autumn 2008



**Editor:** Pat Huff  
**Botanical advisor:** Martyn Rix

The Fritillaria Group welcomes articles, short notes and photographs – especially of plants in the wild—line drawings, and other material concerning Fritillaria.

**Copy dates:** 1 May and 1 October

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**Articles** are quicker and easier to handle if they are produced electronically, but typed and manuscript copy is also very welcome.

**Photographs** should be in the form of 35mm transparencies, or on photo CD. If possible, please send transparencies ahead of the copy to allow for scanning. Electronically produced images will only be accepted at a resolution of 300dpi.

The photograph on the front cover, including the lily beetle,  
is by Peter Erskine.

The photograph on the back cover was taken by  
Martyn Denney.

# MEETINGS 2008

## SATURDAY 4<sup>TH</sup> OCTOBER

### Loughborough Alpine Garden Society Show

Fritillarias and other Plants of Iran  
By Ian Green of Greentours

## SUNDAY 19<sup>TH</sup> OCTOBER

### Hillside Events Centre, RHS Garden, Wisley

Annual General Meeting

Mainly Fritillarias of North America in their habitats by Phil and  
Gwen Phillips

Growing Fritillarias in Holland by W.H. de Goede

## FROM THE SECRETARY

I am sorry to have to report that as the AGM on 19th October approaches that no one has stepped forward offering to take over in the role of Group Secretary. I very much regret that I have to step down from the position but other commitments have to take priority in this instance.

As I have said before the position is not particularly onerous and the main tasks are booking the venues and speakers for the meetings, taking minutes of the Committee meetings. I have found that most other Group activities are more than capably run by the other Committee members and have certainly done better with no interference by myself.

*(Continued on p 2)*

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## FROM THE SECRETARY

*(Continued from p 1)*

On a more positive note Ian Green of Green Tours is giving a lecture on his experiences traveling and running tours to Iran at this year's Loughborough Show on 4<sup>th</sup> October. This will concentrate on Fritillarias but include other plants from the region. Tickets are available on the day or by prior bookings through Doreen Webster. It is hoped that this meeting will be of interest to members from the North and Midlands who find the Wisley meetings too far away.

The Programme for 2009 is still to be completed but includes Laurence Hill speaking on Fritillarias in Japan, and a Special event at Leeds.

Finally as this is the last time I shall be writing these notes I would like to take the opportunity to thank all the Committee members the people who help at the Group meetings and the general membership for their support during the last three years.

## ABOUT SOME TURKISH FRITS

By Janis Ruksans , Dr. biol. h.c.

There are many *Fritillaria* species growing wild in Turkey. Many of them are available from various nurseries and in general are not very difficult in cultivation. I grow many Turkish species quite successfully, even outside. But do you always receive the true species, the one you actually ordered?

For me the most confusing, which I ordered several times from various suppliers (mostly Czech collectors) was *Fritillaria fleischeriana*. In my collection there are many pots labeled “*Fritillaria carica/pinardii* sub nom *fleischeriana*” (“sub nom” means “under name”). It is not always easy correctly to identify what you got “under name” of this sought after species, especially if the locality from where the sample comes isn’t correctly identified. The area of *F. carica* and *F. pinardii* is partly overlapping so identification is not always very easy. The area of *F. fleischeriana* overlaps with area of *F. pinardii*. The fact that among the synonyms of *F. pinardii* is *F. fleischeri* sensu Boiss is usually used as the excuse for the dispatch of the wrong plant. How “naïve” those Czechs sometimes want to be!



*F. carica*, brown form



*F. pinardii*, Gothenburg form

Usually the flower color is the main point by which you can separate both: *F. carica* is generally yellow or greenish yellow whilst *F. pinardii*'s blooms are generally more or less brownish. Unfortunately there are brownish colored forms amongst *F. carica*, too. Such are distributed by the Dutch nurseryman, Wim de Goede. The single real difference between both species is the position of the nectaries – in *F. carica* they are at the base of the perianth but in *F. pinardii* 1 mm above the perianth's base.

*Fritillaria pinardii* is the more variable plant in height, flower shape, and colour. At the base of the bulb there usually are comparatively large grains or stolons. I never found both forms – grain-forming and stoloniferous -- in samples from the same locality (possibly my samples were too small). In the same population they seem to be either exclusively grain forming or stoloniferous. Sometimes stolons grow out of the soil and form aerial bulbils with a new leaf at top. In color and overall appearance of the best sample in my collection comes from Gothenburg botanical garden in Sweden, and it was originally collected by Öle Sonderhausen.



*Stoloniferous form of F. pinardii*



*Fritillaria serepenticola*

The marvelous tiny form of *Fritillaria carica* is listed as subsp. *serpenticola* in the Flora of Turkey but now it is more regarded as a separate species. It is always the brightest golden yellow and in size much smaller than its relatives. In nature it grows on open brown screes where its tiny flowers really shine between the stones. I never had any problems in identifying it. In *F. carica* the tips of the petals are more turned back whilst in *F. serpenticola* they are somewhat inward turned, especially in young flowers.

