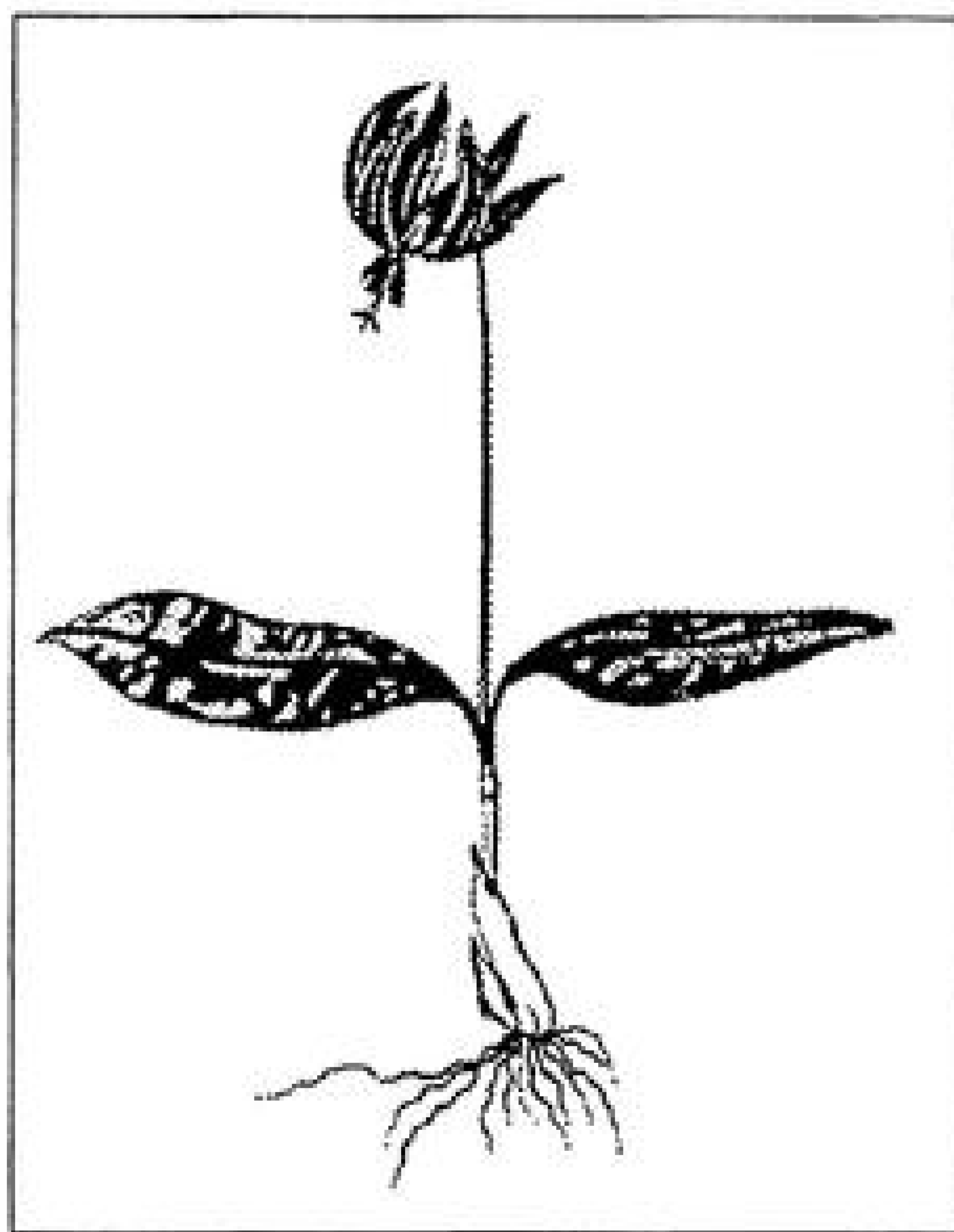


***THE BULB***  
***NEWSLETTER***



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# The Bulb Newsletter No. 12

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## *Fritillary Rice*

Those who grow fritillaries are well aware that quite a number of species produce many small 'rice grain' bulblets around the base of the parent bulbs, sometimes in such quantities that at repotting time one wonders what to do with them all. Chris Jones wrote recently, saying that the subject had been raised at a Scottish Rock Garden Club meeting, and that there were some unresolved questions, one of which was: do they naturally produce 'rice' in the same prodigious quantities as they do in cultivation? The feeling among those discussing it was that, in the wild, huge clumps do not occur, which is contrary to what one might expect if masses of young were produced. Unfortunately, I do not know the definitive answer but I can make some comments and suggestions. Firstly, 'rice' definitely does occur in the wild as I have seen it on many occasions. Masses of small bulblets/cormlets are produced by quite a lot of species: I can think of South African & Eurasian *Gladiolus*, *Moraea* species, some *Iris* of the reticulata group, many *Allium* species, some *Nothoscordum* and, with a bit of thought, the list would probably be much longer. In my experience, in the wild these offspring do not grow unless removed from the parent and the assumption is that the parent bulb has some retarding ?chemical influence on them to prevent competition. I am not aware of any serious studies on this, but I have a vague recollection of having read something along these lines; possibly, as in my case, it was just an assumption that something of that sort must be taking place. If the parent bulb were to die the retarding influence would be removed and the bulblets - or some of them - would be able to grow. Also, if there was some disturbance of the site, by burrowing animals or by human interference (e.g. ploughing & botanising!) the 'rice' might be dispersed sufficiently to allow development. Such species are sometimes (?often) found as weeds in cultivated fields - e.g. *Gladiolus italicus*, *G. atroviolaceus*, *Fritillaria acmopetala*, *Allium ampeloprasum*, *A. sphaerocephalon*, *A. rotundum* - and of course the activities of the farmer only aggravate the problem by spreading the bulblets/cormlets around. At least some of these 'rice-forming' plants from cultivated land have been found to be polyploid races, for example in the case of *Allium ampeloprasum* and some *Gladiolus* species. This raises more questions: do the

polyploid ones produce many more rice grains than the original 'wild' plants? If so, were these naturally-occurring polyploids which have become weeds of fields because they were well adapted to this life style, or have the physical activities of farmers at some time in the past caused them to become polyploids? Going back to fritillaries in cultivation, the rice will grow if detached and potted separately (it takes a long time to grow in to a flowering sized bulb, though), but sometimes the bulblets do develop without being detached and form a tuft of leaves around the parent. If the retardant chemical hypothesis has any foundation the answer could be that when we repot our bulbs into new soil we remove enough of the retardant to allow the rice to grow. Well, I did warn you at the beginning that I had no definitive answer!

