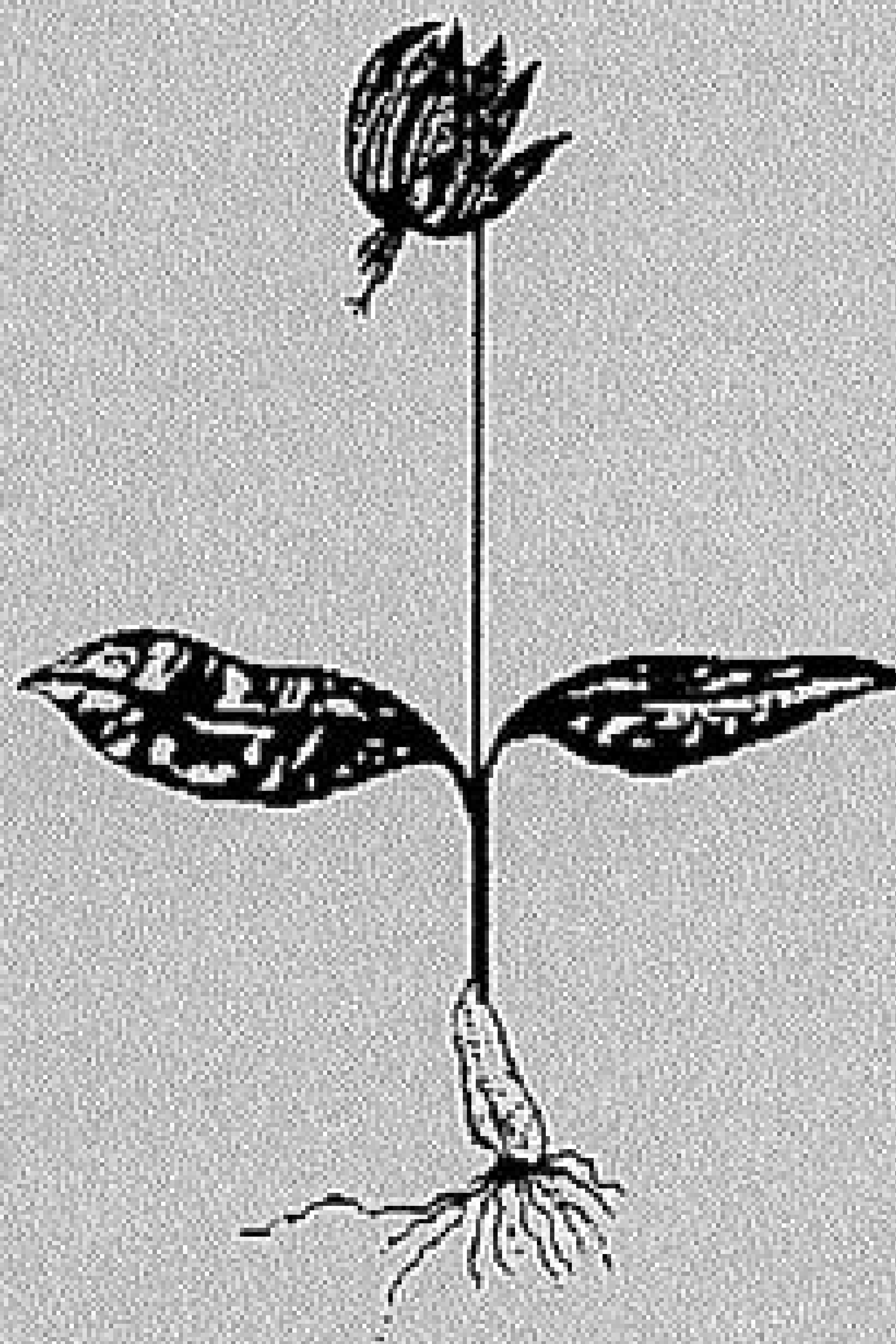


***THE BULB***  
***NEWSLETTER***



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## The Bulb Newsletter No. 8

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### *Another new Crocus*, by Victoria Matthews

'Isn't it strange' a botanical colleague remarked recently 'that Brian Mathew, who wrote the definitive book on crocus and probably knows more about this genus than anyone else, has never had a *Crocus* named after him'. The situation has now been remedied: *Crocus mathewii* was described by Helmut Kerndorff and Erich Pasche and published last June in *The New Plantsman* (Vol. 1(2): 102, 1994) with a full-colour botanical painting by Pauline Dean. *Crocus mathewii* was discovered by Pasche and Kerndorff while on holiday in southern Turkey (no plantsman ever goes on holiday without looking at and for plants) in 1992. The moment they saw it they suspected that it was new to science, an opinion borne out by subsequent study and comparison with herbarium specimens. This autumn-flowering species is most closely related to *C. asumaniae*, but differs in its creamy white flowers with a deep violet-blue throat. Each corm produces 1 or 2 flowers\*, borne 5-10 cm above the ground, with perianth segments on average about 3 cm long, yellow anthers and an orange to red style. The corm-tunic has parallel fibres which are extended into a neck at the top. Details of the spathes, bracts and seed-coats place this species in subgenus *Crocus* section *Crocus* series *Crocus* - the 'saffron group'. It is being grown in a few private collections but is not yet commercially available. It flowers freely and sets seed readily, so it is hoped that enough stock can be built up so that eventually it can be offered for sale.

\* It is flowering in our greenhouse at present (11 October) and has produced a succession of 4-5 flowers.