In the Flora of Turkey *Fritillaria pinardii* is compared with *F. armena*, but the flowers of the latter are always purplish brown outside and inside, and I never was never unable to distinguish them. More difficult would be to separate *F. armena* from *F. caucasica*, but the latter is always a much larger plant, also forming much larger grains, so it is not difficult to identify stocks even at harvesting time. The style of *F. caucasica* is entire whilst in *F. armena* it is trifid. The third relative is the Iranian *F. zagrica*, but its blooms are very invariable with their small bright yellow tips to deep plum-purple petals. It can be found in the very East of Turkey, too, but I was not successful when searching for it there.

But we will return to *Fritillaria fleischeriana*. As I noted before I was buying it every autumn and in spring again and again, and was always disappointed for when it turned out to be wrongly named. During the LST expedition, while following quite a narrow road, our team quite accidentally entered an area which contained a water reservoir and small power station not far from Mihallicik. There we stopped on an abandoned football field for lunch, and attracted the attention of the local jandarma whose chief thought us suspicious foreigners in proximity to the power station guarded by him. So we were invited “for tea” at police headquarters. The communication with higher level officers took three hours before he got an order to release us. As compensation he recommended that we follow the road higher up to a beautiful recreation spot for locals. Although we were short of time, such a recommendation should be followed, and so we drove there and

there it was – the true *F. fleischeriana* (LST-066) in full seed under small shrubs. It is not difficult at all to separate this species from the wrongly-named plants. The leaves of true *F. fleischeriana* are much narrower than those of *F. pinardii* and *F. carica*. They are canaliculated, linear, and usually don't exceed 5 mm in width whilst those of *carica* and *pinardii* can be up to 20-25 mm wide. In the wild true *F. fleischeriana* is something of a dwarf plant, even in seed not exceeding 15-18 cm in height. In cultivation it is somewhat taller and possibly can be confused with the quite recently described *F. baskilensis*. The latter is, however, a plant from E Turkey and in type sample by flower color more closely resembles *F. caucasica/armena*



*The true F. fleischeriana, LST-066*

Our collection of *F. baskilensis* (LST-174) by flower color is closer to *F. pinardii*, but has typical narrow leaves and a very waxy appearance to the plant; the leaves are significantly thicker



*Fritillaria baskilensis*, LST-174

than those of *F. fleischeriana*. Then it came as no great surprise when one of my stock, which I got under the name of *F. armena* (again of Czech origin), turned out to be a really typical deep purplish brown *F. baskilensis*. The thickness of all parts alone allows very easy separation of *F. baskilensis* from *F. fleischeriana* even if you don't know where your plants come from.

The last nice Turkish frit which for very long time was misidentified with *Fritillaria carica* is *F. sibthorpiana*. For almost 200 years many acquisitions of *F. carica* were misidentified as *F. sibthorpiana*. True plants were rediscovered only 185 years after the first collection and naming. It was known only from two localities up to very recently. During one of my last Turkish expeditions (I was traveling alone) I accidentally lost my way and drove on a narrow but asphalted road higher and higher into the mountains without exact knowing where I was. Finally I decided to stop for a meal on the roadside in a nice pine forest – to rest and try to find out where I was. I sat down, made my coffee and suddenly noted that I was sitting on and between nice small fritillaries in full bloom. Although similar to *F. carica*, the overall appearance of the plant was unfamiliar to me, and I

took my Flora of Turkey out of bag. Very soon I identified it as *F. sibthorpiana* (JATU-023). Just the very wide lowest leaf and only 1 or 2 stem leaves very obviously separate this rarity from *F. carica* which normally carries 4-8 leaves half as wide as *F. sibthorpiana*. So I found the third locality of this species on Gölgeci Dağları. It was quite common there, and at each place I stopped on this ridge where only *Pinus brutia* grew, in less shady spots I found this tiny beauty, too.



*Fritillaria sibthorpiana*, JATU-023

*The photographs in this article were all taken by Dr Ruksans.*

## ODYSSEY BULBS OF SOUTH LANCASTER, USA

Excerpts from the 2008 internet catalogue of the above grower provide an interesting contrast to Dr Ruksans' painstakingly accurate descriptions:

*"F. fleischeriana.* This frit is so COOL. The deep purple-bronze flowers are suffused with pewter, giving them a tiffaneyesque iridescence. They appear on 5-inch stems in late April. Mediterranean; W. Turkey. Zone 5.

*F. sibthorpiana.* As is often the case with plants, the long specific epithet belies what is certainly one of –the daintiest and –yes – cutest of the frit tribe. Miniature – but arresting – goblets of dazzling yellow open singly atop wiry 10-inch stems. The outer segments of the flowers flare like a ballerina's skirt, adding a further level of panache. Mediterranean; SW Turkey. Zone 6."

