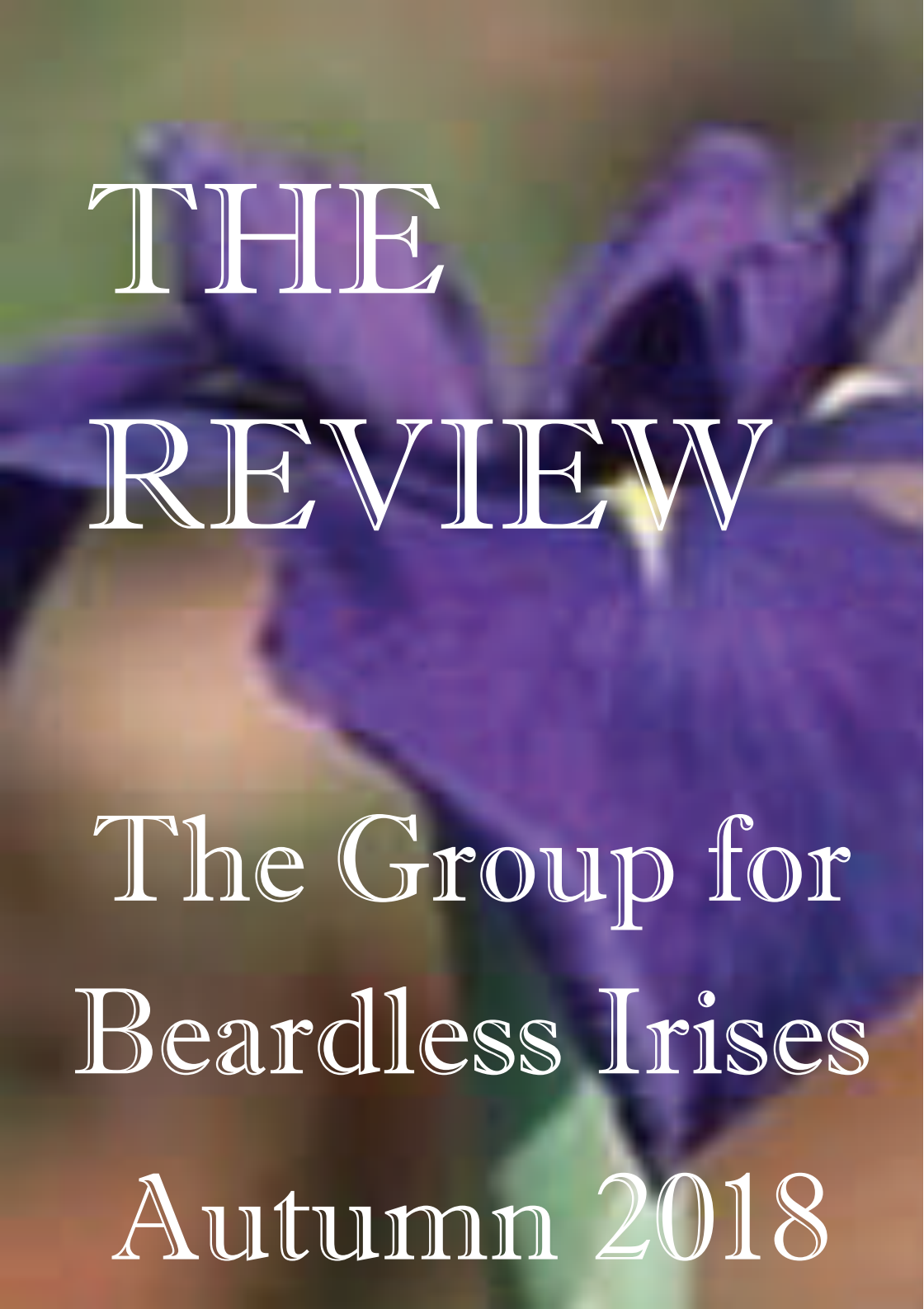


THE REVIEW

The Group for Beardless Irises

Autumn 2018

‘Miss Apple’ (Marty Schafer/Jan Sacks)
The 2018 winner of the Morgan-Wood Medal for Siberian irises .
‘Kimono Silk’ (Bob Bauer/John Coble)
The 2018 winner of the Payne Medal for Japanese irises.

Contents

***Iris. laevigata* 'Shikizaki' x *I. ensata* 'Enkaishu',**

Editor's Notes
Brita Carson

2019 and a new year for plenty of resolutions to be made about some hard work cultivating irises, sowing their seeds and hybridising lots of flowers. These are mine and I hope you have thought about doing similar ones. Perhaps more interesting results will emerge if we all keep to them—an article for the next *Review*?

All hybridisers do their thinking during winter to decide which crosses they hope to make. A more unusual hybridisation plan has already been achieved by Tsutomu Yabuya, Professor Emeritus of the University of Miyazaki, on the southern most island of Japan. In his article there are many examples of a number of very unusual crosses. Pseudatas (pseudacorus by ensatas) are already well known and distributed but others of his are not so common. It will be interesting to see where his results take him and which crosses he intends to do next.

We often forget that the genus Iridaceae has a large number of species other than irises and Jill Whitehead enjoys freesias especially their perfume. The florist's freesias sell in their thousands (nowadays in all the colours possible) but there are species that are tricky to grow and so much more rewarding with a bit care on your part. It is worth giving them a second glance on the Show bench and spare a thought for growing them.

In the "Letter from The Chair", Anne feels that the effect of the drought may still be with us; I'm not sure it feels like that up here in the usual wet winter conditions! Oh for some nice frosty weather when the sun shines in blue skies and there is a crunch underfoot! Follow Anne for her sound advice for growing and planting irises.

Philip takes us to a clifftop or at least a good slope to create the best environment for growing Pacific Coast Irises, an introduction to some of the awkwardness that they like to present us! Following on is an article written by Victor Cohen on actual plant hunting in California. This is the type of terrain modern day plant hunters can expect to find and deal with on their adventures.

Alun follows on from his *Newsletter* article with an investigative piece on the identification of the $2n=28$ chromosome species and the impact of this on breeding. It is to be hoped that this information may reach anyone who still confuses the use of *I. sibirica* with Siberian irises. Nowadays there is hardly a Siberian which can be called *I. sibirica*. They have all been crossed.

Honey Fungus, have beautifully honey coloured mushrooms and may well be tasty but not for me or should I eat them to seek my revenge?

The *Review* includes the same article that Brian Mathew kindly wrote for the *Year Book* about the species of irises that have been written for, and sent to Curtis's *Botanical Magazine* from its original date of publication in 1787 up to present day. This first group is beardless and appropriate for our *Review* of the Beardless Group.

Letter From The Chair
Anne Blanco White

Let's forget the vagaries of the weather through the last year though they will still leave us wondering about whether they are affecting our plants or whether we are just imagining them.

Sorting out the garden has been seriously complicated by the persistent drought. Now I have a guide at the front gate to this building: for various complicated financial reasons a great deal of ground maintenance has had to be neglected. There are gates and a path up to the front door and for as long as I can remember – about a decade – after reasonably heavy rain there has been a splendid puddle in the middle of the path. I found it useful because one look indicated whether or not it was actually raining at the time I wanted to go out. No raindrops on the puddle meant all was well. Ever since about Easter there has been no puddle. There still isn't any puddle and we have had some quite heavy rain recently. This means that what rain there was has not sunk into the ground.

And that means that any digging is not merely difficult, but pointless. As fast as the water hits the soil surface it is absorbed by plants taking immediate advantage of it rather than letting it soak in to benefit future growth.

If this sort of rainwater problem is affecting you and you, too, have a feeling that it may not be the right time to turn a hose on again you are going to have trouble replanting. The first problem is actually getting a fork or spade into the soil in the first place. And it can be silly even to try because you may simply wreck a tool in the process and equally you may be unable to break the plant up so that you can replant it successfully.

Right. Stop and think. Remember firstly that irises in general have two root growing periods. The first (for convenience) is shortly after the flowers die off and the seed pods, if any, start to ripen. This has been pretty well impossible to do anything with this year except to cut away any dead material in case it should rain and rot should set in. The second period is in the spring when most regrowth starts again after the winter. This is the time to watch for next year and to do some replanting if necessary. But it will mean some serious gardening.

Having written off the autumn replanting, watch for good rain. Odd days of nice, steady, but not too disastrously heavy downpours. You need the soil nicely wet, but should be able to pick up a clod of soil and break it up into nice, small pieces which can be combined with compost to provide good replanting material in early March. You should be able to use a fork on the bed to provide good quality soil where you can replant quickly and efficiently so that the plants can grow on quickly and efficiently too. Having got them re-established and obviously showing signs of starting to grow seriously for the new season, mulch with enthusiasm if you can. The

essential point is to keep their root systems cool and protected from drought through until next autumn. I remember back in 1987 making an unintentional experiment. Most of that garden was on heavy Weald clay facing due south! In that summer even the moles bolted for cover. But the newly planted shrubs had a thick cover of compost and I found it interesting that if I slid a hand between the compost and the natural clay that there was a marked temperature difference. It was cool under the compost for all that the clay was dry. We lost none of the new plantings.

This too is the time to turn your attention to your *unguicularis* and *reticulata* garden plantings. Any spare water, together with some high potash fertiliser, should be given to them. In theory they should be flowering on and off as the weather permits from now until near Easter. It's up to you – gardening is a twelve month seasonal job. And again, you should know where you planted those retics. Were they, in fact, planted nice and deeply at around six to ten inches deep so that they would be protected from future droughts in summer and floods in winter? An awful lot of advice about planting these is based on the practices of Victorian gardeners who lifted them *en masse* every spring as soon as flowering was over so that they could install the next lot of bedding plants. You need to give serious consideration now to those irises which will co-operate for displays at show time next year and, perhaps, encourage more "would be real" gardeners to join us.

Meantime I have to admit that the glory of this little patch this autumn has been *Sternbergia lutea* which has blazed from the most unlikely bits of flower bed shoving the way through all the clumps of dying leaves. Pity it isn't an irid.

Believe it or not, I have had this plant for 30 years and this is the first time that it has flowered like this. There are two flowers together here.

Normally, its flowers are much like those of our conventional *Iris pseudacorus*, or yellow flag but this plant is smaller in all its parts than we expect.

A Whiff of Freesia
Jill Whitehead

I was rather taken with the diminutive *Freesia verrucosa* at the BIS Early Spring Show this year. It was being shown by Sue Bedwell, who has an interest in the Iridaceae species and always seems to manage to bring something unusual to the Show bench. I am not sure why the flower attracted me, after all it is not a WOW in your face sort of thing, more an intricate delicate flower which needed closer observation. I was also intrigued by the name, to my mind verrucosa sounded much like verruca, i.e. 'warty', so of course, my curiosity was aroused and I needed to know more!

