



THE

FRITILLARIA

GROUP



The Fritillaria Group of the Alpine Garden Society
Journal 37

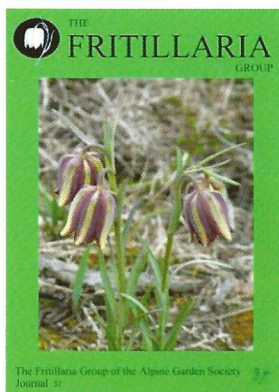


**Committee members and contact details can be found on
our website: www.fritillaria.org.uk**

The image on the back cover is of
Fritillaria thunbergii Photograph by Bob Chatman.

Autumn 2015

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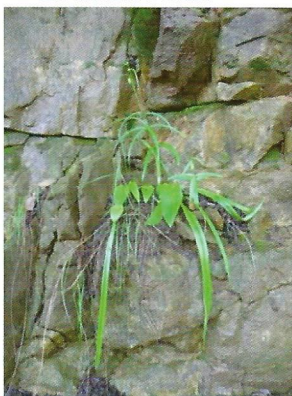
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THE *FRITILLARIA* GROUP OF THE ALPINE GARDEN SOCIETY

AGM and Autumn Meeting

25 October 2015 at New Haw Community Centre,
Woodham Lane, New Haw, Addlestone, Surrey KT15 3ND.

Please note change of venue

Directions available on next page

PROGRAMME

- 9.30 Doors Open and Coffee. Plants and Bulbs will be on sale during the day.
- 10.00 Annual General Meeting
- 11.00 Explanation of the Fritillaria Group Forum by Paul Cumbleton
- 11.30 “Fritillary Miscellany” by Kit Grey-Wilson. Kit will deal with a number of species which he has seen on his travels from the Picos to China
- 13.00 Lunch Break
- 14.00 “The Yellow Bells of Western Turkey” by Bob and Rannveig Wallis. Bob and Rannveig will take us on a virtual tour of the many species to be found in this botanical hotspot.
- 15.30 Raffle
- 16.00 End of Meeting

Entry fee: £2.00 for members of the *Fritillaria* group and £5.00 for non-members. Visitors Welcome. Membership details are available. Subscriptions: £8.00 per annum single membership and £10.00 per annum for family, €10.00 for European membership and £10.00 for world-wide membership. Two newsletters are published each year in February and August and a seed exchange takes place. Further information can be found on our website www.fritillaria.org.uk

Coming from the M25 Junction 11 (Chertsey/Woking)

Leave the M25 at junction 11 taking first exit on roundabout onto A317 and follow the signs for Addlestone A318. Follow the dual carriageway until you come to a large roundabout, take the last exit on the roundabout onto dual carriage way sign posted to Addlestone/Byfleet (A318). Continue on this road going straight across two mini roundabouts, then straight through two sets of traffic lights, past the Black Horse pub. About 1 mile further on you will come to a car showroom on your left and a pub called the White Hart. Take second exit on next mini roundabout heading towards Woodham / Woking B385. There will be a road on your left called Common Lane, and row of cottages and then some shops which lay back a little from the road, at the end of these shops on the left is the car park for New Haw Community Centre.

Coming from the A3 Junction 10 M25

Come off at junction 10 and take the A3 heading towards London, leave at the Cobham exit and take A245 heading towards Byfleet, straight through the next set of traffic lights. About a mile further on you pass by the turning for Silvermere Golf course. You will then come to a roundabout, continue straight on A425. At the next roundabout turn right onto A318 following the signs to Brooklands super stores, you will come to a roundabout, turn left past the stores on A318. Go straight across at the next mini roundabout. About 1 mile down the road you will come to a railway bridge controlled by traffic lights. Continue on this road until you go over the canal bridge. As you go over the bridge you will need to keep to the left, turn left at the mini roundabout heading towards Woodham / Woking B385. You will go past a road on your left called Common Lane, some cottages and a block of shops that lay back from the road. At the end of the shops on the left is the community centre car park.

Further details of the location of the New Haw Community Hall can be found on their website www.newhaw.cc.

Frits in the Open Garden

by Martyn Rix

This is a précis of a talk on *Fritillaria* for the open garden and a survey of the northern European species given at the Group's 2015 Spring Meeting on 22 March 2015.