Both are on sale at an eye-watering \$18 a bulb.

## A FEW GENERAL NOTES ON THE GERMINATION OF OLD BULB SEED

*By Audrey Cain*

(This article has been sent to a couple of other groups, so apologies to those who may have already seen it!)

For a number of years I have kept a small seed bank in the freezer, where I store new bulb seed awaiting the right sowing time, and spare seed from earlier sowings. Last autumn I decided to check the contents, and found seed from as long ago as 1998. Instead of throwing it away, I scattered it in the grit on the top of the pots of mature bulbs of the same species. I have not tried this method with *Fritillaria* as I usually do not have enough spare seed, but I see no reason why it should not be just as successful, and will certainly try it in future.

The results have turned out to be very interesting. Of the 17 species that germinated, 6 produced a mass of seedlings and 9

produced enough to be worthwhile. 2 species were sown in their own pots, one of which germinated well but later damped off. The second pot only produced 2 seedlings.

Amongst the general included in this project were:

*Gladiolus dalenii* 1997 – few; *G. permeabilis* 2005 – few  
*Moraea macrocarpa* 1998 – few; *M. villosa* 1998 -++; *M gigandra* 2000 – few  
*Geissorhiza monantha* 2000 - ++; *G. radiata* 2001 – few  
*Calochortus greenii* 20004 - +++; *C.howellii* 2004 - +++  
*Aristea cantharophylla* 2000 - +++, separate pot (damped off)  
*Homeria* (now *Moraea*) *framesii* 1998 - +++  
*Thereianthus minutus* 2001 – only 2, separate pod

As the seedlings grew on, most thrived, with no sign of damping off or other problems. Repotting will now have to wait until the seedling bulbs are large enough to handle, but that may be an advantage, as I am probably guilty of repotting too frequently. Time and compost will also be saved!

Fresh seed of *Nerine filamentosa*, *platypetala*, *angulosa*, and *gracilis* was dropped into the main pots and quickly grew and flourished.

Seed collected from my own plants in 2007 – including *Calochortus* and *Narcissus* species – have all germinated well. Spare seed of several other genera from 2006, treated the same way, was also quite successful. The need for a seed bank is now redundant!

I'm sure there is a good biological reason why seeds sown in this way thrive, so maybe someone with greater knowledge than I could shed some more light on the subject.

It is obviously worth giving old seed a chance to grow, as it is a very easy way to increase stock without taking up extra space (a problem becoming more acute every year!).



*Fritillaria* seedheads. Photograph by Laurence Hill

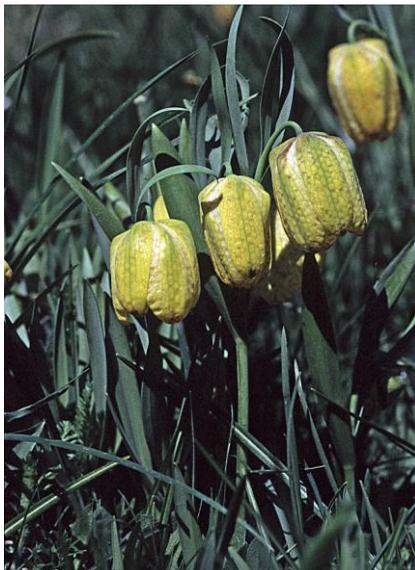
## *Fritillaria tubiformis* ssp *moggridgei*

By Peter Erskine

This yellow flowered variant of *Fritillaria tubiformis* was included in the original description of the species in 1854 (Grenier & Godron). It was given a separate identity in 1910 as *F. tubiformis* var. *moggridgei* (Boiss & Reut) and raised to subspecific rank in 1978 (Rix). It is distributed in the Maritime and Ligurian Alps to the south-east of the centres of distribution for *F. tubiformis*, which lie in the Gapencais, Laragnais and Queyras. Generally *F. tubiformis* ssp. *moggridgei* occurs, separated from *F. tubiformis*, in relatively uniform communities in which the flowers are a clear yellow with some green and no more than light tessellation on the exterior. It may conveniently be seen on some of the limestone mountains adjacent to the Roya valley and in some of the north facing valleys which lead into the Alpes Maritimes from the Stura valley. It does not seem to grow further north-west than the Lauzanier valley near the Col de Larche (Maddalena). Both *F. tubiformis* and the yellow subspecies occur in the Valmasque and Miniere valleys but not, I believe, in mixed communities. Further west two yellow flowered plants were recorded near Mt. Mounier within an extensive population of *F. tubiformis* by an A.G.S. party in May 1952; the “yellow variety” has also been recorded on the Crete de Charance, north-west of Gap, very much in the heart of *F. tubiformis* territory; I have also been told of a coppice in the upper valley of the Guile where a few yellow flowered plants were seen amongst *F. tubiformis*. It has been suggested (Bacon) that these remote yellow flowered plants occurring with typical *F. tubiformis* are partial albinos.