Freesia was named in honour of Friedrich Freese (1794-1878) who was a German botanist and doctor. He shared an interest in South African plants with Christian Friedrich Ecklon who first proposed the name as Freesea in his honour. Ecklon (1795-1868) was a Danish botanical collector and apothecary, who first visited S. Africa to collect possible medicinal plants. In time he developed an extensive herbarium. However, it was Friedrich Wilhelm Klatt who formally named it as Freesia in 1866. Klatt was a German botanist whose interest in African plants led him to concentrate on the Iridaceae and he contributed to several publications.

It struck me that the flower was similar to *Anomatheca laxa which we grew* for a number of years. We first saw this growing both at Beth Chatto's garden in Essex, growing there on her scree bed by her bungalow and then at Great Dixter, in about 1988. There it was growing in a dryish spot beside the path, making a ribbon of colour. Some of the seed had escaped onto the path and to save it being trodden on, I collected some! Hence, we grew it for many years, firstly in a trough, giving it the dryish, free draining conditions it needs. The flowers are salmon red with a darker blotch on the lower three petals and it flowers over many months. The seeds are quite conspicuous as they are gleaming wine-red in colour. Since moving here, we don't grow it, well not intentionally, it has self-seeded along the inside edge of our old greenhouse. It seems very happy with very little moisture because we don't really use the greenhouse being sited in a shady position, and is in rather a sad state, having been dismantled twice and moved twice. But it is useful for protecting summer bedding or overwintering some plants which just need a little shelter and the cat thinks it is her second home! *Anomatheca laxa* has had a number of name changes over the years, being one of the earliest species of Freesia to be discovered in 1773 and noted by Linnaeus in 1782. Its identity remained uncertain but became *Gladiolus laxus* in 1823. Then independently described as *Anomatheca cruenta* by an English botanist, John Lindley in 1830, from plants growing in England and it became *Lapeirousia laxa* in 1928, in fact you still see it occasionally listed under both these names. *Anomatheca laxa* (Goldblatt) in 1971 and finally *Freesia laxa* (Goldblatt & Manning) in

1995. So it makes a great deal of sense why I saw a resemblance between the two. It has also naturalised in some parts of Australia near Sydney, in Madeira and Florida, so it is obviously making itself at home!

We also used to grow a white form but have since lost that. I noticed in *Plant Finder* that *Freesia laxa* var. *alba* has an AGM. There is also a blue flowered form, a red-spotted form and one called 'Joan Evans', which apparently is white with the distinctive red blotches, and I quite fancy trying that!

Freesia verrucosa was first collected by the Swedish botanist Carl Peter Thunberg in 1772/3 when he was accompanied by Francis Masson, who was collecting plants for the Royal Botanic Gardens, Kew. Masson was responsible for the introduction of numerous S. African plants to England. Thunberg's collection was the basis for Linnaeus description in 1782 as *Gladiolus junceus*. It is found in the South Eastern Cape area of South Africa and forms small colonies along road sides or other similar stony areas. The flower is lilac to bright pink, about 20cm high. Sue tells me that she keeps her plant in a frost-free greenhouse, but according to one reference they are hardy to Zone 8, which is equivalent to the RHS H4/H5 rating. But I suspect drainage is key to their hardiness. The unusual aspect for this freesia is the lack of fragrance or at least according to Goldblatt and Manning this is so, but Clive Innes in his publication *The World of the Iridaceae* disagrees. I will have to try to remember to sniff Sue's plant next time I see it flowering! Oh, by the way it is the surface of the seed capsules which is papillate to warty, hence the name.

Of course, if you mention Freesias to non irisarians, they will think of the decorative flowers which are available from the florist all year round, often used in wedding bouquets. In the Victorian times when flowers often carried secret messages, the freesia symbolised trust. The documented history of these is limited especially when you consider their economic importance. One publication quoted over 110 million stems are used in British flower arrangements each year! The history is also confusing due to the name changes and different taxonomic interpretations over time. They were first grown in Europe in the 18th century. Max Leichtlin, who was a gardener and plantsman, first realised their importance when he found a yellow flowered form in Padau Botanic Garden in Italy in 1872. He grew some corms and soon it was being distributed and became a popular ornamental container plant with numerous references in horticultural literature. Klatt named it *F. leichtlinii*. The white flowered form *F. alba* appeared in the English trade in 1878. It soon spread to Europe and North America and also appeared in the press at that time. How it reached England is not clear, maybe just a casual introduction? In 1897 a pink flowered form *F. armstrongii* was listed by Suttons. Mr Armstrong had sent plants to

Kew which he found growing in a wild area on a farm near Port Elizabeth, South Africa. Van Tubergen obtained plants of *F. armstrongii* and crossed them with *F. laxa* var. *alba* and took the history forward from then on, producing hybrids of various colours, mauve, pink, cream and blue. Modern hybrid freesias are a complex race, different sources quote different species being used and I suspect the history has been lost, if it was ever kept! All that we need to know is there are a tremendous range of named freesias available, some more scented than others. The colour range is wide, stripped and double flowered forms are also available. Commercially they have been an important crop, for example the Netherlands at one point had 215ha under glass, Japan had 60ha and UK 10ha. The sheer scale is daunting, but are we likely to see the trend for home-grown flowers increase – I think so, at least for the time being.

Freesia verrucosa

Interspecific hybrids in the genus *Iris*

Tsutomu Yabuya

Professor Emeritus, University of Miyazaki.

Iris ensata var. *ensata* has been extensively developed as a modern garden species by Japanese breeders and is commonly known as Japanese garden iris, Hanashobu. The breeding of this species has so far been directed primarily to the utilisation intraspecific variation due to self-pollination and cross-pollination of the varieties because of the high degree of cross incompatibility of this species with other ones. However, cross incompatibility has been overcome by utilisation of embryo culture, the improvement of parental genotype (varieties or lines) combination and so forth. Successful interspecific hybridisation has produced new garden varieties such as yellow hybrids of *I. pseudacorus* x *I. ensata* which are popular ones in Japan. In addition, new interspecific hybrids may produce novel garden varieties and may bring the improvement of Japanese garden iris and other ones.

Although the Professor has used Colchicine to double the chromosome count and produce tetraploids, it is not so easily obtained for most of us and you would need some special equipment for its use. He has produced many new colours and designs which are now starting to head for reds. It is all exciting new work tempting many an amateur to have a go too. You could also try to get some new and unusual plants. Hybridisers always advise you to use as many up to date plants as possible otherwise you could end up producing something that has been done before.

The following are some of the species that the Professor has been using: *virginica*, *pseudacorus*, *sanguinea*, *setosa*, *versicolor*, *ensata*, *fulva*, and *laevigata*. Most of them we would consider to be suitable for wet areas. He has also upgraded some of the species to tetraploids to enlarge his pool of examples to use even further.

The Professor has also used other forms of technology e.g. embryo culture, protoplast fusion and scape culture in very advanced ways to produce new small plants. Some of these may not appear very attractive yet but it is the start of new ventures.

The Editor has gathered these words and photographs to bring you some ideas of the excellent achievements that the Professor has obtained.

Wood for the Trees or the Plant for the Flower? Siberian Iris cultivars and species

Alun Whitehead

As promised in the *Newsletter*, in this article I want to review the key points of identification of the 2*n*=28 chromosome species (the Siberians as opposed to the Sino-Siberians); consider some important breeding breakthroughs in that light, and finally, investigate if there are any particular, specific conclusions.

The Species

There are only 3 species in this sub-section which makes study easier:
sanguinea Donn 1811
sibirica Linnaeus 1753
typhifolia Kitagawa 1934

James Donn, curator of Cambridge University Botanical Garden, described *sanguinea* in 1811, but *Kew* cited the later description by Hornemann in 1813 based on Donn. Presumably the first was not valid, perhaps for a technicality?

Putting aside *typhifolia* to begin with, what sort of species are *sanguinea* and *sibirica*? Their combined distribution ranges from France in the west to China and Japan in the east. They cross freely and so one would expect a continuum of variations between the two extremities. Dykes discussed his imperfect knowledge of the distribution in his *Genus Iris*(1913) and raised the possibility that *sanguinea* might not be a distinct species. Giving a lecture which was recorded in the Journal of the RHS in November 1914, he found a natural barrier in Lake Baikal – with *sibirica* to the west, and a gap to the east before *sanguinea* was found. Lake Baikal may be the world's deepest lake running approximately north-south in a massive rift valley in southern Siberia and therefore the idea of it acting as a natural barrier makes sense. The seed of these species tend to be heavy and seedlings usually occur close to the mother plant. The other great mover of plants is man. Trade routes go back into pre-history, but what would be the purpose of transporting a plant if similar ones already occurred elsewhere across the continent? Traditionally one brings back from our travels something different, and I imagine this has not changed much over time. This sounds like satisfactory reasoning for there being two distinct species until you view the distribution maps on the *Kew* website. Along a great length the distributions of *sanguinea* and *sibirica* abut, but in fact for one large area they coincide. Whilst the maps to some extent must be simplifications it raises some sharp questions. Likewise, the distribution of *typhifolia* appears to be within the distribution of *sanguinea* and the same concerns arise. If they are growing side by side, what has stopped them naturally crossing over time? Or are the species descriptions mere instances within a continuous range of variation?

With this difficult question about the species unresolved, let us simplify and assume they are distinct species, for the character of the species as recorded can easily be discerned as traits in the cultivars.

	sibirica	***sanguinea***	***typhifolia***
Flower	held well above leaves	held just above leaves	held just above or within the leaves
Spathes at flowering	dried	still fleshy	fleshy or partly dried
Red pigment	possible at leaf base	possible on leaf and spathes	green
Stem	branched, markedly asymmetric	unbranched or an occasional branch	unbranched or occasionally branched
Flowers per spathe pair	2 to 5	2 (3 occasionally), 1 on branch	2 usually, 1 per branch?
Typically 'D' shaped seed - but it does vary	larger	smaller	?
Capsule	at most 2 times as long as broad (i.e. short & dumpy)	over 3 times as long as broad (i.e. longer)	?