The species which are known to grow well in the open, or might be expected to thrive in areas with summer rain, are described here geographically, starting in Siberia, and moving through China and the Himalaya to the Alps and Pyrenees.

There are three very interesting species found in Siberia. *Fritillaria dagana*, a dwarf alpine plant, grows in meadows in the mountains along the shores of Lake Baikal. Further east is *F. maximowiczii*, which also grows well in Janis Ruksans' nursery in Latvia. The third member of this particular group is *F. sonnikoviae*, a newly described species from Krasnoyarsk, in Siberia, NW of Lake Baikal; it is similar to *F. maximowiczii*, but has greenish flowers. DNA evidence suggests that these are the most primitive species, the link between the American fritillaries and those in the rest of Asia; it was one of this group that crossed into western North America, and diversified in the Mediterranean climate of California.

Fritillaries grow all across Asia, with a concentration of species on the borders between Kazakhstan and Xinjiang, China. *F. meleagroides* is one that should grow easily in English gardens, but I have never seen it grown in such conditions. The flower smells of dung and attracts blowflies, so it might be better outside! From the same areas, that is from the borders of China to Russia and Ukraine, *F. ruthenica* is often found in association with *Paeonia anomala*, also growing in damp, grassy places.

Fritillaria pallidiflora, one of the best species for growing in the open garden, also hails from the Sino-Russian borders, where it

grows in damp, alpine meadows. Paul Furse grew it very successfully in Kent, in raised beds under apple trees. It also performed well-- producing big, tall specimens over a foot tall-- in E.B. Anderson's garden at Lower Slaughter in the Cotswolds on the other side of the country, growing in a moist bed at the foot of a wall. *F. walujewii* comes from the same area, and has large flowers which are pale greyish-pink on the outside and tessellated with deep crimson within; it would be a striking addition to the garden, and is one species frequently available from specialist bulb dealers. It can have up to three flowers.

Fritillaria pallidiflora and several other species are grown in China for medicine; they are called Bei Mu, and recommended for chest infections and coughs. In 1989 James Compton and I visited the Duans' fritillary farm in Xinjiang, where *F. pallidiflora*, *yuminensis* and *albidiflora*, *tortifolia* and *meleagroides* were being grown in quantity, to supply seed to other growers who cultivate them commercially for pharmaceutical use. Duan and his wife described *F. yuminensis*, *albidiflora* and *tortifolia*, which they had discovered in the hills around their farm. Despite living quite simply in an adobe house, he has a copy of Stearn's *Botanical Latin* on the shelf.

Since 1989 I have grown these western Chinese species in a bulb frame, where they have flowered well, despite setbacks from the children's pet rabbits and a falling gutter. The key to their management can, of course, be guessed from the conditions prevailing in their natural habitat. *F. yuminensis*, for example, grows in very dry peaty soil, under deciduous shrubs, and gets little rain except in spring when there's snow melt and in August, when they may get summer showers. The bulbs should be kept on the dry side with drenches in spring and then again in late summer when the roots begin to grow.

F. thunbergii, which has been collected in the wild on the Kazakhstan/Xinjiang border, grows very happily outside in Britain. It has been widely cultivated in eastern China and Japan, and was

probably brought to eastern China along the Silk Road. Although it thrives in some gardens, I have never managed to grow it successfully. There was a fine clump growing under a bush in Rosemoor in Devon, and the secret to growing them outdoors is to keep them on the dry side, but also quite cool, after flowering.



Fritillaria thunbergii at Rosemoor under a shrub

It is hard to find any wild frits in China because they've all been dug up for medicine. It's common to see people by the roadside selling dried bulbs of *F. cirrhosa*, for example. Frank Kingdon-Ward saw Chinese collectors who had come over the mountains into northern Burma to collect bulbs there, and there are areas near Kanding which have been designated reserves for fritillaria in the wild. *F. roylei* from Kashmir is closely allied to some of the Chinese species. It grew outside in the Knox-Findlay garden, and at one time could be found quite happily established on the limestone rock garden at Cambridge Botanic.

Named after the priest-explorer Père David, *F. davidii* is one of the most unusual of this geographical group. I saw it near Ya-an, the

rainy city, so called because of the huge amount of rain all year round. The leaves appear in the autumn, and last all winter until it flowers in the spring. It needs *lots* of water, and even then, though easy to grow, it is difficult to flower successfully. A splendid pot with 12 flowers was shown by Bob and Rannveig Wallis, grown from bulbs originally collected by Mikinori Ogisu near Moupine (now Baoxing).

