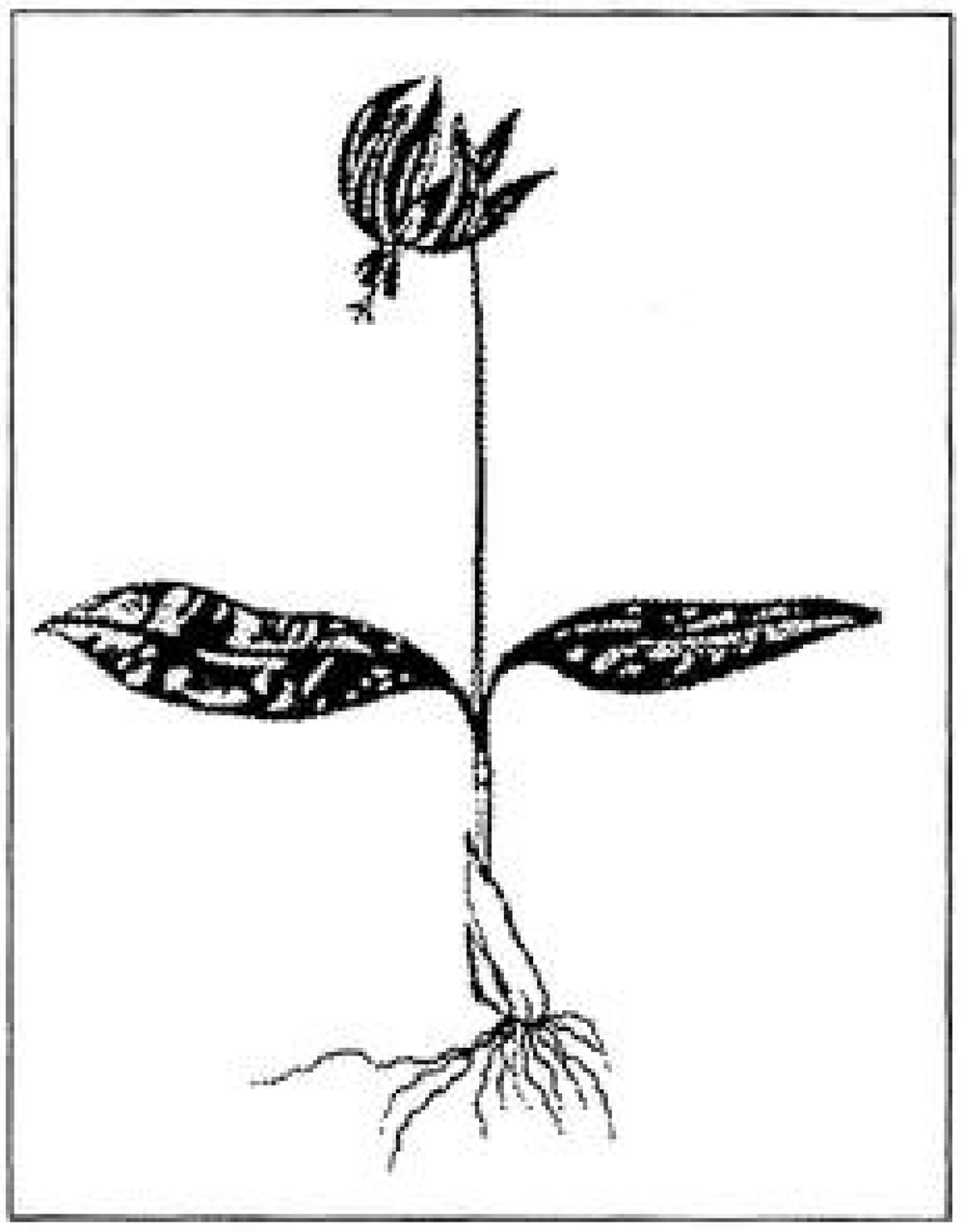
THE BULB

NEWSLETTER



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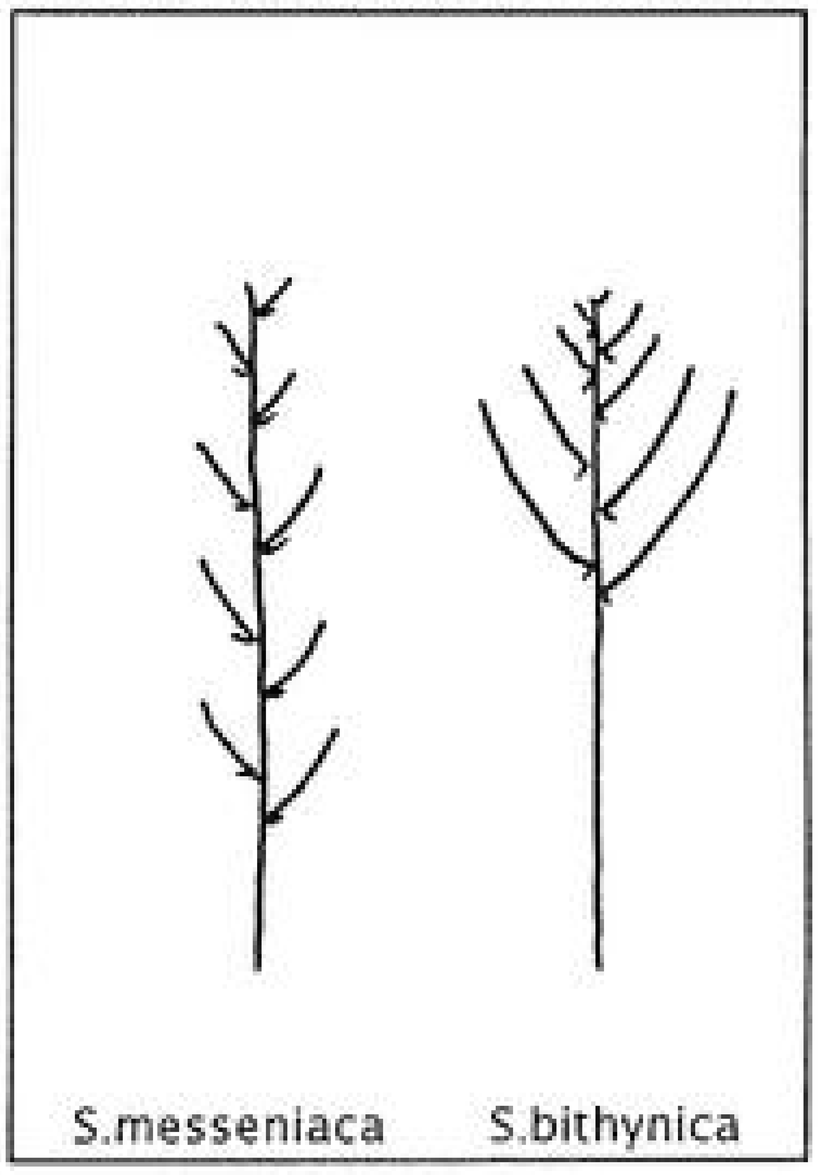
Confused squills

On a visit last year to Oregon, Molly Grothaus gave me some bulbs of an unidentified *Scilla* of the *S. messeniaca-S. bithynica* alliance, and the same thing happened again this year on a visit to Michael Hickson at Knightshayes in Devonshire where there are blue carpets of a very similar squill. In 1995, Dr Geoffrey Halliday from the University of Lancaster sent two scillas which have become naturalised in Cumbria (see BN11:15), one of them *S. siberica* but the other one apparently the same species as Molly's. Now, I had always felt that although *S. messeniaca* and *S. bithynica* were very similar I could tell the difference at a glance, and I think this is still largely true, but it always pays to go back over the same ground and have another look, so I delved into the matter once more.