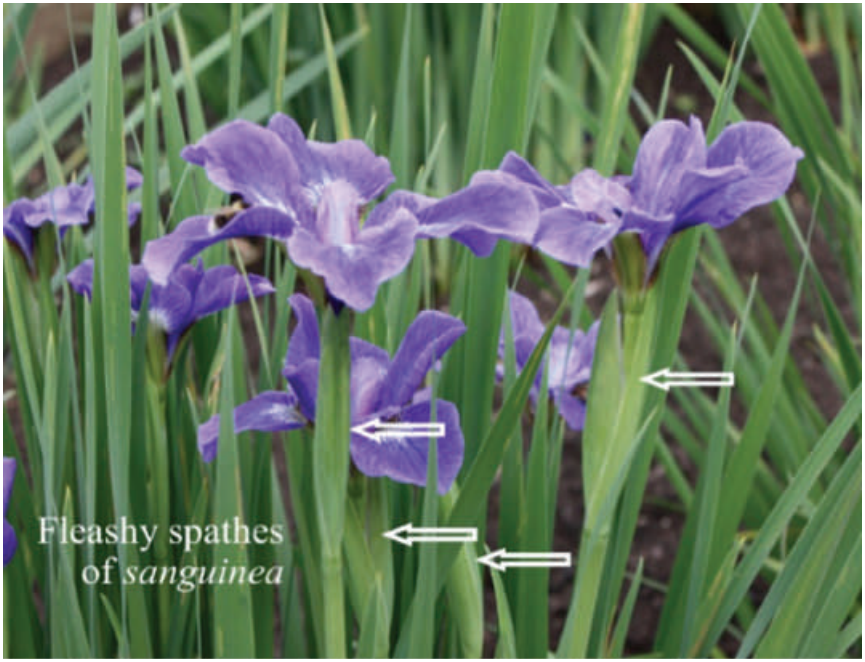
You cannot be too prescriptive, as there is always a natural variation in species, and culture/climate will inevitably have an effect, so the above table needs to be read with that in mind. For instance, there is a photograph of a beautiful clump of *typhifolia* at Kew on the Landscape Architects Pages showing the flowers held well clear of the foliage. Likewise, whether the spathes are still green at flowering or just beginning to show some brown from drying, could easily be a matter of species variation or the season. However, looking at the plants in our collection there are certain characteristics that are consistent. The plants wholly or mainly *sibirica* will have spathes dried at flowering time, giving a distinct look to the stem. Those near to *sanguinea* have fleshy spathes which act as a 'vase' for the flowers – instantly recognisable. The overall branching habit is again a good indicator though individual stems will vary somewhat with culture.
The seed is larger on *sibirica* regardless of flower size. 'Enid Burgoyne' and 'Shrawley' show *sibirica*. See photos over the page.

'Ashfield Clementine' and 'Helen Astor' show typical *sanguinea* characteristics.

The upper two have smaller flowers with us, the lower two larger. The "*sibirica*" seed appears a lighter brown and looking at a batch of old mixed seed we have here, I could spot the "*sibirica*" quite easily.

The stems also show the differences, with 'Shrawley' showing more seed pods from the extra flowers and 'Ashfield Clementine' with just two flowers per stem.


Dried spathes
of *sibirica*


Fleashy spathes
of *sanguinea*

There is a general perception amongst the public that irises flower for a short time. The comment often heard is “irises looks great, but....”
This needs to be put into perspective. I can’t think of any type of iris that could be used as a bedding plant to offer colour all season and frankly it would be an anathema to me. However there are some, including Siberians, which only offer a week of interest and they are not garden worthy plants in my book.

Extending the flowering can be achieved by (1.) extended blooming (the flower stems follow in succession, not all at once); (2.) by repeat blooming (a second flowering or odd flowers later); or (3.) simply having more flowers to the stem. Dykes recognised the floriferousness of *sibirica,* but the more attractive flower of *sanguinea,* and it appeared logical to him to cross the two. He did register a form of *sibirica,* ‘Papillon’ which typically has at least 5 flowers per stem. He also

introduced 'Kingfisher' with the strong red spathes showing *sanguinea* blood but again with 5 - 7 flowers per stem. In passing, it is interesting to note that 'Papillon' is still available in the UK for landscape plantings because of its performance. How have we faired since Dykes in terms of flower per stem?

There have been some remarkable Siberians registered over the years and looking through them, the fleshy spathes of *sanguinea* overwhelming predominate. This is fine if there is a preference for that type of flower, but what about the stems – are they floriferous? Early crosses were made with *sibirica*, but how successful were they? Taking the example of the diminutive 'Baby Sister' (McEwen 1986), which is registered as *sanguinea* x *sibirica*, the flowers and the seed pods show only *sanguinea* traits and in fact wiki.irises.org in one place lists it as one of the 'cultivars' of *sanguinea*, rather than a cross!

The **Yellows** date back to Frances Cleveland's 'Sunnybrook' (1920), now unfortunately lost? 'Rimouski' (Preston 1927), which opens pale yellow and fades, is registered as coming from a *sibirica* pod parent, but shows no evidence of it. 'Dreaming Yellow' (McEwen 1969) does have a branch giving a third flower. I tend to think of 'Butter and Sugar' (McEwen 1976) as the first 'good' yellow but we seem to have lost the branch.

I can trace the **Reds** back to 'Red Emperor' (Sturtevant 1924). The name suggests a red version of 'Emperor' the *sanguinea* collection of Barr & Sons. Of the later reds grown here, 'Helen Astor' (1938), 'Eric the Red' (1943), and 'Ewen' (1971), all show the typical two-flowered stem of *sanguinea*.

What about those really dark purples, near **Blacks** which are almost impossible to photograph? Looking at the photos, 'Velvet Night' (Edwards 1959), 'Cleve Dodge' (McEwen 1968), and 'Pansy Purple' (McEwen 1969) typically had two flowers. 'Dirigo Black Velvet' (White 1998) appears to have a branch giving a third.

Of the **Greens**, 'Limeheart' (Brummitt 1968) and 'Dreaming Green' (McEwen 1981) could be pure *sanguinea*. Likewise the **6-fall 'flatties'**, commencing with Alex Back's 'Vee One' (1982) and continuing with Shidara's 'Helicopter' (1988), 'Kita No Seiza' (1999), 'Nagareboshi' (1999), 'Parasol' (1999) and 'Hawa No Princess' (2003), not forgetting Anne Watson's 'Ashfield Clementine' (1994).

This then fed through to the **multi-tepal doubles** via 'Ranman'.

The earliest **Rebloomer** registered was 'Rimouski', already mentioned. Last year, here, Elizabeth Sheffy's 'My Love' (1948) put on the longest show – perhaps a freak, with its two terminal flowers and one or two on the branch. The later cultivars we grow here, such as 'Soft Blue' (McEwen 1979), seem back to two flowers again.

Finally for this quick survey, looking at the colchicine induced **Tetraploids**. These included 'Big Blue' (1968), 'Polly Dodge' (1968), 'Dreaming Yellow' (1969), 'Licherfelde' (1978), 'Sunburst Blue',

'Windwood Spring', 'Wizardry', and 'Weissen Etagen' (1984). Most relied on '*sanguinea* type' parents, but at least usually offer a branch. The last is notable as it was registered as being able to produce two branches – I will have to look out for that next year. The status of 'Dreaming Yellow' has been unclear to me for some time. It was registered as a chimera, i.e. part diploid part tet. These are unstable, and stable tetraploids arose from crossing their tetraploid flowers. As 'Dreaming Yellow' can cross with diploids to give viable offspring, such as 'Butter and Sugar', it implies the plant and flowers are diploid.

Conclusions

There are so many caveats in writing an article like this which is the start of a longer labour. You may well find the cultivars mentioned perform slightly differently for you – hopefully better. It does indicate that the pursuit of the flower in some cases may have been at the cost to the garden plant, though I have only considered the stems, not overall flowering period. It seems to indicate that *sanguinea* is naturally more variable and perhaps the implication is that it is younger in evolutionary terms? Where breaks have been made it is good that the plants were registered and available, and gave the opportunity for further improvement. However, it is just as important that novelties are highlighted as such and false expectations are not raised, otherwise public perception of irises will remain negative.

Not all the news is bad. If you look at some modern cultivars you will find some notable ones in this respect, e.g. 'Hohe Warte' (Tamberg 2001) and 'Here Be Dragons' (Schafer/Sacks 2003), with seven flowers per stem. Definitely worth taking a look.

Typhifolia is noted for its very fine leaves which can give a truly unique effect.

Siberian 'Rimouski'

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M DCC LXXXVII.

Iris from Curtis's *Botanical Magazine*

Brian Mathew

William Curtis's famous *Botanical Magazine* made its debut on the 1st of February 1787 and has continued in an unbroken series ever since. It is probably the oldest botanical periodical still being published and is thought to be the world's longest surviving magazine in colour. Its founder William Curtis (1746-1799) trained as an apothecary in London but his real interests lay in natural history and he soon sold his share in the apothecary business and bought a piece of land in Bermondsey on which to cultivate native plants. In 1773 he was appointed the 'Praefectus Horti and Demonstrator' at the Chelsea garden of the Worshipful Society of Apothecaries of London but left this after about five years and in 1779 started the London Botanic Garden on Lambeth Marsh, between Westminster Bridge and what is now Waterloo Station. Later, the garden was moved to a less marshy position at Brompton and was known as the Brompton Botanic Garden. Curtis's initial venture into the publication of fine botanical art was the folio-sized *Flora Londinensis*, a work that depicted the plants growing within a ten-mile radius of London. However, although beautifully executed and produced, this was not a commercial success, perhaps because of its rather parochial approach in illustrating only local plants, and Curtis suffered a considerable financial setback from the venture. This undoubtedly provided him with an incentive to find something of wider appeal and in 1786 the first plates for his new venture, *The Botanical Magazine*, were prepared for publication the next year. In fact in the preface to the first volume Curtis tells us that the magazine owed its foundation to the frequent solicitations of various ladies and gentlemen who were subscribers to his Botanic Garden.

During the preparation of *Flora Londinensis* Curtis had become acquainted with a young man from Abergavenny who showed promise as a botanical artist, so Sydenham Edwards was brought to London for further training. This proved to be a great success and Edwards contributed many illustrations to both the *Flora* and, later, to *The Botanical Magazine* - in the latter case some 1700 plates. The first issue consisted of three hand-coloured plates and was priced at 1 shilling; the subsequent parts, each of three plates, were produced monthly. We are told that in the case of the early volumes over 3000 copies were printed and most were a sell out, so Curtis soon recouped his losses on the *Flora Londinensis* and was relatively well off when he died at the sadly early age of 53 in 1799.

Curtis's concept was to present colour portraits with accompanying descriptions of the many exotic plants which were entering Britain from all over the world at that time and no doubt his *Magazine* captured the interest of the wealthy gardening public. Now well into its third century the 'Bot. Mag.' as it is affectionately known continues the tradition by publishing a miscellany of new, rare, unusual or attractive plants illustrated in colour by some of the world's leading botanical illustrators. These are accompanied by texts which are now considerably more detailed than those of the original volumes; not only is there a formal botanical description of the species but there are discussions about its distribution, habitat, relationship to others, its cultivation requirements, conservation status, history, etc. - in short, as complete a profile of the plant as possible.

For the first 160 years of the Bot. Mag. the prints were produced either by engraving or by lithography and then hand-coloured by a team of 'colourists', possibly as many as 200 copies of the same plate per week, working from a specimen plate coloured by the original artist. Looking at different sets of the magazine one sees that, inevitably, there is some variation in the colour of the plates, either as a result of different colourists' work or wear and tear through use or simply ageing processes on library shelves. In 1947 hand colouring gave way to photographic techniques of reproduction, one of the few breaks with tradition that the venerable magazine has experienced! Although now lacking the personal touch to every print, the originals, and the accompanying black-and-white dissection figures, are as finely executed as ever and are well reproduced, recording the precise details of a wide range of plants of interest to gardeners and botanists alike.

