

SILKEN SAD UNCERTAIN QUEENS

Jim Archibald, who has travelled extensively in the Middle East, surveys the popular *Oncocyclus* Section of the genus *Iris*

But of the Oncocyclus Irids, none. They are a doomed and lonely race of irreconcilable Troades in weeds of silken crape, sullenly and grandly unresigned to exile and captivity, passing out of their captor's hands in a last defiant blaze of dark and tragic magnificence.

When Reginald Farrer wrote these words in 1913, these spectacular irises from the Middle East were much more readily available to gardeners than they are today. Firms such as Damman & Co. of Naples and C.G. van Tubergen of Haarlem, with R. Wallace & Co. and P. Barr & Son in England, employed a network of collectors in the Middle East to ensure a steady supply of wild rhizomes for gardeners in western Europe to kill. These importations were disrupted by the First World War and never again reached the same level. If growers were fortunate or unusually skilful, they may have experienced tantalising glimpses of the opulent magnificence of these plants before losing them. As far as cultivation in the open garden in wet climates is concerned, Farrer's words will always remain true.

In spite of their exacting demands, irises of the *Oncocyclus* Section have fascinated gardeners for hundreds of years ; perhaps for thousands of years, as their characteristic shape appears among flowers on the reliefs in the botanical room of Tutmosis III at Karnak. This pharaoh brought plants back to Egypt from his expeditions to Asia. Certainly the great gardeners of the Ottoman Empire must have known them, as *I. susiana* had reached Europe from Istanbul by 1573. As a wider range of species became known later in the nineteenth century, a few Europeans became dedicated to growing them successfully. The brilliant plantsman, Max Leichtlin, who established his own private botanic garden at Baden-Baden in Germany, received much Turkish material from the collector Paul Sintenis, among others. In England, Sir Michael Foster grew a large range and was sent rhizomes by American missionaries in Turkey: the Rev. T.G. Gates and Mrs. Barnum are acknowledged in *I. gatesii* and *I. barnumae*, which he described. He named *I. ewbankiana* in honour of a gardener, however. The Rev. Henry Ewbank, a vicar on the Isle of Wight, became obsessed with growing these irises. His enthusiasm was not so rare then. In 1913, he writes that, "E.J., a correspondent to whom I had written about the matter, sent me word to the effect that he had met Mr Potter in travelling by rail, who said that not only does *Iris iberica* continue to exist when it is growing in chalky soil, but that it cannot be killed in it."

Even at an Alpine Garden Society show, far less on public transport, I cannot conceive the fortuitous meeting today of two gardeners capable of discussing the niceties of cultivating *I. iberica*. Much ink flowed in lengthy letters to gardening periodicals about cultivation. Should they be lifted annually or not? Do they like or dislike lime? Success seemed to involve much jumping up and down on boards to firm the beds for the 'cushion irises' but success was certainly achieved. Recalling his gardening years near the Hayle estuary in Cornwall around 1910, Compton Mackenzie writes, "I can boast that I did flower all the Cushion Irises then in cultivation every year for five years." Despite all their attempts to evolve the most satisfactory methods of cultivation, gardeners relied on fresh supplies of wild rhizomes to replace the stock they lost. Little if any effort was made to propagate these plants from seed.

The 1962 journey by Paul Furse and Patrick Syngé initiated a new period of introduction. Encouraged by the writing of 'Flora of Turkey' at Edinburgh and 'Flora Iranica' at Vienna, botanical exploration of these areas reached a peak. For the next decade or so, an unprecedented, well documented range of the more northern representatives of these irises was collected. Very little seed was gathered in the wild, however, and almost all were introduced as rhizomes, albeit on a more modest scale than earlier. Almost all this material was again wasted. It was distributed widely as small pieces of single clones and all too often went to gardeners who had little knowledge of the plants. In addition, individual clones are usually self-sterile.

Whereas most of the material collected by Paul Furse and the Bowles Scholarship expedition remained in Britain, much that I collected went to members of the Aril Society International, elsewhere in Europe, Australia and the U.S.A. I had great hopes that these irises would become established in parts of North America at least. This was not the case, although it was not always the fault of the growers. John Holden, a competent and interested enthusiast, gardening in Ridgecrest, south of Death Valley in California, found the summer temperatures there far too high for the small species of the high Irano-Turanian steppe. In most instances, however, this new material was used only to further hybridisation programmes and not maintained for its own sake. Only Herb McKusick kept collections made by myself and by John Watson for a considerable time. He gardened near Globe in Arizona, where the latitude, altitude and climate were almost identical to those of the homes of the wild plants. At present, several friends in Colorado find the few species they have been able to obtain little trouble to grow. There is no reason why many should not be cultivated in other parts of the American West by those gardeners prepared to make just a little effort. In Britain, about thirty years ago, Ken Bastow, a Nottingham pharmacist, maintained, in frames, what was one of the widest collections of species ever grown. Today, apart from that genius-cultivator at Kew, Tony Hall, the only serious grower of a large collection I know in Britain is Ed Picken in Telford. He is as much involved with hybrids as with the wild species, however. The fact that, before his death, John Holden in California chose to pass on the best and most recent of his tetraploid hybrids to this British grower not only reflects on Ed's skill as a gardener but on the extreme rarity of competent growers of these plants throughout the world as a whole. At present, an enthusiasm for growing the wild irises of the *Oncocyclus* Section is one of the most esoteric and

lonely of horticultural activities.

