

News from

Jim & Jenny Archibald

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OUT OF AFRICA : *semper aliquid novi Africa affert* : SEPTEMBER, 1996

One of the dubious benefits of attending a Scottish school which provided a classical education, even for the less academically inclined (woodwork, metalwork & Latin for the 'intellectually challenged'), is the opportunity to indulge in the occasional sneer at the grammatical inaccuracies of the dog Latin descriptions of new species produced by present-day botanists. After six years enforced study of the dead language & its literature, we fear only a vestigial recollection of the grammar & vocabulary remains, along with the odd memorable phrase, such as the one above. We cannot recollect who said it originally but we are sure it was not Ms. Blixen nor Ms. Streep. In this list & the next one, which we hope you will receive about the end of the year, we hope to bring you something new out of Africa. Jim tagged along with our dear friend

Panayoti Kelaidis of Denver Botanic Garden, on a one-month visit to the interior. It was intended largely as an educational exercise for Jim. This it certainly was, as Panayoti has a considerable knowledge & experience of the vegetation, has visited the areas before and is involved with the cultivation of a wide range of S African material at Denver. While the educational requirements were more than fulfilled, the bonus of some seed collections was considerable. Many of these were possible through the kindness of South African farmers & land-owners not only in allowing us access on to their property but insisting on driving us about in their Landrovers and accommodating us in their homes. We were overwhelmed by their kindness but also by their knowledge of & interest in the plants growing on their land.

Bloody Fynbos

The areas through which we travelled all lay within the summer rainfall region of South Africa, which after all is by far the greater area. The comparatively tiny part of the south-western Cape, where the cold-fronts sweep in from the S Atlantic bringing the winter rain & producing a Mediterranean-type climate has grown out of all geographical proportion in the minds of the world's botanists & gardeners. There is an extremely good reason for this. Though the area might be comparatively small, the proportion of the world's plant species which grow there is enormous. On the nutrient-poor Cape sandstones shrubby species of the *Proteaceae*, *Restionaceae*, *Erica* and so on have indulged in a frenzy of speciation creating the fynbos. Every niche in a complexity of mountain-ranges has a narrow endemic. At the centre of this, the world's richest concentration of species, lies Kirstenbosch, surely the most beautifully situated botanic garden in the

world. The gardeners & botanists there are primarily concerned with what lies under their noses. Indeed, as caretakers of the richest flora in the world, they should be. Such a seemingly inexhaustible source of interest can also be a prison. "Bloody fynbos" one Kirstenbosch botanist remarked to us. The taxonomic & ecological work must seem unending. The genera must seem to be speciating faster than they can be described. Gardeners have so much on their doorstep that they dare look no further. Plants from high on the distant mountain-ranges of the drier interior or those from the summer-wet Cape & Natal Drakensberg are not easily grown in the Mediterranean climate of Kirstenbosch. They have as much relevance there as the fynbos & associated species have to gardeners in most of northern Europe & N America. In this list & the next we hope to convince northern gardeners that they must look beyond the SW Cape for the species to grow.

Dry up Anne

Earlier this year we commented on the bizarre water-shortages in England, a country where some people pay more for their water than the residents of Las Vegas but can still be prosecuted for using a hose-pipe to water their gardens. Since then, one water company hit the headlines by attempting to persuade gardeners to pave over their lawns and grow xerophytic plants, quoting the advice of their 'gardening expert' Anne Swithinbank. These sound like perfectly good ideas to us but not for the reason that they might increase the profits of these monopolies. We hope they paid you well for your advice, Anne.

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Switching on Geoffrey and contemplating Nigel's navel

We remember Anne before she became an 'expert' & achieved fame. Years ago she was glasshouse fore-person at Wisley, following a period at Kew. We have had a soft-spot for her, ever since we found her on her knees attempting to rescue & organise an extensive collection of South African plants with field-data, which had been donated to Wisley but cast into outer darkness by her superior - a parks department man, if ever there was one. Memories of S African species must have faded long ago. We cringed at her more recent inability to explain that the *Gladiolus* she was looking at during a broadcast from the Mediterranean had nothing to do with the large hybrids bred from S African summer-growers. Geoffrey Smith is no better on S Africans with a waffle of disinformation on *Dierama dracomontanum*. Geoffrey is always good for a laugh, however. Even Dr. Richards has not

heard of Geoffrey's Solenoid Primulas (sorry Geoffrey, it was just a *lapsus linguae* we know). Don't switch off. Here is Nigel Coleborne explaining that *Omphalodes* has been given its name because its 'seed-capsule' looks like a navel. It may look like your navel Nigel but it's not like ours. James Bond pondered on the skill of French doctors in creating interesting female navels. We doubt if Ian Fleming had four, depressed globose nutlets in mind. Of course, the greatest 'expert' of all has recently passed on to double-dig the Elysian fields. Hottest tip to seize the throne is Alan Titchmarsh, who has cultivated an ingratiating style (would you buy a second-hand *Carya* from this man?). He is definitely a man of integrity, however, and has publicised the fact that he has turned-down "a six figure sum" (for him to do this, we assume it was nearer £100,000 than £999,999) to endorse peat-based products.

Might Dr. John prescribe a dose of digitalin

If 'the media' want a 'dandelion-expert', one of the above might well be contacted but the shrewd producer will say 'get me the dandelion-expert'. Not that there is much demand at present for 'dandelion experts' but if one is ever needed, Dr. A.J. Richards will be whipped round in a taxi to the Newcastle-upon-Tyne studio. No-one is going to dispute that he is 'the expert' on the genus *Taraxacum* (except perhaps another *Taraxacum*-expert). Few would dispute that he is also a 'real expert' on the genus *Primula*. However, we had our suspicion that he is not an expert on common-sense confirmed recently. We had some misgivings that we had been rather hard on him a few years

ago, when we criticised his creationist concepts of the population dynamics of *Digitalis* & his support for 'ethnic cleansing' to sustain *Degenia velebitica*. When the Royal Botanic Garden, Kew, placed a potful of *Androcymbium europaeum* before the Joint Rock Garden Plant Committee, Dr. John opposed an award because someone has listed this as 'rare & endangered'. It would seem to us that this might be an additional reason to give it an award & publicise it. If the species had been extinct, Dr. Richards would doubtless have commended the conservation efforts of Kew and encouraged others to preserve it in cultivation more widely.

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Species from Europe, W Asia & N Africa : Seeds from Jim & Jenny Archibald

In this early list, we offer seeds from summer-dormant species, along with a few other genera, such as *Helleborus*, which are best sown as soon after harvesting as possible. A few genera like *Allium* & *Arum*, which should fit in here, are late in maturing their seeds and will be included in our next list, along with 'alpines' & other larger herbaceous plants. Most seeds in this section are from cultivated plants & 1996 will see further expansion of the area for growing our seed-producing, summer-dormant parent stocks. We are steadily increasing the range of hand-pollinated seed offered from these plants, almost all raised from seed of wild origin. With the help of other growers, we hope to list an increasingly complete range of such genera as *Crocus*, *Cyclamen*, *Fritillaria* and *Narcissus*. It all takes time. In addition to this home-grown seed, there are a few wild collections made during a short visit to Greece with Norman Stevens & Robert Rolfe in June, 1996, with other wild collections from : John Blanchard (Morocco), Melvyn Jope (Crete) Tom Norman (Sardinia), David Stephens (Turkey & Cyprus), Bob & Rannveig Wallis (Syria). Will McLewin's wild-collected seed of *Helleborus* is, of course, a special feature, as are the collections organised by Will in collaboration with local botanists in various parts of the former USSR - more of these later in the season in our next list. There are one or two 'seed-

bank' wild collections from 1994 & 1995, where no other material is available. The collection date is given in all cases. The 1996 cultivated seed is clearly marked (*) and in most cases the parents are from a known wild population. Field data given refers to the parent-stock. Some cultivated species without field data are included on a geographical basis and these are marked accordingly : 'no data' after the name. The six-digit reference numbers here, as is the case with the seven-digit numbers covering other regions, are permanent references for populations within the area of Europe, N Africa (N of the Sahara) and W Asia (W from Pakistan N through the Pamirs, the Tien Shan & the Altai), a distinct floristic area. While we are progressing with our new labelling system (which we hope you will find more informative & convenient), it will not cover all items listed until next year. In the meantime, some seed packets may carry only this number but as these run in alphabetical, as well as numerical, order, identification of packets from this list is simple. Nomenclature follows the basic floras, 'Flora Europaea', 'Flora of Turkey' & 'Flora Iranica' with a little editing and updating, if this is felt to be relevant & helpful to gardeners. Collections from the republics of the former USSR are usually listed under the names supplied.