S. messeniaca from Greece was described from the Kalamata area of the southern Peloponnese; it has (3-)5-7 leaves 1-2 cm wide, and racemes of up to 20 mid-blue flowers. *S.bithynica*, on the other hand, is from the western Black Sea area, in Bulgaria around Varna, in European Turkey and north-western Anatolia. This looks superficially very similar, although it usually has a maximum of 5 leaves per bulb. *Flora Europaea* gives a flower size difference for the two, the perianth segments being 6-7 mm long in the former and 9-10 mm in *S. bithynica* and this does appear to be valid, from the (originally wild) plants of the two I have in cultivation. However, the small bract which subtends each pedicel probably gives the best clue to identification, although it needs a x10 lens to view it. In *S. messeniaca* it is only about 1 mm long, oval or 2-lobed and is upright or semi-upright; in *S. bithynica* it is larger, at 2-3 mm long, and is irregular in shape with a conspicuous down-turned spur. It appears that



difference, that of *S. messeniaca* being an elongate-ovoid shape with brown tunics, and that of *S. bithynica* more globose, with blackish tunics. Checking on my own comments, in *The Smaller Bulbs,* I find that *S. messeniaca* should have looser racemes of flowers and, looking at my living plants side-by-side I find that they are very different, although it is not really a 'looseness', more a difference of shape of raceme. In *S. bithynica* the lower pedicels are longer than the upper so that the flowers appear to be clustered together more into a conical-shaped 'head', whereas in *S. messeniaca* the pedicels are uniform in length all the way up the raceme, giving the impression of a cylindrical rather than conical raceme with the flowers more widely spaced; the pedicels are also shorter than those of *S. bithynica* (in the sample I looked at they were at most 7 mm in length in *S. messeniaca*, and 10-20 mm in *S. bithynica*). Both are low-altitude plants, *S. messeniaca* in shady, usually rocky places from 50-300 metres, *S. bithynica* often at sea level in shade or in damp meadows. So, on the basis of this, it appears that all the samples, those of Molly Grothaus, those at Knightshayes and the Cumbrian ones, represent *S. bithynica*. It is a first-rate mid-spring squill, flowering freely, seeding freely and superb for naturalising, soon disappearing for the summer so never untidy for long. There is a bit of variation in depth of blue, and very attractive pure white forms occur, the latter usually with yellow anthers but sometimes with blue (I have seen these only once, in Richard Nutt's garden in Buckinghamshire), which is the typical anther colour for the species.

I should just mention that *S. bithynica* is frequently confused in gardens with the superficially similar *S. italica*; it is easy to distinguish these, however, since the bracts of *S. italica* are long , narrow and tapering, two to each flower stalk: in fact this makes it a *Hyacinthoides* rather than a *Scilla*.

The Albanian Squill

I am not sure that checking back in one's own books is a good idea! Whilst referring to the squill problem above, I took another look at the type specimen of *Scilla albanica*. This species has, as far as I know, never been introduced into cultivation and was described by Dr Turrill in 1932 from a specimen collected by Guiseppi at Oloman in Albania. *The Smaller Bulbs*, and *Flora Europaea*, indicate that this may be a variant of *S. messeniaca*, but it now seems to me much more likely that it is related to, and perhaps the same as, *S. litardierei*. The small flower size and general appearance is much more reminiscent of the latter, and the late flowering time of June, as well as the geographical location and habitat (cliffs and meadows) tie in

much better with the Dalmatian *S. litardierei* than with the two spring-flowering squills described above. Some living specimens would be interesting to compare, but I have no immediate plans to visit Albania; if anyone is going, I have a little job .....!

And a new-ish Scilla from Spain

The editorial team do not manage to track down all the recently-described species immediately, and it was only while dealing with these other squill matters that a 'new name' (new to us) appeared. This is *Scilla merinoi* from Galicia in north-western Spain, described by S. Ortiz, J. Rodriguez-Oubina and J. Izco in the *Nordic Journal of Botany* 13:159-163 (1993). The new species is considered to be related to both the Portuguese *S. odorata* and the widespread western-European *S. verna*. It is usually 7-13 cm tall with 5-9 (-13) narrowly linear (mostly 1.5-3 mm wide) leaves which overtop the flowering stems. There are up to 17, occasionally to 22, flowers in the raceme which appears corymbose (that is, somewhat flat-topped) because pedicels of the lower flowers are longer than those of the upper flowers - as in *S. bithynica* above, although there is little else to connect the two. The flowers of *Scilla merinoi* have long, narrow tapering bracts (like *S. verna* and its allies), the lower ones usually 1-1.5 cm long; the perianth segments are dark purplish-blue, 5-8 mm long, and the stamens are also dark blue. From the accompanying drawing it appears that the flowers are flattish and starry, and approximately 1 cm across when fully open, so it does look very like *S. verna*; the flowers are said to be strongly fragrant. To date, the species is recorded only from Spain but the authors consider that it may also be found in northern Portugal. Its habitat is in pastures and clearings in scrub close to the sea, frequently on stabilised sand dunes and mostly below 250 m. A key to the three species under discussion is provided, showing that *S. odorata* is distinguished from the other two by the number of leaves (only 2-3), racemose (as opposed to corymbose) inflorescence and larger flowers (segments 7-9 mm long). The features separating *S. merinoi* from *S. verna* are described as follows:

S. italica - leaves blunt, shorter than or the same length as the inflorescence, fresh flowers not scented, bracts longer than or the same length as the pedicels, perianth segments 1.5-2 mm wide.

S. merinoi - leaves pointed, longer than the inflorescence, fresh flowers scented, bracts usually shorter than the pedicels, perianth segments 2-3 mm wide.

There is no reason to suppose that *S. merinoi* has any less garden value than *S. verna*, some forms of which are most attractive.

Fritillaries in The Garden

The April number of the Journal of the RHS, *The Garden*, contains an article by Gill Skilton describing some of the various *Fritillaria* species in her care in the Alpine Department at Wisley, a collection said to consist of 82 species. All of the species that one would expect to find are there, as well as some of the more unusual ones, treasures such as *F. gibbosa* and *F. stenanthera* and one of my particular favourites, the small yellow *F. sibthorpiana*. Cultivation notes are given in some detail, and they clearly work, judging by our last visit to Wisley. Species from the Mediterranean and Asia requiring a dry summer dormancy are given a potting medium (in clay pots) of 4 parts loam, 2 parts moss peat and 3 parts crushed grit with Vitax Q4 fertilizer; known lime-lovers have limestone grit and all have high potash liquid feeds when in growth. Those which prefer higher moisture levels are grown, also in clay pots, in a medium of 5 parts loam, 3 peat, 1 leafmould and 3 crushed grit, with the same fertilizer and feeds; those falling into this category - *F. camschatcensis*, *F. pallidiflora* and *F. tubiformis* are mentioned - are never allowed to dry out. Visitors to Wisley will find that in the trial ground there is also a wide range of fritillaries being tested for cultivation in the open ground to find out which might be suitable for growing outdoors in the local climate. Those in the Alpine Department are cultivated in cold frames or the Alpine House and are, not surprisingly, mostly far superior to those in the trial.