Depending on altitude and season *F. tubiformis* ssp. *moggridgei* is likely to be seen in flower between late April and mid May, growing generally, but not exclusively, on woodland. Sites occur within an altitude range of 1400 –2050 metres and vary from south facing limestone gullies, through short turf on limestone to

well watered sub-alpine meadows and, at lower altitude, woodland.



*Fritillaria tubiformis* ssp. *moggridgei*  
Photographs by Peter Erskine

Most of the plants I have raised from small but welcome allocations from the seed distributions seem to be intermediate between *F. tubiformis* and the yellow subspecies, heavily tessellated and lacking the clear yellow colour hoped for. Cross-pollination probably occurs readily when the two are grown together although, in my experience, *F. tubiformis* ssp. *moggridgei* flowers a little later than *F. tubiformis*.

# A Selection of Plants at the Spring Show



## FRITILLARIA GROUP SPRING SHOW

The Fritillaria Group Spring Show, which was held at Wisley on Sunday, 16 March 2008, provided the usual high standard of exhibits brought in by members. Bob Charman took the photographs on the facing page, and he and Janis Ruksans put names to them the night before they went off to Iran. They are, reading from left to right:

Top row:

*Fritillaria verticillata*  
*F. recurva*  
*F. imperialis*, yellow form

Middle row:

*F. striata* x *pluriflora*  
*F. conica*  
*F. latakensis*

Third row:

*F. sibthorpiana*  
*F. koidzumiana*  
*F. latifolia*

Bottom row:

*F. aurea*

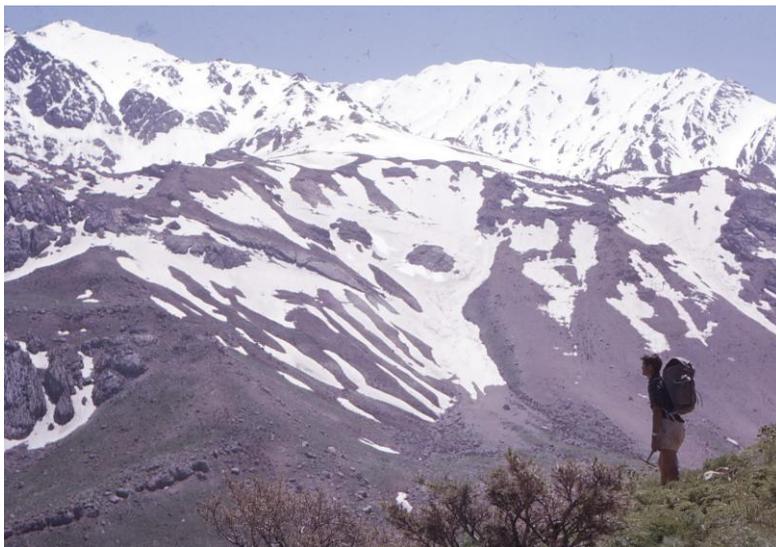
The magnificent pan of *F. conica* was grown by Peter Erskine and had just been awarded the prestigious Farrer Medal before its appearance at the Spring Show.

(If any of the identifications are wrong, Bob adds: "I am sure if we have not got them correct the owners will soon point out our mistakes!!")

## *Fritillaria chlorantha* in Iran, 1963

Brian Mathew

Enthused by stories filtering back from various groups visiting Iran I recently unearthed the brittle, yellowing field notes from the BSBE trip in 1963. Particularly I wanted to check what we had written about the frits, and especially *F. chlorantha*, on that large mountain block know variously as Shuturunku, Ushtaran Kuh, etc. The Bowles Scholarship Botanical Expedition to give it



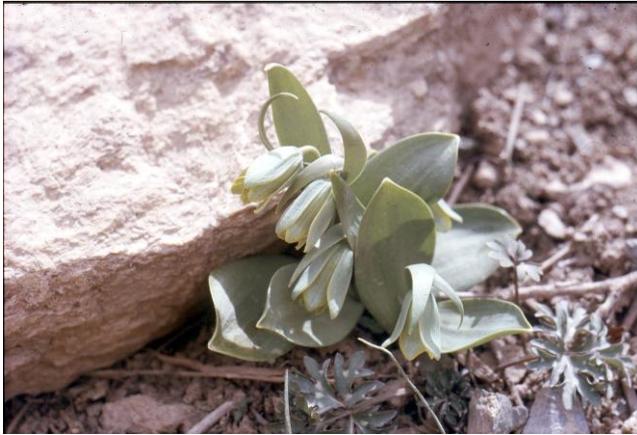
### *Shaturunku*

its rather grandiose title was a 5-month (March to July) trip, mostly in Iran but with a few days in Turkey in transit. Our mentor was Paul Furse, who had brought plant hunting in the Middle East back to life after a long gap from the days of the E. K. Balls/Balfour Gourlay expeditions of the 1930s, and there was much encouragement and advice from Dr Peter Davis, Adam Stainton and Oleg Polunin. The group consisted of myself, David Pycraft, Stuart Baker and the late David Barter, at that time recent ex-students of Wisley where botanist Chris Brickell was also fully