### *And an odd Saffron crocus from Iraq*

Many years ago, Don Elick, bulb enthusiast and co-author with Raymond Booth of the sumptuous Japonica Magnifica (see BN2:20) gave me some corms of several crocuses which he collected in northern Iraq. These were a puzzle at the time and I never came to any satisfactory conclusions about them, other than that they were probably not native in the area. One of these has settled down well in cultivation and increases; the matter of its name now needs to be resolved since it is currently (11 October) flowering well in the trial of autumn-flowering *Crocus* species at the RHS Garden, Wisley, and I suspect that fairly soon someone will want to start marketing

it. Don was of the opinion that this was associated with inhabited or formerly cultivated areas; it seems to me very likely that this plant, and probably the others brought from Iraq by him at the same time, were old introductions, perhaps as long ago as ancient Greek times, taken to Iraq as a source of saffron (the dried red style branches of this group of species). The collection referred to above, and seen growing at Wisley, is apparently a form of *C. hadriaticus* with near-white flowers, flushed with lilac on the outside and stained yellow in the throat; it has the three rather short red style branches and yellow stamens associated with this species. Although the style branches are much shorter than those of *C. cartwrightianus* (and its cultivated derivative *C. sativus*), which the Greeks are more likely to have utilised for saffron in Greece, *C. hadriaticus* could also have been a useful source, especially as this 'Iraq form' is free-flowering. I have not seen a Greek *C. hadriaticus* exactly like it, although it is a very variable species from white to pale lilac and I am sure that there are plenty of other variants which I have not yet seen. The other possibility is that this is a hybrid with one of the other species in the saffron group, but I can see no evidence of this and its features are consistent with it being a variant of *C. hadriaticus*. Of the three collections brought from Iraq by Don Elick this is the only one which I am aware of in cultivation now; perhaps someone would like to go and take another look?

### *A fine autumn Crocus*

*Crocus asturicus atropurpureus* is a very good clone which is still around in cultivation, well worth acquiring if possible. It flowers in mid-autumn, has stocky flowers which stand up well to the weather and are of a good violet-blue colour, and they are accompanied by short dark green leaves; it is altogether a much neater plant than many autumn-flowering species. Since this is such a good garden plant it needs a name and fortunately it appears that *atropurpureus* can be retained as a cultivar name since it was in use before 1959 (after that date cultivar names should not be in latinised form). The earliest reference I have found to date is in the fascinating catalogues of Ralph Cusack of County Wicklow in Ireland. His 1951-1952 catalogue reads: 'I offer the finest form of this splendid crocus. Lovely dark violet flowers with orange stamens. It blooms late, November, even December, and is very reliable. I consider it amongst the very finest autumn ones.' There may be earlier references but it does not appear to have been known to Maw or Bowles. So, it can be referred to as *C. serotinus* subsp. *salzmannii* 'Atropurpureus', or [for smaller labels!] it is permissible use the simpler version *C. serotinus* 'Atropurpureus'.

## *Holiday time*

Our short summer break this year was spent on the lovely island of Guernsey in the Channel Islands, just after the height of summer and not, one would think, much of a time to find bulbs in flower. However, the cliff top walks, largely fried to a crisp by several weeks of hot dry weather, looked the ideal spot to hunt for one of the earliest of all the autumn bulbs, *Scilla autumnalis*, and, more or less to order, there it was on the first headland to be inspected. This is not an impressive plant, neither is it rare, but none of this detracts from the enjoyment of seeing the bare inflorescences pushing up through the turf. *Scilla autumnalis* has an interesting distribution, surely left over from past ages when parts of northern Europe and Britain were more Mediterranean in their climate. The species can be found in coastal habitats widely around the Mediterranean but is also represented here in the Channel Islands and in the south west of Britain. Even more curious, perhaps, is its presence about 3 miles from our home on the grassy banks of the River Thames at Hampton Court.

Our cliff top walk in Guernsey revealed another bulb of interest; a striking patch, in fact two colonies, of the tall *Allium ampeloprasum* in its variant known as var. *babingtonii* which has large spherical tennis ball sized umbels, composed of numerous small pink flowers and many purplish bulbils. *Allium ampeloprasum* is almost certainly the species from which the culinary leek, known as *A. porrum*, was derived, and indeed the similarity between their inflorescences is quite remarkable; it is in their habit of growth that they differ most markedly. The leek has been selected to grow quickly in one season and provide a thick fleshy 'false stem' of leaf bases in its first year; normally it is eaten before it has the chance to flower. Wild forms of *A. ampeloprasum*, on the other hand, grow much more slowly, producing bulbs which become steadily larger each year until they are of a size sufficient to produce an inflorescence. Offset bulblets are produced to carry on the generation. If left in the soil a leek plant will flower and will sometimes also produce bulblets so the difference is not perhaps as fundamental as it first appears. Other forms of *A. ampeloprasum* are also used for culinary purposes, notably the 'great headed garlic', the bulbs of which are used instead of the false stems. The Guernsey version of *A. ampeloprasum* is very similar to the 'great headed garlic'. This leads me to wonder if the two patches seen on the cliffs in Guernsey were entirely natural. Both were growing adjacent to the concrete gun emplacements left by the German soldiers at the end of World War Two (what a splendid posting that must have been compared with the Russian front!). Could it be that the German cooks added flavour to their pots using *Allium ampeloprasum* and these are the offspring of those that got away, or was it the

disturbance of the soil that led to the colonisation of the two areas by this species, one which is so often to be found in and around fields, villages and along roadsides in the Mediterranean region?

### *Crinum moorei*

Some fine clumps of this lovely summer flowering *Crinum* seen in Guernsey recently reminded me that some day I must look into the origin of the hybrid *C. x powellii* which is reputed to be a *C. moorei* x *C. bulbispermum* cross. Maybe one of our subscribers knows the answer already or is willing to research it thoroughly. It is quite likely that the matter is well documented, it is just that I have not had the time to delve into the literature. We have both of the purported parents growing here in Surrey. Sadly neither are really hardy so have to be grown as container plants, and very fine they are for this purpose. Their appearance and behaviour in cultivation leads me to wonder whether *C. x powellii* is in fact a hybrid between them. With us, *C. bulbispermum* flowers at least 2 months earlier than *C. moorei*, which in itself would not have been a great problem to overcome since pollen is not difficult to store. *Crinum moorei* has wide open uniformly pale pink flowers, rapidly becoming almost pure white as they expand; *C. bulbispermum* has funnel shaped flowers which are white with conspicuous crimson stripes along the centre of each of the six segments. Would a hybrid between them have such uniformly rich pink flowers, I wonder? And what about the pure white form of *C. x powellii*? I fully realise that one cannot necessarily predict what colour a hybrid will turn out to be, but in my experience a first cross between two species is usually fairly intermediate in its characters and I would expect there to be a fairly prominent red stripe derived from *C. bulbispermum*, and perhaps rather more of the wide open flower shape of *C. moorei*. As a final comment I must say that I much prefer the appearance of the two species to *C. x powellii* (as is so often the case with hybrids of course), but *C. x powellii* does seem to be somewhat hardier.