Moving on from the Himalayas to Iran, there are wonderful populations of *Fritillaria imperialis*, the Crown Imperial, growing in the wild in the Zagros Mountains. There is considerable variation in this species, and some particularly beautiful forms with lovely purple staining on the back of the petals, come from Hakkari in southeastern Turkey. The Crown Imperial flowers well outdoors in Kent and eastern England, but has proved a failure in Devon; it probably needs more heat to flower in the open garden. Also found in Iran is the pale yellow *Fritillaria raddeana* which Paul Furse grew happily outside in Kent. In Devon, it flowers well in the greenhouse, growing in partial shade. *F. eduardii* hails from Tadzhikistan in central Asia. It's a paler, smaller version of the Crown Imperial, and without the smell. DNA sequences show that *F. sewerzowii* is closely related to *F. imperialis*, in spite of being put in a separate genus, *Korolkowia*. It grows in rocky places in the mountains of central Asia from Tashkent to Ferghana, and is quite variable in colour, from chocolate and chestnut brown to plain green. Being a robust plant it should survive outdoors, though its early flowering may make it liable to rain and frost damage. *F. oivieri* is another Iranian species which should grow outside in Britain, as it has been found growing in wet clay close to streams, and so should be okay if kept wet in the spring and dry in the summer. *F. uva-vulpis* has a similar habitat as well as growing as a weed in corn fields.

The Caucasus mountains and the Pontic mountains along the Black Sea have a climate very similar to Britain, and are the home of many familiar and easy garden plants such as *Rhododendron*

luteum, *Helleborus orientalis*, *Lilium monadelphum* and *Campanula lactiflora*, so it is not surprising that some of the fritillaries from there are easy to grow. *Fritillaria orientalis* is one worth trying outside; in the wild it normally grows on rocky outcrops in beech woods, and in deep gorges, so the inflorescence sticks out at an angle, with the dark flowers hanging over the abyss. This unusual habit is retained in cultivation. Also found in the Caucasus, the delicate yellow-flowered *F. collina* favours the less challenging habitats of meadows and birch woods, and *F. latifolia* grows with snowdrops, cowslips and docks in alpine meadows; there are old photographs of long beds of it growing at the John Innes Institute in East Anglia. The green-flowered *F. pontica* thrives in many gardens; it is one of the widely-distributed species, found from the southern shore of the Black Sea to northern Greece; there is an interesting subspecies on the island of Lesbos. In the wild it grows in both oak scrub and on the edges of beechwoods.



Fritillaria pontica grown by Ronald Mackenzie in Oxfordshire

Most of the Mediterranean species of *Fritillaria* don't grow happily outside in Britain, but there are a few worth trying, especially if the garden is well-drained and on chalk or limestone. *F. acmopetala* is

one that will succeed outside and is one of the most beautiful of all species, and if it were rare, people would be very excited by it. Though it usually grows on limestone in the wild, it thrived even on the peat beds in Chris Brickell's garden at Wisley.



Fritillaria acmopetala in an abandoned cornfield in Turkey

The dwarf species such as the yellow *F. carica* and even the pink *F. alburyana* succeed outside in some gardens, but few of us have enough bulbs to risk outside. *F. messanensis* can be seen growing on Thessalian Mount Olympus in enormous quantities, since it became a national park and grazing was stopped. Its subspecies, *F. gracilis*, has browner flowers than *F. messanensis* itself, and is one of the easiest to grow outdoors; Valerie Finnis grew it in grass under apple trees at Boughton, and Beth Chatto had a row in her nursery; it was here that it hybridized with the black-flowered *F. tuntasia*.

Several species of *Fritillaria* are found in meadows in the Alps and Pyrenees as well as in Spain and Portugal. The easiest of all is the black-flowered *F. pyrenaica*, which can sometimes be found under the name *F. nervosa*. It grows in Devon on a steep grassy bank, cleared and kept short after the end of July, but it was equally happy under beech trees with hellebores. It regularly sets seed, and the young bulbs are grown on for two or three years before being planted out. The selected form 'Bernard Tickner', with yellow instead of black flowers, is still around and well worth growing.