### *Prosartes recognised again*

In a substantial paper recently published [*Memoirs of the Faculty of Science*, Kyoto University (Biology Series) 16:1-41, 1995], Frederick Utech, Zabta Khan Shinwari and Shoichi Kawano have reviewed the North American species of *Disporum* and decided that they really should be separated generically (as *Prosartes*) from the Asiatic species, which remain in *Disporum*. The authors give an explanation as to the differences: *Prosartes* are hairy plants with yellowish to reddish berries, terminal inflorescences, perianth segments which are gibbous (swollen) at the base, stigmas which are entire (ie. undivided) or very slightly 3-lobed, and the ovules are held in a pendent or horizontal position in the ovary. *Disporums* are hairless, they have blackish or dark blue berries, the inflorescences appear to be lateral, the perianth segments are spurred at the base, the stigmas are deeply 3-lobed and the ovules are held erect within the ovary. There are also microscopic details of the leaves and chromosome differences which augment these more obvious points of distinction. In this paper, only *Prosartes* is dealt with and five species are recognised:

*P. lanuginosa* : Canada (Ontario) and USA (Alabama, Arkansas, Georgia, Kentucky, Maryland, New York, North and South Carolina, Ohio, Pennsylvania, Tennessee, Virginia and West Virginia).

*P. hookeri* : Canada (Alberta, British Columbia) and USA (California, Idaho, Michigan, Montana, Oregon and Washington).

*P. smithii* : Canada (British Columbia) and USA (California, Oregon and Washington).

*P. trachycarpa* : a very widespread species in Canada (Alberta, British Columbia, Manitoba, Ontario and Saskatchewan) and USA (Arizona,

Colorado, Idaho, Montana, Nebraska, New Mexico, North & South Dakota, Oregon, Utah, Washington and Wyoming).

*P. maculata*: USA (Alabama, Georgia, Kentucky, Michigan, North Carolina, Ohio, Tennessee, Virginia and West Virginia). The species are distinguished by means of a detailed key and comprehensive descriptions.

Extracting some of the more easily-observed features, we find that *P. maculata* (from eastern N. America) has creamy-white flowers speckled with purple, followed by pale straw-coloured berries, whereas the other four have cream, greenish, brownish or yellowish flowers without spots, followed by yellow-orange to bright red berries. Of the other four, *P. trachycarpa* (with cream to greenish-white flowers, from 'cordilleran and interior North America') has sparse, flattened hairs on the leaf margins and the ovary is finely papillose; the other three either have short forward-pointing hairs on the margins (*P. lanuginosa* and *P. hookeri*) or, in the case of *P. smithii*, they are glabrous or have longer, twisted hairs; the ovaries of these three are glabrous, or, in *P. hookeri*, sometimes sparsely hairy (but not finely papillose). The two species with short forward-facing hairs on the leaf margins are separable on flower colour, creamy white in *P. hookeri* (western N. America) and greenish-yellow in *P. lanuginosa* (eastern N. America); also, the underside of the leaves is hairy all over in *P. hookeri* but only on the veins in *P. lanuginosa*. In the case of *P. smithii* (from coastal western N. America), not only does it have the leaf margins glabrous or with a few twisted hairs, it is a much more branched plant than *P. lanuginosa* and *P. hookeri*, with brownish to creamy, longer, more cylindrical than bell-shaped flowers. To observe some of these features a x 5 or x 10 lens will be required.

### *Cyrtanthus flammosus from the Eastern Cape*

One of our bulb enthusiasts in South Africa, Danny Gildenhuys, has kindly brought to our attention the fact that a new *Cyrtanthus* has been described recently. It is named *C. flammosus* because of its fiery red flowers and is related to *C. guthrieae* and *C. elatus* (*Vallota speciosa*, *V. purpurea*, *C. purpureus*) with wide, funnel-shaped flowers. The new species has large solitary erect red flowers about 10 cm across at the mouth and 8-10.5 cm long, 4-5.5 cm of which is a funnel-like tube and 4-5 cm the six widely flared segments. The flower stem is up to 17 cm long, and the thick 2-4 grey-green leaves up to about 30 cm long and 1.5-2 cm wide. This is obviously a rather spectacular species and the authors suggest that it will be as good a pot plant as *C. elatus* - the George Lily or "Vallota" - and *C. sanguineus*. The combination of features by which it is distinguished from

other related species are given as: the thick-textured leaves which are markedly tapered at the base, obovate perianth segments 3-3.5 cm wide and the stamens carried in one series (all joined to the tube at the same level). *Cyrtanthus flammosus* is described by D.A.Snijman and E.J.Van Jaarsveld in *Flowering Plants of Africa* 54:100-103(1995) and illustrated with a watercolour by Ellaphie Ward-Hilhorst. It is from the south-eastern Cape region, in the Baviaanskloof where it grows on sheer sandstone rock faces, flowering in autumn; the bulbs are partly exposed.