### *Crocus species in pots*, by Alan Edwards

In response to Brian's invitation in issue No. 5 to shed light on my Crocus growing activities I would suggest firstly that living on a south facing slope in the Surrey hills at lat. 51 15'N. on a light alkaline soil (pH 7.5) bestows an immediate advantage. I may fiddle around with various potting mixtures, feeding regimes etc, but at the end of the day I think the Surrey sunlight, North Downs air and local soil must take most of the credit for the short-tubed growth. My potting mixtures are all quite basic; for roughly 85% of species (Group 1), I use 2 parts vegetable garden soil, 2 parts Chichester grit (5 mm diam. & less), 1 part oak leafmould and Vitax Q4 fertilizer at the

rate of 10 oz per bushel. For the other 15% (Group 2) the mixture is varied to comprise 2 parts oak leafmould, 1 part well rotted stable manure, 2 parts lime-free grit/sand (eg. Calval) and Vitax Q4 as above. All soil, manure and leafmould is finely sieved but not sterilized. If the latter statement sounds heresy to some of you then so be it. Perhaps this is also the place to mention that neither do I bother to scrub or sterilize my pots and pans unless, when potting or repotting, I find obvious signs of pests or disease. If I detect trouble, and happily this is fairly rare among *Crocus* species, then I treat the pots, pans and crocks with a Jeyes Fluid solution. Suspect corms are immersed in Supercarb for 12 hours. I repot every species annually in July-August. I consider this operation essential since a *Crocus* has to produce a new corm every year. If you want nice plump corms and a generous increase by division there is no alternative to this chore. Group 1 species are kept plunged in sand to the rim in a well ventilated Access frame in full sunlight. If the summer is very hot I water occasionally just to prevent the pots becoming too arid and remove the overhead glass. I commence regular watering in early September but the pots are only moved into the Alpine House as the buds show colour and are returned to the frame as the flowers go over. Group 2 species are kept in a well moistened, shaded sand plunge from commencement of dormancy in early to mid May until early October, when they join their fellows in the main frame. Once active growth is visible I give regular liquid feeds using a high potash preparation eg. Chempak 4 or Phostrogen. My crocuses receive a dose of systemic fungicide whenever I treat the rest of my bulb collection, say four times during the growing season. Before returning pots to their quarters, following repotting, I treat the plunge material with a generous application of a soil pest inhibitor. Regarding the 15% of species in Group 2; these comprise *C. abantensis*, *banaticus*, *carpetanus*, *cvijicii*, *gargaricus*, *gilanicus*, *nudiflorus*, *robertianus*, *vallicola* and *vernus*. There are of course within Group 2 a few more so called higher altitude snow-melt species such as *C. pelistericus*, *scardicus*, *scharojanii* and some *veluchensis* forms which I find unrewarding or ungrowable in pots and in my view are better suited to the peat bed. At the other extreme of the cultural spectrum are a few Middle East species within Group 1 such as *C. aleppicus*, *boulosii*, *hermoneus*, *hyemalis*, *moabiticus* and possibly *vitellinus* which are best kept dry as a crisp all summer and frost free in the winter. To this small but select group I would add *C. sieberi* ssp. *sieberi* which is not reliably winter hardy, but need not be roasted in the summer. So there you have it, my personal rough guide to short tubes, but please remember that different soils, aspects, latitudes and indeed hemispheres may dictate an alternative approach. [Many thanks, Alan, for that interesting contribution; I hope that for your sake not everyone is inspired to move to West Humble!].

## *Snowflakes on the River Thames*

*Kew Scientist* No.5, April 1994, reports that about 150 bulbs of *Leucojum aestivum* subsp. *aestivum* have been re-introduced to Isleworth Ait, a small island in the River Thames near Kew which is managed by the London Wildlife Trust. The summer snowflake or Loddon lily used to grow in the area so this is not a new introduction; records show that it was collected nearby on the banks of the Thames in 1909 but has long since disappeared.

## *A new dwarf Ixia species*

Dr. Peter Goldblatt and John C. Manning have recently described a new *Ixia* from South Africa which looks a most exciting plant, more like a *Galaxia* or even a small *Crocus* at first glance; appropriately it is named *Ixia acaulis*. It has stemless long-tubed (the ovary is subterranean, as in *Crocus*) yellow flowers facing upwards, the six segments opening out flat to give a flower diameter of about 1.5 cm. The 3-5 leaves are produced in a basal tuft, more or less prostrate or arched over towards the ground, and are only 1.5-2 mm wide and 2.5-3 cm long, so this really is a small neat plant. The corm is covered with a finely fibrous tunic and appearing, from the accompanying drawing, to be somewhat netted - again like several of the *Crocus* species. I am using *Crocus* as a point of comparison since so many bulb enthusiasts are familiar with them but, although placed in the same tribe of the Iridaceae, the Ixioideae, *Crocus* is probably not very closely allied to *Ixia*. *Ixia acaulis* was discovered in 1991 by Pauline Perry in the Vanrhynsdorp District of Cape Province; at present it is known from only two areas, growing in rock crevices. According to the authors it appears to be restricted to limestone ridges in the arid Knerovlakte of southern Namaqualand where it experiences an annual rainfall of less than 100 mm; this falls in winter and *Ixia acaulis* flowers right at the start of the rains (May in the wild). Presumably when introduced into cultivation in the northern hemisphere it will continue to behave as a winter grower and is likely to flower in about September-October, as soon as it is started into growth after a dry summer dormancy. This is a most exciting plant which, one day, I look forward to growing. The full paper can be found in *Novon* (a Missouri Botanical Garden publication) vol. 3, no. 2: 148-153(1993).

## *Anomatheca laxa* subsp. *azurea*

In the same volume of *Novon* (above), Peter Goldblatt describes the blue-flowered version of this normally red-flowered bulb (which is still sometimes seen as *Lapeirousia cruenta*), as subspecies *azurea*. The

'normal' variant, subsp. *laxa*, has a wide distribution in the eastern Cape and northwards into Zambia, Zaire, southern Tanzania, Uganda and Kenya, although the distribution is not continuous. Subspecies *azurea*, on the other hand, is restricted to a much smaller area in sand dunes on the coast from Richards Bay in Natal north into Mozambique. Apart from the flower colour there is a difference in flowering time, the blue subspecies flowering in winter and early spring whereas subsp. *laxa* is a summer-grower. This behaviour, in my experience, continues in cultivation in the northern hemisphere and the two variants have to be given quite different watering regimes. I did, however, once have a collection of subsp. *laxa* which was winter-growing but I have since lost this, unfortunately. I also raised some hybrids between the red and blue forms with deep dull purple flowers but these too have not lasted; 'ordinary' red subsp. *laxa* is, on the other hand, a highly successful plant in cultivation as I am sure many other growers will testify.