supportive. Departing in early March 1963 dictated an eventful journey as Britain, the Balkans and Turkey were still in the grip of the harsh winter which began in England on December 26th of that year. In fact the ice recorder on the dashboard of the Land Rover was flashing as we left Wisley and did not stop until we reached Iran – a duster had to be draped over it as it was so annoying on the night stages of the drive! The motoring was fantastic for one who enjoys ‘proper’ driving in the mountains away from traffic, with the passes of the Anatolian plateau buried in snow (c. 5 m drifts on the Zigana Pass). There was little tarmac to be found in Turkey or Iran where even the main road between Tabriz and Tehran involved fording wide shallow rivers, sliding on sticky mud or bouncing along corrugated stone roads.

But back to the plants. As well as collecting living plants (this required permission and export licences from Tehran) we were preparing herbarium specimens representing a record of nearly everything seen in flower; these were deposited in the Herbarium at Kew. Five months self-catering under canvas was an interesting experience in itself but nothing could compare with the fascinating flora. I remember one day pressing specimens of 100 different species; field notes were, needless to say, rather succinct! The journey ranged quite widely in Iran but the foray I found particularly interesting was to Shuturunkuh. We approached this enticing snow-clad mountain bloc from the north along a little track and camped by a river. From there we could cross the river and trek across to rocky north-east facing slopes beneath the snowline. Unfortunately there is no precise information about the location (no GPS then!) but using Google Earth it is now possible to work out more or less where we were. One steep hillside was especially rich in *Fritillaria*: *F. imperialis* and *F. persica* of course but also several small ones which intrigued and puzzled us: were they separate species, variants of one or hybrids?

BSBE 692 was squat plant with broad leaves and conical wholly green or yellowish-green flowers, described in the notes as 'very attractive'. A message received back from Paul Furse via our expedition secretary Margaret Briggs at Wisley (who a few years later accepted a name change to Margaret Mathew!) indicated 'this might be *F. chlorantha*' and indeed it was. BSBE 693 was a



*Fritillaria chlorantha*: BSBE 692



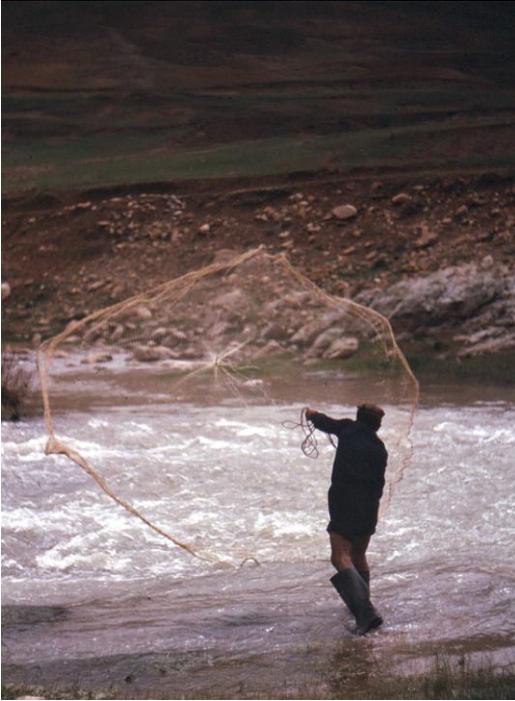
*Fritillaria species*: BSBE 694

very different slender plant with narrow tubular flowers reflexing at the tips of the tepals, green with variable brown striping; distinct we thought and labelled it tentatively as *F. canaliculata*. The field notes for BSBE 694 read ‘even better [i.e. than 692], chocolate purple with narrow green stripe’ but was otherwise rather like *F. chlorantha* in general aspect. BSBE 695 was also ‘similar to 692 but chocolate within’ and BSBE 696 ‘a fabulous one. Fls chocolate with broad green stripe without, golden colour within; tips of tepals reflexed’. It was a fritillary-enthusiast’s paradise!

*Fritillaria*  
*species in*  
*paradise:*  
*BSBE 696*



One pleasant memory from this camp was a gift of six gleaming fish direct from the river, caught by a villager wielding a circular net with great dexterity. Other passers-by invited us up to the village in a small valley at the foot of Shuturunku for the evening to their cosy stone & mud brick house lined and carpeted with tapestries and rugs. Here, they insisted that this was the correct name of the mountain but said that in the town of Arak it was known as Ushtaran-kuh; both can be found on maps. Before moving on it was decided to try to send flowering plants of these frits back to London for Paul Furse to exhibit at an RHS show. The theory was good, the parcels were driven back to Tehran and packed on to a BOAC flight but sadly they arrived as a mush – they had gone into the baggage hold, unheated in those days!