CULTIVATION

The basic requirements of these irises are sun, good drainage and a summer rest. For reliable expansions on these basics, I recommend the article by Kenneth Bastow in 'The Iris Year Book' of 1967 or the introduction to the section on these plants in 'The Iris' by Brian Mathew. Both of these authors write concisely from considerable experience of growing these irises in England but anyone interested can find enough words about their cultivation to fill several books. Recently, in 1996, Brian has commented that "it really is a full-time occupation to grow a collection really well in a climate which is not suited to them." While it is true that constant attention to detail is essential, their basic requirements are quite simply met and they are dormant for about four months out of each year. They are not so much time-consuming as demanding and unpredictable. They are also mercilessly unforgiving and will not linger long with those, who become too impudent and fail to treat them continually with respect. I write from experience.

When I started to grow them, I was much indebted to Ken Bastow in England, Herb McKusick in Arizona and Michael Avishai in Israel for both advice and material. I grew them in a well-ventilated, unheated glasshouse, planted in a bed raised about 20 cm above the level of the ground. The soil was the well-cultivated, heavy Dorset clay-loam of the rest of the garden with some added gritty sand and a dusting of a balanced fertiliser, low in nitrogen. They were planted in rows, ridged up like potatoes, with a few centimetres of grit covering the rhizomes. The bed was thoroughly soaked with a hose in October and thereafter watering was done carefully (to avoid wetting the foliage but still using a hose) in the channels between the rows, as needed through winter and spring, until flowering was over. They were given an occasional liquid feed in spring. As the bed was not much above the level of the ground outside, it remained slightly moist lower down in summer and many did not die back completely. Herb McKusick called this a "green dormancy" and considered that the northern, steppe species were the better for it. Ideally, with a comprehensive collection, about four beds would be needed to suit plants from different habitats. Most of the northern ones would grow well together. *I. gatesii* and the montane ones from the eastern Mediterranean area would form a second group, the larger, strong-growing, low altitude species from Israel and Jordan a third and the desert species a fourth. With the latter two groups, a little frost-protection and supplementary lighting would make things easier in northern winters. I commend two quotations from Max Leichtlin, one of the earliest and most successful growers of these irises: "I do not think the question of soil has much to do with the matter; success depends on other considerations" and "Oncocyclus do not like to be disturbed."

Even with the best of cultivation methods, three problems will occur at some time: aphids, viruses and rots. Aphids, both the top-growth and those that infest below ground, are the most insidious in my experience, especially when clustering unnoticed on overwintering growth. If you are not prepared to use systemic insecticides regularly,

you will not keep plants in good condition for long. Apart from weakening and crippling the growth, aphids spread viruses rapidly. When aphids were controlled and plants were established and left alone, I did not have serious problems with either viruses or rots. Michael Avishai told me that he believed viruses were present in all the wild populations but manifested themselves more obviously in cultivation as the plants were stressed. Keeping young, vigorous replacement stock growing on from seed is the best way to avoid losing a species through viruses but seedlings will not necessarily be virus-free as the seed-coats may be infected. Rots can be both fungal and bacterial. A systemic fungicide may help to control the former as well as decreasing any other fungal problems but, with good cultivation and efficient ventilation, you may never have serious difficulties. The same applies to bacterial rots, which only troubled my plants when they had been disturbed and divided. Both frost-damage and slug-damage can, of course, also allow these pathogens access to the plants.

Anyone used to growing a range of bulbs successfully, either in a bulb-frame or in pots, is sufficiently experienced to grow *Oncocyclus* irises well. It is often said that they do not associate satisfactorily with other summer-dormant plants. Certainly, by the time they are in flower, many species of *Crocus*, *Fritillaria* and *Narcissus* will be well on their way to dormancy. There are, however, several other groups of bulbs and tubers which flower late with them and have similar requirements. Among Eurasian plants, apart from the very closely related irises in the Regelia Section, there are the species of *Muscari* in the subgenus *Leopoldia* and many species of *Allium*. Many North American alliums, as well as their relatives in *Brodiaea*, *Triteleia*, *Bloomeria* and *Dichelostemma*, similarly flower at the climax of their growing period. Most members of the North American genus *Calochortus* would fit in well, as would several species in South American *Alstroemeria* and *Rhodophiala*. By grouping such plants together in a bed or section of a greenhouse bench, the British bulb enthusiast could enjoy flowers well into June.

I have little experience of growing *Oncocyclus* irises in pots but this can be done very successfully. Those expert bulb-growers, Bob and Rannveig Wallis, grow a small collection very well in this way. Common-sense would indicate that as deep a pot as is available should be used to accommodate the root-growth and that some liquid feeding might be advisable to compensate for the confinement. Rhizomes should be potted low, on the surface of the compost, and covered with grit or fine chippings, as in a bed. Watering should possibly be continued for a little longer after flowering than when they are planted out to ensure that the new roots develop fully. One advantage of pot-cultivation is that much less damage to these roots will occur when the rhizomes are disturbed.

PROPAGATION

Division of the rhizomes, when dormant, is the traditional method of propagation but I do not like it nor do the plants. I should not disturb any of these irises unless the clumps are overcrowded or deteriorating. Use a sharp knife and, to decrease the possibility of transferring viruses when moving from one clone to another, immerse the blade in surgical spirit which can also be used to paint cut surfaces to assist in drying and sealing



A view north of Rezaiyeh in N Iran, the habitat of *Iris urmiensis* (syn. *I. barnumae* subsp. *barnumae* forma *urmiensis*)

Photo: Jim & Jenny Archibald

these. Whether replanted immediately or stored in sand till autumn, the rhizomes should be kept dry for a few weeks after division. If such care is not taken, sound rhizomes can collapse through bacterial infection within days.