- 160.402 : ANEMONE BLANDA** Greece, Viotia, Oros Parnassos. 1500m. Openings in coniferous woodland. 7.6.96. (Incomparable woodlander. Deep blues, sometimes called '*ingramii*', are common on Parnassus, but it can be paler blue & white.) (20+) **A**
- 160.702 : ANEMONE CORONARIA** Syria, near Asueda. R. & R. Wallis coll. (Brilliant red from down near Jordan.) (20+) **A**
- 160.703 : ANEMONE CORONARIA** Turkey, Antalya, Kemer. D.B. Stephens coll. 21.3.96 (Purples, mauves & whites.) (20+) **A**
- 161.003 : ANEMONE HORTENSIS** Italy, Sardinia. 850m. T. Norman coll. May, 1996 (A neglected W Mediterranean species & a special delight of Corsican & Sardinian woodlands with its myriad, many-petalled flowers in soft violets & pinks.) (20+) **B**
- 161.610 : ANEMONE PALMATA** * No data. A charming, small, summer-dormant, tuberous, SW European species seldom seen in cultivation. Lobed, rounded, basal leaves & yellow flowers, 3cm. across. No problem in a pan in the alpine-house. (10+) **C**
- 161.900 : ANEMONE PAVONINA** * Greece, Lakonia, between Areopoli & Githio. 100m. Edge of scrub. (The epitome of spring in Greece. Brilliant, pure-scarlet flowers with a white central zone (var. *ocellata*). Seed grown outside in Dorset, UK.) (20+) **A**
- 185.550 : ARISTOLOCHIA LONGA subsp. PAUCINERVIS** * Morocco, Middle Atlas Mts., SW of Ain el Leuh. 2000m. Stony, open, limestone slopes. (A dwarf, tuberous-rooted perennial with weird, elongated, yellow-brown flowers.) (10) **B**
- 204.902 : ASPHODELINE LIBURNICA** Greece, Larissa, Oros Ossa W of Spilia. 1500m. Open limestone slopes. 8.6.96 (Handsome, 1m. high perennial with spires of starry, yellow flowers. Unlike *A. lutea*, this has no leaves on the upper stem.) (15+) **A**
- 227.702 : BELLEVALIA DUBIA** * Italy, Sicily, Castel Mola near Taormina. (Ex an A. Edwards coll. The most striking of the European species in a selected form with particularly brilliant, ultramarine blue young flowers. Electric.) (15+) **C**
- 227.703 : BELLEVALIA DUBIA** * Italy, Calabria, near Monasterace. Ex an M. Salmon coll. (Similar S Italian form.) (20+) **B**
- 227.770 : BELLEVALIA FORNICULATA** * Turkey, Agri, W of Eleskirt. 2300m. Hay meadows. (Outstanding with buds & flowers of penetrating turquoise-blue. Restricted to a few sites in the chilly Erzurum area, where its amazing blue mists the melt-water meadows. Choice but growable - maybe best outside in the UK. If in a pot, don't overdry it in summer.) (10+) **C**
- 227.800 : BELLEVALIA GRACILIS** * Turkey, Sivas, Camlibel Da., N of Yildizeli. 1600m. Exposed, stony areas. (10) **C**
- 227.840 : BELLEVALIA KURDISTANICA** * Turkey, Hakkari, Zab gorge at Bagisli. 1500m. Igneous scree. (10) **C**
- 227.900 : BELLEVALIA LONGIPES** * Turkey, Van, NNW of Baskale. 3000m. Open, loose, stony slopes. (10) **C**
- 227.950 : BELLEVALIA LONGISTYLA** * Turkey, Van, E of Lake Van. 1800m. Heavy clay in moist, depression. (10) **C**
- 227.952 : BELLEVALIA LONGISTYLA** * Turkey, Van. Ex Leap & Pasche 7044 (10) **C**
- 228.080 : BELLEVALIA PYCNANTHA** * Turkey, Van, NNW of Baskale. 2800m. Short turf in alpine meadows. (Near *B. forniculata* but with heads of strangely crumpled bells in deep, inky blue-black. An easily grown plant of moist meadows.) (15+) **A**

- 228.130 : BELLEVALIA RIXII** * Turkey, Van, NNW of Baskale. 2800m. Talus on open slopes. (Only known from around the type-locality. Falcate leaves & 5cm. stems of purple-brown flowers with violet anthers. Not easy. Best in an alpine-house pan.) . . . (8) **E**
- 228.150 : BELLEVALIA ROMANA** * Greece, Ioanina, Mitsikeli. 860m. Ledges on S-facing, limestone cliff. (15+) **A**
- 228.410 : BELLEVALIA WEBBIANA** * No data. N Italian species near *B. romana* but with deep purple-brown flowers. (20+) **A**
- 231.900 : BIARUM ARUNDANUM** * No data. Spanish race of the widespread, very variable *B. tenuifolium*. Dark chocolate, velvety spathes with projecting, black-purple spadices, appear near the ground, before the narrow leaves, in autumn.) (8) **C**
- 240.000 : BRIMEURA AMETHYSTINA** * France, Hautes-Pyrenees, Vallee d'Ossoue. 1500m. Stony clay over limestone. (More or less endemic to the Pyrenees. Like a dainty, little, brighter blue bluebell - easy & not seen as often as it should be.) (20+) **A**
- 240.100 : BRIMEURA FASTIGIATA** * France, Corsica, Pointe de Revellata. Sea-level. Among moss & stones in wet-flush (dry in summer). (Tiny bulb, only a few cm. high. Dense racemes of wide-open bells, lilac-pink in this form.) (15+) **B**

Colchicum : the Mediterranean bulb season starts here

As we prepare to mail this list, the first colchicums have been in flower for some time. Under glass, the flowers of *C. parnassicum* always appear first here, usually in August, just as the last of the 'spring' flowers, some Chilean *Rhodophiala* & *Alstroemeria* spp. are finishing. Nothing has been watered for weeks & we shall not water anything for another month or so. The flowering of these Mediterranean 'bulbs' is triggered by changes in the mean soil temperature, not by moisture, though

obviously pouring water on them lowers the soil temperature. From now on we shall almost always have a *Colchicum* in flower through till April. They are slower than some genera from seed & germination can be irregular but they usually all come up in time & grow on steadily without too much trouble. We think it more sensible to keep *Colchicum* & *Merendera* together but the synonyms are given in brackets for those who wish to 'split' them. It is all just a matter of opinion.

- 311.420 : COLCHICUM AUTUMNALE** * No data. A plant of European meadows with pink flowers in autumn. (20+) **A**
- 311.501 : COLCHICUM BALANSAE** Turkey, Icel, NE of Gulnar. 1200m. Pockets of red clay on limestone. 5.6.94 (Some seed still left from this robust, S Turkish endemic. White to purple-pink flowers in autumn from amazingly long-necked corms.) . . . (15+) **C**
- 311.600 : COLCHICUM BAYTOPIORUM** * Turkey, Antalya, Gulluk Da. 750m. Among limestone boulders in dense scrub. (Ex a type-locality coll. of this local, medium-sized species. Pink flowers in autumn, with narrow, recurving leaves later.) (10+) **C**
- 312.800 : COLCHICUM CILICIUM** Turkey, Icel, Nur Da. above Hasanbeyli. 1100m. Among deciduous *Quercus* scrub on W-facing slopes. 7.6.94 (Pale to deep purple-pink flowers in autumn. The large species of the Taurus S into Syria.) (15+) **B**
- 313.010 : COLCHICUM CORSICUM** * No data. A dwarf species from lowish altitudes in S Corsica. Lilac-pink flowers in autumn, followed by narrow, 10cm. high leaves. Reputedly uncommon in nature but easily grown & maintained in the UK. (20+) **B**
- 313.405 : COLCHICUM CUPANII** Greece, Crete, Hania, Omalos. M. Jope 95-43 : 2.6.95 (Charming, little, autumn-flowering species, excellent in the alpine-house. Pink flowers with purple-brown anthers before the rather variable leaves appear.) (10+) **C**
- 313.700 : COLCHICUM DECAISNEI** * Turkey, Izmir, Boz Da. 1000m. Schist detritus in wet-flush. (A neat, small species, included under *C. troodii* in the 'Flora of Turkey'. Pale pink flowers in autumn, followed by a few glabrous, ligulate leaves.) (10+) **C**
- 314.000 : COLCHICUM DOERFLERI** * Macedonia, Galicica Planina, above Trpjeca. 1600m. Open, limestone slopes. (Included under *C. hungaricum*, in 'Flora Europaea' - the cold-climate race of this with deeper pink flowers in early spring.) (10) **D**
- 314.752 : COLCHICUM KOTSCHYI** * Turkey, Hakkari, NE of Yuksekova. 1800m. In shale detritus on steep slopes. (Medium-sized, species, distributed E through Iraq & Iran. The white or pale-pink flowers often appear in late summer.) (10+) **C**
- 315.601 : COLCHICUM MACROPHYLLUM** * Turkey, Mugla, Baba Da. SE of Fethiye. 1200m. Clay in shade of *Cedrus*. (Local in SW Turkey & adjacent islands. Large, pleated, *Veratrum*-like foliage. Pink & white chequered flowers in autumn.) (10+) **C**
- 315.900 : COLCHICUM MONTANUM** (*Merendera montana*, *M. bulbocodium*) * Spain, Aragon, Canfranc-Estacion. 1300m. (Bright, purple-pink flowers open flat in early autumn, before the few, narrow, dark leaves appear. Easy & increases well.) (20+) **B**
- 316.400 : COLCHICUM PARNASSICUM** Greece, Viotia, Oros Parnassos. 1600m. Among grasses on stony, limestone slopes. 7.6.96 (Pale purple-pink autumn flowers followed by narrow leaves. Endemic to Parnassus & adjacent Elikon only.) (10+) **B**
- 317.710 : COLCHICUM SOBOLIFERUM** (*Merendera sobolifera*) * No data. A distinct little plant with stoloniferous corms, like *C. boissieri* & *C. psaridis*, from SE Europe to Iran. Starry, white or pale pink flowers with dark anthers in spring. (15+) **B**
- 317.801 : COLCHICUM SPECIOSUM** Turkey, Artvin, Altiparmak above Yusufeli. J. Drake coll. (Spectacular, robust species of the wet mountains of NE Turkey across to Iran. Huge, deep-pink goblets in autumn. The best one for UK gardens.) (15+) **B**
- 318.101 : COLCHICUM TRIGYNUM** (*Merendera trigyna*) * Turkey, Mugla, Gok Tepe. 1500m. Open stony areas among sparse *Pinus* on limestone. (Variable & near *C. atticum*. White to pale pink flowers in spring) (10+) **B**
- 318.204 : COLCHICUM TRIPHYLLUM** * Turkey, Konya, Sultan Da. SW of Aksehir. 1750m. Exposed limestone ridge. (Outstanding high altitude species, ranging very locally from Morocco to Pakistan. Pink cups in spring. Not the easiest to grow.) (10+) **C**