Fritillaria pyrenaica in grass in Devon

There are three species in the Alps which are similar in flower to *F. meleagris*: *F. burnatii*, which grows both France and Italy, has shorter stems and broader leaves. Unlike our snakeshead lily, it only produces dark flowers, no pale or white ones.



Fritillaria burnatii in an Alpine meadow in Italy

F. tubiformis is closely allied to it, but has a larger flower, greyish outside and *F. moggridgei* is similar but has yellow flowers. These three have the typical, broad-bell-shaped flowers, and are usually pollinated by large bumblebees. A study of the nectar of fritillaries has demonstrated that those with these *F. meleagris*-type flowers are particularly rich in both sucrose and fructose in order to meet the high-energy requirements of the queen bumblebee as she emerges from hibernation.

The Alpes Maritimes in both France and Italy is the habitat of another species, *F. involucrata*. It grows happily in many gardens, and is not as coarse as it can be when cosseted in a pot. The flower colour varies between plain green with few tessellations in France around Grasse and Frejus to heavily tessellated and almost all purplish-brown in the gorges above Menton and on Monte Carno di Luano near Savona. Here it grows in rough grass on the edges of beechwoods.

Once stocks of precious bulbs permit, many other species are worth trying in the open garden. In the British climate the early-

flowering ones can be damaged by a sudden return to winter weather, but most will tolerate our climate well. However all are particularly susceptible to being eaten by slugs, snails or mice, and I think that these are their main enemies in the open. In the wild fritillaries are commonly attacked by lily beetle, but this is not normally on the wing early enough to damage them here. Most of the larger species will thrive when growing among the roots of deciduous trees or shrubs, and will have done most of their growing before the trees come into leaf.

Panel Discussion at Spring Meeting

Report by Pat Huff

The panellists were

Laurence Hill, creator of a fantastic website devoted to *Fritillaria*, with a special interest in the Japanese members of the genus;

Brian Mathew, whose work in the field and authoritative publications have made him the international go-to source for information on all sorts of bulbs; and

Martyn Rix, the world's foremost expert on the genus *Fritillaria*

Bob Wallis, the Panel Chair, started off the discussion by directing a question to Laurence Hill: What conditions do you use to grow the Japanese fritillaries? Relying on a woodland mix of grit, bark, fine vermiculite and perlite with a small amount of slow release fertilizer, Laurence grows the Japanese species outside in terracotta pots in a plunge frame. They get a bit of direct sunlight, not a lot. The plants are hand-pollinated and the seed collected just before the pods open. Sown immediately in the same woodland mixture, the seed germinates at the end of October. There can be parasites in the soil, e.g. vine weevil and leatherjackets, which must be dealt with. In the wild, the Japanese species grow 5-6 cm below the soil surface, and will occasionally produce two renewal bulbs. In response to another question from the audience, Laurence said that the proportions of the woodland mix he uses are 1 part grit, 1

part perlite, 1 part vermiculite and 3 parts fine bark. Sow the seeds just below the compost, then cover with a couple of millimetres of fine gravel. Pitcairn Alpines occasionally has the Japanese species for sale. Paul Cumbleton added that *Fritillaria koidzuama* bulbs will always pull themselves down to the bottom of a plastic long tom. It starts to root in late autumn, at leaf fall.

Carrying on from Paul's comments about *F. koidzuama*, another question was asked about *F. davidii*: Is the planting depth important? He tried deep planting, and it didn't work. Brian Mathew answered that in the wild this species has its bulbs nearly on the surface of the soil. Every species has its working depth. *F. pluriflora*, for example, can work its way through the bottom of the pot into the plunge beneath. How hardy is *F. davidii*, if it prefers life nearly at the top of the soil? Martyn Rix has his outside and it's been frozen, but recovered. Ron Mudd grows hundreds of *F. camschatcensis* outside, and they've never suffered from the cold. The thing to remember about *F. davidii* is that it's practically a lithophyte: keeping it cool and moist is the key to success with it.