### *Deadly Day Lilies*

*Hemerocallis* flowers are eaten in some parts of eastern Asia, and they can be used to decorate salads, but it appears that one should not be tempted to eat those nice fleshy roots. In a paper published in *Acta Botanica Borealis Occidentalis Sinicae* 13(4):316-321(1993). J. Wang and J. Yang report that the roots contain a 'neurotic principle' which poisons any domestic animals which eat them. I cannot imagine cows, horses, sheep or goats digging up roots but maybe pigs would. The chemical agent involved is, surprise surprise, Hemerocallin! The Chinese-English summary is a little difficult to interpret but the substance appears to have been isolated from *H. citrina*, *H. lilioasphodelus*, *H. minor* and *H. esculenta*; this last epithet means edible, presumably referring to the flowers.

### *Anthophoros (see BN7:12)*

Numbers 3 and 4 of *Anthophoros* contain interesting notes on various species of *Tulipa* in Greece. *Tulipa australis* normally has one or two flowers but George Sfikas reports individuals with up to four flowers in parts of the northern Pindos range; the number of leaves also increases, up to five. There is a suggestion that these multi-flowered plants are associated with areas of serpentine rocks. The island of Hios seems to be well supplied with *Tulipa* species and Number 4 is devoted to a survey of them. George Sfikas identifies four on the island, although he does suggest that they are not all truly indigenous populations. They are: *T. praecox*, *T. agenensis* (*T. oculis-solis*), *T. undulatifolia* (*T. boeotica*) and *T. clusiana*. The first three belong to the very complex group which have large red



flowers with a yellow-margined black eye in the centre and are, along with several other species from western Asia, superficially all very similar. *Anthophoros* also reports further sightings of wild populations of *Lilium candidum* and an extension of the known range of *Narcissus poeticus* into the northern Peloponnese; its southern-most area was previously recorded as central and northern mainland Greece and the mountains of central Euboea.

### *Calling all wartime bulb hunters*

Research into the collection in Britain of *Colchicum autumnale* during the Second World War is being carried out at the Royal Botanic Gardens, Kew by Laura Hastings. During the war continental supplies of plant materials for British pharmaceuticals were cut off and had to be replaced by cultivation and collection of plants growing in Britain. *Colchicum autumnale* was designated one of the top ten essential medicinal plants. The colchicine present in the corms and seeds is valuable as an effective pain killer for gout and for use in plant and animal physiological studies for inducing chromosome number doubling. The annual estimated peace-time supply was 20 tons of corms. The Royal Botanic Gardens, Kew, the Women's Institute and the Boy Scouts Association were all involved in this war effort and Laura would be interested to hear from anyone who has knowledge of *Colchicum autumnale* growing in Britain and being collected at that time; in particular she would welcome news of any photographs that may exist. Laura Hastings can be contacted at The Centre for Economic Botany, Royal Botanic Gardens, Kew, Richmond, Surrey, TW9 3AE. [Tel. 081-332-5771].

### *Neomarica northiana*

Earlier this year a visitor to Kew enquired if this plant was named after Marianne North, whose amazing paintings fill the Gallery which bears her name at the Royal Botanic Gardens. The short answer is no, but of course one can never help delving into things like this: who was it named after? Well, it appears that this Brazilian Iridaceae was described in the *Botanists' Repository* by Henry C. Andrews, Vol.4: plate 244 (1802), as *Moraea northiana*. The entry reads: 'About the year 1789 this very fine species of *Moraea* was introduced to our gardens by the elegantly tasted Mrs North, lady to the Right Hon. the Lord Bishop of Winchester; to whose fervor and liberality in botanical pursuits we owe much of the present prevailing taste for the science. The plant was brought to England by the Hon. Mr F North, on his return from Portugal; the only remnant of a number, which he had procured from the gardens of the late Queen of Portugal; immediately on its

arrival it was consigned, in a very sickly state, to the care of Messrs Lee and Kennedy, Hammersmith, who had the good fortune to recover it ----- . The plant from which our drawing was made, in 1787, at the Right Hon. the Marquis of Blandford's, then resident at Bill Hill, Berks, was in the highest perfection we have hitherto seen it.'

A year later, Ker-Gawler also gave an account of the plant in *Curtis's Botanical Magazine*, Tab. 654 (1803), this time as *Marica northiana*. He had a few more details: 'A native of the Brazils, where it was gathered on the island of Raza, near the mouth of Rio Janeiro, by Sir Joseph Banks; introduced here via Lisbon, by the late Mrs North, in honour of whom the gardeners have dubbed it with its present barbarous nick-name.'

Mrs North presumably died around 1803, whereas Marianne North the artist was not born until 1830; whether there was any family connection I have been unable to trace.

The explanation of *Neomarica* is that when Ker-Gawler described this *Marica* he overlooked the fact that there was already a genus *Marica*, described earlier by Schreber; so, it had to be renamed and the botanist Sprague chose *Neomarica*.

### *The new Galanthus peshmenii*

This newly described autumn-flowering snowdrop was briefly reported in BN7:12, without much detail. Recently, some fine pots of it were brought to the Alpine Garden Society's autumn show at Horsham and there was a debate as to how it differed from the quite well-known *G. reginae-olgae*. The original diagnosis (it is described by A.P.Davis & C.D.Brickell in *The New Plantsman* 1:14-19,1994) states: 'akin to *G. reginae-olgae* but differing in its well-developed palisade layer, and long, thin, green-glaucous leaves lacking a prominent, glaucous, median stripe'.