In addition to the plant portraits the idea of feature articles was introduced in 1984 by the then Editor Christopher Grey-Wilson and carried on by his successor Victoria Matthews and by myself when I took over the editorship from her in 1993. Since 2002 Martyn Rix has continued this tradition and it is good to see the Bot. Mag. in the hands of a plantsman and an enthusiast for artwork. After 230 years it is remarkable that it is still in production and is as valuable a platform for the publication of botanical articles and plant illustration as it was when first launched by Curtis.

Iris has been a popular subject with the Bot. Mag. over the years with about 150 species featured to date. This is an approximate figure as a few appearing under the genus *Iris* are now known to be members of the genus *Moraea*; others may prove to be synonyms when investigated thoroughly. Obviously it is impossible to cover these adequately in one article for the *Year Book* so probably the most interesting way to divide them up, rather than working through them chronologically or alphabetically, is to review them in their taxonomic groupings. For a start we will look at the illustrations of the species of 'Reticulata' irises with extracts from the original texts and added comments based on later knowledge.

Although it is clear that *I. kolpakowskiana* and its relatives do not really fit in with the other members of the group and probably need to be allocated a separate subgenus I have included it here. There is currently no convincing place for it and horticulturally it is thought of as being a 'reticulate' iris requiring similar cultural conditions.

Part 1. *Iris* from Curtis's Botanical Magazine: subgenus *Hermodactyloides* Chronological order of publication:
1. *I. tuberosa* Plate 531 (1801) by Sydenham Edwards
2. *I. reticulata* Plate 5577 (1866) by Walter Hood Fitch
3. *I. histrio* Plate 6033 (1873) by Walter Hood Fitch
4. *I. kolpakowskiana* Plate 6489 (1880) by Frederick William Burbidge
5. *I. vartanii* Plate 6942 (1887) by Matilda Smith
6. *I. bakeriana* Plate 7084 (1889) by Matilda Smith
7. *I. danfordiae* Plate 7140 (1890) by Matilda Smith
8. *I. winogradowii* Plate 9220 (1928) by Lilian Snelling
9. *I. histrioides* Plate 9341 (1934) by Lilian Snelling
10. *I. pamphylica* Plate 648 (1973) by Margaret Stones
11. *I. zagrica* Plate 653 (2009) by Christabel King

1. *I. tuberosa* Linn., Sp. Pl. 38 (1753).
Bot. Mag. plate 531 (1801). Artist: Sydenham Edwards. Engraver: F. Sansom. Text: William Curtis.
Under the heading 531. *Iris Tuberosa*. Snake's Head Iris, or Velvet Flower-de-Luce, Curtis goes on to say:

"This species of Iris, readily distinguished from every other by its quadrangular leaves, is more remarkable for the singularity than for the beauty of its flowers; yet, to some minds not apt to be caught by gaudy attire, these sombre tints have their charms."

The synonym Curtis listed for this, attributed to Tournefort [Ref.: *Cor. Inst. Rei Herb.*: 50, 1703], is *Hermodactylus folio quadrangulo*. Linnaeus published the species formally as *I. tuberosa* in 1753 but Miller returned it to *Hermodactylus* in 1768; indeed for a long time this unique species was regarded as belonging to the separate monotypic genus *Hermodactylus*, the *dactyl* part of which refers to the finger-like tubers. Much more recently molecular studies have indicated that it is best regarded as an *Iris* and in fact a member of the reticulate group, i.e. subgenus

Hermodactyloides. Apart from the unusually shaped tubers it differs in having a unilocular ovary, unlike the 3-locular ones of other *Iris* species. The resulting capsules are held well above ground and are pendent at maturity, a characteristic it shares with *I. pamphylica*.

Iris tuberosa is widespread in countries and islands of the Mediterranean whereas the other members of the subgenus do not occur farther to the west than central-southern Turkey, *I. pamphylica* being the most western-occurring. Although the most common flower colour of *I. tuberosa* is yellowish-green with a dark velvety-brown blade to the falls other colour variants are known, some of them aesthetically desirable; there are forms of a clearer yellow and a striking greenish-blue one named 'Blue Jade', selected by John Fielding in Crete.

2. *I. reticulata* M. Bieb., Fl. Taur.-Cauc. 1:34 (1808).
Bot. Mag. plate 5577 (1866). Artist and Engraver: Walter Hood Fitch. Text: Joseph Dalton Hooker.

In the original text J.D. Hooker writes:

> "Though far from the largest or most gorgeous, this is really one of the most beautiful species of *Iris* in cultivation; nothing can exceed the deep rich violet of its perianth-lobes and stigmata [sic], or the delicious fragrance of violet it exhales.....".

Fortunately he continues to give the origin of this particular form.

> "The Royal Gardens are indebted for the plants figured here to Colonel Scott R.E., who procured them through his friend Captain Smith R.E., a gentleman employed in the telegraph department in Persia; they flowered in a cool greenhouse in March of the present year [i.e.1866]."

Currently, under the umbrella of the name *I. reticulata* there are many forms, races, variants or entities, call them what you will. These are spread over a wide area from central Turkey through northern Iraq to Iran and north into the Caucasus. One can make generalisations about the characteristics of the plants from particular areas and it is often possible to look at an individual and make an informed guess as to its geographical origin. However, even within each of these entities there is variation built in to their populations.

The Bot. Mag. plate 5577 shows a form representative of those to be found widely in western Iran, a rich deep blue-violet with bright orange signal stripe, usually with a bicoloured appearance due to the paler style branches. This is distinct from the rich purple form from the Caucasus that may be taken as the 'type form' (the source of M. von Bieberstein's type specimen of the species was given as 'habitat in Iberia' = modern

Georgia). As an example of the geographical variation another distinct variant occurs in north-western Iran, in the Talysh Mountains and adjacent Azerbaijan, which has been described as *I. hyrcana*; the colour tends to be uniform throughout the flower rather than bicoloured and is often a clear pale blue although even within populations of this I have noted darker blue and pale purple variants among the blues. In Turkey there are also several geographical variants of *I. reticulata* sens. lat. with distinctive characteristics. However, naming and describing these variants as separate species presents considerable problems as consistent structural characters to distinguish between them are hard to find. Maybe a thorough molecular survey of material from the whole of the distribution area of *I. reticulata* s. l., and preferably based on not just one individual from each population, would help to elucidate the problem; but a considerable task to get all the material together considering the extent of the area involved; and the fact that some of the variants are difficult to cultivate and are rare, or not at all, in cultivation.

3. *I. histrio* Reichb. fil. in Bot. Zeitung 30:488 (1872).
Bot. Mag. plate 6033 (1873) [as *Xiphion histrio*]. Artist and Engraver: Walter Hood Fitch. Text: J.D. Hooker.
Joseph Dalton Hooker, writing the account to accompany this illustration, says:

> "I received plants of this beautiful species in a fresh state and in full flower, from Mr. Berberey of La Ferrière, near Geneva, early in March last [1873], with his own and M. Boissier's request that it should be figured in the *Botanical Magazine*. Mr. Berberey further has had the goodness to inform me that it is the *Iris libani* of his late lamented friend, M. Reuter [this name was never validly published by Reuter], and was sent about ten years ago to M. Boissier by M. Gaillardot, who found it on Mount Lebanon and on Mount Gerizim, in Palestine."

The species is known to be distributed more widely from northern Israel and Lebanon through western Syria into southern Turkey, in the Amanus and Taurus mountain ranges.

The epithet *histrio* comes from Latin for an actor, from which histrionic (excessively dramatic) is derived, and this no doubt refers to the striking markings on the blade of the falls of *I. histrio*. Although somewhat similar in this respect to *I. histrioides* [*-oides* = resembling], in that they both have papery bracts unlike the green more substantial ones of *I. reticulata*, the two are distinct from each other in several ways. The blue

blotches of *I. histrio* are usually fewer, larger and less regularly arranged and there is less of the blue veining on the falls that is such an obvious feature of *I. histrioides*. The distribution and habitat of the two are quite different, *I. histrio* being a plant of rocky places in maquis and *I. histrioides* a high mountain meadow plant above 1300m in northern Turkey; hence the hardiness and resilience of the latter compared with its more southerly relative. Apart from the obvious differences when the two are viewed side by side, the shape of the falls is subtly different. In *I. histrio* the blade of the falls tapers into the haft whereas in *I. histrioides* there is a distinct 'sinus' (i.e. from the widest part of the blade there is marked narrowing before slightly widening again towards the base of the haft).

On the question of cultivation Hooker goes on to comment that:

> "It is a very beautiful plant but whether hardy in this country remains to be proved; as a pot plant it cannot fail to be highly prized."

I have grown it successfully outside in a raised bed of gritty soil but it comes into growth early in the year and the fragile blooms are liable to be damaged by the cold, wet and windy conditions prevalent in late winter, and it is also a very tempting target for molluscs. In an unheated glasshouse it is not difficult, although still far from commonly cultivated. Unfortunately the colour painting either did not capture the clear blue of *I. histrio* or there has been deterioration over the 145 years since the artist and colourists did their work.

4. *I. kolpakowskiana* Regel, Trudy Imp. S.-Peterburgsk. Bot. Sada 5: 263 (1877).
Bot. Mag. plate 6489 (1880) [as *Xiphion kolpakowskianum*]. Artist: Frederick William Burbidge. Engraver: J.N. Fitch. Text: J.G. Baker.

Over 40 years ago I had a plant of this species in flower and rather triumphantly offered it for illustration in the Bot. Mag. only to find out that it had already been painted in 1880! It is perhaps surprising that this rarely cultivated species should have featured in Curtis's over 140 years ago; but not so remarkable when considering the extent of botanical exploration in the late nineteenth century and particularly so in Central Asia where several collectors, some of them from the Russian military, were actively collecting and sending plant material back to the botanic garden in St. Petersburg. Its German director, Eduard Regel, was in turn generously sharing it with other botanic gardens, nurseries and individual

gardeners who were interested in bulbous plants; a considerable number of these were new to science and Regel often described these himself, including the subject of this illustration. Such was the esteem in which he was held at Kew, Volume 111 of the *Magazine* was dedicated to him. A botanical contemporary of Regel's, John Gilbert Baker, the extraordinarily productive monocot specialist at the Royal Botanic Gardens Kew, provided the text to accompany the *I. kolpakowskiana* plate and noted that this:

> "is one of the many interesting bulbous plants which have been discovered during the last few years by the Russian explorers in Central Asia, and which have been sent alive to St. Petersburg by the exertions of Dr. Albert Regel, and liberally distributed by his father [Eduard August von Regel] amongst the European public gardens and amateurs....It grows plentifully in fields near Wernoje, in Turkestan [now Almaty in Kazakhstan], and was named by Dr. Regel in compliment to General von Kolpakowsky."