### *And a new South African Ornithogalum*

There are many ornithogalums in South Africa\*, much more varied than their northern hemisphere counterparts which mostly have flat-topped racemes of white flowers with a green stripe along the outside of each of the segments, but they are frost hardy which the Cape species are not. However, these southern 'ornithogs' (Herbert & Molly Crook used to call them 'thogs') make up for lack of hardiness by showing a fascinating range of variation. They are on the whole very easily cultivated in sandy potting soil in a just frost-free house, the South-west Cape species (the majority of the species are from this region) being winter growers, the Eastern Cape ones (such as *O. saundersiae*), summer growers. It is a genus that could become quite popular, with the increasing interest once more in Cape bulbs

The new species, *O. sardienii*, described by Ernst von Jaarsveld, is an extraordinary one, rather dwarf at only 15-24 cm when in flower, with up to 50 evergreen succulent hairy leaves, each only about 1 mm wide and produced in a dense basal rosette. The upward-facing starry white flowers are carried in racemes (apparently always leaning to the north in the wild, so their behaviour in Surrey would be fun to watch!) of up to 30 but only 3-4 are open at a time; each flower is about 1.2 cm across so this is not a showy species but undoubtedly a plant for the enthusiast. It is a rare species, growing in the Oudtshoorn region of the Little Karoo in a sandstone-pebble soil in full sun, with the bulbs on the surface. Flowering in the wild is between December and March, so when introduced to cultivation it would probably be most convenient to treat it as a summer grower with a dry period in winter; the author notes that during the dry season the outer leaves wither and become grey-white. The species is named after Tommy Sardien, 'who worked on and cared for succulent plants at Kirstenbosch National Botanic Gardens for the past 30 years.' The description of *O. sardienii* appears in *Bradleya* 12: 32-35 (1994).

\*Ornithogalum in South Africa by A.A. Obermeyer in *Bothalia* 12: 323-376 (1978) recognised 54 species.

## *Saffron in ancient times*

Moshe Negbi of the Hebrew University of Jerusalem, an authority on the uses of plants in antiquity, was telling me a short while ago about some excavations at the site of a palace in northern Israel, between Acre and the Lebanese border. A painted floor has been unearthed and among other things illustrated are Saffron crocuses. The style of the artwork is very similar to that shown in the frescoes on Thera island in the Aegean and the current idea is that Thera artists were hired to decorate the palace. Some of the recently found frescoes on Thera show, quite convincingly, crocus stigmas being plucked from rocky terrain by girls; whether this is the wild *C. cartwrightianus* or the cultivated clone derived from it, *C. sativus*, one cannot tell of course. This is a fascinating topic, still the subject of research and there are recent and extensive papers to read through. One, which I have not yet had time to go through in detail - *The Aegean Garden* by Maria Shaw - puts forward the suggestion that the crocuses were actually cultivated in holes made in the rocks; artificial holes have been found on the sites, and one of the frescoes appears to show clumps of crocuses growing out of such 'rock pots'.

## *Another new Colchicum*

New *Colchicum* species are being described at a worrying rate; they are difficult enough to identify from the floras which take a wide view of each of the species, for example from Chris Brickell's *Flora Europaea* account, but with an increasing tendency to split, the situation gets more and more confusing! These newly described species are mostly not new discoveries but often a case of recognition of plants which have in the past been included within other species. The latest one is in an area which many bulb enthusiasts will have visited during the last two decades, the southern Peloponnese where, in autumn, there are many *Crocus* and *Colchicum*; it is an area I have described in the past as 'the most crocussy place I know'. The new species of *Colchicum*, *C. sfikasianum*, is described by Dr Kit Tan and Dr G. Iatrou in *The Rock Garden* (Journal of the Scottish Rock Garden Club) 24: 255(1995). It is similar in appearance to *C. lingulatum*, another Greek (and Turkish) species and is distinguished on details of the corm, leaves and capsule. In *C. sfikasianum* the corm is 1.8-3 cm long and 1.5-2 cm wide (*C. lingulatum* 3-6 long, 2-4 cm wide), the corm neck is 3.5-5 cm long (4-8 cm in *C. lingulatum*), the leaves are 3-4 in number and 5-14 mm wide (*C. lingulatum* has 4-7 leaves, usually 20-35 mm wide) and the capsule has a point at the apex (obtuse in *C. lingulatum*). From this diagnosis it is assumed that the flowers are more or less indistinguishable.

The description shows that this is leafless at flowering time (in autumn) with pink to almost white flowers which are variably tessellated or plain, and the anthers are yellow. The perianth segments (excluding the tube) are 1.8-4.3 cm long and 2-11 mm wide, so the flowers must appear rather small and narrow-petalled. The 3-4 leaves are more or less erect, 9-15 cm long, pale to mid-green, sometimes with wavy margins. It is named after George Sfikas who has explored widely in Greece, especially the southern Peloponnese.

## *Lycoris again*

This genus of "Asiatic nerines" has caused a lot of interest in recent years and, already enthusiastic because of the recent flowering of the extraordinary bluish & rose *L. sprengeri* and deep red *L. radiata* in our garden, I was delighted to find there is a recent publication which helps a great deal in clarifying the taxonomy and nomenclature. This is an extensive study of the genus, based on structure, cytology and crossing experiments, by Hsu Ping-Sheng, Siro Kurita, Yu Zhi-Zhou and Lin Jin-Zhen and published in *Sida* 16:301-331 (1994). The authors recognise 16 species and 4 hybrids, distributed in China, Korea, Taiwan, Japan, Burma and Nepal. These are distinguished on a range of features, particularly the flowers shape (whether regular and funnel-shaped or irregular and 'spidery' like a Nerine) and flower colour, length of the perianth tube and perianth segments, whether the stamens are shorter or longer than the perianth, when the leaves appear (autumn or spring), their width and whether or not they have a white stripe in the centre. They all flower in late summer to early autumn after a summer rest period. The 16 accepted species and their varieties are:

A) Flowers funnel-shaped, regular in shape; segments not strongly undulate at the margins, not or only slightly recurved at the tips.

*L. sprengeri*: Flowers bluish, reddish-pink in the throat; leaves appearing in spring, dark green. China (Anhui, Hubei, Jiangsu and Zhejiang)

*L. argentea*: Flowers blue-mauve with dark keel on segments; leaves bluish green. Upper Burma. Probably not in cultivation.

*L. squamigera*: Flowers light purple-pink with yellow throat; leaves usually appearing in spring, bright green. E. China (Jiangsu, Shandong, Zhejiang), Japan, Korea

*L. incarnata*: Flowers white, ageing to pale pink; leaves appearing in spring, dark green. China (Hubei, Yunnan)

*L. sanguinea* var. *sanguinea*: Flowers apricot-orange (also a white

selection, var. *alba*); leaves appearing in spring, light green. Japan (Honshu, Shikoku, Kyushu)

*L. sanguinea* var. *kiusiana* (*L. kiusiana*): As above but flowers with recurved tips to the segments and protruding stamens (segments not recurved, and stamens included in var. *sanguinea*). Japan (Honshu, Kyushu)

*L. sanguinea* var. *koreana* (*L. koreana*): As for var. *kiusiana*, but flowers smaller, 5-6 cm long (7-9 cm in var. *kiusiana*). S. Korea, Japan (Kyushu, Tsushima Is.)