The anatomical details of the upper surface of the leaves mainly distinguish this; the 'well-developed palisade layer' refers to a layer of cells which are rather longer than broad. This, of course, is microscopic detail and makes very little difference to the appearance to the naked eye, so the absence of a conspicuous pale stripe along the centre of the leaf is about the best way of recognising this species. The leaves are also described as thin and rather floppy (flaccid), so that in the case of plants growing on the ground the leaves become prostrate, while those growing on cliffs have pendent leaves; this feature, however, cannot be seen at flowering time since, as in *G. reginae-olgae*, the leaves are absent or only just appearing at that time. The flowers seem to be very similar in the two species. There are two

known areas for the new *Galanthus*, on the Turkish mainland in Antalya province, and on the island of Kastellorizo. *Galanthus reginae-olgae* has not been found in Turkey; the specimens which were cited in *Flora of Turkey* Vol.8 (1984) as belonging to this species are now referable to *G. peshmenii*.

### *A New Korean Eranthis*

*Eranthis* (Ranunculaceae) is not a monocot but it does have a tuber so is an 'honorary bulb' and thus qualifies for inclusion in BN. This is a small genus, much-loved for its best-known representatives from Europe and Turkey, *E. hyemalis* [the Winter Aconite] and the closely related *E. cilicica*; the hybrids between the two are known collectively as *E. x tubergenii*, of which 'Guinea Gold' is a selection. In addition to these there are a few species in central and eastern Asia, very rarely seen in cultivation. One of these, *E. longistipitata*, is occasionally introduced; it is similar in general appearance to the western species but the smaller yellow flower is carried on a stalk well above the whorl of leaves; the leaves are more finely dissected than those of *E. hyemalis* and *E. cilicica* so it quite an attractive little plant. I have never seen *E. sibirica* alive but herbarium specimens indicate that it is like *E. longistipitata* in having a stalked flower, but the leaves are less finely divided. *E. stellata* from the far eastern districts of Russia and China is also similar but has white-hairy flower stalks. There is a Japanese species, *E. pinnatifida*, which is white-flowered and delightful; the name derives from the fact that each of the leaf lobes is subdivided into narrow lobes almost in a pinnate fashion (that is, with lobes on either side of the central vein). This species thus differs from the general appearance of the winter aconites in both flower colour and leaf characters and this has led some botanists to suggest that it should be removed from the genus *Eranthis*, the genus *Shibateranthis* was described to house this species but as far as I know this has not gained much of a following to date.

It is most interesting that a new species has now been discovered in Korea, somewhat similar to *E. pinnatifida*. It has been named *E. byunsanensis*, described from the Saebong valley on Mt Naebyun in the Chonbuk area, flowering in March 1991. The latin description shows that this is a plant of 10-30 cm in height with a spherical tuber about 1.5 cm diameter; it has true leaves which are dissected into pinnate lobes but the bract leaves just below the flower are not lobed although it appears that an occasional tooth may be present. The flower is white and the funnel-shaped nectaries greenish-yellow (in *Eranthis*, as in *Helleborus*, the showy part of the flower is the calyx and the petals are reduced to small nectaries); the anthers are purplish. For those who are familiar with *E. pinnatifida* this new species will

sound much the same, but it is described as differing from that species in the shape of the nectaries: funnel-shaped in *E. byunsanensis* and Y-shaped in *E. pinnatifida*, with the nectar-bearing portion in a slightly different position around the rim of the margin of the funnel (apparently it is inside one of the lobes of the 'Y' in *E. pinnatifida*); also it has a hairless flower stalk (hairy in *E. pinnatifida*). The paper where the new species is described is mainly in Korean, which I confess is not one of my strong points, but there is enough Latin and English to indicate that there are other species with which I am unfamiliar: *E. lobulata* and *E. albiflora*, so further delving is required into these eastern Asiatic *Eranthis*. The paper is published in *Korean Journal of Plant Taxonomy* 23,1: 21-26(1993), and the authors are Byung Yun Sun, Chul Hwan Kim and Tae Jin Kim.

### *The smallest, rarest dog's tooth of them all*

I must confess that I was not greatly impressed when *Erythronium propullans* flowered here a few years ago, although it does have a certain miniature charm and the leaves are nice. This is probably the rarest *Erythronium* species, occurring only in two counties in Minnesota; it is considered to be the state's rarest wildflower and is protected by the Endangered Species Act 1973. So where did yours come from, I hear you ask. Well, it came from a garden in British Columbia but where it was before that I have no idea; hopefully it had been in the garden for a long time prior to 1973. I have just obtained an interesting little booklet about the species, entitled *Minnesota Dwarf Trout Lily*, published by the Minnesota Natural Heritage Program. Here it is noted that as well as its federal status it is also protected by the state law: 'it is a violation of this law knowingly to take, import, transport or sell all or parts of any listed endangered plant'. So, I must take care of mine and try to encourage it to spread as rapidly as possible. It does this by an interesting means, unique in the genus as far as I know. It produces stolons, as do several others, but in the case of *E. propullans* these arise from the stem above the bulb, not from the bulb itself. The flower also helps to distinguish this from all others since it is tiny, only 1 cm or so long, and may have 4, 5 or 6 perianth segments (it was a relief to read that, since I thought that mine must be deformed). The colour is near-white or pale pink with a flush of darker shading on the outside and the leaves are mottled green and brown with an overall greyish appearance. It is, in fact, like a very diminutive *E. albidum* but the booklet goes on to say that the plant possesses a genetic and chemical makeup unlike that of any other. Among the threats to *E. propullans* listed here are: cutting of trees that provide shade for the forest floor habitat, herbicide use, housing developments, spring floods, soil

erosion caused by activities upstream from its habitat and physical damage by 'human traffic'. Wooden walkways have been constructed in some of the localities to allow visitors to the parks to see the plants without trampling them. Fortunately about half of the known sites for the species are within state Scientific and Natural Areas, state or county parks or private reserves such as those of The Nature Conservancy. Other populations occur on private land where some of the farmers or landowners are maintaining the habitat on a voluntary basis. It is particularly interesting to see the colour photographs of the species in its wild state, one of these showing that it can occur together with *E. albidum*; there is a comment that genetic research suggests that the species evolved from *E. albidum* no more than 9000 years ago, after the last ice age. It is also noted that the plant is not very free-flowering in the wild and hardly ever produces seeds; only the flowering plants produce stolons with new bulbs at their tips, and, since only about 10 per cent of the plants flower in any one year, the rate of increase is not very great.

In cultivation I find that *E. propullans* is not as difficult to grow as some of the high-altitude western American species and it has increased slowly in a pot of humus-rich (leaf-based, not peat) soil. Nevertheless, from one bulb to four in over ten years is hardly something to boast about!