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- 331.651 : CORYDALIS DENSIFLORA** Greece, Viotia, Oros Parnassos. 2100m. Open, stony, limestone slopes. 7.6.96 (A more widespread E European species than the next, growing above 1500m. in Greece & sympatric here with *C. parnassica*. Tuberos with finely cut foliage & dense inflorescences of many flesh-pink flowers amid feathery bracts on 10cm. stems.) (10+) C
- 332.071 : CORYDALIS PARNASSICA** Greece, Viotia, Oros Parnassos. 2100m. Open, stony limestone slopes. 7.6.96 (A most desirable, tuberous-rooted endemic of the alpine zone on a few of the highest Greek mountains, where it sends up its glaucous leaves & large, palest pink, dark-tipped flowers on stems a few cm. high, as the snows melt. Our 1986 dry-stored coll. from Helmos germinated well, so this June-collected seed should give no trouble. It has been stored cold - sow immediately, keep moist & expect germination the following early spring, after a cold period. *Corydalis* seed will not be sent out after February, 1997) (10+) E

Crocus : the quintessence of spring (& autumn as well)

To generalise, which we do not usually like to do, *Crocus* is the most difficult in cultivation, among the main genera of 'bulbs' we list. Because a few crocuses are familiar garden plants in Europe, many gardeners assume all are easy and turn to the imagined challenges of *Fritillaria* or some of the *Narcissus* spp. Many of the 'species' listed cheaply in less specialised bulb catalogues are of hybrid origin or are clones, often untypical of the species as a whole & selected for mass production. If you want good reliable garden-plants, these are for you. For the specialist grower, we are attempting to build up basic fertile parent-stocks, raised from wild material where possible, as a source of hand-pollinated seeds for our lists. This is less easy with *Crocus* than with most other genera, as they have few

seeds in a capsule & maintaining quite a large number of corms is necessary. Collection is also quite critical & troublesome. Seed of many will always be expensive & in short supply. In our efforts to list a good range, we have been much assisted by several other growers, particularly David Stephens, who takes the National Crocus Collection in his care seriously. Of those listed currently, we could recommend only *C. banaticus*, *C. biflorus* subsp. *pulchricolor*, *C. flavus*, *C. kotschyanus* subsp. *kotschyanus* & *C. veluchensis* for the open garden in the UK. Among the more reliable ones for the bulb-frame or alpine-house are *C. adanensis*, *C. asumaniae*, *C. goulimyi*, *C. mahyi* & *C. niveus*. Standard reference for the genus is Brian Mathew's model monograph 'The Crocus' (1982).

- 339.700 : CROCUS ADANENSIS** * Turkey, Adana, above Kurt Kalesi NE of Duzice. 1000m. Ex KPPZ 93 (Typically pale lilac-blue with a white throat, in spring. Related to *C. biflorus* & only found in this very small area but not too difficult to grow.) (10) D
- 339.701 : CROCUS ADANENSIS** * Turkey, Adana, above Kurt Kalesi. Ex a N. Stevens coll. (Norman's coll., made high up above Wolf Castle, has shown more variability. Some are larger-flowered. Some have yellow throats with a diffuse white rim.) (10) D
- 339.810 : CROCUS AERIUS** * No data. A snow-melt species limited to very high altitudes in the wet mountains S of Trabzon in NE Turkey. Seldom seen in cultivation, though the name has been much misapplied to forms of *C. biflorus* subsp. *pulchricolor*. This is from the stock grown by Bob & Rannveig Wallis & awarded a Preliminary Commendation by the Joint Rock Garden Plant Committee of the RHS, AGS & SRGC. In the face of such authorities, we suppress any lingering doubts over authenticity (these guys should know their crocuses as well as their onions). Dark-veined, blue flowers with pale yellow throats in spring. (10) D
- 339.860 : CROCUS ALATAVICUS** * Kirgizstan, Tien Shan. From several wild colls. grown by D.B. Stephens. (The most eastern member of the genus. White flowers, often speckled purple-black outside, in spring. Not too easy to grow & increase.) (8) D
- 339.910 : CROCUS ALEPPICUS** * Jordan, between Petra & Jebel Mubrak. From several colls. made by P. Bird, C. Lovell & M. Salmon, grown by D.B. Stephens. (Starry, white flowers, variously marked outside, in mid-winter. Seldom grown.) (8) E
- 339.950 : CROCUS ALMEHENSIS** * Iran, Gorgan, Almeh. c. 1900m. ex a P. Wendelbo coll. (Only known from this small area & barely in cultivation. Nearest to *C. chrysanthus* with glossy, yellow-orange flowers, mahogany outside, in spring.) (8) F
- 340.351 : CROCUS ASUMANIAE** * Turkey, Antalya, N of Akseki. 1200m. Limestone slopes among sparse *Pinus*. (Limited to the Akseki region but an easy & satisfying, autumn species under glass in the UK. White to palest lilac with a scarlet style.) (15+) C
- 340.510 : CROCUS BANATICUS** * No data. Glorious autumn-flowering species, centred on Roumania. Purple to lilac flowers, with much dissected lilac stigmas, are like no other in their unequal segments. Resents drying & is best outside in the UK. (8) C
- 341.250 : CROCUS BIFLORUS subsp. ISAUERICUS** * Turkey, Antalya, Irmasan Gecidi N of Akseki. 1500m. Stony humus under *Abies* over limestone. (Spring-flowering race endemic to the W end of the Taurus. Variable in colour & markings but usually lilac-blue with strong, purple feathering on the exterior. Attractive & satisfactory under glass in the UK.) (10) B
- 341.252 : CROCUS BIFLORUS subsp. ISAUERICUS** * Turkey, Mugla, Gok Tepe. (Ex D.B Stephens & other colls. here) (10) B
- 341.352 : CROCUS BIFLORUS subsp. MELANTHERUS** * Greece, Arkadia, S of Tripoli. Ex a M. Harvey coll. (Endemic to the Peloponnese & the only autumn-flowering race of this diverse species. Long confused with the similar spring-flowering *C.b.* subsp. *crewei*, also with striking purple-black anthers. Always white with variable dark exterior stripes or speckles.) (10) C
- 341.670 : CROCUS BIFLORUS subsp. PULCHRICOLOR** * No data. From various forms of this rich violet-blue, yellow-throated, spring-flowering race native to damp meadows in the cold, wet, NW corner of Turkey. Good outside in the UK. (15+) B