Would the panel like to choose the 10 easiest species for the open garden? Brian Mathew, located in dry Surrey, said *F. meleagris* and *thunbergii* succeeded with him. *F. pallidiflora* lasted for a few years. Heavy clay is a problem. Laurence Hill, who grows lots of frits in frames in the garden, named *F. meleagris*, *frankiorum*, *oliverii*, *carica* and *camschatcensis*. In the mountains of Japan, this *F. camschatcensis* has an 8-week growth period, flowering at the end of July. In its other growth area, the Pacific rim, it grows quite close to the surface in fine alluvial soils. Laurence also grows *F. orientalis*, *reuteri*, *ruthenica* and *montana*. Martyn Rix added that he grows *F. pyrenaica* and *meleagris*. *F. imperialis* didn't work. It flowered in Kent, but not in Devon. Rannveig Wallis said that she and Bob had been given half a dozen bulbs of *F. imperialis*, but they died out within 4 years. Ron Mudd said that he grows *F. recurva* and *agrestis* outside in North Yorkshire. With heavy clay, set *F. imperialis* and *Eremurus* on the surface, then mound gritty soil over them. He grows *F.*

Plants from the Spring Show

Photographs by Laurence Hill



Fritillaria bucharica (left) and *Fritillaria fleischeriana* (right) both grown by Colin Everett



Fritillaria forbesii (left) and *F. crassifolia* subsp. *kurdica* (right), Halkis Dag



Fritillaria crassifolia subsp *kurdica*, Iran, Kordestan (left) and *F. melananthera* (right), raised to species level this year. Both grown by Colin Everett



Fritillaria purdyi (right) and *F. zagrica* 'Yellow Form', grown by Bob & Rannveig Wallis

pallidiflora on ridges like potatoes. *F. pontica* and *acmopetala* also grow outside. Bob Wallis reported that a potful of *F. frankiorum* got thrown out and has subsequently flourished in a sunny border. Jack Elliott used to have a place where he would throw out the contents of all his old pots – *F. ehvesii* grew outside there. A good tip is to stick bulbs under shrubs to give them a microclimate where the woody plant will suck up excess moisture in the summer.

What do you do when you come across something hitherto undescribed? How do you give things a name? Having described many new species in the course of his career, Brian Mathew reported that it is now permissible to describe in English instead of Latin, and online, so long as the description is published in paper form and deposited in a botanical library together with a type specimen. How do you decide if it's a species? When you work on a genus long enough, you get a feel for it. The knowledge comes with experience. Having defined your species on morphological grounds, you can add information derived from DNA analysis, which is particularly helpful at the level of genus. It is not quite so useful at specific level. How different is different? Martyn Rix added that subspecies present a difficulty, especially when you have 2 species that aren't separated, or 2 plants growing in very different habitats. The designation of subspecies is more or less going out in the taxonomic community, though it was very popular in the 70s and 80s.

Fritillaria ojaiensis of California's Central Coast

Words and images by Michael and Mary Jane Delgado

In this drought-stricken stretch of the Central Coast of California, there are still some pockets of beauty to be found. We, Michael and Mary Jane Delgado, have been interested in native wildflowers since moving to the Santa Ynez Valley 24 years ago. [Photo #1] There are many, many micro-climates nestled in the rolling hills between the Santa Ynez Mountain Range to the south, and the San Rafael Mountains to the north. Within these pockets of perfect weather you will find, not only the flower of which we speak, *F. ojaiensis*, but it is also home to the very important pollinators that buzz past our noses as we hike.

The early Spring days of March and April not only encourage the wildflowers to emerge, but there are at least a dozen busy butterflies living in quiet harmony with the fauna and flora of South Refugio Road. One of these incredible beauties is a tiny butterfly called the Sonoran Blue (*Philotes sonorensis*). [Photo #2] It too inhabits a very small length of earth, and greets us with its fluorescent blue wings each time we turn their corner. South Refugio Road is an aged dirt road of deep crevices, rocks that split the underbelly of your car, and such natural beauty that it is indeed a photographer's dream –between the sunny morning hours of 10-12, that is.

Michael and several of his botany friends had been looking for *Fritillaria ojaiensis* for years. About six years ago one of the members of our local Natural History Society told Michael that he had spotted a small group of Ojai Fritillaries on the minimally accessible dirt road (Refugio) which displayed the “perfect storm” of conditions to nurture and protect these lovely bulbous plants.

And so it was, on an early misty morning in March, Michael found the rich green leaves on a twenty-foot stretch of dirt road, on a north-facing slope with cool drainage. It is rocky and moist, and

never gets direct sunlight. Michael immediately spotted the three shapes of leaves, which indicate the maturity of each bulb.