### *A beautiful yellow fritillary*

Earlier this year, *Fritillaria chitralensis* (*F. imperialis* var. *chitralensis*) flowered at Kew and was painted for *Curtis's Botanical Magazine* by Joanna Langhorne. This is not a well-known plant in the wild or in cultivation but is very distinct and is clearly not just a yellow variant of *F. imperialis*. It is much shorter, usually less than 30 cm and has only one to four flowers per stem which bears scattered leaves. In order to ascertain the correct name, prior to it being written up for the 'Bot. Mag.', I had started to delve when fortune smiled on me in the form of Martyn Rix who happened to be visiting the Herbarium at Kew. He mentioned a reference in the *Gardeners Chronicle* of 12 March 1910, page 171, fig. 73. This is a write-up of the Award of Merit plants from the R.H.S. Show of 22 February 1910, but no author's name is given: 'Some cut flowers were shown of a beautiful yellow *Fritillaria*, but the variety was not known to the committee. It was resolved to send the flowers to Kew for identification, and, subject to the variety being given a name, it was further resolved to recommend the next committee meeting to bestow an Award of Merit. At the meeting on March 8, it was reported from Kew that the flowers belong to *F. imperialis*, being the Chitral form of that species. In Chitral, this particular variety is said to be as common as daisies in this country. The variety is apparently

new to cultivation here, and it is to be called *chitralensis*. Miss Watson, North Court, Finchampstead, Hampshire, who exhibited the flowers on February 22, informs us that the bulbs were sent home by Col. H.D.Watson C.I.E., when he was with his regiment, the 2nd King's Own Goorkhas [Gurkhas], in Chitral. They were grown at North Court by Miss Watson's gardener, Mr A. Langridge.'

Further information can be found in the *Extracts from the Proceedings of the Royal Horticultural Society*, page 50 (1910), in the report of the Flora Committee for 22 February 1910: 'judging from the specimens shown, it does not produce so many flowers as the type [i.e. *F. imperialis*]. The perianth-pieces are less spreading. The flowers are bright yellow, sometimes faintly veined inside with brownish green.'

There is another reference which may well have some significance concerning the name of this superb plant. Mr R.W.Wallace wrote an article called 'Garden Fritillaries' in *The Garden* of 1912, where he referred to it as a species: '*F. chitralensis* (A.M.1910), a yellow fritillary from Chitral, is more slender than the "Crown Imperial" and has scattered leaves'.

This probably constitutes valid publication of the name at the species level, and there is clearly no doubt as to which fritillary is being referred to. Christabel Beck, in *Fritillaries* (Faber & Faber, 1951) makes only a passing comment about the plant, as a variety of *F. imperialis* which is 'said to be odourless'. Herbarium specimens show that this occurs in Afghanistan as well as in Chitral; in fact the few bulbs which are around in cultivation are probably all derived from a collection by Mr & Mrs P.L.Carter at Konar, between Barikot and Kamu in north-eastern Afghanistan (Carter 762). This collection has been cultivated successfully at Kew, under the watchful eye of Tony Hall, for many years. It is not a difficult plant and grows quite well in a deep pot in a cold frame or glasshouse, but in Britain perhaps emerging rather too early in the year to trust it to outdoor cultivation. As far as the distribution is concerned there are records from Drosh and Bromalu in Chitral, the Kurram valley, which is south-east of Kabul, and the Panshir valley, Barikot and Kamu areas in eastern Afghanistan (north-east of Kabul); the altitude varies between 1150 and 2500 metres and the habitat is described as 'in pockets of rich coarse sandy soil on cliffs, not easily accessible' [P.L.Carter], and 'on one of the most inaccessible cliffs in the district' [Lt.Col.S.Brown].

Let us hope that it will not be too long before this splendid plant is more freely available.

### *More on labels*

Jane McGary of Estacada, Oregon, recently acquired an industrial grade Dymo label maker which embosses letters on to an aluminium tape rather than the usual plastic, thus giving a very permanent result. Jane says: 'I punch a hole in the end of the label and anchor it with a long stiff galvanised wire. The drawbacks are (a) initial expense -the tool costs about \$75, (b) slowness of production (best done on winter evenings) and (c) the label is very shiny, but maybe the glitter will weather off. This is available from A.M.Leonard Inc., P.O. Box 816, Piqua, OH 45356, U.S.A.

### *Stamps*

Rene and Gary Buckley of Latrobe, Tasmania have sent us a strip of four very attractive Christmas Island orchid stamps. These are all 45c stamps, depicting paintings of *Brachypeza archytas*, *Thelasis capitata*, *Corymborkis veratrifolia*, *Flickingeria nativitatis* (Nativity--Christmas, got it?!) and *Dendrobium crumenatum*. Many thanks for these.

A very attractive 32p stamp from Ireland depicts a white O'Kelly's orchid, *Dactylorhiza fuchsii*, in front of a landscape of grassy headlands, a typical habitat for the common spotted orchid of which this is a variant; this pale-flowered version from Ireland has been known as subsp. *o'kellyi* but the subspecies is not recognised by *Flora Europaea*, it being 'sunk' into subsp. *fuchsii*.

And Christian Geoffroy has sent us a very well-produced 4 Franc Orchis des Marais, *Orchis palustris*, from France.

### *Postcards*

A set of six postcards showing photographs of Turkish bulbs in colour has been produced by Diana Scarlet and Douglas Horne. These sell at £1.50 plus a s.a.e., or \$4.00. The species depicted are: *Iris caucasica*, *I. iberica* subsp. *elegantissima* (2 forms), *Fritillaria kittaniae*, *F. alburyana* and *F. armena*. Obtainable from: Diana Scarlett, 6 Kensington Terrace, Leeds 6, LS6 1BE, U.K.