- 341.801 : CROCUS BORYI** * Greece, Messinia, S of Pilos. 200m. Open limestone slopes. (Big, creamy white goblets with orange styles in autumn. More widespread in S Greece than the sympatric *C. niveus* but not so easy to grow with us.) (8) **C**
- 341.880 : CROCUS CAMBESSEDESII** * Spain, Mallorca, Porto Cristo. Ex a D.B. Stephens coll. (This little Balearic endemic flowers from late autumn into early winter. Very variable from white to deep lilac-blue, usually purple-striped outside.) (15+) **D**
- 341.900 : CROCUS CANCELLATUS** (subsp. *cancellatus*) * Turkey, Icel, SE of Arslankoy. 1100-1450m. Among sparse conifers in clay over limestone. (The type-race from S Turkey into Israel. Scented, soft lilac-blue flowers in autumn.) (10) **C**
- 341.915 : CROCUS CANCELLATUS** (subsp. *cancellatus*) * Turkey, Seyhan. Ex an E. Pasche coll. (10+) **B**
- 341.971 : CROCUS CANCELLATUS** subsp. **LYCIUS** Turkey, Antalya, E of Korkuteli. D.B. Stephens 96-07 : 22.3.96 (A local SW Turkish race with smaller, yellow-throated, creamy white flowers & widely spreading, rich orange style branches.) (10) **D**
- 342.002 : CROCUS CANCELLATUS** subsp. **MAZZIARICUS** * Greece, Evia, W of Halkida. 100m. E-facing limestone hills. (The attractive western race. Autumn-flowering with both white & lilac forms, often darkly veined.) (10) **C**
- 342.007 : CROCUS CANCELLATUS** subsp. **MAZZIARICUS** * Turkey, Burdur, W of Golhisar. 1150m. Openings among *Pinus* & *Quercus*. (Mainly SE European in its distribution, this race only enters Turkey in the SW corner.) (10) **C**
- 342.810 : CROCUS CARTWRIGHTIANUS** * No data : from several wild colls. of this spectacular autumn-flowerer. Almost as often white as lilac with huge flopping, scarlet styles. A lowish altitude Greek island plant - keep it dry under glass in the UK. (10) **C**
- 342.850 : CROCUS CARTWRIGHTIANUS** var. **CRETICUS** * Greece, Crete, Hania, Akrotiri peninsula. Ex a P. & P. Watt coll. (Dubiously sustainable taxon but from the area of the type-locality, so we keep the name. Silvery exterior.) (10) **C**
- 343.000 : CROCUS CASPIUS** * Iran, Mazanderan, Caspian coast W of Chalus. Among scrub in sand. (From both our own and P. Furse 5035 colls. made below sea-level along the Caspian shore in the 1960's. A beautiful autumnal species, with yellow-throated, white to lilac-pink flowers. Quite hardy in the UK but seldom seen - it does not like being too hot & dry in summer.) (10) **E**
- 343.600 : CROCUS CVJICII** * Greece, Imathia, Oros Vermio near Seli. 1500m. In turf on N & W-facing slopes. (A very local, high altitude species, mainly from the mountains where the Greek, Albanian & Macedonian borders meet. Scented spring-flowers in chrome-yellow to orange yellow. Tolerated our hot 1995 summer dry under glass but maybe best kept cooler.) (15+) **E**
- 343.800 : CROCUS CYPRIUS** Cyprus, Troodos, Chionistra. 1950m. D.B. Stephens 96-08: 19.6.96 (Little member of the *C. biflorus* group, only known from high in the western Troodos range. Pale violet to white with brilliant, red-orange filaments.) (8) **E**
- 344.610 : CROCUS FLAVUS** (subsp. *flavus*) * No data but the true wild plant - not the sterile 'Dutch Yellow'. Native to SE Europe into NW Turkey, its profuse fiery, orange-yellow flowers in spring make it one of the finest garden-plants in the genus. (15+) **B**
- 344.802 : CROCUS FLEISCHERI** * Turkey, Mugla, Gok Tepe. 1500m. Open, stony areas with sparse *Pinus* on limestone. (Little, translucent white flowers with brilliant, feathery, scarlet styles in early spring.) (8) **C**
- 344.090 : CROCUS GARGARICUS** (subsp. *gargaricus*) * Turkey, Mugla, Gok Tepe N of Mugla. 1500m. Heavy clay in openings among *Pinus*. (This type-race is only known from here & Kaz Da., far to the NW. The Ulu Da. race (*C.g.* subsp. *herbertii*) is the commonly grown one - this is only very recently in cultivation. It has no stolons & a coarsely reticulate tunic. It also seems quite tolerant of drying-off in summer. Very hardy & neat with rich orange-yellow flowers in spring.) (10+) **D**
- 345.200 : CROCUS GOULIMYI** * Greece, Messinia, S of Kalamata. 300m. In humus among stones, under *Quercus*. (Local in nature but easy under glass in the UK. Prolific, distinct & beautiful pale lavender flowers on very long tubes in autumn.) (10+) **B**
- 345.210 : CROCUS GOULIMYI** * From several forms, including 'Mani White' & the recently described *C.g. leucanthus*. (10) **B**
- 345.402 : CROCUS GRAVEOLENS** * Turkey, Icel, SE of Arslankoy. 1100-1450m. Among sparse conifers over limestone. (Orange-yellow flowers in spring, usually marked with purple-brown outside. Distributed from S Turkey to N Israel.) (10) **C**
- 345.605 : CROCUS HADRIATICUS** * Greece. Ex B. Mathew 5048 (White autumnal flowers, usually with yellow throats. Shorter, more erect orange-red styles easily distinguish it from the allied, usually lilac, *C. cartwrightianus*.) (10) **C**
- 346.300 : CROCUS KARDUCHORUM** * Turkey, Bitlis, SW of Van Golu. c. 1900m. In clay among deciduous *Quercus*. (Only found in this small area & confused with a form of *C. kotschyamus* for almost 100 years (after another 50 it still is in some bulb lists.). Still little-known in gardens. A very lovely, lilac-blue autumn flower utterly distinct in its arresting, feathery, white style.) (10) **E**
- 346.350 : CROCUS KERNDORFFIUM** * Turkey, "central Taurus." 900-1600m. Scree & among scattered *Quercus*, *Juniperus* & *Pinus*. Ex the type-collection, HKEP 90-10. (Described in 1993, in Series *Biflora* & possibly closest to *C. leichtlinii* but differs in the outside of the pale lilac-blue segments being consistently creamy white with a median, violet stripe. Spring.) (8) **E**
- 346.703 : CROCUS KOTSCHYANUS** (subsp. *kotschyanus*) * Turkey, Kahramanmaras, Armut Dag. 1300m. Open areas among *Quercus* on limestone. (Lilac flowers, with yellow-blotched throats, in autumn. Excellent grower & increaser.) (10+) **B**
- 346.710 : CROCUS KOTSCHYANUS** (subsp. *kotschyamus*) * No data - from several E. Pasche colls. - for the garden. (20+) **A**
- 346.900 : CROCUS KOTSCHYANUS** subsp. **CAPPADOCICUS** * Turkey, Sivas, Ziyaret Tepe. c. 2000m. Open sites, in turf & among limestone rocks. (From a type-locality coll. of this lovely Central Anatolian race. Lilac, autumn flowers, beautifully veined with a darker shade. Not so vigorous as the type-race but not at all difficult & seldom seen.) (15+) **C**

Species from Europe, W Asia & N Africa : Seeds from Jim & Jenny Archibald

- 347.101 : CROCUS KOTSCHYANUS** subsp. **SUWOROWIANUS** * Turkey, Rize, Ovit Dag. 3000m. Dryish, stony ridges. (Seldom grown white-flowered race from high altitudes in E Turkey into Georgia. Not so easy & slower to flower from seed) (15+) **D**
- 347.410 : CROCUS LAEVIGATUS** No data. From selections made by D.B. Stephens for size, colour & markings. Endemic to Greece & its islands with very variable autumn & winter flowers in white to lilac with diverse purple markings outside. (15+) **C**
- 347.501 : CROCUS LEICHTLINII** * Turkey, Elazig, SE of Elazig. Ex KPPZ 182. (Limited to the volcanic area around Karaca Da. in SE Turkey - very cold in winter ; very hot & dry in summer. Spring flowers, usually in greyish blue, slatey outside, with deep yellow throats. A difficult, moisture sensitive plant for the specialist & still little known in cultivation.) (8) **E**
- 347.600 : CROCUS LONGIFLORUS** * Italy, Calabria, Monte Stella. Ex M. Salmon colls. (Autumn-flowering from S Italy & Malta. Scented, pale to deeper purple flowers, often with dark veins on a buff ground outside. Quite easy in the alpine-house.) (10) **C**
- 347.800 : CROCUS MALYI** * Croatia, Velebit Planina above Karlobag. 500m. Among limestone boulders. (A splendid Velebit endemic. Big, pure-white flowers with yellow throats in late spring. Said to be excellent outside in sun in the UK.) (10) **C**
- 348.800 : CROCUS NIVEUS** * Greece, Messinia, S of Kalamata. 100m. Olive groves on limestone. Magnificent, pure-white, autumn-flowering species of the S Peloponnese with gorgeous scarlet styles. A good grower in the bulb-frame or pots.) (10+) **C**
- 348.804 : CROCUS NIVEUS** * Greece, Lakonia, W of Pirgos Dirou. 100m. Ex D.M. Hoskins 95-7. (The pale lilac form) (8) **D**
- 349.605 : CROCUS OREOCRETICUS** * Greece, Crete. Ex Brickell & Mathew 10124 (Autumn-flowers in mid- to deep-lilac with purple veining & silvery to buff exteriors. A member of the *C. sativus* group from high up in the Cretan mountains.) (10) **C**
- 349.801 : CROCUS PALLASII** (subsp. *pallasii*) * Turkey, Antalya, SW of Elmali. 1550m. Among *Pinus* on open slopes in heavy clay. (Pale lilac flowers with scarlet style branches, in autumn. Like others in the *C. sativus* group, it enjoys a hot, dry rest.) (8) **C**
- 349.980 : CROCUS PASCHEI** * Turkey, "eastern Taurus." 700-1400m. Among scrub. Ex the type collection, HKEP 90-34 (Described in 1993, in Series *Flavi* & seems very close to the splendid, *C. antalyensis*, which we have not found to be an easy plant to grow, but differs in several characters, as well as being geographically separated. Waisted, lilac-blue flowers, silvery or buff outside, with white zones above their yellow throats & trifold, orange-red stigmas, in spring.) (8) **E**
- 350.001 : CROCUS PELISTERICUS** Greece, Pela, Kajmakalan. 1700m. Wet mountain meadow on mica-schist. 9.6.96. (Limited to a very few localities, usually above 1900m., on the Greek-Macedonian border. From a slightly lower altitude colony of this snow-melt alpine - may be more growable - keep it moist in summer and dryish in winter. Near *C. scardicus* with striking flowers, described by Brian Mathew as having "an unusual intensity of colour, a deep rich violet with a very glossy surface.") (8) **E**
- 350.800 : CROCUS RETICULATUS** (subsp. *reticulatus*) * Croatia, Velebit Planina above Tucepi. 900m. Openings among scrub on limestone. (Local but widespread, spring-flowering species. White to lilac, beautifully marked outside with dark violet.) (10) **C**
- 351.010 : CROCUS ROBERTIANUS** * Ex a M. Harvey coll. (Pale to deeper lilac-blue with a frilly, orange style. Brian Mathew rates it "one of the best of the autumnal species." Not difficult under glass but said to be growable outside in the UK.) (10) **D**
- 351.100 : CROCUS RUJANENSIS** * Yugoslavia, Serbia, Rujan Planina. 600m. Ex a N. Randjelovic coll. (Recently described spring-flowerer. In effect a northern, disjunct population of *C. sieberi* subsp. *sublimis*. Rich lavender-blue flowers with yellow throats. May be worth distinguishing by gardeners as it is vigorous & growable under glass & may prove good outside in the UK.) (10+) **D**
- 352.020 : CROCUS SEROTINUS** subsp. **SALZMANNII** - White form. * Spain, Granada, El Torcal. Ex H. Christiansen 3069. (From a fine white selected in the wild. The species itself is usually one of the most vigorous autumn-flowering ones.) (8) **D**
- 352.400 : CROCUS SIEBERI** (subsp. *sieberi*) Greece, Crete, Hania, Omalos. M. Jope 95-46 : 2.6.95. (The type-race, endemic to Crete and very rarely seen in gardens. Flowers in spring, always basically white but usually stained outside with purple & with an orange or deep yellow throat - the invalid name *C.s. var. heterochromus* was apt. A rather difficult snow-melt plant.) (10) **D**
- 352.552 : CROCUS SIEBERI** subsp. **SUBLIMIS** Greece, Viotia, Oros Parnassos. 1500m. Slope below *Abies* woods. 7.6.96 (Lilac blue flowers with yellow throats in spring. The race from most of mainland Greece. Easier to grow than the type.) (15+) **B**
- 353.120 : CROCUS SPECIOSUS** subsp. **XANTHOLAIMOS** * Turkey, Sinop, SW of Kabali. 1350m. Ex AHEP 83-24 (Only known from *Abies* woodland in this wet area. More dainty than the type race with narrower leaves & smaller flowers, distinguished by their yellow, rather than white, throats, filaments & anthers. Otherwise, translucent, veined lilac-blue goblets in autumn.) (15+) **B**
- 353.600 : CROCUS TOURNEFORTII** * Greece, Rhodes. Ex an I. Barton coll. (A charming plant of the Greek islands ideal for the alpine-house. Lilac-blue flowers with yellow throats open flat & stay open at night during late autumn into winter.) (10+) **C**
- 354.002 : CROCUS VELUCHENSIS** * Yugoslavia, Serbia (Kosovo), above Vratnica. 800m. Leaf-soil over clay in dense *Fagus* woods. (A splendid, woodland form with lavender-blue flowers with darker, violet tips, in spring. Likes it cool & not too dry.) (10+) **B**
- 354.600 : CROCUS VERSICOLOR** * France, Alpes de Haute Provence, Col de la Colle St. Michel. 1400m. Stony, S-facing slope. (Endemic to SE France, just into Italy. White to lilac flowers in spring - quite late with us, like the related *C. malyi*.) (8) **C**