Tulip classification

The genus *Tulipa* is perhaps one of the real problem areas in the taxonomy of Eurasian bulbs, so any moves towards a new classification are to be welcomed. L.W.D. van Raamsdonk and T. de Vries have published a paper (Species relationships and taxonomy in *Tulipa* subgenus *Tulipa*, in *Plant Systematics & Evolution* 195:13-44) in which 30 species are arranged in sections and series based on an analysis of the morphological and cytogenetical characteristics. The classification of subgenus **Tulipa** is presented is as follows:

Tulipa, subgenus **Tulipa**, section **Clusianae**, susection **Clusianae** [*T. clusiana* f. *clusiana*, f. *stellata*, f. *diniae*, f. *cashmeriana*; *T. montana* (=T. wilsoniana); *T. linifolia* (=T. maximowiczii) & *T. linifolia* f. *chrysantha* (= T. batalinii)].

Tulipa, subgenus **Tulipa**, section **Clusianae**, subsection **Kolpakowskianae** [*T. altaica* (=T.kolpakowsiana, T. iliensis, T. anisophylla) & *T. altaica var. ferganica* (=T. ferganica); *T. lehmanniana* (=T. zenaidae); *T. tetraphylla* (=T. behmiana) & *T. tetraphylla* subsp. *ostrowskiana* (=T. ostrowskiana)].

Tulipa, subgenus **Tulipa**, section **Tulipanum**, series **Tulipanum** [*T. agenensis* (=T. oculis-solis); *T. systola* (=T. stapfii, T. ulophylla); *T. kuschkensis; T. julia; T. aleppensis*].

Tulipa, subgenus **Tulipa**, section **Tulipanum**, series **Aureo-fasciatae** [*T. praecox*].

Tulipa, subgenus **Tulipa**, section **Eichleres**, series **Lanatae** *[T. lanata, T. ingens*].

Tulipa, subgenus **Tulipa**, section **Eichleres**, series **Eichleres** [*T. eichleri* & *T. eichleri* var. *micheliana*].

Tulipa, subgenus **Tulipa**, section **Eichleres**, series **Vinistriatae** [*T. greigii* (=T. mogoltavica)].

Tulipa, subgenus **Tulipa**, section **Eichleres**, series **Undulatae** [*T. albertii* (=T. vvedenskyi, T. butkovii)].

Tulipa, subgenus **Tulipa**, section **Eichleres**, series **Luteo-apiculatae** [*T. sosnovskyi*].

Tulipa, subgenus **Tulipa**, section **Eichleres**, series **Multiflorae** [*T. praestans*].

Tulipa, subgenus **Tulipa**, section **Eichleres**, series **Spiranthera** [*T. kaufmanniana; T. tschimganica* (=T.anadroma); *T. dubia*].

Tulipa, subgenus **Tulipa**, section **Eichleres**, series **Glabrae** [*T. subpraestans*].

Tulipa, subgenus **Tulipa**, section **Tulipa** [*T. armena* & *T. armena* f. *galatica* (=T. galatica); *T. hungarica* (=T. orientalis, T. urumoffii) & *T. hungarica* subsp. *rhodopea* (=T. rhodopea); *T. suaveolens* (=T. schrenkii); *T. didieri* (=T. planifolia, T. marjoletti, T. grengiolensis); *T. gesneriana*].

Tulipa subgenus ***Eriostemones*** was dealt with in an earlier paper by the same authors (in *Plant Systematics & Evolution* 179: 27-41); this was divided into three sections (at the time, referred to as subsections but presumably the equivalent of sections in the above classification) as follows:

Tulipa, subgenus **Eriostemones**, (sub)section **Biflores** [*T. biflora, T. neustruevae, T. tarda, T. sogdiana, T. polychroma, T. turkestanica* (T. bifloriformis), *T. binutans, T. daststemon, T. dasystemonoides, T. buhseana, T. turcomanica, T. mariannae, T. talievii*]; some of these are probably inseparable from others, but the synonymy it is not made clear and may even have been undecided at the time.

Tulipa, subgenus **Eriostemones**, (sub)section **Australes** [*T. biebersteiniana, T. patens, T. primulina, T. australis* (=T. celsiana), *T. sylvestris, T. hageri, T. orphanidea, T. whittallii*]

Tulipa, subgenus **Eriostemones**, (sub)section **Saxatiles** [*T. humilis* (=T. lownei), *T. pulchella* (including T. violacea), *T. aucheriana, T. saxatilis, T. bakeri*].

This seems to be a long-term detailed study of the genus, so doubtless there will be other papers, hopefully dealing with *Tulipa* at the species level which is where there is so much confusion at present in the minds of nurserymen and gardeners.

Fritillaria argolica

The appearance of this fritillary in a trial at Wisley recently - a trial to assess the success or otherwise of fritillaries in the open ground without protection - resulted in a certain amount of discussion concerning its origins, for it clearly has something to do with the much better-known *F. graeca*. It was, in fact, described as *F. rhodocanakis* subsp. *argolica* by Eugenia Zaharof in *Willdenowia* 16: 343-348 (1987). It is thought to be derived from *F. graeca* and *F. rhodocanakis* by hybridisation, but is considered by the author to have become stable enough to merit recognition it as a subspecies of the latter. It has dark purplish-brown flowers, edged with yellow and only slightly or not at all tessellated, with only a faint 'fascia' (the green bands along the centre of the segments which are such a conspicuous feature of many fritillaries) visible towards the tips of the segments; it has 4-6 grey-green alternate leaves and the style is often papillose (glabrous in *F. graeca*). The nectary at the base of each perianth segment is short (3-5 mm), more like that of *F. rhodocanakis* (*F. graeca* has a nectary 6-11 mm long). It is thus fairly intermediate between the two species from which it is ostensibly derived. *F. rhodocanakis* subsp. *argolica* is found on the Greek islands of Poros, Spetsai and on the Peloponnese.

Interesting Bellevalia species (Liliaceae/Hyacinthaceae)

Whilst I acknowledge that bellevalias are not the most showy bulbs in the world - well, all right, many are downright dowdy! - some of them have a certain amount of garden value and the more you look into them the more interesting they become. There are over 50 species known, the exact number is difficult to assess at present since there has been no revision of the genus since Naomi Feinbrun published her account in the *Palestine Journal of Botany*, Jerusalem Series Vol. 1 (1938-1939). Several new species have been published since that time and quite a lot of those in Feinbrun's monograph were known only as dried specimens, so there has been no thorough assessment of the genus using living plants, and few field studies.

A walk around the garden the other day - mid spring here - revealed several of them in all their unspectacular glory but this led to a certain amount of literature-delving once more since one of them is still without a name. This came to me many years ago as a "Bellevalia species Iraq, collected by Oleg Polunin", and is actually one of the best I grow. The problem is that it does not really key out to anything in particular in Feinbrun's monograph, but cannot be described as a new species on the basis of such scanty data. It is a plant of about 10-15 cm in height with semi-erect long-tapering shiny green leaves and cylindrical racemes of white bell-shaped flowers, or perhaps rather more of a creamy putty colour; the stamens are dark blue, just protruding from the mouth of the tube; a well-flowered pot would not be unattractive and I might just try it at a show one day. It is clearly closely related to *B. kurdistanica*, described by Feinbrun from a dried specimen from Amadia in northern Iraq but there are several points on which it does not agree.

