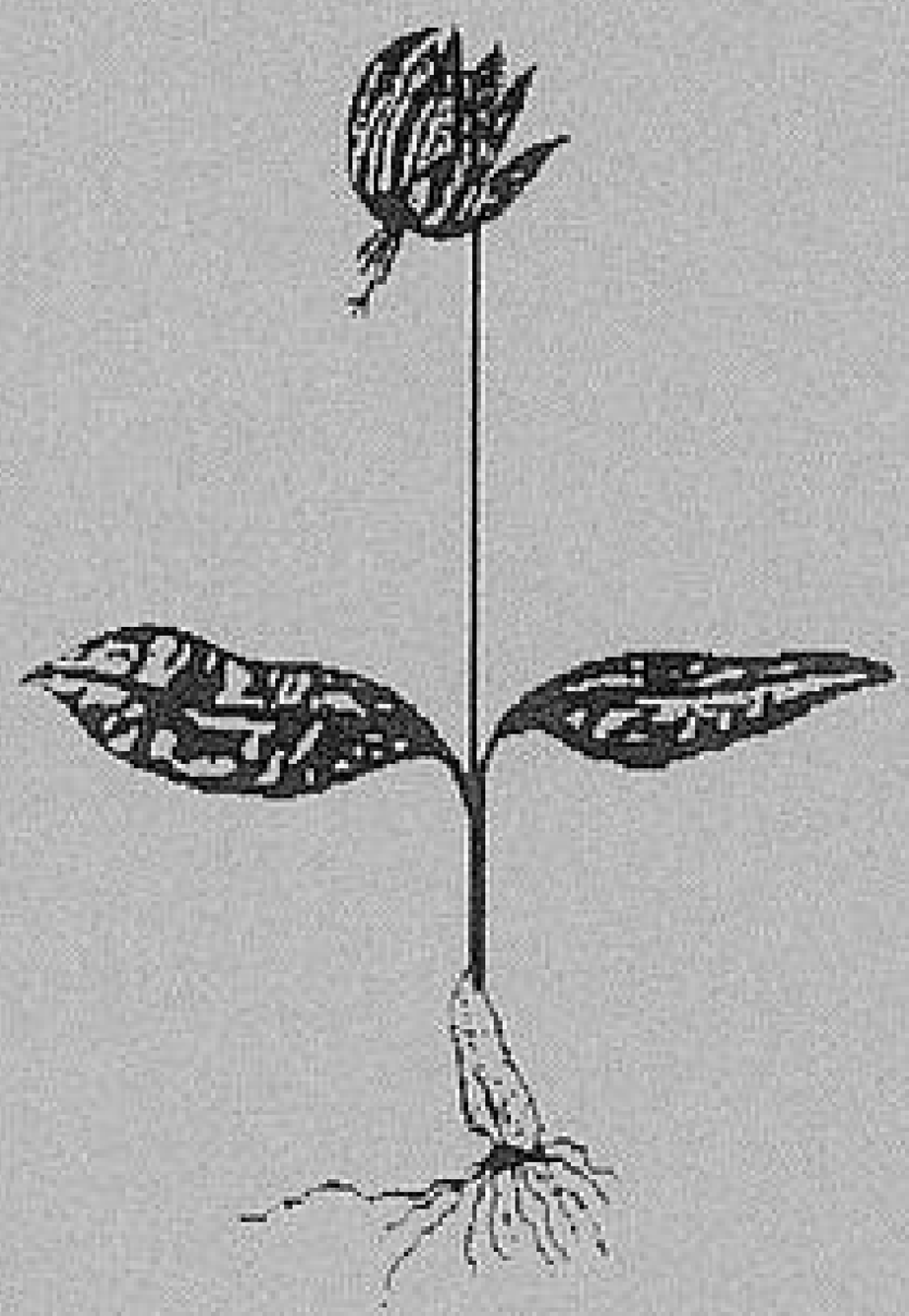
THE BULB NEWSLETTER



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The Bulb Newsletter No. 5

A new Colchicum relative from India

It is not often that I get the opportunity to report on one of my own papers but, hot from the press, in late 1993, came the publication of a newly discovered species which is such an interesting find that I thought it worth passing on the information about it. I co-authored the paper with Dr.S.R.Yadav (Goa University) and Dr.N.P.Singh (Botanical Survey of India, Jodhpur) and it is published in Kew Bulletin 48:735-737(1993). Dr Yadav collected some specimens in 1990 which he could not identify and sent them to me for an opinion. Clearly the plant represented one of the genera related to *Colchicum* (Liliaceae/Colchicaceae) and, more specifically, to *Iphigenia*, but at the same time was not an Iphigenia. The closest relative, in fact, turned out to be *Camptorrhiza*, a genus consisting of only one species in South Africa. Although differing somewhat from *Camptorrhiza strumosa*, the one known species, we decided that the Indian plant did, in fact, belong to the same genus but was an undescribed species. So, full of ingenuity, we called it *C. indica*!

Camptorrhiza indica is a rather rare plant, growing in a small area of Maharashtra State in ditches in open grassland, flowering in mid June. It has a small dark brown corm, roughly like that of a *Colchicum* in shape, and this produces a slender stem 15-25 cm in height at flowering time. The stem carries 3-5 narrow leaves, 5-15 cm long and only 3-7 mm wide, and a raceme (actually a corymb, with all the flowers at about the same height) of upward-facing flowers, each about 2 cm in diameter and bright pink or pinkish-mauve. These genera differ markedly from *Colchicum* in that the six perianth segments are separate from each other, not joined together into a tube to form a goblet-shaped flower and, in the case of *Camptorrhiza indica*, they are sharply reflexed, leaving the stamens protruding upwards. Also, *Camptorrhiza*, unlike *Colchicum*, has an ovary with only one style (3 separate styles in *Colchicum*). The most striking difference between this new species and the South African species *C.strumosa* is the flower size, the perianth segments of *C. indica* being 1-1.5 cm long and those of *C. strumosa* only 3.5 mm. Obviously this is not a horticulturally very exciting plant, but a small group of them would be every bit as attractive as, say, one of the small spring-flowering colchicums or merenderas. Should it ever appear in cultivation (as far as I know it has not yet been introduced to any of the Indian botanic gardens), it will presumably need to be treated as a summer-grower. In the wild it begins to grow soon after the first monsoon rains and completes its growth cycle during June and July.