Cyclamen : all things to all gardeners

Few genera inspire such devotion as cyclamen. Their flowers & beautiful foliage can be enjoyed almost throughout the year, though, of course, their peak seasons for flowering are spring & autumn. We have not had a good year for seed, on top of the fact that we lost many stock plants in the hot summer of 1995, when we were in the USA. Finding the corms dehydrated or cooked under glass was not a disaster which we had anticipated in our cool Welsh climate. We learn by experience. We have not, in fact, been trying too hard with this genus, as we felt that there were sufficient sources of supply, but seed remains in steady demand and we shall try to expand to a complete range again, as soon as we can. With some help from friends, we have a reasonable, if depleted, amount of seed available this season. Seed from selected flower & leaf forms will be found at the end of the list in the section dealing with garden hybrids & selections. Only the basic wild species, if possible from material with field data, are here. *C. hederifolium*, *C. coum* & a few

others are, of course, reliable garden-plants but the majority can be grown to perfection, in the UK, only under glass, safest kept frost-free. All, including *C. rohlfianum*, will take very brief periods of light frost but some measure to prevent prolonged or severe freezing is only common-sense. Likewise, regarding extremely high summer temperatures : shading & preventing dehydration when dormant are sensible also. Sowing seed straight from the capsule is a counsel of perfection. Reasonably fresh seed should be perfectly satisfactory. Like most of the species in this list, these germinate at low-temperatures & should be sown in late summer or autumn. Soaking seed in hot (not boiling) water & leaving for 24 hours at room-temperature before sowing appears to aid germination. Always keep pots of ungerminated seed (they will appear in time) and guard against mice, which love them as much as we do. The best reference is C. Grey-Wilson's monograph, 'The Genus Cyclamen' (1988).

- 358.000 : CYCLAMEN AFRICANUM** * Algeria, Kabylie, E of Azazga. 850 m. Humus under deciduous *Quercus*. (Large, patterned, dark green leaves & big, pink flowers in autumn. Borderline hardiness in UK - best grown frost-free.) (10+) C
- 358.500 : CYCLAMEN BALEARICUM** * Spain, Mallorca, N of Andratx. 350m. In humus among *Quercus*. Ex a D.M. Hoskins coll. (Delicately pencilled, white flowers in spring. Likes a lot of shade, resents overdrying in summer & is best frost-free.) (15+) B
- 359.003 : CYCLAMEN CILICIUM** * Turkey, Konya, NW of Bozkir. 1100m. Base of N-facing, limestone cliffs. (Dainty, autumn-flowering species with pale pink flowers & small, rounded leaves. Hardy in a well-drained, sunny site in the UK.) (15+) B
- 339.020 : CYCLAMEN CILICIUM** - white, pink-nose. * No data. Ex a P. Davis coll., given to us by Ken Aslet. (10) C
- 361.510 : CYCLAMEN CYPRIUM** * No data. Fragrant, white flowers with auricles & magenta blotches around their mouths, from late autumn into winter. Distinctive, grey-marbled, dull-green leaves, crimson below. Best grown frost-free in the UK.) (15+) C
- 363.003 : CYCLAMEN GRAECUM** * Greece, Lakonia, Agios Nikolaos NW of Githio. 500m. Steep slopes under olives. (From several forms, originally selected in the wild for the outstanding patterns & shapes of their leaves.) (15+) C
- 363.008 : CYCLAMEN GRAECUM** Greece, Crete, Rhodopos peninsula. M. Jope 95-032 : 31.5.95 (15+) B
- 363.009 : CYCLAMEN GRAECUM** Greece, Crete, Malaxia. M. Jope 95-040 : 31.5.95 (15+) B
- 363.010 : CYCLAMEN GRAECUM** * Greece, Evia, between Aliveri & Amarinthos. 100m. Ex a D.M. Hoskins coll. (15+) B
- 363.099 : CYCLAMEN GRAECUM** * No data. From a very wide range of this magnificent, autumn-flowering species, variable in colour from carmine-pink to shell-pink, in time of flowering (from August to November in the UK) &, of course, in size, shape & markings of the leaves. Well worth growing for the last quality alone. Safest frost-free, with a warm summer-rest.) (20+) B
- 363.100 : CYCLAMEN GRAECUM f. ALBUM** * Data as for 363.003. Pure white ex the original E.& R. Franke coll. (10) D
- 364.003 : CYCLAMEN HEDERIFOLIUM** * Greece, Evia, W of Karistos. 200m. Among scrub on schist. (A distinct, large-leaved, large-flowered race, resembling *C. africanum*. Long, late flowering-season, well into November under glass with us.) (15+) B
- 364.050 : CYCLAMEN HEDERIFOLIUM** * Greece, Crete, Topolia. M. Jope 95-038 : 31.5.95 (Very local Cretan race.) (15+) C
- 364.099 : CYCLAMEN HEDERIFOLIUM** * No data. From a wide range of cultivated forms of this incomparable, autumn-flowering species, the hardiest & best garden-plant of all, which will establish & sow itself in most of the UK. Pink flowers. (20+) A
- 364.100 : CYCLAMEN HEDERIFOLIUM f. ALBUM** * No data. From white-flowered plants. Variable foliage. (20+) B
- 364.520 : CYCLAMEN INTAMINATUM** * No data. Distinct variant with dark, unmarked leaves, like a plain-leaved *C. coum*. Dainty, delicately veined, white flowers in early autumn. Usually a more enthusiastic grower than other forms of this. (20+) B
- 365.000 : CYCLAMEN LIBANOTICUM** * Lebanon, NE of Beirut. From a collection made, in the 1960's, by Eliot Hodgkin with Pere Mouterde, who rediscovered this extremely local species in the wild. Distinct from the long-cultivated form in its elegant, longer-petalled, deeper-pink flowers & in its more distinctly marked leaves, often pink-tinted as they unfold.) (10) E
- 365.010 : CYCLAMEN LIBANOTICUM** * No data. Most sumptuous of the spring-flowering ones with large, pale-pink flowers, distinctively marked with crimson. We have seen it grown successfully outside in the UK but it is best under glass. (15+) C
- 366.550 : CYCLAMEN PERSICUM** * No data. From a range of wild-forms of this parent of the over-bred, florists' strains. Elegant flowers from palest pinks to deeper crimson-pinks, in spring, & foliage which rivals *C. graecum*. Best frost-free in UK. (15+) B