Continuing the *Bellevalia* tour I came across *B. crassa*, one of the more recently-described species from Turkey. This is a very dwarf plant with just one or two broad grey-green leaves and a short raceme of whitish flowers, the whole plant less than 10 cm in height; again, not very striking but a good pot-full would look quite good. *B. rixii*, named after Martyn Rix, is another very compact one, this time with dark blue flowers but this is not doing so well this year. The most vigorous of the blues is *B. pycnantha*, the only species to have made it into the Dutch bulb trade and a good plant when growing well (it grows in boggy meadows in the wild), with stems up to 40 cm tall and conical racemes of very dark dusky blue flowers which have a yellow rim to the lobes. I have an albino of this, collected by John Ingham in Iran many years ago but it is that putty colour again rather than a glistening white! *B. paradoxa* is a shorter version of *B. pycnantha* with a rounded head of similarly dark flowers; the two have been much-confused and I am not convinced of their distinction. The

former is reputed to occur only at higher altitudes (2300-3000 m) in north-east Turkey and Georgia in alpine pastures whereas *B. pycnantha* is a much more widespread plant of water meadows in eastern Turkey, Iran, northern Iraq and Transcaucasia at 500-2900 m. My suspicion is that the 'species' named as *B. paradoxa* is made up of the shorter, higher altitudes plants of *B. pycnantha*, but I have not seen many of the higher altitude populations in the wild and only wide-ranging field work will shed light on the problem. The best of the blue bellevalias is *B. forniculata*, another wet-meadow species from eastern Turkey which has flowers of an intense sky blue, sometimes colouring the grass with a blue haze; unfortunately it is not so free with its rate of increase in gardens and the results I have achieved are not exciting so far. One of the easiest we have in the garden is *B. dubia*, a widespread Mediterranean species with brown flowers which would make it very uninteresting except for the fact that the whole of the upper part of the raceme - the unopened buds - are a brilliant bluish-violet, so it earns its keep. I am not so sure about *B. edirnensis*, one I described with Neriman Ozhatay a few years ago; in this case there are many flowers arranged sparsely along a 30-40 cm raceme on long pedicels and they are a muddy brown-green-putty colour , but I will look after this one as it seems to be a very local one, collected only once in European Turkey. Sadly I have lost *B. longipes*; this was as muddy-looking and unexciting as most of the others when in flower but as it went into the fruiting stage the pedicels elongated to up to 15 cm, giving the inflorescence dimensions of up to 30 cm wide and long; *Flora of Turkey* suggests that it might be a type of tumbleweed and this seems possible since it is a plant of open steppe and fields.

Most of the bellevalias we have tried in the garden appear to be fairly easily cultivated in a well-drained soil which is damp in spring and then dries out in summer when they are dormant. Most have been grown in a cold frame but *B. dubia*, *B. tauri* (superficially very like *B. dubia*), *B.* sp. Iraq (Polunin) and *B. pycnantha* have no protection.

New Key to Romulea

A pleasant surprise fell out of the January 1996 issue of the *IBSA Bulletin* 44; not the rubbish one is accustomed to having land at one's feet on opening a magazine but something useful! This is a key to the genus *Romulea* in South Africa, a modified version of the one by Miriam de Vos published in her splendid book*. This 'Simplified key to *Romulea* subgenus *Romulea*' by A.T. de Villiers takes the information from the earlier key and presents it in a different form with fuller explanations about the characteristic features, firstly taking out those species with

winged leaves (only two species, *R. tetragona* and *R. hirta*); the next break-down is by corm type - whether the corms have a spoon-like projection, are bell-like with a flattened base, bell-shaped with an oblique base, fan-shaped or rounded. Within these groups each species is described briefly, along with the distribution and habitat. It is essential to have the full de Vos monograph to refer to as this is not intended as a substitute but a helpful addition.

The January 1996 *IBSA* (Indigenous Bulb Growers Association of South Africa) *Bulletin* 44 contains, as usual, much information of interest. There is a valuable article attempting to unravel the currently confusing taxonomy/nomenclature (caused by botanists with opposing splitting-versus-lumping views!) of the *Hessea - Strumaria - Gemmaria - Tedingea - Bokkeveldia - Namaquanula - Dewinterella* alliance (Amaryllidaceae). Colour photographs of *Hessea cinnamomea* and *Strumaria salteri* (or *Bokkeveldia salteri*!) are included as a centre spread. Dr Deirdre Snijman has provided an amendment to the key to *Haemanthus* species published in her excellent book** to include the more recently-described *H. pauculifolius*. There is a most interesting survey of the geophytes ('bulbs') of Kwazulu Natal, giving wide-ranging information including ethnobotany; it seems that if I get tired of the *Scilla natalensis* which is just pushing up flower buds in our conservatory I can mix it with oil to produce a lotion for chest complaints. The *IBSA Bulletin* can be obtained by joining the Association: The Secretary, IBSA, PO Box 12265, N1 CITY 7463, Rep. of South Africa (subscription is US$18.00 outside South Africa).

* *The Genus Romulea in South Africa* by Miriam P. de Vos. Journal of South African Botany Supplementary Volume No. 9 (1972).

** *A Revision of the genus Haemanthus* by Deirdre Snijman. Journal of South African Botany Supplementary Volume No. 12 (1984).

Personalities in the Bulb World - 4

William Herbert (1778-1847) appears to have been one of those people who manage to make one feel totally inadequate. He was educated at Eton and Christ Church, Oxford, then graduated (B.A.) at Exeter College, Oxford and followed this with an M.A. at Merton College, Oxford. His life in politics (M.P. for Hampshire from 1806 and for Cricklade from 1811 gave way to a career in the Church and he was ordained Rector of Spofforth in Yorkshire in 1814, later gaining promotion as Dean of Manchester in 1840. Herbert was a classics scholar, accomplished in Greek and Latin but also with enough knowledge of Danish, German and

Portuguese to translate poems from the originals into English and he published many volumes of poetry. It is as a naturalist that he will be remembered most by gardeners and botanists; he is commemorated in the genus *Herbertia* (Iridaceae), and various species are also named after him (e.g. *Cypella herbertii*). The family Amaryllidaceae was a great interest and he cultivated a large collection of amaryllids in his garden at Spofforth, describing many new species; the results of his interest in this family were published in the 428 page book *The Amaryllidaceae* (1837). This is the reason behind the name *Herbertia* for the *Journal of the International Bulb Society*, formerly the American Plant Life Society which had incorporated the American Amaryllis Society.