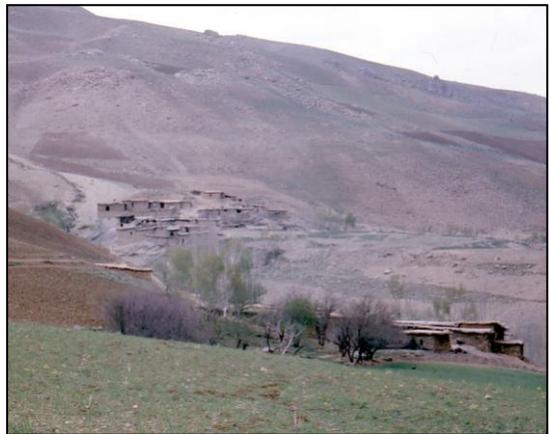


*Shaturunkuh  
fisherman*

*and*

*Shaturunkuh  
village*

Later, a return to the site was made and *F. chlorantha* introduced under the number BSBE 1885. This collection was cultivated by Ken Aslet at Wisley and by Paul Furse, Jack Elliott and others but doubtfully still survives. However other collections have been made: by Jim Archibald, for example, on his 1966 trip (no. 1609), by Per



Wendelbo and there have been several other more recent sightings.

Martyn Rix in his paper *Fritillaria* in Iran, published in the *Iranian Journal of Botany* Vol. 1, part 2 (1977) cites BSBE 692, 694, 695, 1885 and JCA 1609 all under *F. chlorantha* with the comment that the chocolate/purple markings on 694 and 695 ‘may be a sign of hybridisation with *F. zagrica* or *F. assyriaca*’. BSBE 693 and 694 he cites as *F. assyriaca* (of which *F. canaliculata* is considered a synonym).

*Fritillaria chlorantha* was described as a new species in 1904 by Haussknecht & Bornmüller, based on collections by Strauss (after whom *F. straussii* is named); two specimens were cited, one from ‘Schuturunkuh’, May 1897 and the other from Mt Elwend (Alvand) on 15 May 1895. We thought travelling was difficult enough in 1963, what it must have been like in 1895 one can only guess – I am full of admiration for these early travellers!

*The photographs in this article were all taken by Brian Mathew.*

## **Growing Fritillarias in the American Northwest**

*By Jane McGary*

It was a pot of seed-grown *Fritillaria raddeana* in lavish flower, brought to a NARGS local meeting by the late Molly Grothaus, that inspired me to begin building a collection of bulbs, mostly grown from seed, that now occupies five unheated frames, each about 40 feet long and 5 feet wide (12 by 1.6 m). Later that year Molly kindly gave me some of the seeds her plants had set, and the resulting bulbs, sown in 1988, still grow here. My first impulse was to form a collection of *Crocus* species, but constant battles with crocus-eating rodents made me turn to slightly less preyed-upon genera, among them *Fritillaria*.

The seed lists of Jim and Jenny Archibald, Ron Ratko, and several Czech collectors are the main sources of my present collection, which includes most of the recognized taxa except those of far eastern Asia. I've also purchased bulbs from a few sources, including Janis Ruksans and Paul Christian, and friends have given me some special forms. For gardeners in North America, growing bulbs from seed is almost imperative because of import restrictions and the danger (especially now, with stricter customs enforcement) that delicate bulbs lacking protective tunics may deteriorate severely before arriving from overseas. This imperative, however, has its bright side: the seed-grown populations are genetically diverse rather than single clones; and the plants are free of viruses and other diseases, as long as diseased bulbs are not introduced in their vicinity and vectors are controlled.

Writing this for an audience primarily in the UK, I should point out the differences in growing conditions found here. Most notably, summer here is moderately warm and usually quite dry; low atmospheric humidity results in sharp night cooling, so soils don't heat up in the long term despite daytime temperatures that can reach 90° F/32° C for short periods. In contrast, winter is very wet (annual rainfall near my home is about 45 inches/1125 mm, nearly all between October and early June), and colder than almost anywhere in the British Isles, with frequent frost, occasional snow, and lows ranging from 5° to 20° F/-15 to -7 C, depending on the year.

Another difference, little remarked in the literature but I think important, is latitude and its effect on sunlight during winter. I live near 45° north latitude, while almost all of Britain lies above 50° north latitude. Although the cold Pacific waters don't provide the warming brought to Britain by the Atlantic currents, and although our winter days are often overcast, the daylight period is longer and the light stronger here. Over the long term, this extra light during the growing season must be beneficial to the plants, many of which have evolved in the region between latitudes 30°

and 45° north. They would, of course, be even happier in California – and so might I, if I could afford it.