“Every serious grower of *oncocyclus* should sow seed”, wrote Ken Bastow. I should delete the word serious and insist that no-one should undertake the cultivation of these irises unless they are going to be “serious” about it. Fresh, dried seed can take a very long time to germinate and will do so irregularly. Ken Bastow thought that five to six year old seed gave the best percentage of seedlings most promptly but seed much older than that can germinate well. The quickest and most reliable method, however, is to sow green seed, removed from the pod just before it opens and presumably before the natural germination-inhibitors are in place. Hand-pollination between different clones should ensure a good seed-set and, when the fully developed capsules start to turn to a much paler shade of green, they can be split easily by running a thumb-nail up each locus. The green seeds, like *petits pois*, are extracted, sown immediately and kept moist. In British temperatures, seedlings (which Ken Bastow recommended transplanting when three leaves were evident) can be kept growing through the first summer and will flower in three or four years. The complicated process of embryo-culture, used as a short-cut by many breeders, is not necessary if green seed of the species is available.

Using such methods, I had a superfluity of seedlings and distributed a considerable number of rhizomes and seeds for several years. It needs the collaboration of several competent growers, however, to ensure the future of *Oncocyclus* irises in cultivation.

Crises and changed circumstances occur in the lives of most individuals and, in my case, five years largely spent abroad and without a garden, ended my involvement with them.

THE FUTURE

Though *I. susiana* exists to refute my opinion, I feel that single clones, propagated vegetatively by division, have no long-term future in cultivation. It is essential to grow a number of clones from each colony to ensure some genetic diversity and compatibility for seed production. While the habitats of the Israeli species appear at present to be well-managed and protected and cultivated seed of most is available, this is not the case in other areas. It would be good to see representatives from all the extremely limited colonies of these frequently very vulnerable plants well-established in cultivation, both in their own countries and abroad. If any gardeners in future wish to dedicate themselves to establishing these plants in cultivation, my counsel of perfection would be as follows:

If an adequate seed collection from wild plants could not be arranged, a small portion of each of a dozen or so clones from any one colony would be collected and established in pots for a season or so before planting out. These original clones would not be distributed, disturbed or divided, unless they deteriorated or became overcrowded, whereupon the opportunity could be taken to establish duplicate sets of this material of wild origin elsewhere. Hand-pollination between the clones would ensure an annual supply of seed, which would be harvested and sown, while still green. Green seed and seedlings would be distributed to other growers, as soon as possible and regularly thereafter. A pollen-bank and a seed-bank of surplus dried seed would be established. Continual international collaboration with other growers to exchange pollen and seed would facilitate a wide distribution of documented material. As no single grower could be responsible for maintaining representatives from all the colonies in cultivation, collaboration through the Internet could be invaluable.

About thirty years ago, the Aril Society International initiated a more modest project with similar aspirations but there are just not enough gardeners in the world with both the motivation and skills for such a fantasy to be realised. Perhaps in another hundred years there may be enough interested growers and enough plants still left in the wild for such an ideal to, at least partially, become reality. Henry Ewbank wrote in 1903, "I have not been wrong in the full and determined belief that some day or other these plants would be quite manageable The cultivation of *Oncocyclus* Irises will be pursued - they distance everything else that I have seen in the way of giving delight."

NOMENCLATURE

In 'The Genus *Iris*' of 1913, William Dykes wrote, "This group is probably the most difficult of all for botanists and gardeners alike. The former can only in the case of very few species find specific differences that can be recognized in herbarium specimens." And in his 'Handbook of Garden Irises' of 1924, "The determination of the various

species or local forms of *Oncocyclus* Irises is an extremely difficult matter, for there are scarcely any definite structural characters to differentiate them." Problems are compounded through the difficulty of making good herbarium sheets. Specimens need to have the floral parts removed and pressed separately. Attempts to press a whole flower can result in an amorphous, congealed mess. Many dried specimens are in this state and, moreover, lack the rhizome and so are incomplete. There is also a considerable dichotomy of viewpoint as to what constitutes a species. Botanists such as Fomin, Grossheim, Tamamshian and Woronov, naming plants in parts of what was the U.S.S.R., tended to have a narrow view. "Due to the rashness of some of them many a spontaneous hybrid or intermediate form has been awarded the high rank of species", commented G.I. Rodionenko. The same limited specific concept is shared by many of those who have named the southern taxa. Botanists like Dinsmore and Chaudhary often recognized single colonies as constituting acceptable species, mainly on geographical grounds. As Peter Davis discreetly points out in his superlative, 1946 account of the southern species, 'Oncocyclus Irises in the Levant', "The specific value of several of Dinsmore's microspecies is debatable."

Sandwiched between these two sets of names is the more recent work for 'Flora Iranica' and 'Flora of Turkey' by Wendelbo and Mathew, who adopted much broader concepts and attempted to apply to these irises the normal morphological criteria used to classify most plants. This is also not always altogether satisfactory and a possible compromise might result from use of what Peter Goldblatt in his monograph of 'Gladiolus in Southern Africa' calls "a multidimensional approach to circumscribe and recognize species." This involves taking into account, for example, "differences in habitat preference, soil type, pollinator or flowering time." This would all require much more knowledge of these plants in nature than is available. It is not possible for such knowledge to be acquired at present, as these irises grow throughout one of the world's most politically troubled areas, often frequenting sensitive or disputed border zones. The miscellany of existing names has to suffice for the moment. In order to simplify a catalogue of confused and confusing names, I have, therefore, dealt with these irises arbitrarily in eight groups, which are often based largely on subjective criteria and in several cases involve taxa which may not be at all closely related.

A SURVEY OF ONCOCYCLUS IRISES

The Iris acutiloba Group. The most widespread group is that surrounding the elegant *I. acutiloba*, with pointed falls veined with brown on a whitish ground and with a small red-black signal patch, somewhat superficially similar to smaller versions of those two more eastern *Regelias*, *I. korolkowii* and *I. afghanica*. Allied races extend from central Turkey to north-eastern Iran and Turkmenistan. Most fit under *I. acutiloba* subsp. *lineolata*, a name which now covers plants which those of us involved with Iranian irises in the 1960's assigned to either *I. helenae* or *I. ewbankiana*. The type race is said to be limited to a small area of Azerbaijan near Baku and to be distinguished by an additional dark patch at the tip of each fall. As several forms with different ground colours have been described of this and of the allied *I. schelkownikowii*, also from a



Iris acutiloba subsp. *lineolata*, Iran, N of Mahabad Photo: Jim & Jenny Archibald

small area of northern Azerbaijan, there is the possibility that other species may be involved there. The dwarf *I. grossheimii* from Nakhichevan, just north of the Iranian border, has a reddish ground colour and a large signal patch. It grows in an area where *I. iberica* subsp. *lycotis* is found and hybrids made between this and *I. acutiloba* in cultivation have produced a similar plant.