Herbert contributed many papers to *Curtis's Botanical Magazine* and the *Botanical Register*; one of his most important contributions was a very thorough survey of the genus *Crocus*, *A History of the Species of Crocus*, published in the *Journal of the Royal Horticultural Society* in 1847 just after his death. The manuscript for this was completed just a few days before his death and was left with a note on the first page: '*Crocorum Synopsis*, nearly prepared for the press and to be printed, if I die before it is sent to press, with or without plates from my drawings, as may be found expedient.' Herbert was also an accomplished artist and some of his colour work was published in the *Botanical Register*. The synopsis of *Crocus* is an interesting piece of work and really laid the foundations for the later work by George Maw in *The Genus Crocus* (1886). Considering the very limited amount of plant specimens he had available, his observations and feelings for the habitats of the plants were very astute, for it appears that he did not travel to view them in the wild. He did have a great range of contacts around the world, many of them in British Consulates, and acquired many of his plants from them; some of his new species were named after them, for example *Crocus suterianus* after the 'Vice-Consul in Caramania' and the Greek

Hon. and Rev. William Herbert

C. cartwrightianus, for 'his excellent friend Mr Cartwright who has lately retired from the British consulate at Constantinople.'

Having worked at the Royal Botanic Gardens, Kew for 25 years, and being a great admirer of both Herbert and of the work of Kew, I find some of his remarks about Kew in the early 1800s highly amusing. It seems that he did not get along with Sir Joseph Banks and his requests for plants clearly fell on deaf ears. In the middle of a description of a *Crinum* in *The Amaryllidaceae* he bursts into a torrent of abusive comments: 'The illiberal system established at Kew Gardens by Sir Joseph Banks, whereby the rare plants collected there were hoarded with the most niggard jealousy , and kept as much as possible out of the sight of any inquirer, led ------to a feeling of satisfaction, whenever it was known that the garden had been plundered, and some of its hidden treasures brought into circulation.' He adds: 'It was the narrow-minded doctrine of Sir J. Banks, that he could only render the king's collection superior to others by monopolizing its contents; and by so doing he rendered it hateful and contemptible: whereas, if he had freely given and freely received, and made its contents more accessible to those who were interested in them, it would have been a pride to the nation. It is now near twenty years since I have visited that odious and useless establishment.' Clearly there was something at Kew which Herbert **really** wanted badly!

More new alliums from Central Asia

I will not go into all the intricate botanical details of several newly described alliums but merely pass on the news of their publication to the 'alliphiles'(?). F.O. Khassanov and R.M. Fritsch, in *Linzer Biol. Beitr.* 26,2:965-990 (1994) have described four new species, all from Uzbekistan or Tadzhikistan, as well as defining several new sections and subsections within the genus. Of the new species, *A. zergericum*, *A. tashkenticum*, *A. severtzovioides* and *A. rosenorum*, horticulturally speaking I like the look of *A. severtzovioides*, a tall 'drumstick' with masses of bright rose flowers in a large globose umbel, although whether it has any advantages over the other similar species is hard to say until it is tried out.

Olsynium again

One that slipped through the net is a name change for *Olsynium luteum* (see BN 2:5 and 7:5). John M. Watson and Ana R. Flores have pointed out that this species requires a new name, since Rafinesque had already used the epithet *luteum* in the genus *Olsynium*, some 26 years before R.A. Philippi described **his** *O. luteum*. Rafinesque's *O. luteum* (published 1838)

is the same as *Sisyrinchium californicum*, which was published even earlier, but even though Rafinesque's name is reduced to a synonym of *S. californicum*, *luteum* cannot be re-used in the genus *Olsynium*. Watson & Flores have provided the new name *O. chrysochromum* for the species. The full synonymy for the species thus reads: *Olsynium chrysochromum* J.M. Watson & A.R. Flores (syn. *Chamelum luteum* Phil., *Olsynium luteum* (Phil.) Goldbl., non *O. luteum* Raf.). The paper appears in *Gayana* 51(1):11-12 (1994).

Red blotches on Hippeastrum

A query which recently came my way - without specimen, so it is difficult to be sure of the facts - involved red spots/blotches on the leaves of a hybrid Hippeastrum. The most likely explanation appears to be an outbreak of 'red spot disease', *Stagnospora curtisii*, which causes watery reddish blotches. The recommended cure appears to be spraying with dithane or a copper-based fungicide. I have noticed that any sort of physical damage on the leaves of some hippeastrums can result in reddish marks, for example by mealy bugs and aphids. Maybe other subscribers have some comments?

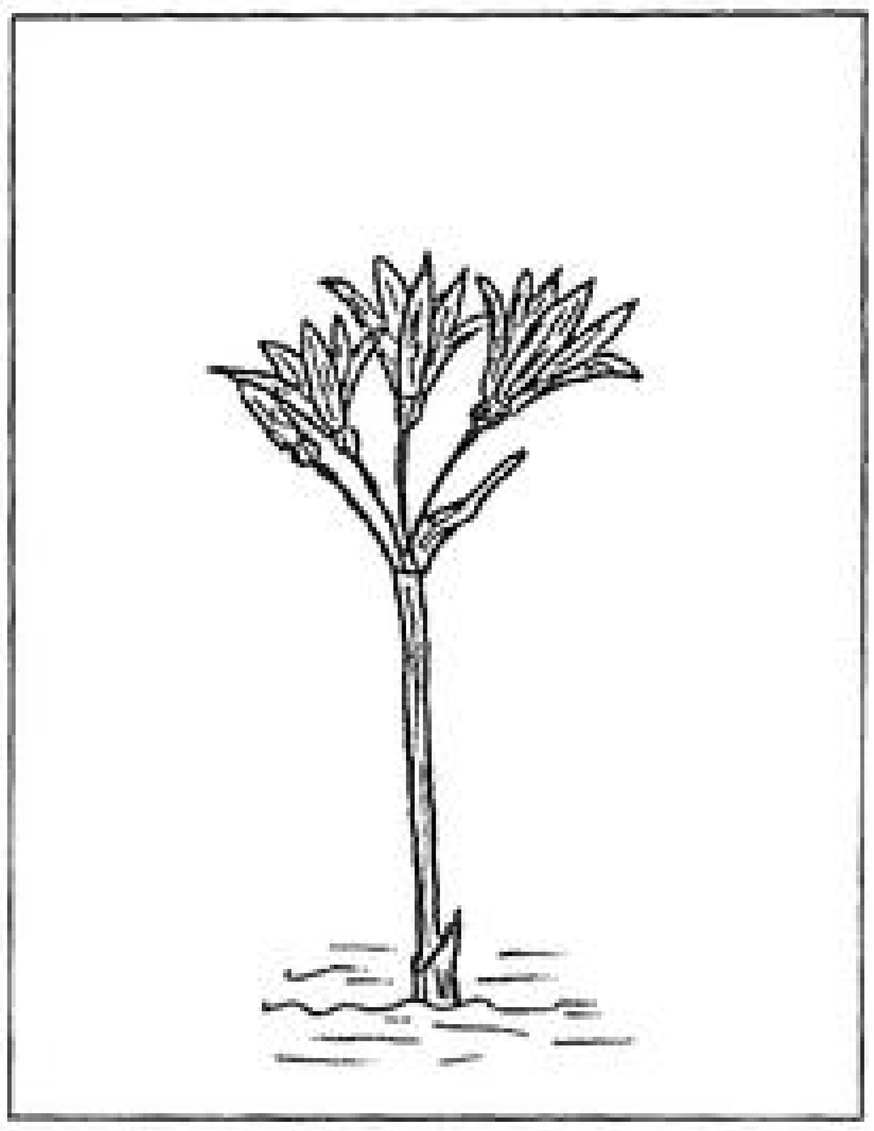
Crocuses on Chios

In the publication *Anthophoros* it is reported that three previously unrecorded species of Crocus have been found Chios (Hios) Island in the Aegean. These are: *C. pulchellus*, *C. pallasii* subsp. *pallasii* and *C. biflorus* subsp. *biflorus*. The last two are not unexpected, but for *C. pulchellus*, Hios represents a considerable extension of the range to the south. Anthophoros reports on rare and interesting Greek plants and is published by the Center for the Protection of the Greek Flora, 2 Vyzantiou Str., Argyroupolis 16 452, Athens, Greece.