*L. anhuiensis*: Flowers yellow; leaves appearing in spring, green with a central whitish stripe. China (Jiangsu, Anhui)

*L. longituba* var. *longituba*: Flowers white to pink, sometimes with pale red stripes; leaves appearing in spring, green with a central whitish stripe. China (Jiangsu, Anhui)

*L. longituba* var. *flava*: Flowers pale yellow. China (Jiangsu)

B) Flowers not funnel-shaped, irregular with the segments reflexed at the tips and strongly undulate or crisped at the margins (i.e. more nerine-like)

*L. caldwellii*: Flowers peach-coloured in bud, opening pale yellow; leaves appearing in spring, green. China (Jiangsu, Zhejiang, Jiangxi)

*L. shaanxiensis*: Flowers white with red keels on segments; leaves appearing in spring, green. China (Shaanxi)

*L. guangxiensis*: Flowers yellow with reddish stripes on inside of segments; leaves appearing in spring, dark green with a central whitish stripe. China (Guangxi)

*L. chinensis*: Flowers yellow China; leaves appearing in spring, green with a whitish stripe. (Henan, Shaanxi, Sichuan, Zhejiang, Jiangsu), S. Korea.

*L. aurea* var. *aurea*: Flowers yellow with a green stripe on the back of each segment; leaves produced in autumn, dark green with a greyish 'bloom' and a central whitish stripe. China (widespread in warm temperate regions), Hongkong, Indochina.

*L. aurea* var. *surgens*: Little-known. Upper Burma

*L. aurea* var. *angustipetala*: As for var. *aurea*, but narrower segments (4-8mm wide as opposed to 7-12 mm wide in var. *aurea*). China (Gansu, Hubei)

*L. traubii*: Flowers rich orange-yellow with an even darker stripe along the



centre of each segment; leaves produced in autumn, green with a whitish central stripe. Taiwan, southern Japan

*L. straminea*: Flowers pale straw-coloured, with a pink stripe along the centre of the segments, sparsely spotted red, becoming white with age; leaves produced in autumn, green with an inconspicuous whitish central stripe. China (Jiangsu, Zhejiang)

*L. elsiae*: Flowers pale salmon, fading to flesh pink with age, with a darker pink band flushed yellow along the centre of the segments; leaves produced in autumn, dark green. Japan (south Kyushu) [Possibly a hybrid *L. traubii* x *L. sanguinea* var. *kiusiana*]

*L. radiata* var. *radiata* (*L. terraccianii*): Flowers bright red; leaves produced in autumn, dark green with a whitish central stripe. China (widespread in warm temperate regions), Japan, Korea, Nepal.

*L. radiata* var. *pumila*: Very similar to the above; it is the diploid version (var. *radiata* is triploid). China (widespread in warm temperate regions)

*L. radiata* var. *kazukoana*: Flowers pale red or becoming whitish with age, with smaller less recurved segments (not more than 3.2 cm long, 4-4.5 cm in var. *radiata*). Japan

#### Hybrids

*L. x albiflora*: [Parentage uncertain]. Flowers pink in bud, opening creamy white and becoming whiter with age; leaves produced in autumn, pale green with an inconspicuous whitish central stripe.

*L. x haywardii* [*L. sprengeri* x *L. radiata* var. *pumila*]. Flowers funnel-shaped, reddish-violet, bluish towards tips of segments, similar to those of *L. sprengeri* but paler and generally smaller with segments 1.1 cm or less broad (up to 1-1.7 cm in *L. sprengeri*); leaves produced in autumn, dark green, slightly glaucous.

*L. x houdyshelii*: [Possibly *L. longituba* x *L. radiata* var. *pumila*, *L. rosea*, *L. x haywardii* or *L. sprengeri*]. Flowers creamy white, becoming whiter or sometimes pinkish with age, and sometimes with reddish stripes along segments; leaves produced in autumn, green with an indistinct whitish central stripe.

*L. x rosea*: [Probably *L. radiata* var. *pumila* x *L. sprengeri*]. Flowers rose pink; leaves produced in autumn, light green with an indistinct whitish central stripe.

The authors also account for other names in *Lycoris*:

“cinnabarina” - known only in cultivation & might be a variant of *L. sanguinea* or *L. sanguinea* x *L. traubii*

*elegans* - a problematical hybrid, perhaps *L. sprengerix* x *L. chinensis*

*flavescens* - perhaps a *L. sanguinea* var. *koreanax* x *L. chinensis* hybrid

*hyacinthina* = *Griffinia hyacinthina*

*jacksoniana* - *L. sprengerix* x *L. radiata*

*josephinae* - probably = *L. radiata*

*lajolla* - *L. aureax* x *L. traubii*

*sewerzowii* = *Ungernia sewerzowii*

*woodii* - *L. radiata* x *L. traubii*

Cultivation of Lycoris (see also BN 3:10, 5:20)

*Lycoris* appear to respond best if grown in cool conditions through autumn/winter/spring, then given a hot dry summer after the leaves have died down in late spring/early summer; their flowering this year in our garden is undoubtedly due to the long hot dry but humid period in mid-late summer when the temperature hovered around the 25-32 deg.C mark for several weeks. The bulbs should not be planted deeply in the soil but just covered, with the neck level with the surface. I recently dug up a small clump of *L. x albiflora* and found that I had planted them too deeply, although only about 6-8 cm below the surface. They had behaved in the opposite way to bulbs which produce contractile roots when planted too shallowly; each had formed a narrow ‘neck’ above the parent bulb and, at the top of this, a new bulb had formed just beneath the soil surface; needless to say, this clump was not flowering. Daffodil bulbs will do this as well, if buried deeply enough. Well drained soil is essential, and Terry Hatch, who grows them successfully in New Zealand, recommends dressings of lime (if the soil is not already alkaline) and potash.