### *Requests*

Shirley Pierce is on the trail of some variants of *Lilium chalcedonicum*, mentioned in the Lily Year Book of 1951-52 (page 133). These are *elatior*, *graecum* and *maculatum*, grown in France by M. L'Abbé Souillet. Var. *maculatum* appears in my beloved 1938-39 catalogue of Constable's Lilies

of Tunbridge Wells, Kent, and was described as 'AM (1930), exhibited by us. This rare, broad-petalled variety when established will attain a height of 4 to 5 feet. Rich scarlet flowers, spotted black at the base. It is the finest form of *L. chalcedonicum*. A well-grown clump, even in a garden of rarities, cannot fail to arrest attention. Very scarce. Home grown 7/6 each' [somewhat less than 50 p]. I have no information on *elatior* and *graceum*. Incidentally, Shirley is also seeking double hepaticas; non-bulbous but we will overlook that, just this once! Would anyone with information or plants to spare of any of these please contact Shirley Pierce, 24 Main Street, Normanton le Heath, Leicestershire, LE67 2TB.

Margaret Criddle, Seeds Distribution Officer of the British Iris Society, has asked for help concerning a Tall Bearded Iris called 'Whitehall'. She has a plant of a T.B., probably bought in the 1920s, and thinks it might be this cultivar; Margaret would like to see a photograph of this (preferably colour of course) to check if her plant is the correct 'Whitehall'. If anyone has or knows of such an illustration, please contact her at 5 Storeys Lane, Burgh Le Marsh, Skegness, Lincs PE24 5LR, U.K.

### *From the Postbag*

Jane McGary, Estacada, Oregon, writes: 'We enjoy The Bulb Newsletter and especially appreciate the information on catalogues. In regard to the recent discussion on extra petals in *Crocus*, I haven't seen crocuses like this, but bearded irises, especially the dwarf hybrids, occasionally produce flowers with four or six complete sets of flower parts; some irisarians claim this is caused by sharp temperature fluctuations at the time of bud formation. Certain clones are particularly prone to this. I doubt that it is caused by a virus because it doesn't occur every year.'

Jeff Irons from Heswall, Wirral, writes to say that the 'Bulb Newsletters are full of interest and provoke thought'. Good, that is just what we intended, and it is encouraging when we receive comments and observations which BN has stimulated. Jeff has sent us the following comments on *Galtonia* and *Diplarrena*.

*Galtonia*. 'This year I am growing *Galtonia* 'Moonbeam'. The gastropods love it, whereas they leave common *G. candicans* alone. This makes me wonder whether it is, as is claimed, a sport from *candicans*. *Galtonia* 'Moonbeam' is the one with upward pointing flowers.'

[In the BN garden, which is overrun by slugs and snails, none of the *Galtonia* species is attacked (but we have not tried 'Moonbeam'); possibly they are too busy eating the hostas to have noticed them].



*Diplarrena*. 'I have grown the genus since 1966 in Cheshire, Derbyshire and Huntingdonshire. It has withstood zero degrees Fahrenheit with no snow cover, and I have never watered although it was that practice which led to my losing *D.* 'Amethyst Fairy' in 1992; perhaps the plant was insufficiently established. Fortunately I got seed and distributed it.'

Jeff also points out that the spelling should be *Diplarrena* without an 'h', the name having been published first in this form by J. de Labillardière in 1800.

The genus was included in Jeff Irons' interesting review 'Australian plants for British Gardens' in *The Plantsman* 14,4 : 234-246 (1993) where he says that diplarrenas are 'long lived and tolerate a wide range of soil conditions, from very dry to quite wet. They flower best in full to partial sun, but do not flower well, if at all, in deep shade'.

The *Flora of Australia* Vol. 46 (see Bookends on page 19) gives the derivation of *Diplarrena* as: 'from the Greek *diploos* (double) and *arren* (male), referring to the two fertile stamens'. The third stamen (Iridaceae have only three) has no anther. *Diplarrena* has two species, *D. moraea* and *D. latifolia*, the first occurring in south-eastern New South Wales, southern Victoria and widely in Tasmania whereas *D. latifolia* is endemic to Tasmania, in the south and west of the island. The two differ in width of leaf (under 1 cm wide in *D. moraea* and over 1 cm in *D. latifolia*) and this is used as the key character in the *Flora*. Looking at the two descriptions, *D. moraea* has smaller outer perianth segments, 2.5-3.5 cm long and 1.5-2.2 cm wide (3.5-4.2 cm by 2.5-3 cm in *D. latifolia*) and this accounts for the much more substantial appearance of the flowers of the latter. Jeff Irons, in his article, comments that in the forms known by gardeners the inner segments of *D. moraea* are white and yellow with a few purple markings while in *D. latifolia* they are purple and white, sometimes with very prominent dark purple marks; he also notes the difference in size and shape of the outer segments. Although these differences have quite a marked effect on the appearance, the *Flora* account notes that *D. latifolia* is 'very closely related to *D. moraea*, and may be a geographical or chromosomal variant of that species'.

John Rogers of Mill Hill, London came across *Aristea ecklonii* on a visit to Hyde Hall Garden earlier this year and has written requesting further information. *Aristea* is a predominantly African genus in the Iridaceae, mostly blue-flowered, rhizomatous and clump-forming with long narrow evergreen leaves. The flowers are flattish when fully open and are produced in dense spike-like clusters or in looser, more branching, heads. There are approximately 50 species, the majority of which are in Southern Africa with a few in Tropical Africa and Madagascar. A few are naturalised

in other places; I have, in the past been sent *A. ecklonii* from Ceylon for identification. Aristeas are quite attractive but not very frost hardy, especially in view of the fact that they are evergreen. Certainly here in Surrey even the hardiest ones from the Eastern Cape require frost-free protection, but there is no great difficulty in growing them in large pots or planted directly into a glasshouse border. They do, however, resent disturbance so seedlings are best potted up individually as early as possible so that they can then be potted on or planted out with little disturbance to the root system; splitting old clumps is unlikely to meet with much success. They flower in winter, spring or summer, depending upon the species and its origin. Few *Aristea* species are available in the trade; the current *Plant Finder* lists only *A. ecklonii* and *A. ensifolia*, although one would probably fare better looking through the seed lists of some of the South African nurserymen, or by joining The Botanical Society of South Africa (Kirstenbosch, Claremont 7735) which entitles members to seeds from the National Botanic Gardens.

### ***News from BN Subscriber on Elephant Project***

Mention of an *Aristea* reminded me to include comments from an interesting letter from John Grimshaw who has been working in Tanzania on the Kilimanjaro Elephant Project - our subscribers are everywhere! *Aristea alata* is just one of the many petaloid monocots he has seen in his travels.