Species from Europe, W Asia & N Africa : Seeds from Jim & Jenny Archibald

- 367.010 : CYCLAMEN PSEUDIBERICUM** * No data. Among spring-flowering ones, this S Turkish endemic rivals the related *C. libanoticum* in its magnificent rich crimson-purple flowers. Possible outside & splendid in an unheated greenhouse (15+) C
- 367.500 : CYCLAMEN PURPURASCENS** * Italy, Friuli-Venezia-Giulia, N of Trieste. 100m. Among scrub. (Deep carmine-pink flowers in late summer & autumn. This low-altitude coll. enjoys warmer drier treatment than the Alpine ones.) (10) D
- 368.003 : CYCLAMEN REPANDUM subsp. PELOPONNESIACUM** * Greece, Lakonia, Oros Taigetos. Ex an E. Needham coll. (From a fine clone with striking foliage, evenly speckled all over with white. Pale-pink, red-nosed flowers in spring.) (15+) D
- 369.000 : CYCLAMEN ROHLFSIANUM** * Libya, Cyrenaica, Benghazi to Jebel Akhdar. 200m. Among scrub in limestone pockets. (Pale to deep pink flowers with projecting cones of anthers in autumn. Beautiful rounded leaves. Must be frost-free.) (10+) C
- 384.020 : DAPHNE MEZEREUM** * No data. Glorious shrub. Purple-pink flowers wreath the naked branches in spring. (8) A
- 384.050 : DAPHNE MEZEREUM f. ALBA** * No data. White flowers followed by yellow fruits. Comes 'true' from seed. (8) B
- 444.060 : EREMURUS HIMALAICUS** * No data. NW Himalayan Foxtail Lily with 2m. spires packed with white flowers. (10) B
- 444.080 : EREMURUS ROBUSTUS** * No data. Equally imposing Central Asian with towering, soft-pink racemes. 2.5m. (10) B
- 444.101 : EREMURUS SPECTABILIS** Turkey, Kahramanmaras, SSE of Goksun. 1550m. 12.6.94. (Green-white. 1.5m.) (10) C
- 444.150 : EREMURUS STENOPHYLLUS** * No data. Cylindrical racemes of brilliant yellow flowers. About 1m. high. (10+) B

Fritillaria : temperamental darlings of the bulb enthusiasts

Possibly the genus most esteemed by the more specialised of British bulb-enthusiasts at present. Fashions change. Reginald Farrer, writing in 1913, after conceding it is a "lovely race", condemns them as "very miffy or mimpish or both, and the family all round has a bad character...not to mention that an enormous number have more or less stinking bells of dingy chocolate and greenish tones, which often appear transfigured by the enthusiasm of those who desire to get rid of them..." Perhaps they were beyond his capabilities as a grower. Their "miffiness" is one of their charms adding stimulation to the challenge of their successful cultivation. Most, in fact, are not at all difficult to grow in standard bulb-frame conditions or, perhaps better, in pots in a well-ventilated unheated greenhouse in the UK. Few, however, are easy in the open garden in Britain.

Of those listed here, *F. messanensis* subsp. *gracilis*, *F. pallidiflora*, *F. pontica*, *F. thessala ionica*, perhaps *F. acmopetala* & certainly the native *F. meleagris* should be growable outside in most UK gardens. Most species grow in comparatively small populations in very limited areas in the wild and enthusiasts should make every effort to maintain fertile stock from seed in cultivation. As with *Crocus* & *Narcissus*, we are progressing towards our aim of establishing authentic parent-stocks of all species, if possible raised from wild seeds, for the production of hand-pollinated seed for our lists. This season all listed are cultivated and, with the help of several other enthusiasts, we have a more comprehensive range than ever before. We all await a monograph on this genus by Martyn Rix. In the meantime, "The Bulb Book" is the best reference.

- 490.010 : FRITILLARIA ACMOPETALA** * No data. Round-shouldered, elegantly waisted bells, usually in yellow-green with brown central shading. A lovely thing, about 30cm. high, & one of the easiest in a bulb-frame or even outside in the UK. (20+) A
- 490.800 : FRITILLARIA ALFREDAE subsp. GLAUCOVIRIDIS** * Turkey, Adana, above Hasanbeyli to Fevsipasa. 1100m. Open stony areas among *Quercus* scrub on W-facing slopes. (A most graceful & beautiful species - elegant, yellow-green flowers with a glaucous sheen. Endemic to this corner of Turkey near the Syrian border. Not difficult in a bulb-frame in the UK.) (15+) C
- 491.100 : FRITILLARIA ARGOLICA** * Greece, Argolida, near Ermioni. Ex an R. & R. Wallis coll. (Recently acknowledged taxon, supposedly a hybrid or intergrade between *F. graeca* & *F. rhodocanakis* & more or less intermediate in appearance.) (10+) D
- 491.101 : FRITILLARIA ARGOLICA** * Greece. Ex V. Horton 415 (Originally collected as a hybrid between *F. graeca* & *F. rhodocanakis*, this appears to fit in here, though it is closer to *F. rhodocanakis* than the preceding.) (10+) D
- 492.101 : FRITILLARIA BITHYNICA** * Greece, Samos, Ambelos. 700m. Under *Castanea* in leaf-soil on mica-schist. Ex a D.M. Hoskins coll. (Glaucous, yellow-green bells, yellower inside. The island, Samos & Khios, races are little-known.) (10+) C
- 492.105 : FRITILLARIA BITHYNICA** * Turkey, Denizli, S of Denizli. 1700m. Sparse *Pinus* woods on limestone. Ex R. & R. Wallis 90-38. (Described as a good, dwarf, yellow form. Unwinged capsule but confirmed by Martyn Rix as *F. bithynica*.) (10+) C
- 492.200 : FRITILLARIA BUCHARICA** * No data. Beautiful Central Asian, distributed from NE Afghanistan into the Pamir Alai, at up to 2400m. Up to 10, open, green-tinted, white bells on 20cm. stems. No trouble in the bulb-frame in the UK (15+) C
- 492.400 : FRITILLARIA CARICA** (subsp. *carica*) * Greece, Samos, Ambelos. 950m. Under *Pinus* on mica-schist. Ex a D.M. Hoskins coll. (Grey-green leaves & dark nectaries inside its clear-yellow bells. One of the most charming of this group.) (10+) C

- 492.402 : FRITILLARIA CARICA** * Turkey, Burdur, W of Yesilova. 1280m. Loose serpentine talus of open slope. (A fine form, growing in a precisely similar habitat with the same serpentine-associates as *F. carica* subsp. *serpenticola*.) (10+) **D**
- 493.000 : FRITILLARIA CONICA** * Greece, Messinia, S of Pilos. 200m. Edge of *Quercus* scrub on open limestone slope. (Allied to *F. carica* & *F. forbesii*. One of the more robust in this E Mediterranean, yellow-flowered group, up to 25cm. high with large bells. Extremely local in nature but not at all difficult to grow in the alpine-house or bulb-frame in the UK.) (15+) **C**
- 493.305 : FRITILLARIA CRASSIFOLIA** (subsp. *crassifolia*) * Turkey, Erzurum, Kop Dag. 1700m. Ex R. & R. Wallis 93-17. (The type race has a wide but very local distribution across Turkey from Denizli in the W to Erzurum in the E. Always in isolated sites & always growing in loose, unstable scree. Dwarf with fleshy, twisted, greyish foliage & big, brown-chequered bells.) (15+) **D**
- 493.405 : FRITILLARIA CRASSIFOLIA** subsp. **HAKKARENSIS** * Turkey, Hakkari, E of Yuksekova. 2300m. Ex R. & R. Wallis 87-26. (Endemic to snow-patch hollows on the high mountains of Hakkari, this sometimes grows on the same slopes as *F.c.* subsp. *kurdica* but remains distinct both in its habitat & in its shiny green foliage & more pointed inner segments.) (10+) **E**
- 493.500 : FRITILLARIA CRASSIFOLIA** subsp. **KURDICA** * Turkey, Van, NNW of Baskale. 2800m. Open, stony slopes. (In this site, very variable in the colour & markings of its plump, chequered bells - striped & tinted in brown to yellow-green.) (15+) **C**
- 493.503 : FRITILLARIA CRASSIFOLIA** subsp. **KURDICA** * Iran, Kurdistan, S of Rezaiyeh. 1980m. Rocky, S-facing slope. (A robust form of this variable race with up to four, brown-chequered bells on each 20cm. stem.) (15+) **C**
- 493.505 : FRITILLARIA CRASSIFOLIA** subsp. **KURDICA** * Turkey, Van, E of Bahcesaray. 2350m. Ex R.& R. Wallis 87-26. (From a fine, dark red form, selected by these discriminating growers, up on the pass between Artos Da. & Kavussahap Da.) (10+) **C**
- 493.600 : FRITILLARIA CRASSIFOLIA** subsp. **POLUNINII** * Iran, Kurdistan. Ex several P. Wendelbo colls. (Known only from Oleg Polunin's type coll. from limestone screes at 2400m., above Suleimaniya in Iraqi Kurdistan, until Per Wendelbo collected it on the Iranian side of the border. The two races are a little different and may be best regarded at infraspecific level under *F. poluninii* as a species. This is the larger & reputedly easier to grow. Still tiny with large, whitish, brown-veined bells.) (8) **F**
- 494.000 : FRITILLARIA DAVISII** * Greece, Lakonia, NW of Pargos Dirou. Low, limestone hills. (An endemic of the S tip of the Mani peninsula. Near *F. graeca* but with shiny leaves & no green stripes on its chequered bells. Generally a good grower.) (15+) **C**
- 494.400 : FRITILLARIA DRENOVSKII** * Greece, Drama, Falakro above Volokas. 1500m. Among sparse *Pinus* in subalpine meadow. (One of our favourite species. Slender & elegant, with thin, greyish leaves on 15-20cm. stems. Narrow brown bells, varying in this site from dark chocolate to honey-brown shades. Endemic solely to the Greek-Bulgarian border-ranges.) (10+) **D**
- 494.800 : FRITILLARIA EHRHARTII** * Greece, Evia, W of Karistos. 200m. Seasonally damp, N & W-facing sides of gully on mica-schist. (A beautiful native of S Euboea & the neighbouring Kiklades. Big, bloomy, yellow-tipped,grape-black bells glow to ruby in the evening sun. Stout 20-30cm. stems can carry up to 6 flowers. Not often seen but easy enough here under glass.) (15+) **C**
- 495.200 : FRITILLARIA EPIROTICA** * Greece, Ioanina, Oros Smolikas E of Konitsa. 2300m. Loose, stony, E-facing, serpentine slopes. Ex an R. Baker coll. (Fat, purple-brown bells, dimly tessellated with yellow-green, sit almost on the ground, where the prostrate, thick, grey-green leaves twist. From the type-locality, where the E.K. Balls 3434 coll. was made in 1937. The name has been applied to plants from other localities in the Pindos but we suspect this very dwarf, alpine type-race is exclusively endemic to the serpentine screes around the summit of Smolikas. Little-known in cultivation, it should be cherished.) (10+) **E**
- 495.700 : FRITILLARIA FORBESII** * Turkey, Mugla, Baba Da. SE of Fethiye. 850m. Humus beside boulders in shade of *Pinus*. (From near Forbes' 1842 type-locality & a little different to the serpentine populations on the Marmaris peninsula. Lime-tinged, yellow bells. Near *F. carica*, with which it grows, but taller, at 20cm. or so, & with narrow, linear, bright-green leaves.) (10+) **D**
- 496.000 : FRITILLARIA GRAECA** (var. *graeca*) * Greece, Ahaia, Helmos above Kalavrita. 2000m. In alpine-steppe on stony, limestone slopes. (Superb, 8cm., dwarf form (illustrated in Rix & Phillips 'The Bulb Book' from Polunin & Chater 13017, collected here). Grey-leaved & flowering late with large chestnut-brown bells, strikingly striped with yellow-green. Not so easy.) (10+) **D**
- 496.004 : FRITILLARIA GRAECA** (var. *graeca*) * Greece, Lakonia, Oros Taigetos. Woodland. Ex an A. Edwards coll. (15+) **C**
- 496.020 : FRITILLARIA GRAECA** (var. *graeca*) * No data. From several colls. on Parnes, etc. Most will have single, more broadly campanulate bells than 496.000, on stems of about 15cm. Purple-brown segments with distinct yellow-green fascia. (15+) **B**
- 496.501 : FRITILLARIA GUSSICHAIE** * Macedonia, Pelister above Magarevo. 1400m. Among scrub on steep slopes of igneous rock. (Very local in the Bulgarian & Macedonian border ranges. Up to six, yellow-green bells, tinged with brown. Distinct from *F. graeca* & *F. thessala* in its winged capsules. Seldom-seen in cultivation but proving growable outside in the UK.) (10+) **D**
- 497.020 : FRITILLARIA HERMONIS** subsp. **AMANA** * No data. From several colls. of this fine member of the *F. crassifolia* group, including the E.K. Balls type. Centred on the Amanus range in S central Turkey, S into Syria & the Lebanon, at about 1500m. Long, greenish or yellowish bells, tessellated with brown purple & with clear, green fascia. Stems of about 20cm. (15+) **C**
- 497.310 : FRITILLARIA IMPERIALIS** * No data. The beautiful Crown Imperial, most spectacular of the genus, distributed from SE Turkey through W Iran & beyond. Heads of big amber-orange bells on leafy stems of 60cm. or more. (10+) **B**
- 497.610 : FRITILLARIA INVOLUCRATA** * No data. From several forms, including two distinct variants from Kath Dryden. Wild in the Alpes-Maritimes & NW Italy. About 20cm. high, narrow-leaved & with green, purple-chequered bells. (15+) **C**