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Another Colchicum Relative

Writing in the South African journal, Veld & Flora (Kirstenbosch) 79:14-15(1993), Barbara Pike describes and illustrates the fascinating *Androcymbium melanthioides*, a member of the family Liliaceae/Colchicaceae. The veined flowers and bracts, presumably, are the reason for the vernacular name Pyjama Flower, and the broad concave bracts which surround the flowers have undoubtedly resulted in Little-Men-in-a-Boat; there are Afrikaans names as well, Patrysblom and Bobbejaanskoen. The generic name *Androcymbium* is a combination of 'male' and 'cup', or maybe 'boat', perhaps referring to the fact that the most obvious parts of the flowers are the stamens and the bracts, the main impression of the whole 'flower' being of prominent stamens cupped in the centre of several broad bracts. Most species are very dwarf, with a rosette of leaves at ground level and the flowers resting in the centre. This genus has a wide distribution, with several species scattered through the Mediterranean region and more in southern Africa. *A. melanthioides* occurs in both the eastern and western Cape, in the Orange Free State, western Natal, Namibia, Botswana, Zimbabwe and Zambia. I suspect that, with this wide distribution, its behaviour in cultivation will depend upon the origin of the particular clone acquired. My own plants of it behave as winter growers, dormant in summer, whereas those from the eastern Cape are more likely to be summer growers, dormant in winter (see next item). *Androcymbium* differs from *Colchicum* most obviously in having small short-tubed flowers clustered together between the leaves and surrounded by larger leaf-like bracts, usually a different colour from the leaves and flowers and often whitish with darker green or purplish veining. The corm is very like that of a small colchicum, elongated with a sort of 'foot' at the base and a dark brown to blackish tunic. In the case of the *A. melanthioides* illustrated in the article the bracts are a shade of pinkish-purple, but can vary from pale pink to a darker mauve, and the stamens are bright yellow. each flower does have the standard issue of six perianth segments but they are insignificant. Barbara Pike notes that in the Transvaal Highveld the plant sometimes occurs in vast numbers and that it will only appear after adequate rain; if there is insufficient rain it will stay dormant. She also comments that the corms are used by the South Sotho people as a medicine for sore ears and as a charm to deter enemies. Several genera in the Colchicaceae are known to contain poisonous alkaloids, and the chromosome-doubling substance appropriately named colchicine, so it is quite likely that they are also present in *Androcybium* species. Any medicinal dabbling in the case of Colchicaceae is therefore best left to serious medical researchers: we don't want any tetraploid humans around with the Olympics coming up, but perhaps it only works on plants.

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Bulb Cultivation: Winter or Summer Growing?

Obviously a book could be written solely about bulb cultivation (I am working on it!), since the bulbs which we grow in our gardens have come to us from all over the world, and from a wide range of climates, soils and habitats. There is, however, one fundamental aspect of bulb growing which we need to address before going on to the subtleties such as which soil mix to use, how warm to keep them etc., and that is when to start them into growth. Bulbs have largely evolved in response to climates which have alternating wet and dry periods, for it is an effective way of overcoming an adverse period of drought and means that the plant has plenty of food reserves locked up for a quick start when the adverse period is over. Hence, many bulbs start into growth very rapidly after rain has fallen, some of them flowering immediately, and thus make the maximum use of what is often a rather short growing period before the next dry season. In temperate regions the wet and dry periods usually coincide with cool and warm periods as well, and these four factors combine into basically two sets of conditions in which the majority of the world's temperate bulbs occur:

(1) cool damp winters and warm dry summers and

(2) cool dry winters and warm damp summers.

This is, of course, an over-simplification, but is sufficiently true for our present purposes. When brought into cultivation the bulbs from these temperate regions will continue to behave in the way in which they have always behaved, even if a change of hemisphere is involved. If they are moved from one hemisphere to another they merely change their cycle of growth by 6 months to fall into line with the timing of the seasons (in at least the first year after importation they may, however, be somewhat confused). They are fixed in their behaviour and will often start growing at the appropriate time of year, even if water is not available. Nurseries sometimes offer corms of Freesias and Sparaxis, both of which are naturally winter growers, in spring for planting out for a summer flowering. The corms will have been stored artificially warm and dry to simulate an extended summer dormancy. Once planted in spring they will grow during the summer if given plenty of moisture, but after that one season they will try to revert to their former winter-growing habits unless the corms are lifted and stored again, warm and dry for the winter; in my experience this seldom works, for they are always striving to make growth in their accustomed autumn-winter period and just become weaker and weaker if they are forcibly prevented from doing so.

The climatic category (1) is very familiar to those who like a bit of winter sunshine because it includes the much-loved (by plants as well as

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humans) Mediterranean climate which promotes such a wealth of plants, not just bulbs. Areas of the world with this 'cool winter rain (or snow) and warm summer drought' climate include the Mediterranean region itself, eastwards through Iran and Afghanistan to the central Asiatic mountain ranges and the extreme western Himalaya. The western United States to the west of the Rockies, especially California and Oregon, also have a winter rainfall/summer drought climate. Switching to the Southern Hemisphere, the western slopes of the Andes, particularly in Chile, also receive winter rainfall coming in from the sea, as does the South-western Cape region of South Africa, and the south-western part of Western Australia. All of these areas contain very many petaloid monocots, and a great number of them 'bulbous' in the wide sense of the word, although for some reason few of those from Western Australia have developed swollen storage organs, many of them opting for a tough rhizome with a mass of wiry roots. There are other smaller areas with this type of climate, for example parts of eastern Argentina and adjacent Uruguay, where there are some familiar subjects such as *Ipheion uniflorum* and several *Nothoscordum* and *Zephyranthes* species.

Bulbs from the climatic category (2) behave in the reverse way; these are dry and cool in their dormant period in winter and warmer and damper in the summer. The regions where the summer-growers have evolved are perhaps not quite so well defined as for the winter-growers but we can pick out the monsoon, summer-rainfall areas of eastern Asia, where there are many lilies, Central America, notably Mexico, from whence come many species of *Tigridia, Milla, Nemastylis, Bessera, Rigidella* etc., and the Eastern Cape region, including Natal and Lesotho, where there are many interesting and garden-worthy summer-growing 'bulbs' such as *Rhodohypoxis, Eucomis, Galtonia,* and *Gladiolus.* Cultivation of these summer growers in cold winter areas is a simple matter since their bulbs can be lifted and stored dry away from frost during the dormant period, so the question of hardiness is not so much of a problem as it is with the winter growers.