The most disjunct member of this group is *I. sprengeri*, which I take to include *I. elizabethae*. It is limited to the area around Hasan Dağ, in central Turkey, where its thin rhizomes run widely through tufts of loose ash spewed out

by this ancient volcano. When we last visited the area, its home was being removed on a considerable scale for the production of light-weight building blocks. In spite of its specialized habit and habitat, we have not found *I. sprengeri* a difficult plant to grow in a pot, provided that it is repotted when it reaches the edge of its container. It has a yellow beard, distinguishing it from the purple-brown bearded, eastern *I. acutiloba* forms but its apparently distinct rhizomes cannot be considered a diagnostic character. On the hills of Iranian Kurdistan, I have seen a small slender form of *I. acutiloba* with far-reaching rhizomes as thin as couch-grass and with leaves to match.

The *Iris iberica* Group. Another ancient volcano, Mt Ararat, lying where the borders of Turkey, Armenia and Iran meet, forms an appropriate central point in the range of the splendid group of irises which can be included under *I. iberica*. At the extremities of their distributions, the races appear most distinct. The striking, western, Turkish plants, *I. iberica* subsp. *elegantissima*, have strongly deflexed style-branches, whitish standards and elongated, concave, darkly veined falls. On the Iranian side of the Araxes valley, opposite its type-locality in Nakhichevan, *I. iberica* subsp. *lycotis* appears as a dwarf, dark flower, all netted with maroon-black veins and quite differently proportioned. Running west to the Turkish border near Maku, however, are colonies with a seemingly infinite range of flower-shapes and markings. Northwards, similar variation is found as the group progresses up through Armenia, where pale blues and yellows are recorded near Erevan, into Georgia, where the type-race of *I. iberica* grows. This appears to be distinguished from *I. iberica* subsp. *elegantissima* only by the angle of the falls of its smaller flowers. Yellow-bearded *I. camillae*, of which a multitude of colour forms has been described, appears to be allied and further contributes to the spectacular confusion. South from the Armenian border, only one name, *I. iberica* subsp.

OPPOSITE: *Iris iberica* subsp. *elegantissima* in its typical form SSW of Sarikamis, Kars, Turkey

Photo: Jim & Jenny Archibald



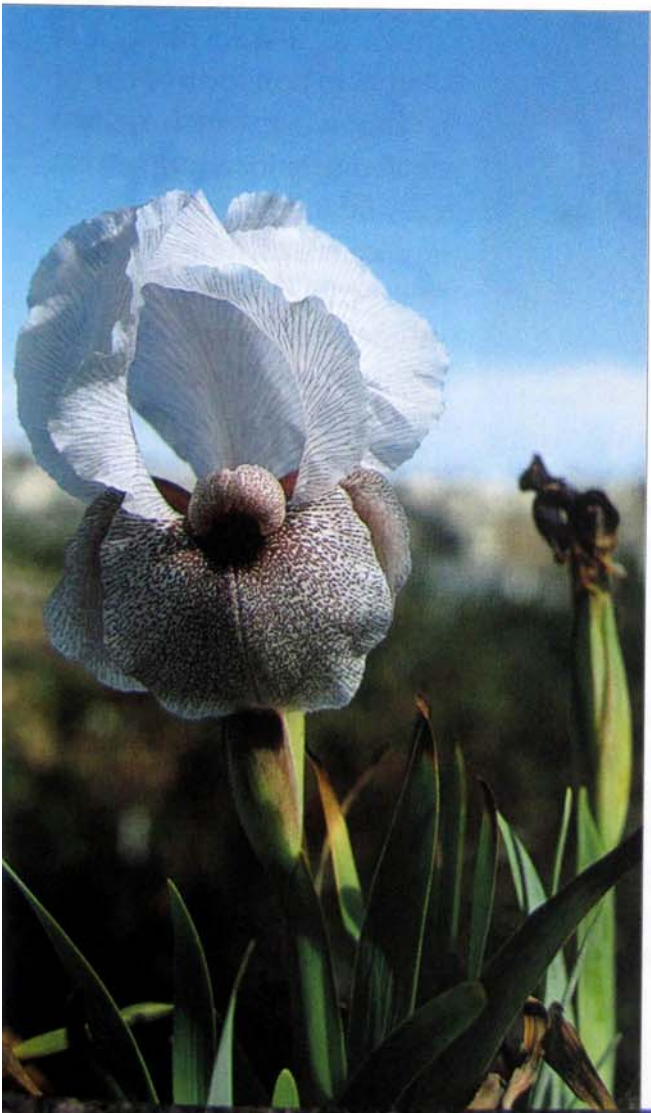
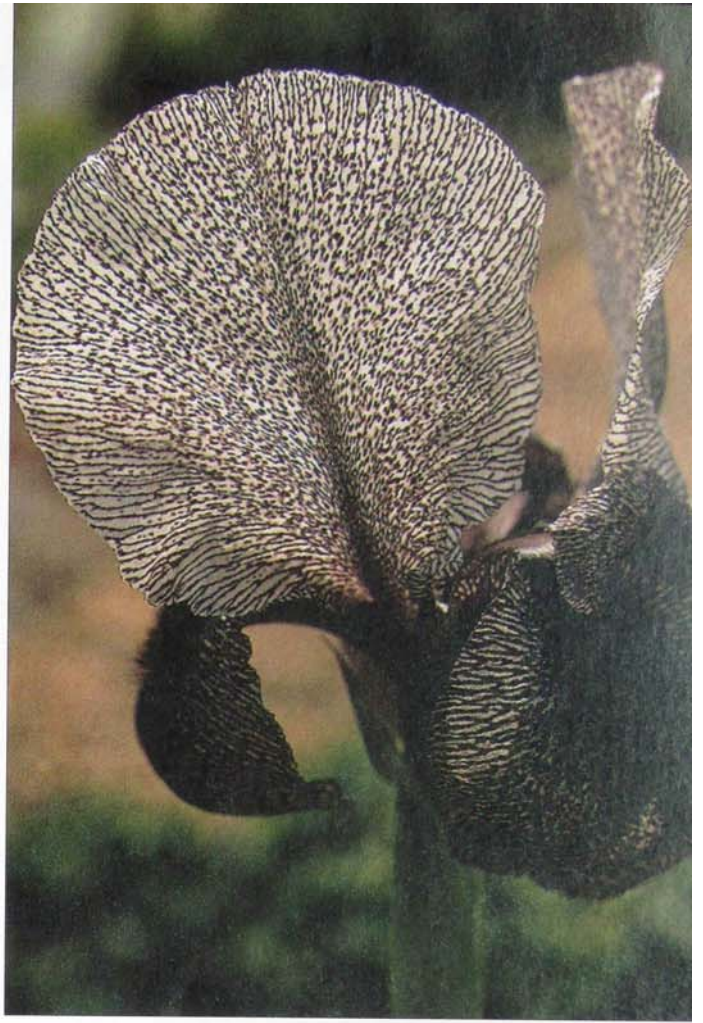
lycotis, is available as all the plants have veined standards but the diversity continues. Colonies assigned to this subspecies extend well down the western side of Iran. They are recorded as far as the central Zagros Mountains and perhaps go well beyond there. They just cross into Turkey, in Hakkâri, and into north-east Iraq. The variation in general appearance is considerable, perhaps too extensive for all to be lumped together. In the hills above the town of Marivan, just across the border from Sulaimaniya in Iraq, there were large clumps of a robust iris with erect foliage, which disconcertingly approached the *I. susiana* group or a slightly smaller flowered, more darkly veined *I. gatesii* in appearance.