Species from Europe, W Asia & N Africa : Seeds from Jim & Jenny Archibald

- 497.751 : FRITILLARIA KOTSCHYANA** * Iran. Ex P. Wendelbo75-84 (A stoloniferous form of this *F. crassifolia* relative, endemic to the N slopes of the Elburz Mts., from the tree-line up to 2700m. Pendant bells variably chequered with pale green & brown sometimes open almost at ground-level though it can be 20cm. high. Very seldom cultivated but not unduly difficult.) (10) **E**
- 498.503 : FRITILLARIA LUSITANICA** * Spain, Jaen, Sierra de Cazorla. Ex an A. Edwards coll. (The variable fritillaries of the Iberian peninsula, all currently 'lumped' under this name, do not seem to be satisfactorily divisible into distinct taxa.) (15+) **C**
- 499.010 : FRITILLARIA MELEAGRIS** * No data. An elegant, easy garden-plant in the UK, often sowing itself. Native to S England across central Europe to S Russia, often in the flood plains of rivers. Seed from both purple-chequered & white forms. (20+) **A**
- 499.700 : FRITILLARIA MESSANENSIS subsp. GRACILIS** * Bosnia & Hercegovina, W of Trebinje. 500m. Among *Quercus* scrub over limestone. (Untesselated, chestnut-brown bells, edged with gold. Very hardy & one of the finest, most vigorous species with us, though never numerous in the wild. Definitely worth trying outside in the UK, in a sunny, well-drained site.) (20+) **B**
- 499.905 : FRITILLARIA MICHAILOVSKYI** * Turkey, Kars, Sarikamis. 2100m. Ex Mathew & Tomlinson 4295. (From stock maintained since this 1965 introduction. Shiny, mahogany bells, rimmed with yellow or sometimes just gold-tipped.) (15+) **B**
- 500.001 : FRITILLARIA MINIMA** * Turkey, Van, Kavussahap Dag. 2700m. Steep limestone screes on open slopes. (This is mainly ex O. Sonderhausen 824, grown in Sweden, with some of our seed - the first time we have had any, perhaps due to our cold 1995-96 winter & spring. Not impossible to cultivate but, like some other high-alpine, snow-melt species, extremely difficult to flower well. Dainty, yellow bells, the twin of the N American *F. pudica*. Native only to Artos Dag & the adjacent mountains.) (10+) **E**
- 500.300 : FRITILLARIA MONTANA** * Macedonia, Galicica Planina above Trpjeica. 1600m. Exposed, dry, limestone slopes. (A slender, dwarf form of this variable, widespread group. Globular, brownish bells & bulbs with a stoloniferous habit.) (15+) **C**
- 500.400 : FRITILLARIA MUTABILIS** * Greece, Fokida, Oros Giona SW of Kaloskopi. 1800m. Among grasses on open, limestone slopes. 6.6.96 (Kamari's name, in his 1991 account, for the populations from the N Peloponnese to the S Pindus, which do not fit into his concepts of *F. graeca* & *F. thessala*. These Greek mainland plants pose the same problem as the Iberian ones. 'Lumping' all under *F. graeca* obscures the utterly distinct nature of the extremes. 'Splitting', dubiously sustainable botanically, though it gives more names to gardeners, means that several 'species' may be found together in populations of 'hybrids' or integrades.) (10+) **D**
- 500.510 : FRITILLARIA OBLIQUA** * No data. Endemic to a small part of Attica, on the Greek mainland. Close to *F. tuntasia* of the Cyclades. Similar black bells but stockier with fewer flowers & leaves, which lie mainly at the base of the 15cm. stem. (10+) **D**
- 501.200 : FRITILLARIA ORIENTALIS** * Full data not available but the genuine species from material collected in the Caucasus by M. Pavelka & grown by N. Stevens. An obscure, little understood plant in the confusing *F. montana* group, where names have been much misapplied. The synonym *F. tenella* is appropriate - slender, 20-30cm. stems with many, linear leaves, the uppermost in a whorl of 3, incline to hang out up to 5 dark bells, densely chequered brown-purple outside & reddish inside. (10+) **E**
- 501.410 : FRITILLARIA PALLIDIFLORA** * No data. Splendid Central Asian from the Ala-Tau & Tien Shan. 30cm. or more high with broad, grey leaves & big pale-yellow bells. One of the finest & most satisfactory to grow outside in the UK. (15+) **B**
- 501.801 : FRITILLARIA PINARDII** * Turkey, Denizli, Honaz Dag. 1650m. Stony clay over limestone. (A neat plant & a good grower. Yellow flowers, maturing to rust-red, suspiciously like *F. carica* but the altitude & habitat seem wrong for this. Norman Stevens feels it best we keep it under *F. pinardii* (immensely variable & something of a rag-bag entity) for the present.) (10+) **C**
- 502.010 : FRITILLARIA PONTICA** * No data. A plant of moist shade in the woodlands of Bulgaria & NE Turkey, so, not surprisingly, one of the best to grow outside in the UK. Big, soft-green, brown-tinged, round-shouldered bells. (20+) **A**
- 502.400 : FRITILLARIA RADDEANA** * Iran, Gorgan, Gulestan. c. 2000m. (From one of several seed & bulb colls., (PF 5162, etc.) made by Paul Furse in 1964, in what was then the royal hunting reserve. Like a dwarfier, primrose yellow version of *F. imperialis*. Growable outside in the UK but it flowers early so protection safeguards both flowers & seed-set.) (10+) **C**
- 502.450 : FRITILLARIA REUTERI** * Iran, NW of Esfahan. From F. Baxter, P. Wendelbo & other colls. (Extremely local but locally numerous in a few, seasonally moist, stony meadows at 2500-3000m. Wide mahogany bells, broadly bordered with yellow, not unlike *F. michailovskyi* but taller & more delicate, both in habit & constitution. Not easy & scarce in cultivation.) (10) **F**
- 502.601 : FRITILLARIA RHODOCANAKIS** * Greece, Argolida, Idra. (Endemic to the island of Hydra, off the SE Peloponnese. A neat, little plant, about 10cm. tall, usually with yellow-tipped, chocolate-brown, widely flaring bells.) (10+) **D**
- 502.620 : FRITILLARIA RIXII** * Greece, Evia. (Described by Zaharof in 1986, from 700-800m. on Xiron & Kandhili on Euboea. Kamari (1991) considers it a "poorly defined ecotype" of the higher altitude *F. euboica*. As the latter is still a little-known plant in cultivation, this will make it no less desirable to the specialist, especially as Norman Stevens commends as a form more likely to appeal to gardeners. Yellow bells - perhaps closest to the Turkish *F. sibthorpiana*.) (10) **E**
- 502.805 : FRITILLARIA SIBTHORPIANA** * Turkey, Mugla. (Described in 1809 & 'lost' for 185 years after Sibthorp's type-coll. (meanwhile its name was widely misapplied). Still only known from two localities in the extreme SW corner of Turkey. Distinct from the others with bright yellow bells in its two, or occasionally three, broad leaves, clasping the 20-30cm. stem.) (10+) **E**