He explains that the colour plate was "made from specimens and a coloured sketch sent by Mr F. W. Burbidge, with whom it flowered under glass in the botanic garden at Trinity College, Dublin, in the middle of January this present year [i.e. 1880]."

Iris kolpakowskiana and its relatives *I. winkleri* and *I. pskemense* are all rare in cultivation. The last of these was described by Jānis Rukšāns in 2007 in his book *Buried Treasures*, together with photographs of all three.

5. *I. vartanii* Foster in Gard. Chron., n.s., 23: 438 (1885).
Bot. Mag. plate 6942 (1887). Artist: Matilda Smith. Engraver: J.N. Fitch. Text: J.G. Baker.

> This beautiful species has never been common in cultivation, certainly in its normal blue form, although an albino known as *I. vartanii alba* could at one time be obtained relatively easily through the Dutch bulb trade. Presumably the species did not establish in cultivation in Britain due to its appearance above ground in the late autumn or winter, not the best time for a somewhat tender bulb with rather flimsy flowers to commence growth. There was certainly the opportunity to test its behaviour because it was being imported, at least into Holland. The nursery of van Tubergen records (in *New Bulbous and Tuberous Rooted Plants*, 1947) that the Austrian

collector A. Kronenburg was approached to: "work exclusively for us for some years, which proposal he immediately accepted. At the time he lived at Beirut, Syria [sic] and it being difficult then to obtain in large quantities the various bulbs and roots growing wild in Syria and Palestine, we commissioned him in 1898 to collect these for us. In the autumn of that year we received from him large quantities of *Iris Histrio*, *I. Vartani*, *I. atrofusca*, *I. atropurpurea*, the new very large flowered *I. sofarana*....also *I. Sari nazarena* (*I. Bismarckiana*), *Sternbergia macrantha*, etc."

The total extent of the distribution of *I. vartanii* is Israel, Lebanon, southern Syria and north-western Jordan. Naomi Feinbrun, in *Flora Palaestina* 4:125 (1986) records that in Israel/Palestine it is fairly rare in Galilee, Mt. Carmel, Samaria, the Judean Mts. and Golan. The indication is that the situation has not improved, as Oron Peri in his *Bulbs of the Eastern Mediterranean* (2015) lists the species as rare in Israel, extremely rare in Palestine and endangered or extinct in Jordan. No doubt, apart from all the past collecting, grazing and habitat loss also come into the equation.
In the text accompanying the Bot. Mag. plate J.G. Baker remarks that *I. vartanii*

> "is very easily distinguished from the two species known previously [i.e. *I. reticulata* and *I. histrio*] by the very large appendages of the stigma [i.e. the two style arm lobes], and by the outer segments of the perianth having a distinctly-raised crisped carinal crest, like that of an Evansia."

Baker goes on to say that "The bulbs were sent to Dr. Foster about 1883, by Dr. Vartan of the Medical Mission stationed at Nazareth, after who it is named. With Dr. Foster it has flowered in October. The plants from which our drawing was made were sent up last Christmas by the Rev. H. E. Ewbank, of Ryde." Henry Ewbank was vicar at St. John's, Ryde, Isle of Wight (1867-1898); in Iris lore, *I. ewbankiana* was named after him by Sir Michael Foster in 1901 and Ewbank wrote a chapter on the cultivation of Oncocyclus Iris for Irwin Lynch's book (1904) *The Book of the Iris*.

6. *I. bakeriana* Foster in Bot. Mag. 115: t.7084 (1889).
Bot. Mag. plate 7084 (1889). Artist: Matilda Smith. Engraver: J.N. Fitch. Text: M. Foster.

A considerable number of species have received their first formal descriptions and names in the pages of Curtis's Bot. Mag. and *I. bakeriana* is one of these, named by Sir Michael Foster after

> "one who has done so much to advance our knowledge of Iris, my friend, Mr J.G. Baker."

Foster noted that: "for its discovery we are indebted to the Rev. G.F. Gates of the American Mission".

This variant of *I. bakeriana* from Mardin is the most well-known one, distributed by the nursery trade and which has been one of the parents of a number of successful hybrid cultivars such as 'Clairette' and 'Pauline'. Further eastwards, in western Iran, there occur other variants that are accepted as belonging to *I. bakeriana* because of their 8-veined leaves, but the flower colour is rather different. Often they are paler blue with a conspicuous yellow signal stripe or ridge on the falls thus giving them an appearance which is distinct from the plant depicted in Bot. Mag. However even here in these populations there is quite a lot of variation. As suggested above in the case of *I. reticulata* a molecular survey might resolve the question as to whether these Iranian variants are distinct from the Turkish original one, or indeed whether *I. bakeriana* is distinguishable from *I. reticulata*. Certainly, horticulturally and for commercial purposes, they are distinct enough to be recognised at some level of classification.

7. *I. danfordiae* (Baker) Boiss., Fl. Orient. 5: 124 (1882)
Bot. Mag. plate 6489 (1880) [as *Xiphion kolpakowskianum*]. Artist: Frederick William Burbidge. Engraver: J.N. Fitch. Text: J.G. Baker.

The original collection of this familiar bulbous Iris was made in southern Anatolia by Mrs Danford in 1876 in the Cilician Taurus mountains on "the northern side of the Anaxlia Mountain...a continuation of the Ala Dagh range...near the village of Anascha..." However, the species is now known to be quite widespread in southern, central and northern Turkey, for example in the vilayets (provinces) of Adana, Amasya, Erzincan, Erzurum, Gümüşane, Niğde and Sivas. The life of the indomitable Mrs Danford – Mrs C. G. Danford or Antoinette Emily Danford (née Dyce) - has been recounted recently in an interesting biography presented by Charles Nelson in Archives of Natural History 44(2): 367-370 (2017). Among all the interesting facts

of her life he points out that she was Scottish, not English as stated by several authors [including me!].

The Bot. Mag. illustration reproduced here was, according to J.D. Hooker, prepared from a specimen "grown from roots sent by Herr Max Leichtlin in 1889, and flowered in a cool frame in the Royal Gardens in February of this year [1890]."

It was J.G. Baker who first named the species in 1876, and based on the above collection, under the name *Xiphium danfordiae*. So it was just 13 years later that the plant was being distributed by the German plantsman Leichtlin and it appears that the depicted plant represents the wild form. It has narrower falls and has a generally less robust looking flower compared with that of the more vigorous triploid that has become so common and inexpensive in the nursery trade, propagated in Holland in huge quantities. Many years ago I asked Michael Hoog of van Tubergen if he had any idea of the origin of this successful triploid. His explanation was that his grandfather (Mr John M.C. Hoog) would receive batches of imported bulbs from the wild and have them planted out in nursery beds. When in growth he would inspect them and indicate those individuals that he thought worthy of propagation, better forms or maybe looking the most vigorous. Whether this is the explanation, that it was a triploid that had just cropped up naturally in a wild population, of course we will probably never know. Certainly van Tubergen were importing bulbs from Turkey on a large scale in the late 19th-early 20th centuries. In *New Bulbous and Tuberous Rooted Plants* (van Tubergen, 1947) it is noted that the firm valued the services of J. J. Manissadjian, Professor of Botany at the American Anatolia College in Merzifon, northern Turkey: "it enjoyed us very much to find in Manissadjian a person who declared himself ready to collect these [beautiful and rare bulbs] for us in Armenia. Horticulturists especially have greatly valued the importations on a large scale of the Iris Danfordiae, histrioides and Gatesii, also of *Galanthus fosteri, Tulipa Sprengeri* and of several Crocus and Merendera species." Today collection on this scale would be considered deplorable but in spite of this depredation most of the species of bulbous plant in Turkey have survived in the wild, except perhaps the tulip which has not been seen in

its habitat since the early 20th century.

8. *I. winogradowii* Fomin in G. Woronow & A. Schelkownikow, Sched. Herb. Fl. Cauc. 4: 88 (1914).
Bot. Mag. plate 9220 (1928). Artist and Engraver: Lilian Snelling. Text: Otto Stapf.

The specimen from which the Bot. Mag. plate was prepared was cultivated in Glasnevin Botanic Garden in 1927, apparently from material sent from Tiflis Botanic Garden. The original (type) collection was made in 1913 in the subalpine region of Mt. Lomis-Mta in Gori district of the Caucasus, west of Tbilisi [Tiflis]; from Otto Stapf's text it seems that it had subsequently been collected in 1923 in the same place by W. Kozlowsky and sent to Dublin from the Tbilisi garden. The species was named by Aleksandr Fomin (at the time a botanist at the Tbilisi Botanic Garden) after a colleague, P.Z. Winogradow-Nikitin. It was reported some 45 years ago by Georgi Rodionenko that the known population consisted of only a few hundred plants so this must be regarded as very rare in the wild and certainly vulnerable, even if the situation has improved. Fortunately it is not a difficult species to cultivate, particularly in Scotland where the cooler climate echoes more closely the alpine conditions of its natural habitat. I well remember seeing an enormous drift of it in full flower at Aberdeen's Cruickshank Botanic Garden, probably consisting of more bulbs than in its one Caucasian location! Although the hybrids between *I. winogradowii* and *I. histrioides* are vigorous, easy-going garden plants, and therefore valuable additions to the range of 'reticulatas', I do not find them as attractive as their parents – but there speaks a purist!

9. *I. histrioides* (G.F. Wilson) Arnott in J. Hort. Ser.3, 24: 121, f.18 (1892). Bot. Mag. plate 9341 (1934). Artist and Engraver: Lilian Snelling. Text: W.B. Turrill. William Turrill, the author of the text accompanying this illustration, noted

> "The material for the present plate was received from Mr. G.P. Baker of Sevenoaks, who obtained the bulbs from Amasia [now Amasya]."

For many years it was thought that the Amasya area in northern Turkey was the only locality where this species occurred but another population

has been found further to the east in Rize vilayet (province) at Ikizdere. At first it was considered to be a variant of *I. reticulata* and was described as such by G.F. Wilson in the *Gardeners' Chronicle* of 1891, based on living plants cultivated by him although no original type specimen appears to be in existence. In fact *I. histrioides* is a very distinctive species not easily confused with any other although it does hybridise successfully with variants of *I. reticulata* (resulting in e.g. 'Joyce', 'Harmony', 'George') and with *I. winogradowii* ('Katharine Hodgkin', etc.). The species itself does vary a little and several cultivars have been named, one of them 'G.P. Baker' so it can be assumed that the Bot. Mag. plate represents this particular c.v. One of the most popular is 'Lady Beatrix Stanley' which, after having nearly been lost to cultivation, has been successfully propagated by the Dutch bulb trade to make it again readily obtainable. The old cultivar known as 'Major' is a bit of a misnomer as it is not really larger than any of the other forms. The name was given to distinguish it from a different and smaller-flowered reticulate iris from southern Turkey, not from other *I. histrioides* forms. In *New Bulbous and Tuberous Rooted Plants* (van Tubergen, 1947) it is stated that they received the species from J.J. Manissadjian:

> "We distributed the *Iris histrioides* from Merzifun [Merzifon in Amasya Province] as *I. histrioides major*, as there is also an *I. histrioides* from Cilicia which produces smaller flowers, possessing a more violet shade of colour."