The Iris gatesii Group. The little that is recorded of *I. gatesii* from northern Iraq indicates very dense, brown-purple veining on a plant from near Amadiya, just south of the Turkish border. This species and its allies move us away from the dwarfer, falcate-leaved irises of the steppes to the taller southern species. These are large, sturdy plants, between 50 cm and 75 cm high. Although *I. gatesii* can grow at altitudes up to 2000 m, it is a plant of the southernmost Turkish ranges, in Mardin, Urfa and Siirt, where on Halkis Dağ it exhibits exceptional variation with a white to pink ground colour, veined and speckled with brown, red or black and sometimes with prominent signal-patches. Recent attempts to revisit this colony, located by John Watson in 1966, have not been successful, but mountains are large places and the Turkish security forces do not encourage those who wish to wander freely in this area at present. Classic, cultivated *I. gatesii*, originally from the Mardin area, is a misty grey with a wispy beard and an insignificant signal patch. It is rated to be the largest flowered iris, the 'Prince of Irises', and rivalled only by *I. lortetii*, 'the most beautiful iris in the world.' Structurally these two are similar but the latter has falls which are more tucked-in, with a central maroon signal-patch and a creamy white ground colour, evenly dotted all over with tiny crimson speckles, giving the impression of pink rather than grey. It grows around the point where the borders of Israel, Lebanon and Syria meet and was thought to be virtually extinct until this troubled corner was investigated botanically and further colonies were found above Kiryat Shmona. It is possibly not justifiable to separate *I. samariae* from *I. lortetii*, except on geographical grounds, though the individual clones I have grown of these have certainly been distinguishable. *I. samariae* usually has coarser crimson speckles and comes from further south, near Nablus. Also close to *I. gatesii* is *I. kirkwoodii*, distributed from the north-west corner of Syria, sporadically into Turkey, up through Hatay into Maraş. It has a prominent, dark signal-patch, larger speckles and denser veining on the standards, normally on a bluish ground, so that the overall impression is purplish.

The Iris susiana Group. I could not argue for separating this group of dark-veined irises from the preceding ones but, as I am confronted with a great number of names, it seems an

OPPOSITE: *Iris iberica* aff. subsp. *lycotis* (top left), NW Iran, E of Maku; *I. susiana* in cultivation (top right); *I. lortetii* in cultivation (bottom left); *I. mariae* (bottom right) in cultivation in Israel.

Photos: Jim and Jenny Archibald except *I. mariae* by M. Avishai





Iris jordana in cultivation in Israel Photo: M. Avishai

is its most likely wild relative. Dwarfier, at a little over 30 cm, *I. sofarana*, with its subsp. *kasruwana*, is another strong possibility. Described by John Watson as a "great folded silk scarf of a flower, intricately stitched and pearly with dense black-purple threadlines", it grows in several sites in the central Lebanon. Closely related to these but only known from about 1800 m above the cedars at Bsherrri is *I. cedretii*. It lay under a considerable amount of snow on the only occasion I visited its habitat but I grew it once without difficulty from material collected by Ken Aslet and have now received it again from Bob and Rannveig Wallis. Other montane plants near *I. sofarana* are *I. damascena* from the Syrian Jabl Qasyoun and *I. westii* from above the Beka'a valley, in the mountains east of Jezzin in the southern Lebanon. The last is more colourful than most, as the veining on the falls is on a light yellow ground with pale lilac on the standards. All these have dark, purple or brown beards but the high altitude *I. antilibanotica* from the Bludan area of Syria, in two-toned 'stern