Cultivation notes: Ungernia (Amaryllidaceae)

I have not had great experience with this small genus, and cannot claim great success with those I have tried, but a few have been appearing on seed lists lately, so some comments may be helpful. There are possibly about 8 species, mostly from the Middle East and Central Asia. They have long-necked bulbs with blackish papery tunics, and narrowly strap-shaped leaves appearing in spring in the wild, but in cultivation they often appear in late autumn or winter. The flowers are produced in late summer in small umbels and are funnel-shaped, yellowish, brownish, pink or red flowers, not greatly ornamental and definitely in the category of enthusiasts' plants. Those I have cultivated, and I suspect this applies to all of them, need a dormant period in summer during which they need to

be hot and dry but, if in pots, the 'cooking' must not be overdone to the extent that the roots (they appear to have long, perennial roots) are killed off, and new ones do not form too readily. They seem to give best results if planted in a bulb frame and are left undisturbed but if pot cultivation is preferred, then the deepest containers should be used since the bulbs are elongated and have long fleshy roots; a sandy loam would seem to be the nearest to their natural soil. Flowering - if one is lucky enough - takes place in mid to late summer, even without the stimulus of water, but then they should be watered sparingly to encourage root and leaf formation, through winter and spring until the leaves die back. Hardiness should be no problem at all , but it must be borne in mind that although they originate from very cold areas, there is probably a good snow cover. Seeds germinate well, in the autumn-winter-spring period, but will clearly take many years to reach flowering size; in view of the long perennial roots, it seems advisable to move them carefully as very young bulbs into as permanent a position as possible to avoid frequent disturbance such as potting on. Paul Furse introduced several species in the 1960s and 1970s but, as far as I know, none of his collections has survived. Names that might be encountered include *U. flava*, *U. trisphaera*, *U. minor*, *U. sewerzowii*, *U. ferganica*, *U. spiralis*, *U. tadzhikorum* and *U. victoris*, mostly from Central Asia and Iran.



The genus is said to be named after Franz Unger-Sternberg, nothing to do with the gentleman after whom *Sternbergia* is named, Caspar von Sternberg, although the two genera are somewhat related in that they belong to the same family. There is probably no close connection between them for, although the flowers are not dissimilar in shape, those of *Ungernia* are produced in umbels whereas those of *Sternbergia* are normally solitary. More fundamental, however, is the fact that *Ungernia* seeds are black, flattish and very light, presumably wind distributed, whereas those of *Sternbergia* are globose, brown and are certainly attractive to ants. There seem to be closer connections with the eastern Asiatic *Lycoris*, and some of the species have been included in that genus in the past.

A new combination in Hieronymiella (Amaryllidaceae)

In *Kurtziana* 24: 153-155 (1995), Silvia Arroyo-Leuenberger and Armando Hunziker have transferred *Eustephia argentina* to the genus *Hieronymiella*. This is a reddish-flowered amaryllid with a leafless flower stem 35-50 cm in height carrying an umbel of 3-10 flowers, each on a stalk about 8 cm long and held at an oblique angle; the flowers are 2.5-3 cm long with a short tube (2-4.5 mm) and a small 'pseudocorona' 1-1.5 cm long, formed by the fused stamens; the leaves are up to 72 cm long and 0.4-0.9 cm wide with a whitish-transparent margin. It is a native of Argentina, in the provinces of Jujuy, Catamarca, and Bolivia (Tarija), flowering (August-)November-December at altitudes of 1470-4000 metres. The full synonymy of the species is given as:

Hieronymiella argentina (Pax) Hunz. & S. Arroyo-L.

Eustephia argentina Pax, *Eustephiopsis latifolia* R.E. Fries, *Eustephia latifolia* (R.E. Fries) Traub, *Hieronymiella marginata* var. *latifolia* (R.E. Fries) Hunz., *H. latifolia* (R.E. Fries) Di Fulvio & Hunz., *Androstephanos tarijensis* Fern. Casas & Lara.

And some new combinations in Calochortus

Peggy L. Fiedler and Randy K. Zebell of San Francisco State University are preparing the account of *Calochortus* for Volume II of the Flora of North America and have found that it is necessary to 'iron out' some discrepancies in the treatment of the variants of *C. clavatus*.

The two varieties *pallidus* and *recurvifolius* were firstly described by Hoover in a separate genus, *Mariposa*, and then recognised by Munz as subspecies of *C. clavatus*; the present authors regard them as having equal status to the three varieties of *C. clavatus* which have been recognised (vars. *clavatus*, *gracilis* and *avius*), so have made the appropriate combinations as *C. clavatus* var. *pallidus* (Hoover) Fiedler & Zebell and *C. clavatus* var. *recurvifolius* (Hoover) Fiedler & Zebell. Both were described originally by Hoover in 1964 from San Luis Obispo County, California. There are thus now five varieties of *C. clavatus*: var. *clavatus*, var. *avius*, var. *gracilis*, var. *pallidus* and var. *recurvifolius*.

New species of Moraea

There appears to be no end to the novelties being discovered in South Africa - well, hopefully not, for it is all very exciting! The latest to come to our notice are two new moraeas (Iridaceae), described by Peter Goldblatt and John C. Manning in *Novon* 5: 262-269 (1995). These are both 'winter rainfall' species so will make their growth during the winter-spring months and die down for the summer.

M. rivulicola is from Namaqualand in the Springbok District and is a plant of 50-80 cm in height with one long, channelled leaf 6-10 mm wide. The flower stems are branched, with several flowers at the end of each branch and produced in succession. The colour is described as cream, greenish or beige, dark-spotted towards the central area of the three outer perianth segments, of which the blade hangs downwards; the three inner segments are much smaller, erect and 3-lobed with the middle lobe longer and narrower than the two lateral ones; the flower spread appears to be about 3 cm between the tips of the outer segments. *M. rivulicola* - the name means living in streams, since it grows in seasonal streams - is said to be rare; the corms grow wedged in crevices of the granite rock of the stream bed and the flowering time is September (i.e. spring). The most closely allied species is *M. unguiculata*, but the authors described several important differences including the larger flowers of *M. rivulicola*, and the habitats of the two are very different, with *M. unguiculata* occupying dryer, rocky well-drained sites.