Bulbs from the more tropical regions are not nearly as set in their ways and, in the absence of large temperature differences through the year, react largely in response to wet or dry conditions, regardless of the time of year. Their flowering period coincides with rainy seasons and if the rains fail they just stay dormant until it does rain. Thus, in cultivation it is possible to start them into growth at any time, although for gardeners in temperate regions it is actually more convenient to do so in summer when less artificial heat and light are required. Almost certainly this accounts for the widely differing flowering times quoted for some bulbs. The more tropical species of *Hippeastrum* ("Amaryllis"), for instance,

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can be induced to grow at almost any time of year. However, as I have said, with these very tender bulbs, it really makes sense to grow them in the summer months and keep the dormant bulbs stored away warm and dry during the winter. So, as a very general rule, the bulbs from sub-tropical and tropical areas can be treated in the same way as the summer rainfall bulbs of category (2). Areas of the tropics where there are a significant number of bulbous/cormous/rhizomatous monocots include Tropical South America, East and South Tropical Africa and a few in the Northern Territories of Australia; it is mainly the drier parts of the tropics where they occur in their greatest numbers, of course; there are very few 'bulbs' in the forested areas, most of them occurring in seasonally dry grassland or semi-desert.

This, then, is a very crude outline of the basic principles. There is a lot of finer detail which could be included but there is the risk of over-complicating the matter unduly. I hope that it may prompt subscribers living in some of the areas mentioned to send details of the subtleties of their own particular regions so that others can learn of the climatic conditions and adapt their cultivation methods accordingly. For example, it would be interesting to hear from some of the Argentinian readers, since their country appears to have a somewhat complex climate resulting in the occurrence of both winter- and summer-growing bulbs. In time, perhaps, it will be possible for the Newsletter to act as a medium for the compilation of accurate dossiers about individual genera or, even better, individual species, with detailed information of the local climatic conditions, soils and habitats in which they occur in the wild, how they behave in cultivation in various other parts of the world, propagation tips, etc.

Koenen's Snowdrop

One may think that enough Snowdrops have been described, considering that they all look basically the same (I wonder how many will rise to that ridiculous statement!). However, one of the latest additions, from Turkey, described by W.Lobin, C.D.Brickell and A.P.Davis [Kew Bulletin 48:161-163(1993)] does have a feature which distinguishes it from all other species. *Galanthus koenenianus* is named after Manfred Koenen of Bonn Botanic Gardens in an article entitled 'A remarkable new species of Snowdrop from N.E.Turkey' and is from Gumushane vilayet (province) in the Black Sea region. It differs 'mainly in the presence of a distinctly furrowed abaxial leaf surface' (i.e. the underside of the leaf is provided with conspicuous grooves). Other points worthy of comment are that it is small in all its parts, the flowers usually have a faint yellowish or greenish patch towards the base of the inner segments, and they smell

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of urine; as far as I know this is unique, and probably a good thing too. There is a drawing accompanying the description and this seems to indicate a rather long flower stalk (pedicel), about 3 cm; since the flower stem (scape) is only 5.5 cm, this seems proportionally quite long. Other statistics are: leaves (grey-green), shorter than the flowers but eventually expanding to 12-22.8 cm long and 0.5-1.2 cm wide; three largest (the outer) perianth segments 1.5-1.7 cm long. The nearest related species are thought to be *G. caucasicus* and *G. elwesii*. I imagine that it will have been introduced into Germany at the time of the original collection, so hopefully it will be propagated and distributed from this stock, rather than collected for commercial purposes from the wild.

A Cape Odessy

Last summer we had a visit from Terry and Pam Hatch which we much enjoyed, catching up with their news, and engaging in plenty of serious bulb talk. They have a nursery at Pukekhoe in North Island, New Zealand, called Joy Nurseries, and this is obviously well named since they are the happiest pair of nurserymen I have encountered! Particular lines which they have followed include breeding of Nerines and Zantedeschias, and one legacy of their visit is an interesting video which Terry made, showing his highly successful method of *Nerine* cultivation and propagation. Their return trip to N.Z. was via South Africa to see a little of the Cape flora and I was delighted recently to receive a substantial article from them about the trip. It is not reproduced here in full, but I have selected out some of the parts which are likely to be of most interest to 'bulbies'.

'The first few days were spent on the hills and beaches around Cape Town discovering many botanical treasures growing in soils that consisted mainly of burnt rock and sand without a trace of humus, and which held very little moisture. While some areas were damp they would, by early summer, be very dry. The older areas of scrub, 'Fynbos', had large Proteas, Ericas and huge clumps of Restios, with very little in the way of smaller flowering plants. The best areas for bulbs were those recently burnt over; after the good winter rains growth had been triggered off by the smoke from the fires (see next item-BM). Fynbos plants exhibit four fire-survival strategies: regeneration from underground storage organs; protection of dormant buds by thick, insulating bark; resprouting from woody rootstocks; and survival as seeds which germinate after fire. Controlled burning in nature reserves is an accepted practice and in these areas many ecological battles were to be seen, the animals and insects versus the plants. The chief predator of bulbs appeared to be the mole rat; these incredible diggers were able to dig

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tunnels through the hardest of rubbly soils, molehills appearing even on the hard shoulders of the motorways! In their travels they would eat the choicest of corms, not worrying about the rarity of their meal. The main predator of the mole rats is the mole snake who is really only interested in rats but is slaughtered for just being a snake, which upsets the balance of power. Other contenders for a meal of bulbs are the Baboons, which enjoy *Babiana* corms and various other species, Daissies (Beaver-sized relatives of the Hyrax) which appear to dig up quite a range of bulbs, and Antelopes which were enjoying Watsonias. The local Africans dig almost anything for herbal use. It is a wonder that there are any flowers left to see, yet in many areas bulbs and other plants proliferate in their thousands, although some of the choice species are now becoming rare due to 'progress'. Housing, dams, vineyards and modern farming methods can destroy much of the fragile habitat almost overnight. There is easy access to much of the wilderness around the Cape, easy walking tracks only a few minutes drive from the main city and towns, and the majestic scenery of the mountains and coast is awe inspiring. On a short hike along the coast, plants to be seen include great clumps of *Haemanthus coccineus* with metre-long foliage hanging over rocks within the reach of salt spray. Scarlet *Romulea hirsuta* in soft sand dunes, many Gladiolus species, Lapeirousias, Lachenalias and Satyrium orchids. On the return trip up and over the hill, the green, yellow and brown *Ferraria crispa* can be found next to *Gladiolus debilis* with its pure white flowers painted with scarlet spots. *Boophone disticha*, with huge leaves with brown hairy edges, still with last season's seedheads, grows strongly in the hard earth. A full day's visit to the Kirstenbosch Botanic Gardens to brush up on some plant names and see some of the flora in cultivation was a fulfilling experience. Inside the main gate a huge drift of the yellow *Strelitzia reginae* were in full 'flight'. A special treat was in store in the greenhouse and bulb-growing area, to see the many rare plants being propagated to save them from extinction. Among plants noted in full flower were yellow *Lachenalia mathewsii*, orange *Gladiolus alatus* and forms of *Clivia* species not seen in New Zealand. Much rare plant material is sent overseas via these gardens. The Flora '93 Flower Show was on at the time and an amazing collection of the Cape wild flowers were set out over a mountain scene, and there was an exhibit by the Indigenous Bulb Growers Association (see BN4:14) and Kirstenbosch. A long drive from Cape Town through vast wheatlands and citrus groves led to the floral area of Namaqualand. The road rises steeply to a 3000 ft escarpment which stretches into the vast distance of the Namib and Kalahari Deserts. The area of Niewoudtville where we stayed was a botanical delight, the past winter having experienced good rains resulting in large numbers of plants flowering well. Many species