The smallest, narrow leaf is from the first year bulb. The very long, 12-14 inch but still narrow leaf is displayed during the second year. The very wide heart-shaped leaf means that that plant will shoot out a long, 12-14 inch stalk next years, filled with 3 to 5 blossoms of the rarely found and much love *Fritillaria ojaiensis*.

It's easy to see why so many people have passed right on by this little native garden. There is not much there to draw their

attention. There aren't any colourful companion flowers to pull your eyes to the south at this point. As a matter of fact, by the time a hiker gets to this spot he or she is looking up at the sunshine corner that lies just ahead. With that perfect camouflage, we were confident that all would be protected and frowning strong for our return in two weeks, looking for the elusive flowers.



Size of leaf of a three-year old *Fritillaria ojaiensis*

They're green! The flowers, that is. The *Fritillaria ojaiensis* is rather green on the top side, and a bit of lime green with dark speckles inside. It actually took a few moments to find the first blossoms, but once we were able visually to filter out the riff-raff of weeds, we were like kids in a candy shop. "Look over here! Here's one with three bells." And then, "Wait, wait! Here's one with five!" Where's the camera?!



Fritillaria ojaiensis with curly leaves

We couldn't find them fast enough. We were kneeling and poking around, trying to find every last one. Never mind that we were getting muddy, slipping and falling on the loose rocks and natural mulch, we were too excited to notice. The rocky background couldn't have been more picturesque for our first photos of this exquisite flower. Its beauty in the wild is surpassed only by its fragile lure, making us want more.

That first year, for us, was a treasure trove of discovering new and exciting wildlife that hides just below our line of vision. This dirt road, which heads up and over the Santa Ynez Mountain Range (and passes by President Reagan's Ranch), ends up at a popular ocean beach. Centuries ago, this same road was an Indian path used by the Chumash tribe of the inland valley to trade food and supplies with the Chumash tribe on the coast. Surprisingly, as we walked up to check on our favourite bulbs, Michael stepped on an obsidian arrowhead. Was this from the original tribes? We like to think so. We wonder if the tribal members knew about the Ojais? Did they maybe use it in some way for rope, or a colouring agent, or medicine? Anyway, it's fun to imagine all the history of this area, both human and botanical.

Back to the *Fritillaria ojaiensis*. We hiked up to this patch of excitement a few more times over the next two months, before the blossoms began dropping their petals and exposing the tiny, multifaceted green seed pod. The pods grow to about an inch in length, and continue to mature until they are toasty brown, and just as crispy. We never counted the number of seeds in each pod, but it looks like 10 seeds in each of the four pod chambers. Like all of nature, each seed pod is so perfect, so symmetrical, so bursting with life – it is a photographer's dream.

Mary Jane gets the honour of photographing every little nuance of these perennial bulbs. That first year she must have taken at least 200 photos of the 21 sprouts found. Of course this meant getting

down in the muddy mulch again, but getting a photo of the stunning inside was well worth it.

Michael, who is deep into propagation, took a few mature seeds that first year, in late April. He waited until the fall and planted them in his backyard nursery. Why? Because the challenge was there: could he successfully propagate a rare wildflower through all its 4 stages, and then successfully return it to its native soil? Of the approximately 25 seeds he used, about half of them did not emerge with a shiny, narrow leaf. Of the ones that did emerge, Michael returned three to their natural habitat. Of those, two sprouted a small but healthy stalk with three flowers, hanging downward, as fritillaries do, enticing the observer to take notice. A proud adventure indeed!



The South Refugio Road and *Fritillaria ojaiensis* in its typical habitat

From then on, Michael has taken those wildflower propagation skills and has successfully brought to fruition the lovely Chocolate Lily (*Fritillaria biflora*), the tall, colourful Humboldt Lily (*Lilium humboldtii*), and the Blue Dic (*Dichelostemma capitatum*) as well.

That was then. Now, however, in the midst of the 4th year of a very hot drought, we found only nine plants, and their seed pods remained quite a bit smaller than pods from previous years. The Fritillaries were breathtaking that first year, and are still a true delight to share with other hikers and botany enthusiasts. Hopefully, the hundreds of seeds that now lie in the oak much will someday emerge when the promised raindrops find their way into the nooks and crannies of that stony north slope.

References (internet):

<http://www.butterfliesandmoths.org/species/Philotes-sonorensis>, the Sonoran Blue butterfly.