There are several of these 'reticulatas' occurring farther to the south with much narrower falls and standards than those of *I. histrioides*, one of which goes under the name *I. sophenensis* from Kharput in the ancient region of Sophene. Cilicia was in historical times an extensive province extending north-eastwards into central Turkey, not restricted just to the Cilician Taurus range.

As a garden plant *I. histrioides* is one of the best of its group, very frost hardy and not requiring the warm summer rest period that most prefer; this follows, as its natural habitat is in alpine turf in the mountains at altitudes up to 1750m.

10. *I. pamphylica* I.C. Hedge in Notes from the Royal Botanic Garden Edinburgh 23:557 (1961).
Bot. Mag. 179, ns plate 648 (1973). Artist: Margaret Stones. Text: Brian Mathew.

The Botanical Magazine illustration by Margaret Stones of this unique species was prepared in March 1971 at Kew from bulbs that had been obtained from the nursery of van Tubergen where it was being commercially propagated. The nursery's original plants were from a Turkish collector who sent them mixed in with a batch of bulbs labelled *I. persica*. It is possible that the latter Juno iris was actually *I. stenophylla* in its most westerly variant known as subsp. *allisonii* as I have seen this and *I. pamphylica* in the wild in the same locality. The type specimen of *I. pamphylica* was made from a collection by Peter Davis and Oleg Polunin between Manavgat and Akseki in Antalya province of southern Turkey in 1956. However this was in the fruiting stage and it was not until 1961 when it flowered in cultivation at Highdown, the Sussex garden of Sir Frederick Stern, that it could be described and named by Ian Hedge of the RBG Edinburgh. Within the 'reticulate' irises this is one of the most distinct for a variety of reasons: the flower colour alone, with its combination of green, purplish-brown and blue sets it apart from any other. As noted in the text accompanying the Bot. Mag. illustration the flowers

> "are carried on quite long stems that are tightly enclosed within several sheathing leaves. In the fruiting stage the capsule is thus well above ground, whereas in the other species mentioned the flowers are nearly stemless, and the capsules produced at ground level. One can add that the capsules are pendulous when mature."

11. *I. zagrica* Mathew & Zarrei in British Iris Society Species Group Winter Bulletin 2008/9: 24 (2009).
Bot. Mag. plate 653 (2009). Artist: Christabel King. Text: Brian Mathew & Mehdi Zarrei.

Although this attractive species was first introduced to cultivation in the 1960s by Paul and Polly Furse on one of their now almost legendary botanical journeys in Iran and Afghanistan it was at the time considered

to be another of the numerous local variants of *I. reticulata*. Among their many gatherings of 'reticulate' irises, one collection (PF1864) stood out as being rather more distinct in flower colour and in several other characteristics but it was not until 2009 that it was described as a separate species, *I. zagrica*. A specimen of this in the Kew Herbarium constitutes the type specimen; it was collected in Iran on the Zirreh Pass, 38km east of Khorramabad at 1950m on May 8, 1962.

In colour *I. zagrica* is particularly striking in being whitish to pale blue with an intense blackish-violet lamina to the falls. The style branch lobes are markedly recurved and curled inwards and the bract and bracteole closely sheathing the ovary and perianth tube are wholly green and rather rigid, these features also giving it a distinctive appearance. At the end of the blooming period the flower breaks off just below the base of the short perianth tube and the whole flower falls off, unlike other species in which the flower and tube shrivel away while still joined together. If capsules are produced yet another distinction becomes apparent: in the case of other species the ovary is produced underground and is raised to ground level as it matures whereas in *I. zagrica* the ovary is held just above ground and the pedicel (flower 'stalk') continues to elongate, raising the developing capsule well above ground level and the bract and bracteole become clearly visible; at maturity the capsule has an extended slender beak at the apex.

It is now known that *I. zagrica* occurs over a wider area than originally thought. It has for example been noted between Aligoudarz and Shoulabad, between Ravansar and Kamyaran and between Marivan and Nowsud and may well extend south-eastwards to the Shiraz area. It has been recorded near Rawandiz in north-eastern Iraq by Henrik Zetterlund and a collection in 1959 by Oleg Polunin (no. 5042) from Shaqlawa also appears to represent this. Not surprisingly it has also been found in adjacent south-eastern Turkey. Unfortunately this attractive plant is still rare in cultivation.

Armillaria mellea in my garden

Brita Carson

It is not often that I'm so slow on the uptake but this time I was at least a year too slow to realise that the soil around the Siberian Collection was suffering from the black bootlaces of honey fungus. I noticed last spring, 2017, that some of the repeat flowering roses that I'd planted to take over flowering after the irises were not blooming very well, and their growth was stunted. In fact, there wasn't any new growth, which was strange because this garden grows a mean rose, always a lot bigger than the catalogue promises. I was also losing the low growing, early flowering rhododendrons which had become woody stems. In fact several of them were dead. It was such a shock but I had to face it and do something. I survived that first dreadful, gripping horror of realisation. For the first few days I felt so ashamed that I told no-one about it. Then it dawned on me the only thing I should have done was to notice it and take action much sooner. Heart-breaking but we took out all the woody shrubs nearby and then started digging up all the soil to remove as many bootlaces as we could. We removed bucket loads of the stuff, left it out on an area of tarmac in the hot dry weather and then binned it. This summer everywhere was too dry to risk burning it. I feel that the hot dry weather may have been on my side and I hope it will have killed the fungus that we dislodged by digging. If it likes cold and damp conditions to spread then converse logic would suggest hot sun and plenty of air should do the opposite.

I had looked for everything on the internet that I thought might help me but they all gave the same advice. Dig it up and remove the soil from the area. Use a JCB to clear it or alternatively you can cook it! And to where would I remove the soil? Just give the bootlaces to someone else or somewhere else? What I wanted was a way to treat the affected area. How could I remove a huge area of soil especially when I have no idea how far it extends?

At that point I decided the source must be the shredded bark. We've been putting 5 tons of bark on the garden to improve the soil each year for the last four years. Normally I even add some of it to my seed sowing compost for retaining moisture. However after reading all the RHS words of wisdom it appears garden compost heaps seem to be the worst place for it and after more examination this was confirmed. This is where you find what honey fungus really looks like, smells like and sounds like when you put your spade into it. First you hear the snapping of shreds and it sounds horrible. A look at what you are digging shows the strands attaching the bootlaces. They are beautiful threadlike structures in pure bronze/red, like a metal thread glinting in the light until they almost instantly change colour to the black bootlace colour. Beautiful it may be but we had to empty the three large compost

bins and I lost years of making wonderful compost. Husband has emptied two of them, barrowload by barrowload and scattered it over a wide open space on the banking hoping that sunlight and exposure will kill it. I watched sadly, thinking of all that compost we'd made and now lost, which previously I dug into the soil and mulched it round the roses and rhododendrons, year on year. I couldn't have made it any worse. It is a waiting game to see what has been affected but some of the roses are toughies and perhaps able to fight it off. The rhododendrons are unknown but I will get in touch with Peter Cox, the expert, because he must have suffered over the years with it at Glendoick. It gets its name from the honey colour of the mushrooms that the fungus produces on trees which you can often spot walking through woodland. The mushrooms are small and it takes its name from this beautiful honey colour.

Meanwhile we think we have found the source which looks as though it comes from the dead trees on the banking below us. Dougie, a cheery individual and our tree expert, was here to cut up trees he had taken down several years ago and he reckoned the fungus was dead. The wild cherry trees had succumbed over the years but they seem to be able to replace each one that dies with another of the same. Two tall spruce were becoming very sparsely clothed so they were felled. Sycamores don't seemed to be troubled, which is a pity but then they provide us with firewood, so Dougie fells them and their seedlings soon take over to fill the gaps. Autumn will be a time to search for the mushrooms but we won't be eating them. I don't know though it would be a form of revenge. (do not eat mushrooms without carefully checking them out about them.)

Were the Siberians affected? I feel that is a difficult question to answer. The detective in me tells me I know all the answers but in reality only time will tell. Every year, some sibs are good with lots of flowers, some seem to have made an enlarged clump, and others don't. This hasn't been a good year for putting sibs on trial being so very hot and dry. All the plants really need to move to a new bed with fresh compost anyway, but I haven't got the space for that so compromise will be the answer. We'll dig over the area again to see how clear it is. Now that the rains have come there is rapid growth and the Siberian leaves have shot up. The most badly affected area has had failing sibs for some time which I was blaming on the moles burrowing below ground.

It doesn't seem to be a "fashionable" garden problem and few people have even heard of it. I feel I would be more likely to get a recipe on how to cook them than kill them. It would be a great help if anyone else has had any experience of it and would they please get in touch with me with their advice or what they did.

However, learning about honey fungus is a slow process and I still have

many other avenues to search. What we've done is by instinct, not by reading about finding a permanent solution yet. I do wonder if the bootlaces can't find a host to attach themselves will they simply die off. Another question to be answered this year.
Look at the photograph below and I'm sure it will jog your memory and many of you will recognise what the bootlaces look like. They stick like glue to the bark of the tree but will come off very easily by pulling. The bootlaces appear both above ground on the tree trunks and below

ground in a thick matted bundle. It is this matted bundle that eventually starves the trees and shrubs from taking up any nutrients.

The RHS lists plants that are susceptible to attack by it and they are all the trees, shrubs and bushes you expect to find in acid ground. I couldn't believe that I have them all except two which need a milder climate. Fothergilla is a great little plant which is directly in the firing line but showing no sign of succumbing so it has become a wonder plant for me.

Please send me any advice you may have. I would love to hear from you.

The Awkwardness of the Pacific Coast Iris Seed Grower

Philip Jones

In this article I want to introduce Pacific Coast Irises as a subject for intelligent enquiry in which I describe the irises themselves and their specific requirements for successful cultivation. I think it would be easier for the reader - and for the author – if I were to adopt a less formal, more conversational, mode of address.

To give you some idea of what growing PCIs is all about I am going to begin with a quotation from W. R. Dykes, the famous horticulturalist. In 1912 he wrote:

> "The diverse and delicate colourings to be found among those irises (the Californicae) are endless, and the general rule that multiplication must be by seed rather than division has its compensation in the surprises to which it gives rise. *Iris bracteata*, which in its typical state has yellow flowers veined with brownish-purple, has already given me several forms some of which are approaches to crimson, while one is a delightful colour that may best be described as old rose. A descendent of this second or third generation of what was originally a cross between *I. douglasiana* and *I. macrosiphon* has flowers of pure white, conspicuously veined with violet purple, and there seems to be no end to the colour forms to which this variable group may give rise."