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we grow in New Zealand were evident; the assortment contained Albucas, Gladiolus and Ornithogalums, while the roadsides had massed displays of Moraeas, Sparaxis and Hesperanthas. Massive bulbs of *Veltheimia capensis* sported tall inflated seed heads, and hidden among the grasses were exquisite spikes of *Wurmbea stricta* in wine and white. In some of the large damper areas drifts of Bulbinellas had flowered en masse; these were in three distinctive colour zones, orange, yellow and white. A few farmers had set aside large areas of their land on which many species grow. These places are grazed after the plants have flowered and the seed ripened, the sheep trampling the seeds into the dry earth. Among rock outcrops *Geisshorhiza splendidissima* was a shimmering satin blue, rarely *G. radians* grew in the shelter of a small bush, its flowers having a gem-like quality in blue, red and white. A garter snake basking in the sun made a contrast in black, yellow and red bands. Further on a small stream tumbled through a series of rock pools lined with starry *Spiloxene aquatica*, finally making an impressive waterfall into a vast canyon that held an amazing number of plant species. A lone Cape Vulture soared in the midday heat waiting for me to drop with exhaustion but I survived to tell the tale of this great journey.'

Where there's smoke there's flowers!

In my early days of bulbitis I remember musing over the question of why bulbs in the wild appear to flower very well after a fire, and they obviously do: I have seen it in, for example *Calochortus*. South African botanist Ted Oliver once described to me how a scrub-covered hillside which he had known for years erupted into a mass of *Amaryllis belladonna* after a fire, even though there had been no trace of them before. There are plenty of other documented cases. The flowering takes place immediately following the fire, so the flowering cannot be as a result of the nutrients released in the ashes: that would take a whole season, with rain to wash it in, to take effect. I wondered about the lack of shade, once the covering of plants had been removed, and the blackening of the soil, both of which would result in warming the earth, but again this would take time to have an effect and, in any case, it is unlikely that there would be very much change in soil temperature at the depth of the bulbs. Could it be lack of competition? Well, a bulb 20 or 30 cm deep in the soil is hardly likely to know when the competition has been removed, and the increased light could not be detected. The only way bulbs could burst into flower that quickly after a fire would be by having a flower bud already formed inside the bulb, just waiting for the right moment to develop. And then I became aware of smoke. The use of this is now old hat, of course, and commercial bulb growers have used smoke techniques for decades to induce earlier and more uniform crops

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of flowers. The Isles of Scilly Daffodil growers have for a long time burned over their fields to encourage flowering in 'Soleil d'Or', while other growers blow smoke from burning organic matter into bulb stores. Don Gilbert, of the Min. of Agriculture's Advisory Service, once related that in the early days of 'smoking', the simple advice to growers was that when you held your arm out at full length and could not see your thumb, then the smoke was thick enough! I usually light a straw bonfire in my greenhouse every autumn in an attempt to promote more reliable flowering from my winter-growing Cape bulbs, although I cannot boast a very floriferous display as a result, and the neighbours must think I am mad.

It is apparently the ethylene gas, which is present in smoke from burning straw, that triggers bud formation, leads to increased yields of flowers, and results in slightly earlier flowering due to more rapid development of the buds. There is no doubt that this works, at least it has been shown to work on a range of bulbs grown for cut flowers such as Dutch Irises, Freesias and some Narcissus, but how does this apply to bulbs in the wild? Could the smoke permeate the sunbaked soil to such an extent that it triggered the development of a flower bud which had already been formed inside the bulb? During the dry season there are often wide cracks in soils where bulbs occur in the wild, so there might be some degree of smoke penetration and, with cultivated bulbs, it has been shown that only 10 parts of ethylene per million of air are required to produce the desired effect, so the penetration would not need to be efficient. For those who wish to try smoking their bulb collections, Alun Rees' valuable book, *Ornamental Bulbs, Corms and Tubers* (see BN 1:16), gives figures for gas (smoke) application of 1-5 hours daily for 4 consecutive days at 25 degrees centigrade. I don't know of any detailed studies that have been undertaken to find out whether this could be the explanation for the way in which some bulbs in the wild flower so quickly after a fire, but it is one of the most convincing yet.

RHS Awards to Crocuses

I am biased, of course, but it is good to see so many *Crocus* species receiving RHS awards at the Shows. Last autumn, *C.niveus, C.caspius* and a vigorous clone of *C. serotinus* subsp. *clusii* each received the Award of Merit, and *C. cartwrightianus* a Preliminary Commendation. More recently, at the January RHS Show in London, *C. dalmaticus* was awarded an A.M.; in this case the whole species was thought to be worthy of the award, not just the clone exhibited. As Kath Dryden commented, 'has anyone ever seen a bad dalmaticus?' I remember many years ago wandering in snow-melt patches of this species in

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Montenegro and selecting, from the vast array of variants, a few which I thought represented some of the more distinct, from light to dark violet, silvery to biscuit coloured on the outside, etc. One of them, which I particulary like, has an almost gold exterior to a mid-lavender coloured flower. *C.reticulatus* subsp. *reticulatus* was awarded a P.C. at the same Show, a beautifully grown pot full for which the grower, Alan Edwards, received a Cultural Commendation. Unlike most of my crocuses, these were all short-tubed and standing beautifully upright whereas mine all seem to develop long perianth tubes and fall over, probably largely as a result of having a garden on a north slope and receiving poor winter sunshine (to those in the S.Hemisphere, sorry--I will try to avoid referring to north and south slopes as being cool & shady or hot & sunny, this is a cosmopolitan newsletter!). Maybe we could do with some hints from this expert crocus-grower as to how to keep them small and in character. The above-mentioned *clusii* clone was also Alan's and he has now named this clone after his wife, 'Gwendoline Edwards'.