I grow almost all my species bulbs in unheated cold frames, in clay or plastic mesh pots sunk to the rims in coarse sand. The frames are in full sun in an open field, but I place certain plants that prefer shade next to the south side, where the railroad tie (sleeper) base shades them. Some of the frames can be closed completely, and others have permanent vents. The bulbs, of many genera, are segregated mostly according to how much summer water they need and the special protection they need from mice (crocuses) or bulb fly (amaryllids). The soil used for almost all plants is a mixture of two parts coarse, sharp sand with fines, one part ground white pumice with fines, and one part sieved humus from native woodland on the property. I fertilize all the plants once in fall and three times in spring with soluble “root and bloom” commercial fertilizer through a tank-and-hose system. No fertilizer is added to the soil during potting, but the components seem to provide excellent nutrition. Indeed, many seedling bulbs flourish between the pots in the pure sand plunge medium. I repot almost all the bulbs, except for a few that I know react badly to disturbance, in late July — half the collection one year, and the other half the next. I distribute the surplus through an e-mailed list, which helps Americans obtain bulbs they would otherwise have to order from overseas or grow from seed.

Plunging pots is not universally approved, but I’m entirely in favor of it. The bulbs don’t “bake” as some writers recommend, but they would not do so in nature, where almost all bulbs are deep in the soil, often in the shade of shrubs, herbs, and grasses. It may not be a good idea, however, if you use solid plastic pots; the soil might become more saturated than you realize, harming the plants. Another thing I do that some growers disapprove of is “overpotting” rather than fitting the bulbs into as small a pot as possible. I haven’t had any trouble with bulbs rotting in their large pots (the large proportion of pumice in the mix may help), and with the alternate-year repotting schedule I think they need a little extra room. It does make it difficult to take the pots to

garden events, but we don't have competitive alpine shows here, so we don't have to produce pots with a hundred flowers in 8 inches.

When I have enough stock to experiment with, I plant some fritillarias in the open garden, where the soil is well-drained gritty clay loam with very little organic content except where I've amended it, or in the extensive rock garden. I also spread or dig in old bulb potting soil in the garden, and many frits come up from seeds or rice grains left in that soil; however, they mature much more slowly than in the protection of the frame. Species doing well in the garden include *F. camtschaticensis*, *F. meleagris*, *F. ruthenica*, *F. eastwoodiae*, *F. affinis* (including "tristulis"), *F. persica*, *F. messanensis*, and *F. pallidiflora*. I grow some Himalayan and east Asian species in pots plunged in large tubs on my partly shaded deck, along with some alpines, keeping them dryish in winter and moist and cool in summer.

Very few frits have failed to flourish in the bulb frames. Like most growers, I have to watch *F. alburyana* try to bloom halfway in the ground (though thanks to a very cold January, it got up higher this winter), but it has persisted for about 8 years. *F. ariana* stayed around for 15 years before finally giving up this



*Fritillaria ariana*

season, but I have its descendants; closely related *F. gibbosa* seems easier. Even low-elevation Mediterranean species are not damaged by cold snaps, perhaps because the moisture can be controlled and kept off the foliage.

Western North America has its own rich inventory of fritillarias, most of them easily grown here. The one that has defeated me is *F. atropurpurea*, a species of the “intermountain” region between the high ranges of the Pacific coast and the Rocky Mountains. This and a number of other monocots from that region are problematic to germinate and may require a more serious winter dormancy than the far West can offer.



*Fritillaria gentneri*

There are many kinds of insect pollinators here, as well as hummingbirds that pollinate *F. recurva*, *F. gentneri*, and *F. eastwoodiae*. Their work among the many species in the bulb frames is beginning to show up in hybrids raised from home-saved seeds. I’ve been sending seeds regularly to the Fritillaria Group’s exchange, so those growing them should realize that they

may not produce true plants. I don't deliberately hybridize fritillarias, though I did experiment with the cross *F. gentneri* x *F. eastwoodiae* and obtained a number of seedlings

Here are some apparent hybrids, with the seed parent listed first. *F. purdyi* x *F. biflora* have the shiny, black-and-white marked tepals of *purdyi*, the robust stature of *biflora*, and leaves intermediate between the two. The reverse, *F. biflora* x *F. purdyi*, are shorter plants with *purdyi*-type flowers but are otherwise more similar to *biflora*. *F. liliacea* x *F. agrestis* more closely resembles *liliacea* but has slightly curving tips to the tepals, is more greenish than usual *liliacea*, and has a touch of the offensive odor of *agrestis*. Most exciting is *F. pluriflora* x *F. striata*, which startled me this year by producing an inflorescence that looks like a deep rose *striata*; however, it doesn't have the sweet fragrance of *striata*. The *purdyi-biflora* group set fertile seed and I've raised F2 seedlings.