*Lycoris* are clearly fairly hardy, since they have been growing outside in our garden for about 5 years in a sunny border where *Cistus* get killed off regularly, although the *Lycoris* seldom flower. Pot cultivation has not been very successful to date but I can see no reason why a deep container should not be suitable; however, if grown in pots, especially clay ones which can become extremely dry in summer, I imagine that a little water should be given from time to time through the dormant period since *Lycoris* bulbs have perennial fleshy roots.

## *Studies in Anomatheca, Freesia and Xenoscapa*

Peter Goldblatt continues to work enthusiastically on the Iridaceae of Africa and, in his latest studies on the subfamily Ixioideae, proposes that the Southern African *Anomatheca* and *Freesia* should be united under one genus. *Anomatheca* is actually the older name but *Freesia*, because it is so well known, has been conserved under the rules of the Code of Nomenclature for the combined genus. Recording and analysing a set of 25 characters of 12 species of the two genera, he and John C. Manning have determined that it would be best to merge the two genera, while at the same time recognising a new genus, *Xenoscapa*, which includes one species formerly in *Anomatheca* (*A. fistulosa*) and a newly described one, *X. uliginosa*. This will not be good news to gardeners who have now to get used to the idea of the little red (blue or white) flowered summer bulb *Anomatheca laxa* being a *Freesia*.

Under the new system, the names in the genera are:

*Freesia* (incl. *Anomatheca*): 10 species, *F. laxa* (*Lapeirousia laxa*, L. *cruenta*, *Anomatheca laxa*, *A. cruenta*); *F. laxa* subsp. *azurea* (*A. laxa* subsp. *azurea*); *F. grandiflora* (*A. grandiflora*); *F. verrucosa* (*A. verrucosa*); *F. viridis* (*A. viridis*); the other *Freesia* species are: *F. andersoniae*, *F. corymbosa*, *F. refracta*, *F. alba*, *F. fergusoniae* and *F. leichtlinii*.

*Xenoscapa*: two species, *X. fistulosa* and *X. uliginosa*. The newly described genus *Xenoscapa* will probably intrigue enthusiasts, so here is an outline of the distinguishing features of its two species:

They have small corms covered with finely reticulate-fibrous tunics, 2-3 true leaves which are short and nearly prostrate with thickened margins and blunt tips, erect stems with 1-3 branches, and each branch has only one flower. The flowers have long cylindrical perianth tubes and six unequal segments, the dorsal one larger than the rest with the arched stamens lying alongside it; the style is also arched the same way as the stamens and divided at the apex into 6 branches (3 main divisions, each bi-lobed). Some of the most obvious distinguishing features between *Xenoscapa* and *Freesia* are the few number of leaves per corm, their marginal thickening and blunt apex, the one-flowered branches of the inflorescence and the cylindrical capsules and angular seeds (*Freesia* has more than 3 pointed leaves per corm, not thickened at the margins, 2 or more flowers per inflorescence branch and globose or 3-lobed capsules containing rounded seeds). Within *Xenoscapa*, the two species can be separated on stem length and flower colour, *X. fistulosa* having stems only 2-3 cm long with white flowers and *X. uliginosa* having stems more than 8 cm long with pink

flowers with conspicuous darker pink marks near the base of the lower 3 segments. The new species, *X. uliginosa*, is from the eastern slopes of the Sneekop in Namaqualand where it grows in seasonally very wet habitats; it is thus a winter grower, as are *X. fistulosa* and most of the *Freesia* species; not, however, our old friend "ex-*Anomatheca laxa*" and its relative *A. grandiflora*, now known as *Freesia laxa* and *F. grandiflora*, which behave as summer growers in cultivation. The full paper by Peter Goldblatt and John C. Manning can be found in *Systematic Botany* 20: 161-178 (1995).

### ***A new conservation magazine***

*Plant Talk*, devoted to 'news and views on plant conservation worldwide', appeared in March 1995 and is now coming up to its third issue; it is directed by Hugh Synge and edited by John Akeroyd. The first issue has the rare golden yellow Mexican *Cypripedium irapeanum* on the front cover but there is little else of monocot interest; its 28 pages are, however, full of conservation matters including an explanation of the Biodiversity Convention, an update on CITES regulations resulting from the 1994 CITES Conference at Fort Lauderdale, an article on saving the medicinal plants of south India, conservation in the Seychelles, logging of the temperate rainforests of British Columbia and details of various new protected areas around the world. Issue 2 is similarly diverse in its coverage. *Plant Talk* is published quarterly and costs £15 (US\$25) a year, including air mail postage, from The Botanical Information Company Ltd, PO Box 400, Richmond, Surrey TW10 7XJ, UK.

### ***More on databases*** (see also BN 6:12 & BN 9:18)

It is interesting to hear from enthusiasts about their databases; some prefer an A-Z card index, which has its attractions, especially if you want to check quickly on some information for a particular species. However, there is no practical way of sorting the information contained on the cards and a computer database is the only efficient answer. The fields entered into such a database are a matter of personal choice although there are some obvious ones such as genus, species, collector etc. which everyone will need. Dr Chris Jones of Inverurie, Aberdeen, has kindly supplied the following list of fields which he is entering into his Microsoft Access 2.0 database:

a) For all plants, bulbs & seeds :

- (1) Genus. (2) Species. (3) Subspecies (+ vars, forms, cultivars etc.).
- (4) Collector/number. (5) Source. (6) Acquisition number (e.g. 95/123a).

(7)Acquisition date. (8)Material type & quantity (bulb, seed, cutting etc.). (9)Cost. (10)Status (alive or dead).(11)Pots (how many). (12)Location (in garden). (13)Notes (anything: cause of death, flowering date, provenance details, references etc.).

#### b) For seeds

(1)Sowing number (turns into acquisition number when potted/pricked out). (2)Sowing date. (3)Number sown. (4)Germination date. (5)Potted/pricked out date. (6)Number potted/pricked out.