appropriate point to start a new paragraph. There are probably far more names here than could be sustained in any modern revision of the *Oncocyclus* Section but as I know only a few of the following taxa as individual clones, isolated in cultivation, and none of them in nature, I write in ignorance rather than knowledge. *I. susiana* is the oldest name and is applied to a plant cultivated for over four centuries and now heavily infected by virus. It sets the pattern for the others with its large, dusky flowers with tucked-in falls, densely veined with darkest violet on a grey-white ground. Unknown as a wild plant, it is thought to be a form of one of the following, which are distributed very locally down the drier, inland-facing slopes of the mountains running south through Syria and Lebanon into Israel, parallel to the Mediterranean coast. Tall *I. basaltica*, from the Syrian hills just north of the Lebanon,



Iris biggeri growing in the wild in Israel Photo: M. Avishai

dark violet-blue', is yellow-bearded and may be closer to those around the Israeli *I. atropurpurea*. Further south, at lower altitudes, as the mountains tail-out in Palestine, there are tall, robust plants, like 'freckled purple' *I. haynei* and the possibly synonymous *I. biggeri*, which may be nearer to *I. jordana* and *I. atrofusca*.

Around the southern slopes of Mount Hermon, *I. bismarckiana* grows. Some claim that three morphologically and edaphically separable taxa have been included under this. I have grown one quite successfully, the stoloniferous *I. nazarena* from Israel, with round, white standards, veined and speckled with blue. It has a most distinct rhizome, rather like a carrot lying on its side, and it can travel quite a distance laterally in a good growing season. *I. benjaminii* would appear to be a minor variant of this from another locality. *I. hermona*, which is said to be the most accommodating race in cultivation, is more or less a version of *I. bismarckiana* with a normal, compact rhizome. As such, it is not easily distinguished from *I. sofarana*.

The Iris barnumae Group. In contrast to the nomenclature applied to the irises to the north and south, where there seem to be many more specific names than acceptable species, the irises of Iran have been severely dealt with by Per Wendelbo and Brian Mathew in their account for 'Flora Iranica' published in 1976. This is the most recent significant account concerned with the *Oncocyclus* Section. I suppose it reflects the lump and split fashion of the time but it does result in inordinately long names for us users. While the aggregation of a number of taxa under *I. iberica* can be justified, as



Iris barnumae subsp. *barnumae* forma *protonyma* in NW Iran, (Azerbaijan)
Khamisian Pass north of Khoi

Photo: Jim & Jenny Archibald

they all seem to intergrade, this is not the case in my experience of the uniformly coloured *I. barnumae* group, where the different races appear to be both easily distinguished and separated geographically. A strong argument can be made for several separate species but in two cases no older names exist for recidivists who might wish to follow this course. The type-locality for purple-flowered, yellow-bearded *I. barnumae* (*I. barnumae* subsp. *barnumae* forma *barnumae*) is the area near Van in south-east Turkey but, though we have spent many months travelling here in different years, I have never seen this race in flower. In years of heavy grazing it can be very difficult to locate the limited habitats of these plants. It would be most interesting to review the distribution and range of variation of this race, as it is also stated to grow in north-east Iraq and north-west Iran. In Iran, I have only seen purple-flowered *I. barnumae* with a black beard (*I. barnumae* subsp. *barnumae* forma *protonyma*). This is the race, labelled 'Moleskin' by Paul Furse, which we used to call, supposedly incorrectly, *I. polakii*. It has a most distinct, broad, dense beard of short, black hairs, just like a neat patch of moleskin stuck on the falls, above a glossy, violet-black signal-patch. The character of this beard is so distinct that I should suggest, in agreement with Paul Furse, writing in 1971, that it may come as close to the sympatric *I. paradoxa* as it does to *I. barnumae*. I have only seen this to the north-west of Lake Rezaiyeh, where there are at least two forms, differing greatly in stature and in the proportions of their flowers. There are especially fine colonies around the Khamsian pass north of Khoi. Far to the south of this area, in the steppe country between Saqqiz and Hamadan, there are other dwarfer,



Iris barnumae subsp. *barnumae* forma *urmiensis*, NW Iran (Azerbaijan), north of Rezaiyeh

Photo: Jim & Jenny Archibald

moleskin-bearded irises, varying greatly in ground colour through all shades of brown and purple. Per Wendelbo and Brian Mathew are very reticent about these. "It is still really not very clear as to what is the true status of the extraordinary populations from this region", writes Brian in 1981. The implication is that these are all most likely to be hybrids between the northern *I. barnumae* and *I. meda*. I should agree that hybrids with *I. meda* do occur here but suggest that they involve an undescribed taxon within the *I. barnumae* group, which could be easily distinguished from the others by its chestnut-brown signal-patch surrounded by a white zone. Whatever their status, I found that these little steppe-irises were very difficult to cultivate.



Iris aff. *barnumae*, the unnamed iris of the Kurdish steppe, north of Husainabad, NW Iran

Photo: Jim & Jenny Archibald

In contrast, the yellow-flowered *I. urmiensis* (*I. barnumae* subsp. *barnumae* forma *urmiensis*) is among the easier Iranian species to grow, though it is seldom seen in cultivation today. This is a very beautiful plant with unmarked flowers of pure yellow and it could not be confused with any other. J. M. Cowan, perhaps the only botanist who has been able to spend much time in the ranges between Lake Rezaieyeh and the Turkish border, wrote, in 1931, that this "is probably a distinct species for it has a somewhat different habit" and added that he had never seen it growing with purple *I. barnumae*. There is no record of the two growing together in the wild. In my much more limited experience, almost as soon as the road descended from the low pass over the crystalline hills, where *I. urmiensis* grows between Rezaieyeh and Shahpur, purple *I. barnumae* grows on the limestone, so the two may be edaphically separated. In any event, as Charles Grey wrote in 1937, "In this particular case, the colour-blind, I am convinced would say, 'those are different plants'." There is one nearby Turkish record from the border-crossing at Esendere, immediately west of Shahpur, but I suspect we are looking at an extension of the same range of hills.