Whilst on the subject of awards I should mention that there is currently a trial at the RHS Garden at Wisley of autumn-flowering crocuses. This trial is for three years and has one more year to run so there is still time to see them. Flowering takes place from about the beginning of September onwards. In fact this is likely to be the most instructive year, since it will be possible to assess how the [initially three] corms of each species have fared in the open ground without any protection for the three year period; already it is quite clear that some have done very well and increased whilst others have dwindled, not always in the order one would expect. Those which are deemed to be worthy garden plants will be given the Award of Garden Merit (AGM) which is distinct from the Award of Merit in that it takes into account the 'good garden plant' factor.

More Oxalis references (see BN 3:9)

The latest Herbertia to be published, Vol. 48 (1992), contains an interesting article by M.B.Bayer, up-dating some of the *Oxalis* work done by Salter referred to in BN 3. New studies have led to the conclusion that some of Salter's species are not sufficiently distinct to be upheld as species and are therefore reduced to synonymy. Thus, *O. pardalis* is now recognised as a widespread species of the SW Cape region of South Africa, encompassing *O. capillacea, O.confertifolia, O.robinsonii, O.lineolata, O.massoniana, O.melanograpta, O. heidelbergensis, O.grammophylla, O. leptogramma & O. camelopardalis.* The leaves of *O. pardalis* contain some cells which show up as black lines when they are dried out, for example when the plant is turned into an herbarium specimen, and this feature has prompted the various unusual epithets

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given above: *melanograpta*, 'black lines'; *grammophylla*, 'lined leaves'; *leptogramma*, 'with narrow lines or markings'. I presume that *pardalis* also refers to the markings, but *camelopardalis*, 'tawny-coloured spotting' seems to be edging away somewhat from the idea of black lines. That is one of the drawbacks of describing species solely from dried specimens (and a great many species have been in the past), the colours not always being the same as in the living plant. *O. pardalis*, incidentally, is a very variable plant, ranging from near-stemless to 30 cm tall, with hairless to very hairy leaflets with can be anything from narrowly linear to triangular or elliptical, and 2.5-4.5 cm diameter flowers in white, pink, lilac, apricot, reddish-purple or yellow. Just imagine the fun and chaos if there was the same approach to the naming of the variants of this species as in, say, *Galanthus*!

The other species dealt with in this paper are *O. livida*, into which *O.dentata, O. lateriflora* and *O. phellandroides* have been 'sunk', and *O. goniorrhiza*, incorporating *O. semiglauca, O. urbaniana* and *O. callimarginata*. *O. livida* (SW Cape) is 15-30 cm tall with triangular leaflets, purple on the undersides, and pale lilac or purple funnel-shaped flowers about 2.5-4 cm across. *O. goniorrhiza* ('with angled roots': the bulbs have sharply-angled ridges) is also from the SW Cape and is another stemmed species, about 20 cm tall with narrowly wedge-shaped leaflets and white to pale pink or lilac funnel-shaped flowers about 2.5-4 cm across. Another reference to South African Oxalis, which enthusiasts for the genus might like to know about, is given in this paper: *Oxalis dines*, a new species from the western Cape, by R.Ornduff, published in Journal of South African Botany 39:20(1973).

Herbertia and the IBS

Having referred to Herbertia, I must mention some of the other articles published in Vol. 48. Clivias are given some coverage by Cliff Grove of the West Australia Gladiolus, Dahlia and Hippeastrum Society (now there is an interesting combination!--39 Pandora Drive, City Beach, Western Australia 6015, for anyone who might wish to get in touch). Graham Duncan of Kirstenbosch has also contributed an article on the genus, particularly concerning the lovely yellow variant of *C. miniata*, var. *citrina*. There is a very nice detailed and colour-illustrated account of *Ferraria* by Maurice Boussard who probably knows as much as anyone about the Iridaceae, and probably even more about its cultivation, so this is valuable material. Thanks to Maurice I have one of these weirdly beautiful plants just coming into bloom, an iris-shaped flower in a mixture of yellows, browns and blacks, heavily blotched darker maroon and crisped at the edges of the six segments. Richard Doutt has an

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article on Cape Bulb conservation, and the same topic is addressed by David Hardy of Pretoria, an authority on the utilisation of the indigenous Cape plants by herbalists, who largely collect their materials from the wild. There are articles on *Veltheimia*, *Crinum* in Namibia, *Freesia* breeding, *Bulbinella* (seldom-grown in Britain but showy, with 'white-, yellow- or red-hot poker' spikes, and an odd genus in that it has a very unusual distribution, in New Zealand and South Africa). Terry Hatch writes about Nerine-growing in New Zealand, and there is a discussion about the genera related to *Hessea* and *Strumaria* (Amaryllidaceae, subtribe Strumariinae) by the authority on this group, Deirdre Snijman of Kirstenbosch Botanic Garden. Short notes on *Watsonia*, *Klattia* and *Homeria* complete this volume which, as one might have guessed by now, is devoted to the bulbs of Southern Africa. The address of the International Bulb Society, of which Herbertia is the Journal, is now PO Box 4928, Culver City, California 90230-4928.

Restoration of My Garden

No, not my garden (although it needs it) but the journal of that name. The publication of this 'intimate magazine for garden lovers' ceased 42 years ago, but this year, in January, My Garden will rise again, thanks to Alan Edenborough, its re-creator; in fact January marks the 60th anniversary of its initial publication. It is not particularly bulbous, of course, but any magazine worth its shelf space is bound to have something geophytic in it. In fact in the special edition of December 1993, published to mark the re-launch and containing a selection from the previous series, there is an intriguing comment by H.E.Bates in an article called 'Lilies and Coal'. A delightful article, but nothing of immense interest to the hardened bulb enthusiast except for a note about an aunt who had a vast clump of a rare black-stemmed variant of *Lilium candidum*. Now that I would like to see. My much-treasured 1938-39 catalogue of the Tunbridge Wells lily firm W.A.Constable listed a var. *cernuum*, with tall slender black stems and long narrow snow-white petals, at the fairly heady price of two shillings per bulb (do you remember? - twenty shillings to the pound, none of this metric nonsense!). Compared with *L. regale*, a comparatively recent introduction at just over £14 per thousand, that was a fair outlay for a plant in those days. I wonder where H.E.Bates' aunt lived.

Anyone interested in My Garden can obtain details from 1 Higher Sandpits, Charlton Mackrell, Somerton, Somerset TA11 6AJ. We wish the journal all the best.