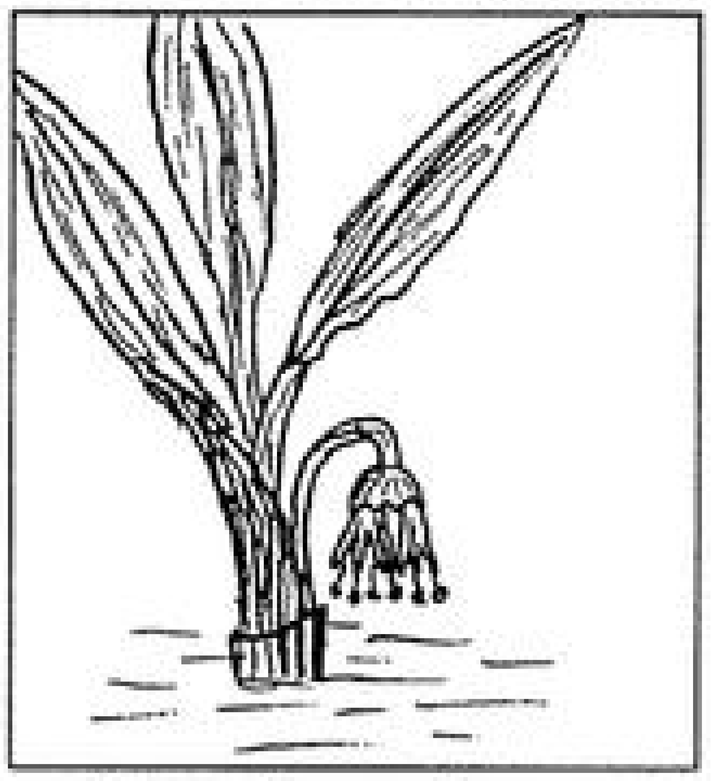
M. regalis looks to be a handsome species and is named 'royal' because of the rich purple-blue of the flowers. It is 18-25 (rarely to 35) cm tall with an unbranched stem and a long, solitary leaf only 3 mm wide. The single flower head contains usually two flowers, produced in succession and these are about 3-3.5 cm across, between the tips of the three outer perianth segments; these have the blades sharply reflexed. The violet colour is broken by a small white triangular blotch in the centre of the outer segments, surrounded by a darker violet area; the three inner segments are erect and very narrow, almost awl-shaped or sometimes 3-lobed. *M. regalis* is known from one locality only, in sandy soil on a rocky hill in the Little Karoo, flowering in spring (September in the wild). As with *M. rivulicola*, it is related to the widespread *M. unguiculata*.

In addition to the descriptions of the two new species, Drs Goldblatt and Manning have, as a result of further detailed studies incorporated the genus *Rheome*, which consisted of three species, into *Moraea*. The three involved are *M. maximiliani* (syn. Homeria maximiliani, Rheome maximiliani), *M. nana* (Hexaglottis nana) and *Moraea umbellata* (Homeria umbellata, Rheome umbellata).

Requests

I hope that I am not abusing my position as Editor by putting in a request myself, but it seems that there is no-one to argue! Some years ago I grew and flowered a very curious *Haemanthus*, which will now be a *Scadoxus*. It was *S. nutans* from Ethiopia, a species totally unlike any other in that the short stem turn over at the apex allowing the shuttlecock-shaped umbel of red flowers to hang downwards. The leaves were present at the same time

and were not remarkable, being rather similar to those of the common *S. multiflorus*, perhaps a little narrower. Sadly this died in a severe winter when the heating failed and all I have is a colour photo to remind me of this interesting plant. So, if anyone is growing it and thinks that they might be able to spare a seed or a small offset ----------please remember me!



For those who do not know of this extraordinary plant I have include a poor sketch. *S. nutans* was described in 1971 by Ib Fries and Inger (Bjørnstad) Nordal (in *Norwegian Journal of Botany* 18:227-230) as a *Haemanthus*, then transferred to the genus *Scadoxus*.

Stamps

The Netherlands has an interesting stamp (100 c) showing a fritillary, brownish with conspicuous chequering and labelled: Fritillaria, Walberswick, Charles Rennie Mackintosh, 1915 (Detail). This will be *F. meleagris* from Walberswick in Suffolk, England. The flower is shown upright, cut open to display the stamens and style.

Although not a bulbous monocot, I should mention a fine *Paphiopedilum maudiae* 'Magnificum' gracing a 24 pence British stamp.

The U.S.A. has a 32c *Crocus* stamp, showing two different ones not identified to species, but I feel that *C. chrysanthus* 'Cream Beauty' and *C. tommasinianus* would not be too far from the truth!

Catalogues

Please mention 'seen in BN' if ordering; it would be useful to know if this item is of interest to subscribers or nurseries, or both.

The catalogue of **Jānis Rukšāns** always gives us a lot of fun, apart from the usual feeling of total greed as well, and the 1996 list is no exception. For a start there are 47 alliums; I can vouch for the excellence of *A. nevskianum* (1 wide purple leaf and a stemless head of pink flowers) and *A. tripedale* (a small pink *Nectaroscordum*) but several sent me diving for the reference books (*A. backhousianum*, *A. microdictyon*, *A. woronowii* - all unknowns); we move on to *Corydalis*, with an equally mouth-watering selection including the lovely primrose *C. bracteata*, the amazing yellow

C. schanginii subsp. *ainii*, *C. teberdensis*, *C. subremota*, *C. turczaninowii* - the names alone are enough to quicken the pulse! *Fritillaria* has some tempting offers like the eastern Asiatic *F. dagana*, *F. olgae* and *F. maximowiczii*, irises such as the junos *I. kuschakewiczii* and *I. rosenbachiana*, and the tulips, *T. berkariense*, *T. karabachensis* and *T. subpraestans*. Then there are all the slightly less rare ones, the uncommon ones, the unusual ones, and a few well-known for good measure! Janis has written to say that the winter was a hard one: 'last week we had -21deg. C and two weeks ago it was -33' (but it was all covered with 60 cm of snow, so that's all right then!). Jānis Rukšāns, LV-4150 Rozula, Cesu apr., Latvija.

Not a catalogue or list yet, but promises of something good! Rannveig Wallis has written to inform us that she is setting up a 'small specialist bulb nursery' (those are the ones we like!) under the name of **Buried Treasure**. Many will associate Rannveig and Bob Wallis with exhibits of superbly grown bulbs - and many other things - at Alpine Garden Society shows, from which they have 'lifted' many awards. A list will be ready during summer 1996 and can be obtained by sending a stamped, addressed envelope to: Rannveig Wallis, Llwyn Ifan, Porthyrhyd, Carmarthen, Dyfed, SA32 8BP, U.K.

The Croft Wild Bulb Nursery is a new one to us; in fact it will be fairly new to everyone, since January 1996 is the first list to be distributed. A quotation from the front page will describe what the nursery is aiming to do: 'The Croft Wild Bulb Nursery is situated at the foot of the Amatola Mountains near Stutterheim in the Eastern Cape. We concentrate on items from the summer rainfall region - especially from the rich flora of our region.' Seeds and young bulbs (2-3 seasons old) are offered at prices ranging from about US$2 to $8 per bulb; seeds are mostly $3.50 per packet. Postage is 10% extra for bulbs and $4 minimum for seeds. Now to the list, for there are some interesting items here, for those who like to try the summer-flowering bulbs (there are a few winter-growers on the list as well). The following are some of the more unusual items, just to give an idea of the range: Amaryllidaceae: *Ammocharis coranica*, *Boophane disticha and B. guttata*, *Cybistetes longifolia*, *Cyrtanthus clavatus*, *C. helictus*, *C. ochroleucus*, *C. smithii*, *C. spiralis*, *C. suaveolens*, *Gethyllis affra*, *Haemanthus montanus* and *Nerine alta*. Iridaceae: *Dierama igneum* (dark & pale forms), *Gladiolus permeabilis edulis*, *G. longicollis*, *G. ochroleucus macowanii* and *G. oppositiflorus*. The nursery has the aim of enlarging the list each year, especially with regard to *Nerine* and *Cyrtanthus* which is very good news since it is difficult to find sources of the species of these two genera. Incidentally, for those who might want

to go shopping personally, the nursery advertises self-catering thatched guest cottages which are 'perfectly situated for hiking, forest and wilderness trails.' The Croft Wild Bulb Nursery, PO Box 61, Stutterheim 4930, South Africa.