*F. pluriflora* x *F. striata*  
Photographs by Jane McGrary

In a few years I'll be moving my plants to a smaller, warmer garden in the city, and instead of the frames I plan a glass-roofed, open-sided bulb house with naturalistic beds around a central paved sitting area. The nursery element of the collection will be passed on to a younger grower who'll continue to distribute plants in our country, whose gardens I hope will someday feature as great a range of fritillarias as the gardens of Britain and Europe.

**Description of *Fritillaria stribrnyi***  
*By Laurence Hill*

*Fritillaria stribrnyi* Velen. in Sitzungsber. Königl. Böhm. Ges. Wiss., Math-Naturwiss.Cl. 37:61 (1893)

Bulb to 2 cm diam., sometimes with a few bulblets which form on the upper half of the outside of the scales. Stem 10-30(-80) cm. Leaves (7)-10-14, green, not glaucous; lowest oblong-lanceolate to linear, 4-10 x 0.5-2 cm, obtuse, alternate. Flowers 1-3; perianth narrowly campanulate, outside purple or flaucous green edged purple; inside yellowish edged purple, not tessellated. Outer segments oblong-lanceolate, acute, 20-28 x 4-6 mm, inner obovate-cuneate or obtuse, 7-10 mm broad. Nectaries 2 x 1 mm, at base of perianth. Filaments 7-9 mm, slender, densely papillose. Style 7-12 mm, very slender, straight sided, smooth. Capsule broadly 6-winged, wings irregularly toothed. Chromosome number  $2n+ 24$  (Basak 1991). Very close to *F. bithynica* and growing to the north of its range.

Flower: April-May. Habitat: Woods, scrub & grassy places, 500–1000 m. SE Bulgaria and European Turkey.

Cultivation: Not difficult in a bulb frame or raised bed (the plants illustrated are kept moist throughout the year)

References:

Velenovsky 1893, Sitzungsber. Königl. Böhm. Ges. Wiss., Math.-Naturwiss. (in Latin)

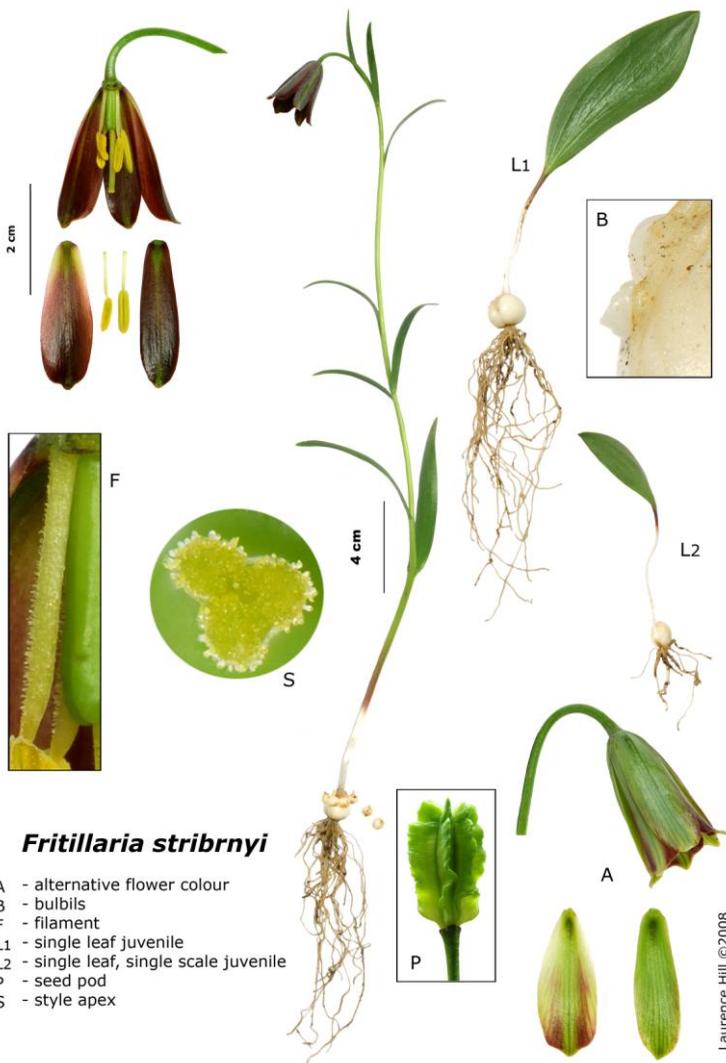
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***Fritillaria sibirnyi***

- A - alternative flower colour
- B - bulbils
- F - filament
- L1 - single leaf juvenile
- L2 - single leaf, single scale juvenile
- P - seed pod
- S - style apex

Laurence Hill ©2008



FRITILLARIA CIRRHOSA

£3.50