#### c)For bulbs only (3 new fields each year)

(1)Flowering date. (2)Number potted up (given away etc.). (3)Min/max diameter.

Chris's data can be sorted in almost any combination; this can be great fun but is probably best kept for the long winter evenings, otherwise the 'alive or dead' field might get used rather more frequently than intended. Entering the data takes time, and I find that the up-dating requires a lot of discipline, but the main problem Chris appears to have is in getting the kids off the PC!

### *Ideas, please!*

Some time ago Wessel Marais asked if we had any ideas about the following passage from 'The Ballad of the Sad Café' by Carson McCullers (p.72 of the Penguin Twentieth Century Classics edition): '----At the end of the rope she tied a crocus sack tightly stuffed with sand. This was the punching bag she made for herself-----'. The story is set in Georgia, USA. Wessel would be interested to know what a 'crocus sack' is, and so would we; a search in the library at Kew has revealed nothing that might suggest that Saffron crocuses were cultivated in Georgia, which might possibly have needed bags for storage purposes!

### *A Leucojum puzzle*

Terry Smale from Epsom Downs, Surrey wrote a while ago to say that he had been given some bulbs of "Leucojum abortense" and asked us if we could help to track down this curious name. The plant, he says, seems very close to *L. autumnale* but has flowers that are rather different in form from his commercial stock of *L. autumnale*. Unfortunately we cannot find any similar epithet in *Leucojum* and it seems that it must be a mistake for something else, but what? However, whilst searching through all the available *Leucojum* literature the unfamiliar name *L. nebrodense* ap-

peared. This was attributed to M. Lojacono, who described it as *Erinosma nebrodense* in *Flora Sicula* 3: 80, pl. 5, fig. 4 (1909). The drawing shows a small *Leucojum* with two narrow leaves and a solitary flower subtended by two spathe valves; the perianth segments are rather long and narrowly oblanceolate, the outer three described as being 'poculatis' at the apex (i.e. cupped, or hooded as leucojums are) and the inner three slightly shorter and broader. In 1953, Hamilton Traub transferred the species from *Erinosma* to *Leucojum* but without any comment about having seen it, or what it might be related to or a synonym of. The locality given for the species by Lojacono is Madonie, Sicily, and the flowering time April. The curious thing is that the name has been largely ignored. It is not mentioned, even in synonymy, by F.C.Stern in his *Snowdrops and Snowflakes* (1956) or in vol 5 of *Flora Europaea* (1980). The only small spring-flowering European leucojums are *L. nicaeense*, *L. longifolium* and *L. trichophyllum*, none of which is recorded from Sicily, so there is a problem. In fact, the only species recorded for Sicily is *L. autumnale*. perhaps *L. nebrodense* was an out-of-season *L. autumnale* but there is no evidence for this behaviour in my experience. If anyone is planning to visit Sicily in the spring, please do keep an eye open for it to see if some light can be shed upon this matter. *Erinosma*, by the way, was the generic name used by William Herbert for the species we now call *Leucojum vernalis*, the genus having been 'sunk'. The epithet *nebrodense* means 'of Monte Nebrodi' which is in north-eastern Sicily. Thank you, Terry Smale, for putting us on the track of this!

## *Monocots II*

For those who enjoy the in depth botanical side of things, there is an international conference in Australia in 1998, intended as a follow-up to the conference *Monocotyledons: classification and evolution* held in 1993 at the Royal Botanic Gardens Kew. Monocots II is to be held in Sydney at the University of New South Wales in the week beginning 28 September 1998. Topics to be covered include systematics, morphology and anatomy, evolutionary processes, reproductive biology, biogeography, biochemistry and molecular studies. If anyone is worried about the possibility of brain fatigue it is proposed that there will be organised field trips to see real live monocots! Further details can be obtained from Karen Wilson, Monocots II, Royal Botanic Gardens, Mrs Macquaries Road, Sydney, NSW 2000, Australia.

## *Collectors, their initials, numbers and field notes*

Chris Jones of Inverurie, Aberdeenshire, wrote to us recently on the subject of collectors' initials and numbers: 'Is there any registry for these, and/or any guidance for their use? Often one gets seed or plants complete with collectors' numbers which have been handed on from one person to another, and whose origins are lost in the mists of time. Tracking these down to obtain provenance details and so on can be a troublesome task, to say the least.'

The short answer is that I am certain that I am correct in saying that there is no such registry or guidance for the use of numbers. Initials are purely a matter of choice on the part of the collector or expedition, sometimes the initials of the collector(s), sometimes an acronym like AGSES (AGS Expedition to Sikkim). Likewise the system of numbering varies according to preference, some collectors starting at 1 and continuing throughout their lifetime (e.g. Peter Davis, whose numbers reached at least into the 40000-odd mark), while others start afresh each year with e.g. 96/1; some prefer to introduce a country code as well, so a number might consist of e.g. 96/CR/1 to denote the first plant collected in Crete in 1996. The system used is not too important as long as it refers to one collection only, but I agree that tracking down the field notes can be a great problem. It would be a tremendous help if there was 'an authority' who could gather together copies of all the available field notes from as many sources as possible and make them available on request. For the purposes of alpine/bulb enthusiasts something useful could probably be achieved, but first a list is needed of the collectors or expeditions which crop up most frequently in literature, seedlists, catalogues etc. The 1993 catalogue of Hoog & Dix Export contained a very useful list of initials which caused some embarrassment when I read it, since I realised that BM could refer to B.Mathew, Brickell & Mathew or Baytop & Mathew (as well as Bot. Mag., of which I am now the editor, and British Museum!). However, all of these 'BM expeditions', regardless of whether I was travelling alone or accompanying Chris Brickell or Turhan Baytop, have been numbered in sequence, so within the 'BM' numbers there should not be any duplication.