While on the subject of South Africa, Silverhill Seeds are an excellent source of items which I would not know where to obtain elsewhere, in a wide range, not just bulbous plants. I haven't the latest list but the one I do have includes such things as *Pillansia templemannii* (Iridaceae) which I have tried and lost in the past, so now for another try. Fortunately the bulbs are listed separately so those with the blinkered approach can home in directly to the monocots; there are many *Agapanthus* species, *Albuca* spp, including an undescribed one (it may have been by now), several androcymbiums (see BN 10:17-18), loads of *Babiana* species, the very rare dwarf *Daubenya aurea*, several *Dierama* species, many *Gladiolus*, *Lachenalia* and *Moraea*, even the weird shrubby Iridaceae, *Nivenia stokoei*. I could fill a glasshouse with Cape romuleas from this list, or lapeirousias, or geissorhizas, or ---------! Silverhill Seeds, 18 Silverhill Crescent, Kenilworth 7700, South Africa.

Cambridge Bulbs can always be relied upon to have some interesting items and the 1996 list is no exception: just a quick dip revealed a good range of *Corydalis*: *C.* x *allenii*, an excellent garden plant with large creamy, purple-tinted flowers, but seldom seen, *C. firouzii* (a yellow Leonticoides group one from Iran), *C. henrikii*, *C. zetterlundii*, *C. wendelboi* and *C. paschei*, four relatively recently-described species which belong to the same group as *C. solida*, and the superb *C. popovii*. There is a very long list of *Crocus* spp. including many which are not offered in the general bulb trade; it is good to see, for example, *C. candidus*, *C. longiflorus* and *C. medius* which used to be such familiar items in the Dutch bulb catalogues but which all but disappeared; but there are much rarer crocuses than this - *C. banaticus* 'Albus', for example. There are many *Fritillaria* species, even a few *Gagea* spp., and it is very unusual to see those; all right, so, no-one will make a fortune selling gageas, but someone might be interested and it would be a dull world if all nurseries had the same range of only the showiest things! The white *Sternbergia candida* is a plant which has received much press in the last few years, most of it suggesting that it has been over-collected; I know that these are home-grown as I have seen the clumps in flower near Cambridge - how **does** he do that! Cambridge Bulbs, 40 Whittlesford Road, Newton, Cambridge, CB2 5PH, U.K.

Paul Christian's list can be always relied upon to offer some really unusual bulbs: the summer-autumn 1996 catalogue includes some

Brodiaea spp. which are not easily obtained - *B. jolonensis*, *B. leptandra* and *B. purdyi* amongst others. It is difficult to choose from so many choice *Crocus*, *Erythronium*, *Fritillaria* (incl. *F. serpenticola* & *F. olgae*), *Iris* (*I. nicolai* doesn't appear that often in lists!), *Lilium* species - not a hybrid in sight! - many trilliums and, if you are feeling rich, *Paris polyphylla yunnanensis alba*, a beautiful plant but don't expect a white *Paris* - it is the ovary that is whitish. The 'Conservatory Collection' includes some rarely-seen tender bulbs (*Cyrtanthus*, *Habranthus*, *Nerine*, *Haemanthus*, *Scadoxus* etc. which are becoming increasingly popular. Paul Christian, P.O. Box 468, Wrexham, LL13 9XR, U.K.

The **Hoog & Dix** catalogue of 'botanical specialities' is an amazing list and one to which we cannot do justice here; it is an evening's entertainment! How about *Corydalis solida* ssp. *incisa* f. *alba* and *C. schanginii* ssp. *ainii*, *Sternbergia greuteriana*, *Scilla rosenii* and *Iris cycloglossa*, just to whet the appetite? It's good to see *Iris bakeriana* (the old 'original' stock) back in a catalogue. Hoog & Dix Export, Heemsteedse Dreef 175, 2101 KD Heemstede, Holland.

Bookends

The Physiology of Flower Bulbs, edited by August de Hertogh and Marcel le Nard, published by Elsevier, may sound a little technical and inappropriate for the gardener but contains a great deal of valuable information in its 800-odd pages. Starting with the basic physiology - the fundamentals of the 'bulbous' habit of growth and development - of bulbous (cormous etc.) plants in general, the book moves on to look at more specific examples with lists of families and genera and their wild origins. There are sections devoted to pests and diseases, optimum storage temperatures, light requirements, storage, packing, propagation, economics and the history of breeding, with ideas for further research. There are plenty of illustrations and it is difficult to find any topic within the sphere of bulb cultivation which is not covered. This is not a specialist's book, however, and much of it is devoted to the major crop plants, the tulips, narcissus, hyacinths, lilies and gladiolus.

Elizabeth Kerr of *Garden Street Books*, P.O. Box 1811, Geelong 3220, Australia, has written to say that she had seen our note about *Australian Plants* in a recent issue (BN 11:20) and that she has two complete sets of this excellent periodical for sale; the first three volumes were printed in small numbers, so complete sets are now quite rare. Anyone interested in following this up should contact *Garden Street Books* direct, not via BN please.

Mike Park, dealer in second-hand botanical and gardening books at 351 Sutton Common Road, Sutton, Surrey, SM3 9HZ, UK has acquired numerous books from the collection of the late Anthony Huxley and is putting out A-Z lists of these for sale as he works through them. In the A-J list, which has been out for a considerable time now, I noticed items of monocot interest from classics such as J.G. Baker's *Handbook of the Irideae* and *Handbook of the Amaryllideae*, W.R. Dykes' *Handbook of Garden Irises* and *Notes on Tulip Species*, to Alec Gray's *Miniature Daffodils* - all rather scarce books and probably already snapped up! But well worth getting the list, since there are 1200 items in the A-J section alone.

Irises of Israel by Azaria Alon. This is an excellent photographic record of all the *Iris* species which occur in Israel, and there is quite a lot of explanation as well but unfortunately my understanding of Hebrew is non-existent - but the botanical names are included. The close-up portraits are superb, and in some cases there are habitat photos as well, showing irises in their natural associations. Particularly useful are the sequences showing the range of variation in some of the Oncocyclus species; we have, for example, six photos of *I. haynei* showing, including others, the yellow form of this dusky purple to blackish-purple Onco. There is a section on the genus as a whole, irises in art, history and on stamps (there have been stamps depicting *I. mariae*, *I. nazarena* and *I. lortetii* - and a more detailed discussion about the *Iris* species of Israel and their growth habit and variation - I wish I could read it! It is published by the Society for Protection of Nature and The Ministry of Defence Publishing House in Israel. (ISBN 965-05-0624-1).

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