Well separated from all these geographically, in the Elburz range to the north of Teheran, is *I. demavendica* (*I. barnumae* subsp. *demavendica*). This has elegant flowers of pure violet-blue with narrow beards of creamy-white hairs on the falls. It can be a tall and robust iris with something of the 'look' of the more eastern Regelia Section about it. High up, at an altitude of almost 3000 m, above the Kandeivan tunnel through the Elburz, there are great, erect-leaved clumps, growing in the alpine steppe, bathed by the clouds rising from the Caspian Sea.

Away to the south-west, far into the Syrian Desert around Palmyra, El Qaryatein and further south, are other yellow-bearded irises which have been attributed to this group by Mousterde as *I. barnumae* var. *zenobiae*. The more northern ones, dwarf plants only about 15 cm high, usually with fragrant flowers of deep maroon or purple but sometimes varying to paler shades, yellow and even white, have been given specific status by Shaukat Chaudhary as *I. assadiana*. The taller, southern ones, which are only recorded in maroon-black, are split into *I. swensoniana*. William Dykes commented that "it is hard to see how *I. mariae* can be separated from *I. barnumae*" and in his monograph of 1913, 'The Genus Iris', placed this plant from the southern deserts as *I. barnumae* var. *mariae*.

The Dark-flowered Desert Species. Whether or not some of these desert species have any ancient affinity the northern *I. barnumae* group or even to each other is irrelevant to their cultivation. These, the most southern members of the Oncocyclus Section, are certainly the most difficult for gardeners in wetter, northern climates to grow. Even when kept dryish, well-ventilated and protected from frost under glass, they not only resent a naturally moist atmosphere but also the lack of strong sunlight in winter and early spring, their growing seasons. They are plants from a harsh, desert climate, extremely dry and extremely hot in summer, distributed south from the Syrian Desert through Israel and western Jordan well into the Sinai Peninsula of Egypt. The Israeli species from Judaea and the Negev, tall *I. atrofusca* and dwarfier *I. atropurpurea*, have been the most readily available to gardeners but I know of no-one who has maintained them for any length of time in Britain. Both of these have flowers with beards of short, yellow hairs and black signal patches on the falls. The overall colour is a rich mahogany-purple in *I. atrofusca* and black-purple in *I. atropurpurea*. The former is a local plant, probably endemic to southern Israel, but variants of the latter are widespread from Gaza north-east to NW Jordan, in *I. atropurpurea* var. *gileadensis*, and southern Syria, in *I. atropurpurea* var. *purpurea*. Both of these geographical races have been named, possibly justifiably, as separate species, viz *I. gileadensis* and *I. bostrensis*. Little *I. mariae*, with rosy, lighter coloured flowers than most, is the most southern of all, extending, in sandy soils, from the Negev to the Plateau of el Tih in Sinai. The taller, black-purple, Jordanian *I. nigricans*, a plant of the heavy terra-rossa clay favoured by many of these southern species, is obscurely speckled and veined with even darker shades, recalling the *I. susiana* group. *I. petrana* from further south in Jordan seems to be another version of this but these desert species are almost as little known in nature as they are in cultivation. This qualification also applies to more recently described taxa from Syria, like *I. yebrudii*, of which I know little, though it is placed by Clay Osborne in the *I. susiana* group. I once grew one of these southern plants, *I. jordana*, quite well. It is a sturdy, low altitude species from the valley of the River Jordan. Eventually, weakened by damp and watery winter sunshine, it languished and died. *I. hauranensis* from the basalts on the other side of the Jordan valley is much the same as this.

With these dark-flowered desert irises, I should include the spectacular *I. auranitica*, an endemic of the isolated, igneous Jebel Druz massif in the south-west corner of Syria and "one of the finest of all" according to Peter Davis. Its large, rich-yellow, brown-



Iris meda, Iran, Kordestan, near Saqqiz

Photo: Jim & Jenny Archibald

speckled flowers on stems over 30 cm high have striking dark signal-patches on the falls. In some forms these can appear black, in others red, and occasionally they are lacking altogether. Its habitat lies at about 1600 m, so it is a higher altitude plant from a more Mediterranean vegetational zone than most of its relatives. I grew it and flowered it over a few years and it remains tenuously in cultivation today.

The Iris sari Group. The distinct *I. sari* is endemic to Turkey but, within the confines of

that country, it is widespread from near Ankara eastward almost to the Iranian border and from Erzurum in the north to Gaziantep in the south. It is variable but always unmistakable with its rather ruffled, yellow-bearded flowers with red-brown signal-patches. It is usually veined with purple-brown on a yellowish ground but it can have bluish standards, especially in the south, where it enters the territory of *I. kirkwoodii*. It grows on limestone there but further north towards Kayseri it can be found on loose, volcanic slopes. It is similarly accommodating in cultivation and is certainly one of the easiest species in this section to grow in Britain. The names *I. lupina* and *I. manissadjianii* appear to belong respectively to large and small variants of *I. sari*. The Iranian endemic *I. meda* is not dissimilar to *I. sari* in colour and general aspect. It is distributed roughly within a triangle with the apices at Kermanshah, Teheran and Tabriz. In the north, an extremely variable colony was found in flower by Brian Mathew and his Bowles Scholarship Botanical Expedition (B.S.B.E.) companions. I have only visited this habitat on eroded mud-hills near Mianeh when the plants were dormant but from the photographs I have seen these appear to be much larger and more diverse in form and colour than the smaller ones I have seen on the rolling Kurdish steppe between Sanandaj and Saqqiz. I suspect some influence from *I. acutiloba* in these northern plants. Paul Furse had an aptitude for coining succinct names and he called Kurdish *I. meda* "Honey Gold", which sums up the impression of those I know. I have found both the forms which I have attempted extremely difficult plants to grow.