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Another natural hybrid Narcissus named

Narcissus names seem to proliferate almost like alliums, and yet another hybrid has been described from the wild in Spain. This is *N. x romoi*, a *N. cantabricus* x *N. fernadesii* cross, from Arquillos a Vilches in Jaen Province. This is an attractive-looking plant (but aren't they all, really), intermediate between its parents, having yellow flowers with the long perianth tube of *N. fernandesii* but with the wide cup of *N. cantabricus*. Perhaps, from the illustration, the flower shape is most like *N. cantabricus* but the influence of *N. fernandesii* results in the ability to produce more than one flower per stem. *N. x romoi* is described by J.Fernandes-Casas in *Fontqueria* 36:271-272(1993).

Recently, on the subject of the Bulb Newsletter and Narcissus, John Blanchard wrote to: 'I hope that you will continue to point us in the direction of where bulb news can be found in more detail. I was concerned to find that the 19th Supplement of Index Kewensis shows 16 species of Narcissus and 14 wild hybrids which I did not known about when I did my book' . The good news is that I also found that I am already growing the majority of the species.'

*Narcissus, A Guide to Wild Daffodils, published by the Alpine Garden Society 1990.

And yet another new Allium

Writing in *Willdenowia* 22:89(1992), S.Brullo, P.Pavone and C.Salmeri have described a species of *Allium* from the Aegean island of Rhodes, appropriately named *A. rhodiacum*. This is a slender delicate-looking bulbous species about 15-25 cm in height with thread-like leaves on the stem and an umbel of 12-20 tubular pinkish-white flowers about 6-7 mm long, the six segments with outward-curving purple tips and each with a central purple vein. The umbel is one-sided, the flowers carried on slender pedicels which are erect at first, then arching outwards and downwards. This belongs to the section Scorodon which places it with better-known species such as *A. cupanii* ; *A. callimischon* and *A. grosii*. It is said to be closest to *A. hirtovaginatum*, which Prof. Stearn in Flora Europaea Vol.5 treats as a subspecies of *A. cupanii*, the latter is also recorded for Rhodes but differs from the newly described species in having netted-fibrous bulb tunics, hairy leaves and a spathe (the membranous sheath covering the umbel before it opens out) consisting of only one valve; in *A. rhodiacum* there are two valves, the leaves are hairless and the tunics papery. *A. cupanii* has its attractions, so maybe this is of similar garden appeal. It appears to be late spring-flowering so will not have quite the same value as the autumnal *A. callimischon*.

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Anyone for Bowles?

Mrs Manny Neale has a copy of E.A.Bowles' Handbook of Crocus and Colchicum which she recently picked up in a secondhand bookshop and she has asked if I know of anyone who would like to acquire it. She writes, 'I will be pleased to swop the book for any interesting beardless iris that is offered, although 40 chromosome Siberians are of special interest to me'. Bowles' handbook is one of the classics in monocot literature and is essential, and enjoyable, reading, so here is a nice opportunity for an iris enthusiast to spread her or his wings and learn about these two choice but quite unrelated genera. Mrs Neale can be contacted at 33 Woodlands Avenue, Spilsby, Lincs., PE23 5EL.

The Shaving Brush Plant, and a new Haemanthus

I doubt that this is a listed vernacular name for *Haemanthus albiflos*, but that is what it reminds me of when it pushes up into flower. This note was prompted by a letter from Mr M.Elliott of Loughborough who sent in a photograph for identification of a plant he was given as 'Elephants Tongue'. He could not track it down in the RHS Gardeners' Encyclopedia using this name and, of course, it is very difficult to identify a plant from scratch if you have no idea what it is. Keys are of only limited value since, with a completely unknown plant, one would have to start with a key to the whole of the flowering plant kingdom and work laboriously through all the stages to species level, and few books provide keys anyway. The best bet is to wave the plant in front of a group of keen gardeners: there is always likely to be someone who has a shrewd idea of where it belongs in the scheme of things, if not an outright identification. In this case there is no problem; this is a quite frequently grown plant, often to be seen sitting on a windowsill, but it is surprising how many are sent in for identification to botanical and horticultural establishments. I am sure that most of the BN subscribers will know this plant but for those who do not, briefly, The Elephant's Tongue/Shaving Brush Plant is a native of South Africa, mainly from the Eastern Cape region and Natal, hence it occurs in the summer rainfall area although it has a very wide distribution and it does extend westwards into the eastern part of the winter rainfall area as well. In cultivation the large bulbs do not require drying out in summer since it is an evergreen species needing some water the whole year, and they are best grown with the tops just level with the surface. Few species of Haemanthus have white flowers - they are mostly red or pink, hence the name meaning 'blood-red flower - so this species is distinctive. In fact there are only two other species (out of a total of about 22) which have evergreen leaves, occur in the summer rainfall region and have a whorl of stiff

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whitish or greenish spathe valves surrounding the umbel of flowers. *H. albiflos* is the most widespread and variable of the three, with each bulb producing 2,4 or 6 leaves which may be anything from 2.5 to 11.5 cm wide, hairless to conspicuously hairy and plain green or white-spotted. The shuttlecock-shaped umbel gives the impression of consisting mainly of upright yellow stamens and the whole head, which may be held on a stem (peduncle) from 5-35 cm long, is surrounded by up to 8 white, green-veined spathe valves.

I am very fond of *H. albiflos*, but *H. deformis* is more attractive, similar in its basic appearance but the peducle is short and stocky, often not more than 5 cm, so that the umbel is almost sitting on the 2 to 4 leaves which lie flat on the ground; these are as wide as, or wider than, long and vary from about 7-25 cm long/wide. As with *H. albiflos* they may be hairless or hairy. The umbel of white flowers is surrounded by overlapping white bracts; those of *H.albiflos* do not overlap. *H. deformis* occurs wild in Natal and the Transkei. This was the position when Dierdre Snijman produced her excellent monograph of the genus (*The genus Haemanthus*, published by the National Botanic Gardens, Kirstenbosch in 1984), which is so beautifully illustrated by the South Africa botanical artist Ellaphie Ward-Hilhorst (1 of the 24 colour plates is by Fay Anderson). However, recently, a new species has been described by Deirdre Snijman and this adds a third to this small group of *H. albiflos* relatives.

The new *Haemanthus* is called *H. pauculifolius* and it differs most obviously in having only one leaf per bulb, except in the autumn when the new leaf emerging overlaps for a time with the old 'outgoing' leaf. Apart from this, it has a smaller umbel of flowers, only 1.5-3 cm in diameter and containing only 8-19 flowers (at least 25 in the other two species), and the individual flowers are longer than those of *H. albiflos*, at 2.5-3.5 cm (1.6-2.3 cm in *H. albiflos*). *H. pauculifolius* is known from only two localities on the Transvaal Drakensberg Escarpment where it grows in the shade of bushes and experiences a hot fairly dry summer and a rather cooler, but dry, winter. Possibly it would be rather less simple to grow than *H. albiflos* which must rate as one of the easiest of bulbs.