The fieldnotes for the many botanical expeditions sent out by botanic gardens and universities are mainly safely housed in those institutions but there must be many 'private' sets of field notes about and these could well be lost with the demise of the collector. I would be happy to print a list of initials here in the BN, as a starter for tracking down the notes, but maybe it should be published in a periodical which has a much wider circulation, such as the Scottish Rock Garden Club's journal or the *Bulletin of the*

*Alpine Garden Society.* I am not trying to pass the job on to someone else (well, yes, I am!) but it would be accessible to a much wider audience and the field notes, in the event of a sizeable collection being accumulated, really should be stored in the care of an on-going society or institution rather than a transient individual. Some collector's notes are relatively easy to acquire; those for most of Peter Davis's collections, for example, are housed at the Royal Botanic Gardens at Kew and Edinburgh, as are the notes of many more of the major collectors of the past, such as Forrest, Kingdon Ward etc. It is the notes of the many private individuals who have travelled and brought back living bulbs, seeds and plants during the last 35 years which are rather more at risk of being lost, and are not always easy to locate and obtain.

**Seeds:** Chris Jones goes on to another related matter: 'I note the widespread habit of distributing garden seed under the collection number of its parents (or great-great-grandparents). Is this ethical? Presumably you should at least put, for example, "ex J.C.A.341.650", or something like that, but for succeeding generations it gets less and less likely that they will be as per the original.'

I agree with this, and "ex" is a usefully succinct way of denoting that the offered seeds are not directly from the wild. I think that there is a good case for keeping collectors' numbers attached, even for succeeding generations; in the case of a widespread and variable species it may be at some stage interesting or even important to know the origin of a particular variant. However, it should be made clear if seeds are not from the wild and, in the case of seeds taken from plants which are known to have become far-removed in appearance from the originals, the collector/number should be omitted altogether. Many thanks for raising these issues, Chris.

### *From the postbag*

Chris Lovell of Farmborough, Bath writes on the subject of *Tropaeolum ciliatum*: 'An avid reader of BN, I was intrigued to note the reference to this species in no. 11, p. 17. Undoubtedly it is quite attractive, and I believe it is restricted in the wild. However, in my not particularly favoured garden it has grown with alarming vigour, spreading by underground runners over several yards. It makes strings of tubers, but these seem to be an optional extra, and little pieces of root establish rapidly when broken off. It sets seeds freely, and seems to achieve 200% germination. After watering it with SBK [sold as a brushwood killer in the U.K.], it looked a little puzzled for a while, but rapidly recovered. I believe several species of *Tropaeolum* are edible, but haven't felt brave enough to test this one. So if you try to



grow it, I suggest pot cultivation, making sure your pot is not standing on the soil. If it does escape, a suitable answer might be Napalm - or moving house.'

Flower bud initiation. Harry Hay, bulb grower extraordinaire, writing from what must surely be the most famous pig farm in the world in Tadworth, Surrey, notes that two *Brunsvigia natalensis* from Mt Karkloof, Natal were flowering on August 2 [late summer] nine years after sowing the seeds. 'These plants I spilt a can of fertilizer over in April [our spring in UK - BM], the rest of the planting got none, and has no scapes. So perhaps summer-flowering species do not initiate flower buds the previous year.' This raises an interesting point. It is well known that many of the winter-growing bulbs, which are 'dormant' in summer, normally initiate their flower buds during the warm dry period, flowering with the onset of rising humidity and falling temperatures in the autumn-winter-spring period. Summer growers, on the other hand, are dormant during winter and may be dry but certainly not warm, so the factors determining bud initiation may be quite different. Do they, in fact, form flower buds during the growing period rather than when dormant, in which case the growing conditions, and therefore the health and vigour of the plant, might well be more important than the dormant stage in determining whether or not a particular bulb will flower. This might explain why this summer I had some large bulbs of *Galtonia candicans* in the garden which did not flower (probably due to the long hot dry period we experienced in the UK this year), whereas some small (I would have guessed not yet flowering size) bulbs grown from seed and cosseted in a pot flowered well. If anyone knows of some literature relating to the behaviour of summer-growers, we would be delighted to hear; otherwise, it looks as if some experiments are required.

The lovely tuberous Gesneriaceae referred to in BN 10:7 prompted Wessel Marais to write from Cazillac, France: '*Sinningia tubiflora* has been growing (abandoned!) outside for 5 or 6 years on some stony soil dumped against the more or less south-facing foot of a c. 1 m high dry stone wall. The soil drains like a sieve and is totally devoid of all humus - high lime content plays havoc with any humus. The new shoots showed above ground around the second week of April. They are now [May] up to 5 cm high, having been held back by a longish chilly spell since they broke surface. From the original two tubers there is now a patch of about 45 x 25 cm with, to date, 26 shoots. On their sparse diet, not all the shoots flower. The winters here are harder than the south of England (lower night temperatures) but on the whole the days are brighter and warmer. I would imagine that they can be treated quite a bit more harshly than you or Michael Salmon do, provided they get the summer heat to induce flowering.' Thanks, Wessel, I'll plant a

few tubers outside in Surrey against a warm wall and see what happens; maybe actually in the crevices of a sunny dry stone wall would be interesting to try, but we haven't one.

## *Bulb Stamps*

Merci, Christian Geoffroy and Nadine Albouy, for sending some more monocot stamps: two subtle and nicely drawn botanical illustrations of *Colchicum autumnale* (10) and *Calla palustris* (15) from Germany and, from Bulgaria, colourful *Dracunculus vulgaris* (30) and *Tulipa splendens* (42). The collection is growing, but we're not sure that it is a good idea to embark on a really serious bulb stamp collection; we have enough problems keeping up with the living ones.

## *Catalogues*

Mrs K.N.Dryden's supplementary Manavlin's orchid list for autumn 1995 contains a considerable number of hardy terrestrial species, seldom, if ever, offered before. These are all vegetatively propagated and most are labelled as FS - large enough to flower. They range from the tiny green frog orchid, *Coeloglossum viride*, a real enthusiast's plant, to the fascinating bee/sawfly/spider orchids of the genus *Ophrys*: 7 species are offered. Eight *Orchis* include *O. militaris*, *morio*, *papilionacea*, *provincialis*, *purpurea* and *sancta* and there is *Dactylorhiza sambucina* in two colour forms, *Himantoglossum*, the lizard orchid, and four of the tongue orchids, *Serapias*. For those who are excited at the prospect of at last being able to plant up a meadow of *Ophrys* and *Himantoglossum* legally, there is the note that stocks are limited, and of course the price reflects the fact that these are rare plants, propagated and in legitimate commerce. There are more in Mrs Dryden's autumn bulb list - a range of *Bletilla* and *Pleione* species - but it takes a long time to get to them at the back of a list which includes 16 *Corydalis* (incl. *C. henrikii*, *C. paschei*, *C. parnassica*, *C. verticillaris*), 28 *Crocus* (incl. *C. cancellatus* ssp. *pamphylicus*, *C. danfordiae*, *C. robertianus*), 12 *Erythronium*, 42 *Fritillaria* (incl. *F. euboica*, *F. argolica*, *F. spetsiotica*, *F. rixii*), and many more. Address: 30, Sheering Lower Road, Sawbridgeworth, Herts, CM21 9LF, UK.