These articles were published by the BIS in *Dykes on Irises*, a copy of which is on the GBI website.

There are two things to note. Firstly, he isn't just growing one iris, or four or five of them, each with its own name. He's growing a variety of them together. Secondly, they've been grown from seed which is why they are all different. You don't know what you're going to get. That is why the awkwardness of the title is about someone who grows seeds; the PCI seed grower.

The awkwardness of the PCI seed grower makes itself felt just after one of his or her irises flowers for the first time and the neighbour next door says: "That's a very nice plant. What's it called? What's its name?" And the response: "It hasn't got a name. None of them have a name. That's like asking an Australian sheep farmer if a particular sheep is called Fred or Gladys." "Well how about giving me a little chunk of your very nice iris?" You reply: "No chance. If I give you a little bit it will probably die. Next year I might give you a medium sized bit, or the year after a big bit. And it's not me that's being awkward, it's the plants."

You could also go on to say that if you did divide them it would have to be in the autumn. There is a time also just after flowering but they would

need to be looked after and watered regularly. Twenty years ago I needed to find more space in my small garden and I divided up my irises and gave ten bags of iris "chunks" to people with gardens. Perhaps the chunks were too small, but anyway they all died except for one enthusiastic knowledgeable gardener who grew them on and didn't lose one of them.

The fact that the plants can only be moved at certain times, and certainly not in winter or spring, and that it is difficult to grow them on from small chunks makes them different. You cannot create in a short time many plants from one plant as for example you can bud graft roses or take cuttings of perennials and shrubs, and scale lily bulbs. For the professional nursery trade PCIs aren't an inviting proposition.

However, for the keen gardener they aren't difficult to grow from seed and each one of them will be special and unique in itself. You sow them in fairly deep seed boxes in February and March – they need the cold spell to germinate – and by mid-summer they will be starting to show signs of life. When they have three leaves you may want to replant them, giving them more space if they are too crowded. Nowadays I try to resist moving them around. I prefer to wait till autumn when I can plant them out in the garden in a permanent position.

For the rest of this article I am going to explain what I think is the main problem or point about Pacific Coast Irises that needs to be brought out into the open. We will first look at the species from whence they came.

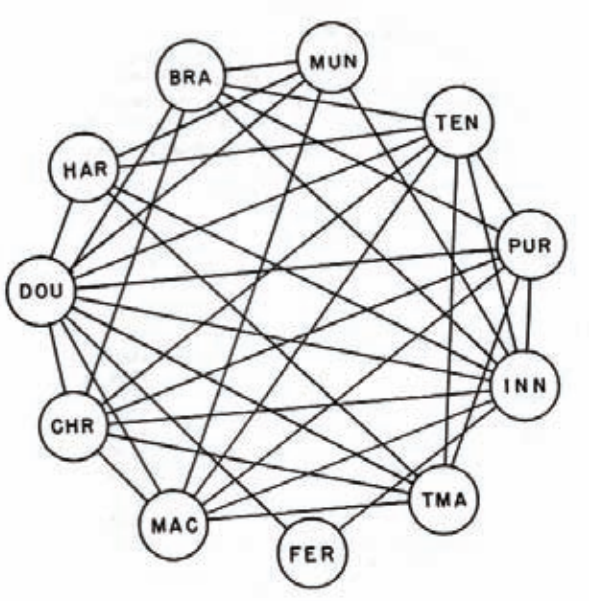
The diagram by Dr. Lenz in page 241 of his "*Hybridisation and Speciation in the Pacific Coast Irises*" (diag. overleaf) presents us with the species. There are also five subspecies that do not figure in the diagram. In the eleven species there are two distinct groups which do not cross with each other. In his "*A Guide to the Pacific Coast Iris*es" published by the British Iris Society in 1967 Victor Cohen describes these as short tubed and long tubed. In the diagram you will be able to confirm that *I. tenax*, *I. hartwegii*, and *I. munzi* – the members of the short tubed group - do not cross with *I. macrosiphon*, *I. fernaldi*, *I. chrysophylla*, *I. tenuissima*, and *I. purdyi*, all of which represent the long tubed group. The short tubed group seem quite normal in that the flower at the top of the stem gives rise to the formation of a seed pod. But in the long tubed group the seed pod develops one and a half to three inches back down the stem. There seems to be no definitive explanation exactly what it is that prevents them from hybridising but, anyway, we can see that there is a significant difference in the formations of the seed pods.

There are also three outsiders: *I. douglasiana*, *I. bracteata*, and *I. innominata*. If you look closely you will see that *I. bracteata* crosses with a few members from each of the two groups. *I. innominata* – commonly regarded as the most beautiful of the species – crosses with all but one of

the irises in the two groups. And *I. douglasiana* crosses with all of them and this, I think, is where the problem lies.

We can begin to see the importance but also the possible problem when we read Victor Cohen's description of *I. douglasiana* in its natural habitat. It is in places very aggressive with "enormous plants which have grown into each other much in the manner of heathers on the moors." We see that it is of all the PCI species the most robust but there is another sentence that sets alarm bells ringing. Although it can be found in different places Cohen writes that "it is usually found on grassy hillsides and clifftops within sight of the Pacific Ocean." Forget about the sight of the Pacific Ocean. It is not relevant. Think instead of the word "clifftops." How many plants in your garden would like to spend the summer or the winter on a "clifftop"?

What we find when we dig up an *I. douglasiana* are deep white roots. The roots of the seedlings I was potting on last month were growing through the holes at the bottom of the pot. This plant will survive the onslaught of the elements but what it does not like is getting its feet wet in still water. This is probably the case with most of the PCIs. There can be a lot of water, but it has to be moving on. It is the slope that is all important or an immediate drop at one side of the flower bed. But not an enclosed drop. I have a stone wall at the side of my trial bed which is fine, but twice I have



been deceived by the concrete slab that enclosed a bed of light soil. It was too late before I discovered that below the first spit of soil there was a hard base and poor drainage.

You could say it was the dying plants themselves that first suggested to me this possibility.
However, twelve years ago when I moved up to Perth from the Midlands, I was able to plant all my PCIs in a field of heavy soil. I dug a trench and filled the bottom of it with straw from the farm, replaced the soil and then planted the irises, and for two years till I came here to Dysart they grew perfectly well. The point is that the field had a slope. Long live the slope.

One final point. Since the quotation by Dykes in 1912 there have been changes, particularly with the introduction in 1938 of *I. munzii* into the PCI mix. The American breeders have made much use of this newcomer and have been able to introduce much stronger colours that reflect some of the modern tendencies of the growers of the Bearded Iris. The seed I contribute to our two Iris groups is different. It reflects the more traditional mix of the Pacific Coast Irises that were so much appreciated by Dykes in 1912.

I am growing some of the species and it will be interesting to cross some of them leaving *I. douglasiana* aside. We may find there are other PCI hybrids without the long roots of *I. douglasiana* that may prove truly perennial. But there may still be a place for *I. douglasiana*. Recently I was surprised when I was about to plant out seedlings of crosses of *I. chrysophylla* and *I. douglasiana*. The long white roots of *I. douglasiana* had been replaced by a multitude of thin short black roots. It looked like a brush from a cosmetic set. It appears that a gene in the *I. chrysophylla* irises had the last shout on the roots. Or - the ever-present pessimistic inner voice of the gardener whispers - the *I. chrysophylla* had selfed, had pollinated itself with its own pollen, before the cross took place. We will see.

Take a close look at the connecting circles in the diagram opposite to see which ones don't connect and you can work out which do and which don't.

And let me say again that it is not me who is the awkward one around here, it's the plants.

Plant Hunting in California and Oregon
Victor A Cohen

All in good time - for several hours I had seen nothing but snow, and I felt somewhat depressed. By all the best calculations the flowering season for the Pacific Coast irises should soon be under way. Another break in the clouds revealed yet more snow and I estimated we were over the Californian border with less than an hour to go.

I was in a Pan American jet bound for San Francisco and the start of an ambitious programme. During the next two months I hoped to find and record most of the species of *Iris* in California and Oregon. The flight from Seattle over the states of Washington and Oregon had shown that there was a great deal of snow lying about, and I was worried about the timing of my visit. As we descended through broken cloud and intermittent rain, I pondered on the gamble of estimating when wild plants are likely to be in flower. The evening sunlight glinted and sparkled on the wet roadway as I sped from the airport along the freeway in my daughter's little M.G.1100. A heavy downpour just prior to our landing had passed southwards down the Bay area, leaving the Californian sun to warm and mellow my thoughts. Somehow, that grim vision of heavy snow seemed to melt away. Thursday the first of April dawned bright and sunny, with just a hint of fog wisping through low lying areas to foreshadow a rather warm day. I drove up into the hills of Marin County leaving the Golden Gate bridge floating over a sea of fog. I soon realised that the chances of exceeding the 65 m.p.h. speed limit were rather remote. In the old borrowed M.G. I could just about do 60 m.p.h. going downhill, but climbing these hills was quite an effort. I was sallying forth to see if any irises were yet in flower, or whether I would have to wait about for another week or two. Approaching the Petrified Forest in Sonoma County I was jerked out of my daydreams by the sight of masses of nodding creamy flowers on the roadside bank. On close investigation they proved to be Erythroniums, the first I had seen in the wild. Further down the road I found *Iris fernaldi*. The dark grey green leaves, heavily stained with beetroot red towards their bases were quite unmistakeable, but I was disappointed to find that none were yet in flower, although many buds were well up. I decided to drive further on into Mendocino County to see if I could find other species in flower, but I was not too optimistic. On the way to Cloverdale the roadside banks were simply sheeted with Californian Poppies in yellow and orange and I also saw white and blue Lupins carpeting the ground. Fritillaria, Calochortus and Trillium were also in flower, but had to be sought out in the tangled, shady undergrowth beneath trees, where they shyly displayed themselves.

In searching around, I was excited to find my first *Iris macrosiphon* in flower. This particular specimen had long curving falls and was indigo blue in colour, just about the darkest colour I have seen in these Californians. The long perianth tube was almost black. This spurred me

on, and I drove north westwards to Boonville. High up in the hills between Boonville and Ukiah I found lots of *I. macrosiphon* in flower, and here the prevailing colour was deep lavender blue. I took quite a number of photographs, with my camera mounted on a new and specially shortened tripod which enable me to bring the lens level with the flowers.

After searching around in the grass, some seedlings were found. These were placed in a polythene bag, and I moved on, hoping to find some moss or similar material to protect the roots. The rather rough, stony road was soon running down beside a small creek, and I paused to search the bank above the water. I finally did find some which I dipped in the stream and placed in a large bag after squeezing it like a sponge to remove excess water. As a temporary measure I wrapped some of this moss which I had just collected around the seedlings.