<http://www.calflora.org>, *Fritillaria ojaiensis*, *Fritillaria camschatcensis*, *Lilium humboldtii*, *Dichelostemma capitatum*.

Google Earth: map of Santa Ynez Valley, CA.

©Mary Jane West-Delgado
Michael Delgado
Santa Ynez, CA.

Anne Silver

We are sorry to have to report the death this summer of Anne Silver, a former chairman of the Group. Anne was passionate about fritillaries, and a great supporter of the Group. She was very ably assisted by her husband James who took on the job of Show Secretary. There were many speakers who appreciated the lunches she prepared for them at the Hillside Centre at Wisley.

Pitcairn Alpines' Method of Growing *Fritillaria* Outside in Scotland

Words and images by Susan Band

When I started growing *Fritillaria* 25 years ago I didn't really have suitable greenhouse space and was unaware that most people grew them in an alpine house. Therefore any that I grew from seed automatically went into the garden and survived. It was only when people started questioning the fact that they were growing outside that I realised that most people kept them covered. We don't often have failures by growing them outside and have many successes.

Now that the nursery concentrates on bulbs most of the stock plants are grown in the unused nursery beds. The subsoil is very well drained. The 2 inches of grit that was on the top of the beds was cultivated onto the soil underneath. They are annually top dressed with chopped leaves or fine bark.



F. pallidiflora (left) and *F. acmopetala* (right) grown outside at Pitcairn Alpines

The *Fritillaria* that are bulking up for selling in wholesale quantities are planted out in our field beds. These are on a gentle slope with good free draining neutral loamy soil on the west side of a hill 120m above sea level.

We start sowing the seed in the Autumn, but are experimenting with later sowing, especially with the western American species, but always sowing them before the shortest day in December. They are then kept in a just frost free polytunnel . We re-pot the seedlings in the first two summers and then they are planted out in the nursery beds in their third summer. If we have large quantities of seedlings they are planted outside in the first summer as inside heated space is always at a premium.

When we have saleable quantities they are moved to polystyrene boxes which are kept in one of the unheated poly tunnels in winter and moved outside in the spring.



First year seedlings ready to plant out

The bulbs we are keeping as stock plants are left in the ground and never lifted. The outside beds are not covered. We tried this but it brought them on too quickly and they suffered from late frosts when the covers were lifted. We cannot leave the polystyrene boxes outside in winter as we lost a lot of bulbs when we had really bad weather. The freeze/thaw cycle means that the boxes filled with ice and water and don't drain.



Fritillaria affinis var *tristulis* showing rice grains



Fritillaria pudica showing offset bulbs

The *Fritillaria* which are happy growing in such conditions are *F. acmopetala*, *affinis* (yellow, *tristilis* and normal varieties) *aurea*, *camchatcensis* (both single types, yellow and double) *cirrhusa*, *crassicaulis*, *eastwoodii*, *edwardii*, *frankiorum*, *gracilentia*, *hermonis*, *imperialis*, *involuta*, *kotschyana*, *liliacea*, *meleagris*, *pallidiflora*, *pontica*, *purdyi*, *pyreniaca*, *raddeana*, *recurva*, *sewerzowii*, *taipaiensis*, *thunbergii*, *tubiformis*, *walujewii* and various other species.

One which I am trying outside for the first time is *F. yumenensis*. We grow them in a box at present but they come on too quickly in the spring. The flowers suffer with any bad spring weather which means they don't set seed. I think they might stay underground for longer if planted outside during the winter.

We believe some species such as *F. purdyi* do better outside, as in this case, they can pull themselves down very deeply into the soil, deeper than most pots. I would suggest that people try letting their frits go 'free' A raised bed filled with gritty but humus soil in the sun would be ideal. Give it a try, you might be surprised at what can grow outside.



Fritillaria liliacea



Fritillaria recurva

Fritillaria Group Seed Exchange

By Pat Craven

After a much kinder winter than in recent years we hope there will be more seed produced this year and that this will be reflected in the Group's exchange. Details of this year's exchange 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.

KEY DATES

Deadline for donations : 27 August 2014 (If your donation will be later than this, please send details of species and whether it is seed or bulblets)

List publication: 1 September 2014 (If you want a list, but have not received one by 4th September please inform Pat Craven).



£3.50

www.fritillaria.org.uk