Doubtless also likely to prove a great problem in cultivation in Britain, if we ever have the opportunity to try it, is another iris with flowers veined with purple-brown on a yellowish ground, also with red-brown signal-patches and yellow beards. The stoloniferous *I. nectarifera* was described in 1980 by Adil Güner, who collected material near Şenyurt, on the railway line which runs along the border between Turkey and Syria. Other desert irises collected on the Syrian side of this border are similar and

William Dykes mentions a plant, under *I. meda*, received by Michael Foster in 1888 from the area south of Mardin, which was "markedly stoloniferous." All these may be the same as the little-known *I. heylandiana*, the oldest name, described from a collection made by Kotschy near Mosul in northern Iraq, in 1841.

The *Iris paradoxa* Group.

Finally, we come to the most distinct of all the *Oncocyclus* Section, indeed the most distinct of all irises. *I. paradoxa* is like no other in its reduced, stiff, horizontal falls, each almost entirely covered with a black velvety beard, contrasting with the exaggerated, erect, rounded standards. In the Armenian type-race these are a violet-purple of varying intensity. The striking *I. paradoxa* forma *mirabilis* has yellow falls covered with an orange beard and palest blue



Iris paradoxa forma *choschab*, Iran (Azerbaijan), north of Khoi Photo: Jim & Jenny Archibald

standards. Paul Furse searched for this in Iran in 1966 towards the town of Julfa on the Nakhichevan border and found plants which approximated to it. While he wrote in 1971 that these had "done well", I have heard no more of it being established in cultivation. In the best-known form, *I. paradoxa* forma *choschab*, white standards with violet veins rise above typical, black falls. This race is found quite frequently south-east of Lake Van in Turkey and its name is an alternative spelling of a town there, Hoşap, near which lies the type-locality. Where the hills are ungrazed, it can provide a spectacle. The archaeological site at Çavuştepe, where there was no grazing, was a reliable place, though the last time we were in the area and inquired about the 'zambak', the caretaker's son told us proudly that his father had been asked to dig up a large number of rhizomes "for medicine" by a "professor from Ankara." This form also occurs north-west of Lake Rezaiyeh in Iran, often around the margins of fields and even flowering among the crops, where its rhizomes have been ploughed. Climbing into the hills, where black-bearded *I. barnumae* grows, north of Khoi, we found obvious intergrades or hybrids between the two species.

Hybrids. Though many of the numerous garden hybrids involving other bearded irises, mainly now produced in the U.S.A., are spectacular and certainly show several characteristics of the *Oncocyclus* Section, for me most of these lack the indefinable character and aesthetic appeal of their aristocratic parents. As I write this, a large clump of the American hybrid 'Desert Buttercup' has been coming into flower. Over a dozen rich yellow flowers with tucked-in falls bearing brown signal-patches are opening. To trade them all for one fleeting flower of its capricious parent, *I. auranitica*, would not be a fair exchange. Compton Mackenzie wrote in 1937, "For one perfect bloom of *I. lortetii* I would give the lot." All of us who have grown to love these amazing wild irises cannot but agree with Reginald Farrer that "their offspring....have somehow sold the honour of those silken sad uncertain queens, their mothers...."

A SELECTIVE BIBLIOGRAPHY

- Bastow, K. (1967). *Oncocyclus* Irises, Part I, in *The Iris Year Book 1967*.
- Bastow, K. (1968). *Oncocyclus* Irises, Part II, in *The Iris Year Book 1968*.
- Cowan, J.M. (1931). The Fortunes of a Botanist on the Persian Frontier, in *The New Flora and Silva*: 3, London.
- Davis, P.H. (1946). *Oncocyclus* Irises in the Levant, in *Journ. Roy. Hort. Soc.* 71 : 93.
- Dykes, W.R. (1913). *The Genus Iris*, Cambridge.
- Dykes, W.R. (1924). *A Handbook of Garden Irises*, London, 1924.
- Furse, P. (1971). *Oncocyclus* and *Regelia* Irises in Turkey, Iran and Afghanistan, in *The Iris Year Book 1971*.
- Grey, C.H. (1937). *Hardy Bulbs*: I, London.
- Hoog, M.H. (1958). New Aspects of *Oncocyclus* Culture, in *The Iris Year Book 1958*.
- Lynch, R.I. (1904). *The Book of the Iris*, London.
- Mackenzie, C. (1937). Gardening Reminiscences, in *The New Flora and Silva*: 9, London.
- Mathew, B. (1984). *Iris* in Davis, P.H. *Flora of Turkey*: 8, Edinburgh.
- Mathew, B. (1981). *The Iris*, London.
- Mathew, B. (1996). *Iris auranitica*, the lava iris, in *The Iris Year Book 1996*.
- Mouterde, P. (1966). *Nouvelle flore du Liban et de la Syrie*, Beirut.
- Post, G. and Dinsmore, J.E. (1933). *Flora of Syria, Palestine and Sinai*, Beirut.
- Rodionenko, G.I. (1968). Wild Iris Species of the U.S.S.R., in *The Iris Year Book 1968*.
- Tait, W.A. (1996). Israeli *Oncocyclus* Irises, in *The Iris Year Book 1996*.
- Wendelbo, P. and Mathew, B. (1976). Iridaceae in Rechinger, K.H. *Flora Iranica*, Graz.
- Werckmeister, P. (1957). In the Homeland of the *Oncocyclus*, in *The Iris Year Book 1957*.