A silver-leaved Cyclamen graecum

Many years ago Maggie & I brought home a tuber of a wholly silvery-leaved *C.graecum* from Greece, not far from Athens near the hotel at Glyfada. This is still alive and large, and produces a lot of seeds each year which have been distributed to a number of people over the last 20 years or so. I have not kept track of the resulting seedlings raised by others, but nearly all of those which I have raised have been more or

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less identical with the parent. I find it a bit odd that this comes true from seed and yet the overall impression was that the majority of the plants in the population were of the normal (if anything can be said to be normal in cyclamen leaves!) *C.graecum* type, ie prominently zoned with light and dark patterns. We did not do an exhaustive search among the thousands which were there but it did seem that this was a very unusual occurrence in this particular population. I suppose that in the wild, cross-pollination might be the normal way of things, whereas at home in the greenhouse this plant usually is flowering on its own and may be only rarely cross-pollinated. Anyway, it is an interesting variant, whatever the explanation, and I will continue to enjoy it without asking too many questions. Maybe if we ever go to that spot again I will take a seedling and plant it back there; the only problem is that I will need a CITES certificate to do so!

Curious behaviour by Scilla hughii

At repotting time back in September, always an interesting time to see how bulbs are getting on, look at their tunics (fascinating things!), gloat over the bulblets and get depressed over the deaths, I was puzzled to see quite a lot of small bulblets in the pot of *Scilla hughii* bulbs. These looked like seedlings but could not have been since it was repotted the previous year into new soil and did not flower in 1993. On closer inspection these were found to be attached at various places on the roots of the parent bulbs, quite some distance below soil level, but quite obviously produced by the old roots. I find this quite odd; we are very familiar with root cutting in dicotyledons, primulas and so on, but I do not remember an instance of bulbs forming on roots. Leaf cuttings 'work' in the case of *Lachenalia, Galtonia, Albuca*, and bulb scales, which are modified leaves, are a recognised way of increasing many bulbous plants, but this is new to me. I am not complaining: *Scilla hughii* is not that common, so some extra bulblets are welcome.

In case there is anyone who is unfamiliar with this species, it is a robust relative of *S. peruviana* with leaves up to 6 cm wide, spreading out almost horizontally in a rosette and surrounding the large conical inflorescence which appears in spring. Not the sort of plant you need in abundance if space is limited.

Stamps again:

Wayne Roderick, on a recent and very welcome visit from California, brought a set of five 29 cent flower stamps. I have already reported that one of these depicts two irises, but I did not realise that it was part of a set. The others are hyacinth cultivars, tulip cultivars, narcissus cultivars

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and, curiously, a lilac. Has the US Postal Service been kept in the dark about petaloid monocots or do they think perhaps that lilac has a bulb? A complete set of bulb stamps would have made more sense, but of course the set would then have to consist of six stamps, one for each perianth segment! On a letter from Eire I received a very nicely executed Irish Ladies Tresses, *Spiranthes romanzoffiana*, and three flower stamps from the USA, clearly not belonging to the same set as the above ones from Wayne; they are all 29 cent stamps, and one of them is a monocot, *Arisaema triphyllum*.

Catalogues

So many lists have arrived during the last few months that I really have had to be fairly ruthless in my selection since I do not want this item to become too large. On the other hand it is fun to cull through them to sort out the choice items and I hope that it is of interest to subscribers and helpful to our friends the nurserymen.

One list not covered before, and extraordinary in its range of unusual items, is that of Mike Salmon who once pipped us all at the post by calling his house 'Monocot'! He now has a seed/bulb nursery, called Monocot Seeds, and what a mouth-watering collection it is. This is the bulb list, but there is also a seed list issued in autumn each year. The first page, bulbs for spring delivery (summer-growers) includes some surprises such as *Crinum yemense, Phaedranassa dubia*, species of *Albuca, Dianella* and *Tulbaghia* - all very uncommon in cultivation - but the 'bulbs for autumn delivery' section is quite extraordinary. *Haemanthus* 'King Albert', *Hannonia hesperidium*, a host of species *Narcissus* (of course - Mike is a Narcissus expert), many *Crocus, Colchicum, Romulea* and Aroids (I never thought I would ever see the miniscule *Ambrosinia bassii* in a catalogue!), lots of *Scilla* species, another speciality, unusual *Ornithogalum*, the list goes on. Many of these were originally of known wild source and this information is retained, although the stock is largely seed-grown from the original bulbs. Monocot Seeds, Jacklands, Jacklands Bridge, Tickenham, Clevedon, Avon BS21 6SG, UK.

For those who like to grow their plants from seed there are several possiblities and I must compile a list for future publication. The range of species offered in seed catalogues, particularly those offering wild collected seeds, is much wider than in plant and bulb lists since the nurserymen do not have all the bother of trying to raise stocks for sale. Seed collecting in the wild, if undertaken with a degree of thought for the future well-being of the species concerned, probably does no harm on a small scale and does provide gardeners with an enormous amount of interest. For the moment I have selected three catalogues which are

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especially interesting, firstly Sally and Tim Walker's list from the southwestern United States and Mexico. There are many many species almost unknown in cultivation, listed according to State and coded so as to provide habitat and other useful information. I have picked out just a few of the monocots to give an idea of the range: colour forms of *Bessera elegans*, *Cypella rosei*, *Hypoxis mexicana*, *Calochortus barbatus*, *Erythronium grandiflorum*, *Iris missouriensis*, *Echeandia flavescens* and *Fritillaria atropurpurea*. The non-bulbous range is perhaps even more unusual, but one has to stop somewhere! Southwestern Native Seeds, Box 50503, Tucson, Arizona 85703, USA.

Jim & Jenny Archibald's list of seeds probably needs little introduction and, in addition to the wealth of seeds contained therein, the catalogue has become famous for their introductory remarks, which seem to promote reactions on a sliding scale from mirth to fury! Anyone reading the list will soon forget anything they read on the first pages, for this is no ordinary list: 64 entries for *Calochortus*, 17 *Erythronium* (US species) collections, 21 *Fritillaria* (US species), *Dichelostemma volubile*, *Androcymbium rechingeri* from Crete, 7 '*Bomarea* sp. Ecuador'----- need I go on? Jim and Jenny Archibald, Bryn Collen, Ffostrasol, Llandysul, Dyfed, SA44 5SB, Wales.