The next day I travelled up into the Redwood region north of Ukiah, where I found many lavender coloured hybrids of *I. purdyi*. In the evening, travelling back towards Ukiah on Highway 101, the engine suddenly went dead. It coughed and spluttered back into life, but in a few minutes it died out again. I had been so engrossed in searching for irises, so busy photographing and collecting, that I had quite failed to check the petrol. The car freewheeled down a hill, and I allowed it to gain speed in the hope that it would get up the next rise and perhaps down to a service station. My hopes were short-lived, and the car came to a halt several hundred feet short of the top of the rise. A red light flashing in my rear mirror told me I was not alone, and the next moment a traffic policeman was grinning down at me. “What’s wrong, Bud?” I told him. “You’re four miles from the nearest service station”. He was good enough to suggest radioing for help, but decided that he should first get my car off the roadway onto the verge. He carefully drove his car into position behind mine and pushed me on to the grass covered verge. We both emerged and stood for a moment in the rather tangled undergrowth. He was asking me some questions, but I hardly heard him. I was staring down at his foot. He was half standing on a plant of *I. macrosiphon*, and it was the colour that fascinated me. It was light blue, perhaps the nearest thing to sky blue in the range of colour possible. As I watched, rather like a bird staring at a snake, the policeman moved his foot and the one and only flower disappeared beneath his boot. I was never able to find another quite the same and it was difficult to photograph in the somewhat dense shade, but I did finally find, in a patch of sunlight, a plant which carried its flowers. The following morning I left Porterville bright and early. By midmorning I had travelled through Bakersfield and on into the Mojave Desert. Soon I was surrounded by sand with the road stretching to the horizon in an unbroken straight line. As the morning wore on and the heat increased, the road occasionally disappeared in a shimmering mirage. The flat sandy wastes were now broken by Joshua trees spaced out like sentinels. The only movement, apart from rolling sage brush, was the occasional car, which could first be seen as a dot ten miles away. It seemed ages before it

grew any larger in apparent size, but eventually it would close and with a swish it was gone, rapidly becoming a dot in the rear mirror. I drove as fast as I could to keep a strong movement of air flowing through the car, and by lunchtime I had turned southwards on to the road leading to San Bernardino. In this area the Desert was in flower and it was a magnificent sight, especially with the snow-capped San Bernardino Mountains in the background. After a short break for refreshments and a few photographs of the desert flowers, I pressed on and was shortly passing into the foothills. An hour later I was 5,000 feet up and at the snow line. I now realised that I could not hope to find *I. hartwegii* subsp. *australis* in flower. In fact, the plants are found from 5,000ft up to 7,000ft, and most of them would have been under the snow. Here and there the snow had melted, but most of the irises were still somewhat flattened with no sign as yet of flower buds. It would be several weeks before they flowered, but my disappointment was more than offset the following morning when I visited the Rancho Santa Ana Botanic Garden.

The Director, Dr Lenz, has established a wonderful collection of native irises, and in a large experimental garden there is a unique collection of hybrids. Some of these, especially the munzii hybrids, are quite spectacular and have to be seen to be believed. One can only hope it will not be too long before some of them find their way into English gardens.

On my return journey I travelled on the San Bernardino highway into Los Angeles, passing through the centre of the city at 5.30 p.m. Quite an experience! After an overnight stay in Santa Maria, I set off at 9 a.m. along the coast highway. That evening, while watching the news on television, I discovered that I had been rather lucky. Shortly after 9 a.m. a man in Santa Maria had gone berserk and machine-gunned the highway, causing many deaths. An eye-witness described the motorway as resembling a battlefield. If I had left Santa Maria a few minutes later.

Into Oregon ... the hard way!
I had reached Crescent City, the last major town in northern California, during the previous evening and I was ready for an early start, with the Siskiyous Mountains and the Oregon border ahead. Highway 199 is a fine modern road running from Crescent City up the Smith River Canyon into Oregon, but after travelling 8 miles along it I turned on to a small road approaching the foothills. The rare purple form of *Iris innominata* is found in the Siskiyous in an area near High Divide, and I wanted to find this form before I travelled on into Oregon.

An old pioneer road, used by gold-miners in the old days, climbed through the foothills up to High Divide, and I was soon bumping along this rough stony track, counting off the miles on the trip metre so that I should find the exact location. Two or three times I had to get out and remove stones and tree branches barring the way, but the last half mile or so proved much easier and I was soon there

It was an enchanting spot. The Siskiyous have long been famed for their wealth of plant life, particularly alpines, and I was soon discovering this for myself. *Iris innominata* was the main quest, but it was surrounded by many other beautiful plants, including species of Phlox, Viola, Erythronium and Ceanothus. A species of Phlox, near to *P. hoodii* but bearing rose-pink flowers, studded the rocks and screes. Most of the irises were growing between the rocks in stony, gravelly soil.

When I had completed my photography and made some notes, I studied the local maps and found that the road went on towards the Oregon border, running along and over the crests of the Siskiyous, finally turning northwards to Whiskey Creek and the town of O'Brien in Oregon. It seemed a pity to have to travel all the way back when I could take this way into Oregon. After some thought I made a decision in favour of this route and set off. The first few miles were fairly uneventful though the going was rather rough. The greatest difficulty was due to the very low clearance of the M.G., and I was constantly stopping to remove rocks and fallen debris. A smooth, sandy stretch of track a mile or so in length raised my hopes and I bowled along happily enjoying the scenery. Another steep and very rough climb brought me on to one of the crests of the mountain and I had now covered some twenty—odd miles since setting the trip metre. Rounding a sharp bend I was suddenly brought to a halt. The narrow track ahead was filled with boulders and rocks for a distance of at least a hundred yards up to the next bend. I now realised to my dismay that I could not turn back, and any thought of reversing was quite out the question. A further chilling thought filtered through since leaving the comfort and safety of Highway 199 I had not seen a human being. Now I knew why!

It took me at least an hour to clear this stretch of track so that I could bump and scrape along to the next bend. Here there were fewer boulders, though the track was extremely narrow and in places the little M.G. only just scraped through. I was torn between anxiety for my daughter's car and a desperate desire for survival as I pressed on, wincing every time a projecting "iceberg" scraped the sump. At one point the engine stalled with the car almost suspended on a skewer of rock. I had to lift and rock the car to get it over this obstacle. It was now 3.30pm and I was in the middle of a never ending nightmare. Every bend seemed to introduce fresh hazards and I wondered what could happen next.

On of the worst moments of my life arrived about 4.50pm. Rounding yet another bend, the track ran for several hundred yards as a narrow cat track along a vertical face with a drop of at least a thousand feet below. Half way along, part of the road had broken away. Examining it from all sides, I could see that the car could not pass safely across the gap. A rather wild thought of racing the car along and jumping the gap was soon

dismissed, and I started a search for something to act as a bridge. Some distance along the track I found an old pine bough obviously brought down by lightning. I managed to drag it back and wedged it across the edge of the gap, where I hoped it would act as a kerb.
The next few minutes seemed like eternity. I inched the car towards the gap, hardly daring to breathe. As the front right-hand tyre nudged the log there was a sudden lurch and I thought the car was going over into space, but the log settled and then took the full strain. The front wheels were across. Now it was the turn of the back wheels and suddenly it was all over! I could only celebrate with orange juice but my relief was immeasurable.

From now on nothing seemed to matter. The hazards and obstacles seemed trivial by comparison and although I had to exercise great care in negotiating some stretches and now and then remove some boulders, I made good progress and soon I had crossed the last crest and turned north towards Whiskey Creek. Running downhill, I could actually enjoy seeing the Rhododendrons in full flower, and then suddenly the road itself was smooth and sandy. I even began to think about a meal and a hot shower, and all was well with the world again.

Coming round the next bend my happy little world was shattered. The road ended in a river! The great floods of the previous winter had changed its course, and rapids now coursed along where the road had once been. So this was how it would all have to end. I would have to abandon the car. I estimated I was only about three miles away from the little town of O'Brien, and it would soon be dark. I walked along the bank of the river, and there was the road, about two hundred yards from the car. Faint hopes returned as I examined the river bank. There were enormous boulders looming up out of grass, shrubs and undergrowth, but I began to see a possible way through. Several times I walked the stretch of bank, plotting a route. Finally, I got into the car and reversed a few yards back up the road, until I found a point where the car could climb the bank. Now I made a tortuous journey along the edge of the river, sometimes turning to higher ground to avoid the biggest rocks and shrubs.

At last I was across, and bumping back on to the road. Another mile, and it became a wide road with a metalled surface. As if to show that I was nearly there, the roadside bank suddenly glowed with creamy golden flowers and I was looking at my first wild plants of *Iris bracteata*. Next day I would be seeing many of them, but as I switched off the engine outside the first Motel to come in sight, I looked at the trip metre. It registered 52 miles.

This article is reprinted from BIS *Year Book* 1967.

Beardless Iris Day 2019
Saturday June 1

Hopelands, Weobley, Herefordshire HR4 8RZ

Coffee 9.30—10am

Morning Talks

Siberian Irises - where do we go from here?
Alun & Jill Whitehead
Alun and Jill have a National Collection of Siberian Irises and discuss where hybridisation is going.

Beardless Beauties of Europe - to be enjoyed in the garden
Tim Loe
Tim is a chartered landscape architect with a particular passion for irises and grows a wide range of species many of which are protected under glass from his wet climate.

Making sense of the Iridaceae
Dr Julian Sutton
Julian and his wife, Sarah have run the "Desirable Plants" Nursery for over 20 years. Julian will show us how to look at the Iridaceae family through a Botanical Eye.

Lunch

Afternoon visit to Aulden Farm
National Collection of Siberian Irises

Tea and Homemade Cake

Cost— £20 per person. This includes Talks, Lunch, Garden Entrance, Tea and Cake.

Registration/payment by PayPal/website www.beardlessiris.org
Direct Bank payment, email jill@auldenfarm.co.uk for details
Cheques payable to the Group for Beardless Irises sent to
GBI, c/o Aulden, Leominster HR6 0JT

Numbers are limited - so early booking is advised. Please let us know if gluten free food or vegetarian are needed when booking.

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My sincere thanks to all the contributors of articles and photographs for this edition of the *Review*. Please do get in touch if you have something to say and would like to write for the next edition.

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You can still pay for 2 or 3 years in advance at the following rates:

	2 years	3 years
UK	£9.00	£13.50
Non-UK (low rate)	£11.00	£16.50
Non-UK (high rate)	£17.00	£25.50

Please include your name, address, telephone number and email address. We will publish a list of members periodically. Please indicate if you would prefer that your details are not included. You can also pay using the PayPal button on the website.

Note: The Non-UK lower rate will receive the Newsletter & Seed List by email, the Review will be posted.

Above are Colchicine treated allotetraploids

Allotriploid varieties (above)

Virginica x ensatas (below)

Back Cover *I. pseudacorus* x *I. ensata* 'Yugasumf'