John writes: 'Kilimanjaro (and vicinity) has quite an interesting range of bulbous plants, although most are rather locally distributed. Off hand I can think of *Moraea carsonii*, *Gladiolus watsonioides*, *G. dalenii*, *G. ukambanensis*, *Hesperantha petitiana*, *Romulea keniensis*, *Dierama cupuliflorum*, *Aristea alata* (honorary bulb), *Crinum macowanii*, *Ammocharis tinneana*, *Boophone disticha*, *Scadoxus multiflorus*, *Gloriosa superba*, *Androcymbium melanthoides* and various *Urginea* species. *Gladiolus dalenii* is a spectacular weed in some of the less well-tended wheat fields, occurring in thousands.' John also visited the Southern Highlands of Tanzania and climbed Mt Rungwe, 'whose lower slopes are covered by extremely damp forest. In this I was surprised to find two species of Iridaceae, a *Dietes* [probably *D. iridioides* - BM] and what appeared to be a *Tritonia* [both *Tritonia laxifolia* and *Crocasmia aurea* are recorded for Tanzania, but this plant is more likely to be the *Crocasmia* in that type of habitat - BM]. The first flowers of *Moraea schimperii* were appearing in burnt-over grassland.' We enjoy reports such as these from around the world, so thank you John.

### *And mentioning Crocosmia aurea----*

This is in flower now in the BN garden (October) from a Malawi collection given to me earlier this year by Cliff & Maureen Dadd of Ballalheannagh Gardens on the Isle of Man. It is really rather nice and quite distinct from the hybrid *C.x coccosmiiflora* ('Montbretia') which can be such a pest in some parts of the world; *C. aurea* has large orange flowers (about 5 cm across), slightly pendent with gracefully reflexed perianth segments and very long-protruding stamens. Unfortunately it appears to be rather tender and has already suffered in the first white frosts of the season, whereas *C.x coccosmiiflora* seems to be indestructable; the latter is a hybrid between *C. aurea* and the South African *C. pottsii*.

### *From the Catalogues*

Ken and Lesley Gillanders of Woodbank Nursery, RMB 303, Tasmania 7150 (see BN7:20) have supplied further details of their trading arrangements for overseas customers. Australian native plants are not available for export. Non-natives are exported under the following conditions: a phytosanitary certificate costs 43 Australian dollars for each order and there is 'washing off soil' service charge of 20% of the value of the plant. Postage: international express post is 1 kg: \$37, 1.5 kg: \$47, 2 kg: \$57, and \$10 for each kilogram above 2 kg.

For Galanthophiles, The Snowdrop Company has a good list of bulbs, mainly cultivars, which have been propagated by twin scaling/chipping and are therefore likely to be true to name. The bulbs are sent out in late February or March 'in the green'. The 1994 catalogue contains familiar names such as 'S.Arnett', 'Magnet', 'Straffan' and 'Ketton', all first rate garden plants, as well as some less frequently seen but historically important cultivars. 'Sibertoff', named after Lady Beatrix Stanley's garden, is a plicate-leaved one with large flowers, described by Dr Ronald Mackenzie the, proprietor of the nursery, as one of the best snowdrops he grows. 'Armine' is one I have not seen, another plicate-leaved hybrid which was raised by the once-famous Giant Snowdrop Company. 'Bertram Anderson' recalls one of the great bulb enthusiasts of the century and is said to have been found in his garden, a vigorous plant with long outer perianth segments and a broad deep green mark on the inner ones. 'Mighty Atom' is one which I remember seeing at Sir Frederick Stern's garden at Highdown about 30 years ago but it originated in John Gray's garden at Benhall; perhaps it is rather out of proportion with its very large flowers on short stems, but it is certainly distinct. 'John Gray' is there as well, and 'Benhall Beauty', so this great snowdrop enthusiast is well represented in

the collection. The Snowdrop Company, Barn Cottage, Shilton, Oxfordshire OX8 4AB, U.K.

Two Croatian botanists, Zlatko and Angelina Petrisevac have available a number of interesting bulbs that are not widely obtainable. They are mostly *Crocus*, for example, *C. cancellatus* subsp. *mazziaricus*, *C. kosaninii*, *C. malyi*, *C. rujanensis*. All are propagated directly from wild material they have collected (in the territory of the former Yugoslavia). A price list, together with locality details and ordering arrangements can be obtained from Will McLewin, Phedar Nursery, Bunkers Hill, Stockport, SK6 3DS, U.K.. (please send stamped self-addressed envelope)

Following on from the comments in BN7:7 about Lilies dwarf and rare, I now find that *L. oxypetalum* var. *insigne* is available, and I have succumbed: whether or not I can grow this little treasure is another matter! It is another of the *L. lophophorum*-*L. nanum* group which were at one time included in *Nomocharis*. Kath Dryden has a stock: Mrs K.N. Dryden, 30 Sheering Lower Road, Sawbridgeworth, Herts, CM21 9LF. Her 'Manavilins' list No.22 has all sorts of choice items including some of the extraordinary green and brown hooded orchids from Australia, *Pterostylis*, which have turned out to be growable and propagatable.

Jānis Rukšāns has the usual amazing list, probably too late to order this year but worth noting for next year. Almost unheard-of *Alliums* from Central Asia, a *Colchicum* hybrid, *C. 'Jarka'*, with the upper third of the flower white and the lower two thirds pinkish-lilac, many tuberous *Corydalis* and *Crocus*, for example named selections of *C. korolkowii*, a pure white mutation of *Fritillaria persica*, Juno and Reticulata group irises, *Tulipa* species and hybrids between Central Asian species, & the lovely *Muscari pallens*. Jānis Rukšāns, Bulb Nursery, Rozula, LV-4150 Cešu apr., Latvia.

### ***Bookends***

*The Flora of Australia* : For those who are interested in the huge and amazing range of petaloid monocots in Australia I can thoroughly recommend volumes 45 and 46 which deal with Liliaceae (in the case of this flora used in a very wide sense to include Amaryllidaceae) and Iridaceae respectively, along with several other smaller and horticulturally less well known families. As well as the keys, descriptions, literature citations and distribution there are many line drawings and some colour photographs. *Flora of Australia* is published by the Australian Government Publishing Service and can be obtained through the AGPS Mail Order Sales, GPO Box 84, Canberra A.C.T. 2601, Australia.

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