Perhaps almost the same remarks could be made about the John Watson & Anita Flores list of seeds from South America; here again is an extremely choice selection, if the reader is strong enough to get through the first ten pages of explanation! It is well worth the effort, though, for there is a lot of valuable information both here, and in the last few pages as well, about the climate. The names speak for themselves: *Rhodophiala* species (several), *Solenomelus pedunculatus*, *Tecophilaea violiflora*, *Conanthera trimaculata*, *Oxalis carnosa*, *Alstroemeria angustifolia*, *Olsynium junceum*. Or what about a nice little *Puya raimondii* (Bromeliaceae) for your tall narrow alpine house; the record seems to be 28 years from seed to flowering, and the height a graceful 30-35 feet; but it is an alpine monocot! How can one resist statements like 'Other un-named species, probably new to science'? Below-the-belt advertising, I call it. John Watson & Anita Flores, 24 Kingsway, Petts Wood, Orpington, Kent BR5 1PR, UK.

Pauline Brown, daughter of Mr V.H.Humphrey, continues to trade in irises under her late father's name and has sent the 1993 catalogue which has an enormous selection of bearded iris cultivars arranged in their groups according to the horticultural classification. In addition to these there are some of the Spuria hybrids, which are not seen in many catalogues, and a good selection of Spurias and Pacific Coast hybrids as well. I love the species, but I marvel at the ingenuity and patience of the

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breeders who have come up with this incredible range of very garden-worthy cultivars. This year I 'discovered' the Miniature Tall Beardeds, or 'Table irises', and in this catalogue there are 26 named varieties, so I will have to use up another piece of lawn if we are going to try some of those! V.H.Humphrey, Iris Specialist, Westlees Farm, Longmore Lane, Westcott, Dorking, Surrey, RH4 3JN.UK (catalogue 75p).

'Ellebore. In the last Newsletter I stupidly omitted the address of this French nursery. As luck would have it the nursery has moved out of Paris and, even if had I remembered to include it, my information would have been out of date by now. The new address of Christian Geoffroy and Nadine Albouy (and Virgile) is 'Ellebore, La Chamottiere, 61360 Saint Jouin de Blavou, France.

Adverts

Mr J. Grixti of 13 Marion House, Gort Street, Paceville, STJ 06 Malta is trying to obtain the following Vallotas (i.e., *Cyrtanthus elatus, C. purpureus, Vallota speciosa*): 'Alba', 'Delicata', 'Eximea'. Also, *Nerine samiensis, Haemanthus natalensis* [regarded as a synonym of *Scadoxus puniceus*- BM], *H. puniceus* (*Scadoxus puniceus*) and *H. sanguineus*. He is quite happy to pay for these and would prefer that they are not wild collected bulbs.

Tony Hollingworth, 49 Woodthorpe Road, Richmond, Sheffield S13 8DT, South Yorkshire is wishing to acquire the following *Crocus* species: *C. rujanensis, C. pelistericus, C. scardicus, C. autranii, C. kotschyanus* ssp. *suworowianus, C. oreocreticus, C. aerius (=biliottii), C. hartmannianus, C. leichtlinii* and *C. boulosii*. Mmm---some of those I would like myself! Also *Iris pamphylica* and *I. vartanii*.

Alec C. Cole, 48 Charminster Avenue, Bournemouth BH9 1SB is looking for some Solomon's Seals: *Polygonatum verticillatum* & *v. rubrum, P. stewartianum, P. graminifolium,* 'and others'; also *Erythronium rostratum, E. elegans, E. propullans* [Note: considered Endangered in the wild under the US Endangered Species Act!--BM], *E. klamathense, E. idahoense, E. mesochoreum, E. nudopetalum* [I think that this is not distinct from *E. grandiflorum*-BM] and *E. purpurascens*.

From the Postbag

Monica Ljung has written from Sweden to tell us about the formation of a new bulb group there. She says: 'The bulb interest seems to explode in this country, mostly thanks to the Gothenburg Botanical Garden. A nation-wide bulb group will start after Christmas with annual flower

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shows and sales in Gothenburg.' I am sure that all BN subscribers join with us in wishing them all the best.

Stephen Jury, Curator of the Herbarium at Reading University returned from a 19-day trip to northern Morocco in the autumn and sent a tantalisingly brief card: '*Narcissus serotinus* in many places, *N. viridiflorus* twice, 5 sites for *Crocus*, Merenderas almost everywhere, Scillas (? 3 species), Colchicums, *Tapeinanthus*, *Leucojum autumnale*, *Urginea maritima* and *Pancratium* sp.! BN is hoping for an expanded version sometime.

Pat Davidson of Bishopsbourne, Canterbury writes: 'The Bulb Newsletter I find absorbing reading and full of interesting snippets of information ' [I like repeating those bits!-BM]. 'I really intended writing after your reference to *Lycoris* species in BN2:10. Like you, I found them (mainly *L. radiata* but also *L. squamigera*) extremely reluctant to flower and when grown in pots the bulbs kept dividing, producing copious foliage. In desperation I threw them into the greenhouse border alongside *Amaryllis belladonna, Hymenocallis calathina, Eucomis bicolor* and a few others. I thereafter forgot about them until two or three years later when a couple of flower spikes emerged to my complete amazement. Since then I have had a dozen or more flower spikes every year of a scarlet red colour and in the last couple of years *L. squamigera* has also obliged.' My greenhouse is heated to keep out frost but in spite of thermostatic control, the temperature fluctuates between 38 and 75 deg. F. The soil is a light alluvial type over flint and gravel and I have added coarse sand where the bulbs are planted. The border is baked all spring & summer and only watered when the *Eucomis* and *Hymenocallis* are in growth. This obviously triggers the *Lycoris*, followed very shortly by the *Amaryllis*, to flower and I then water their foliage until it starts to die back in spring.' Pat, incidentally, is the holder of the National Collection of *Zantedeschia* and this fact reminds me again of Tery Hatch, who has raised an amazing array of colourful hybrid arum lilies in New Zealand. Terry reckons that *Lycoris* need lime, so I am now trying that as an additive.

Maurice Boussard has corrected me over my comments on *Anomatheca* (BN4:12). 'Peter Goldblatt has described 5 species in his revision of *Anomatheca*--the fifth one being the shy *A. fistulosa*, a successful weed here.' Thank you Maurice, for keeping the BN staff on their toes!

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Overheared at a recent RHS Show: 'Look at that--you would think that botanists would have a better knowledge of geography than that--*Sprekelia formosissima* labelled as coming from Mexico'. Beautiful!

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