The Snowdrop Company is offering a select range of named hybrids including some of those which have become classics, raised by James Allen, John Gray, the Giant Snowdrop Company, Lady Beatrix Stanley and E.B. Anderson. Some of the more recent selections are splendid plants, but it is good to see that the old ones are appreciated and perpetuated. Two of the plicate-leaved doubles are in the list - 'Desdemona' and 'Hippolyta' -

doubles are not to everyone's liking, but these tall wide-leaved ones are very striking. The Snowdrop Company, Barn Cottage, Shilton, Oxfordshire, OX8 4AB.

Gardenscape mainly lists small perennials & rock plants but also includes a sizeable number of bulbs - especially *Galanthus*, *Colchicum* and *Anemone nemorosa* varieties. They have some more of the 'Greatorex double' snowdrops: 'Nerissa', 'Jacquenetta' 'Ophelia', 'Titania' and 'Dionysus'. I am pleased that a few of the tender bulbs are appearing in lists nowadays: there are some of the South African *Ledebouria* (formerly scillas) species and one which I cannot find at all in my reference books at present, *Cyrtanthus atalanta* with 'tubular red flowers'. Gardenscape, Fairview, Smelthouses, Summerbridge, Harrogate, North Yorkshire, HG3 4DH.

Blackdown Lilies have supplied good quality lily bulbs grown in their own fields for nearly 30 years. Their 1995 list is not long and consists mostly of hybrids, but includes some which are not usually to be found on the standard lists; it has become increasingly difficult to get the Bellingham hybrids, for example, but these are offered at the modest price of £2.95 for three. Although on the whole I prefer the species, I do get a great deal of fun out of the hybrids and they often make much better garden plants. The problem I have found with the mass-produced garden centre bulbs in recent years is that the names are very unreliable; some bulbs of one of my old favourites 'Fireking' were purchased last year and I ended up with three varieties, none of them 'Fireking' and mostly in rather flamboyant Joseph's-coat bicolors; I wanted a plain orange-red for a particular purpose so was not highly pleased when something yellow with a red centre appeared! Bulbs purchased in the past from Blackdown have been both good quality and true to name. I find the pendent-flowered Group 1c Asiatic Hybrids like 'Citronella' particularly attractive, so 'Devon Butter' and their nearly true-breeding strain of 'Burgundy' will be on my list. Blackdown Lilies, Venn Ottery Road, Newton Poppleford, East Devon, EX10 0BU.

Our friends Nadine Albouy and Christian Geoffroy who run the Normandy nursery 'Ellebore' are obviously keen on a certain well-known non-bulbous genus, but they have a lot of other things besides, including some bulbs. Their autumn list has a few really unusual things, such as the tender ginger relative *Zingiber mioga* (what a curious name), the rare *Tecophilaea violiflora* and one of the best and most colourful of the northern hemisphere romuleas, *R. nivalis* from Lebanon; I find this hardy and reliable outdoors in a raised bed. *Pancratium illyricum* is not often found in lists but is an excellent garden plant for a warm sunny spot. Ellebore, 'La Chamotière', 61360 St Jouin de Blavou, France.

For Cyclamen enthusiasts, Tile Barn Nursery offers a splendid range of species (17) and selections of those species including, for example, *C. graecum* 'Album', the lovely leaf form of *C. mirabile*, 'Tilebarn Nicholas', the delicately bicoloured pink-and-white form of *C. coum*, 'Tilebarn Elizabeth' and the odd *C. cyprum* x *C. libanoticum* hybrid, *C. x wellensiekii*. The home-grown tubers are of excellent quality. Tile Barn Nursery, Standen Street, Iden Green, Benenden, Kent TN17 4LB.

## *Bookends*

*Las Monocotiledóneas Mexicanas. Una Sinopsis Florística* by Adolfo Espejo Serna & Ana Rosa López-Ferrari. 76 pages, no illustrations. Published 1993. This is Part 1, containing the Amaryllidaceae, Alstroemeriaceae, Alliaceae, Agavaceae and Alismaceae. It is an interesting publication, in that it gives a list of all the species recorded in Mexico, but is without any descriptions or keys, being a concise reference list of the monocots in preparation for a full 'Flora de Mexico' account at a later date. The information provided is the name, the botanical authority and the literature reference to the first description, the type locality, and in which herbarium the type specimen is deposited. There is then a letter code for the distribution (by State, e.g. HGO = Hidalgo etc.) of the species within Mexico, with a key to the code at the end of the book. The 33 names in *Zephyranthes* and 29 in *Hymenocallis* sharpen the appetite more than a little!

There will be 11 parts of this synopsis, the interesting ones from the 'bulb' enthusiast's point of view being this one (for Amaryllidaceae), Part III (which will include *Calochortus*) and Part VI (which will include Iridaceae & some of the 'splits' of Liliaceae). I obtained my copy through a colleague, at a cost of \$20; anyone interested could send an enquiry to: Consejo Nacional de la Flora de México, Apartado Postal 70-261, Delegación Coyoacán, 04510 México, D.F.

*Australian Plants*. In BN 11:20 we mentioned this excellent publication and recommended trying Bower Bird Books as a source. Jeff Irons has written to say that Bower Bird Books is now wholesale only, but books can be bought from Florilegium, PO Box 644, Rozelle, NSW 2039, Australia, and that back issues of *Australian Plants* can be obtained from PO Box 410, Padstow NSW 2211.

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