- 503.700 : FRITILLARIA THESSALA subsp. IONICA** (*F. ionica*) * Greece, Kerkira, Pantokrator. Ex A. Edwards & E Sewell colls. (Doubtfully separable from mainland populations but we retain the name for the Corfu island-race, which is fairly consistent in its single green bells just touched with a purple or pink tessellation on the margins. A good grower in the UK.) (20+) C
- 503.800 : FRITILLARIA TUBIFORMIS** (subsp. *tubiformis*) * France, Hautes-Alpes, Pic de Gleize NNW of Gap. 1800m. Among *Helictotrichon* on steep, SE-facing limestone slopes. (One of the finest alpine species with huge, fat, chequered, brown-purple bells on short stems. Absolutely hardy & better in grown cool in a frame or even a raised bed outside than heated under glass, though this population from a summer-dry site seems more accommodating than those from moister, meadow-habitats.) (15+) C
- 504.210 : FRITILLARIA TUNTASIA** * No data but endemic to the islands of Kithnos & Serfos in the Kiklades, S off the coast of Attica in Greece. A somewhat taller, more slender plant than the allied *F. obliqua* with greyish leaves more evenly distributed up the 20-30cm. stems & up to 5 flowers. The conical bells are virtually black with a glaucous bloom outside. (10+) D
- 504.703 : FRITILLARIA WHITTALLII** * Turkey, Antalya, Ciglikara forest near Gombe. 1320m. Ex R. & R. Wallis 90-11. (Exceptionally local, this appears limited to patches of humus-rich scree at about the tree-line of cedar-forest in Antalya & Isparta provinces. Elegant with linear leaves & wide pale-green bells, tessellated with purple.) (15+) D
- 504.810 : FRITILLARIA ZAGRICA** * Iran, Hamadan. (From several P. Wendelbo colls. made in this area of W Iran. A little species, 5-10cm. high, of the central Zagros range, where it grows up to 3000m., often as a snow-melt plant. Now rare in cultivation. Extraordinarily unvariable in its dark, brown-purple bells, distinctively & characteristically tipped with yellow.) (10+) E
- 507.300 : GAGEA FIBROSA** * Turkey, Hatay, E of Belen. 1250m. Stony areas & fissures on limestone outcrop. ("One of the largest & most striking" writes Martyn Rix. Starry, bright-yellow flowers with long perianth segments, which persist in seed.) . . . (20+) B
- 509.300 : GALANTHUS REGINAE-OLGAE** * Greece. Messinia, Oros Taigetos, Langadas pass. 1200m. Humus under *Platanus*. (Hand-pollinated seed from the type-race of this beautiful snowdrop, flowering in autumn before the leaves appear.) (10+) C
- 509.301 : GALANTHUS REGINAE-OLGAE** Greece, Lakonia, Oros Taigetos, Profitis Ilias. 1400m. Light shade in deciduous woodland. 16.5.95. D.M. Hoskins 95-146. (A little wild seed left for the purist. Collected further S & higher up.) (10+) C
- 531.802 : GLADIOLUS ANATOLICUS** * Turkey, Adana, Nur Da., above Hasanbeyli. 1100m. Stony clay among *Quercus* scrub. (A handsome purple-pink S Turkish endemic, 30-40cm. high, related to the Cypriot *G. triphyllus*. Easy in the bulb-frame.) . . . (20+) B
- 531.902 : GLADIOLUS ANTAKIENSIS** * Turkey, Hakkari, Zab gorge at Bagisli. 1500m. Among *Quercus* on stony slopes. (Confined in Turkey to the oak-scrub areas of the SE corner. Fine, carmine-pink flowers marked with white. About 50cm.) (20+) B
- 532.602 : GLADIOLUS KOTSCHYANUS** * Turkey, Erzurum, Kop Da. 2400m. Among *Salix* in wet-flush. (A deep crimson form of this characteristic species of wet meadows in cold E Anatolia. Collected as a dwarf form this now reaches 40cm.) (20+) B
- 532.605 : GLADIOLUS KOTSCHYANUS** * Turkey, Van, W of Yukari Narlica. 2200m. Stony alluvium of island in stream. (Pale mauve flowers marked white. These montane forms are more slender & dainty than ones from lower hay-meadows.) (20+) B
- 551.000 : HANNONIA HESPERIDIUM** Morocco, S of Chichaoua. Dry river-banks. J.W. Blanchard 93-04 (Some seed-bank material left of this small, autumn-flowering *Narcissus*-relative, endemic to NW Morocco, often in coastal limestone fissures.) . . . (15+) D

Helleborus : classic winter-flowers currently in fashion

We list a very full representative range of this genus, almost all 1996 collected wild seeds. This is largely possible through the efforts of Will McLewin, not only with his own material from SE Europe but also in arranging collections by local botanists in Georgia & Croatia. If you are interested in this genus, order & sow the seed without delay. Place it at normal outdoor temperatures. Though there is still plenty of time, late-sown seed (after the weather has cooled down in autumn), may not germinate until the following winter. Soaking seed in hot (not boiling) water and leaving it at room temperature for a day before sowing may help germination the first winter. Like almost all species in this list, these germinate at low-temperatures. Keeping seed warm after sowing will inhibit germination. For more information & accounts of each species,

refer to 'Hellebores' by Brian Mathew or 'The Gardener's Guide to Growing Hellebores' by Graham Rice & Elizabeth Strangman. While we use the classification proposed by the former (and accepted by the latter), it must be appreciated that this is only a reasoned compromise. We stress that the species of Section *Helleborastrum* seldom comply with the criteria used to divide them into the artificial concept of 'species' - flower colour, overwintering leaves and free or joined carpels are not consistent features. Most colonies are extremely variable and there is a great deal of intergradation. Such problems are being considered in an ongoing series of articles, by Brian Mathew & Will McLewin in 'The New Plantsman'. Seeds from garden hybrids will be found listed in the section dealing with 'Garden Hybrids & Selections' towards the end of this list.

- 559.810 : HELLEBORUS ARGUTIFOLIUS** (*H. corsicus*) * No data. Endemic to Corsica & Sardinia but a splendid, reliable garden-plant throughout the UK. Leathery, overwintering, spine-edged leaves & huge, 1m. high heads of pale-green cups. (20+) A
- 560.002 : HELLEBORUS ATRORUBENS** Slovenia, near Novo Mesto. W. McLewin coll. (Variable in foliage & colour, this is one of the most local & least-known Balkan species. Not all are purple but it can produce some striking purple-flowered plants with purple-tinged leaves. The name is still misapplied in gardens to hybrids, usually of *H. orientalis* subsp. *abschasicus*.) (10+) E

Species from Europe, W Asia & N Africa : Seeds from Jim & Jenny Archibald

- 560.500 : HELLEBORUS CROATICUS** Croatia, near Osijek. W. McLewin coll. (Though regarded by Brian Mathew as synonymous with *H. torquatus*, Will thinks this recently described taxon is distinct & sustainable. It might be best placed at infraspecific level under *H. atrorubens*. Extremely local in the wild, this is a type-locality collection from E Croatia.) (10+) E
- 560.629 : HELLEBORUS CYCLOPHYLLUS** Greece, Ioanina, Oros Smolikas, E of Konitsa. 2000m. Openings in *Abies* woodland. 11.6.96 (In the late 1996 season, we were a little early for collections of this widespread species of the Greek mountains. Some ripe seed here, where it only grows lower down on the limestones, not on the serpentine. Colonies are 'pure' in Greece, where *H. odorus* does not occur. Leaves, backed with silvery hairs in spring, seldom overwinter. Big, clear-green flowers.) (10+) C
- 560.803 : HELLEBORUS DUMETORUM** Croatia, Slavonija, NE of Pakrac. W. McLewin coll. (A distinct, dainty species of mature, deciduous woodland, growing here near the Hungarian border. Reputedly a good garden-plant in the UK.) (10+) D
- 561.020 : HELLEBORUS FOETIDUS** * No data. A fine, easy native plant for UK gardens. Big heads of green cups. (20+) A
- 561.021 : HELLEBORUS FOETIDUS** - from 'Wester Flisk' * From a selection with beetroot-red stems. Will vary. (10+) B
- 561.022 : HELLEBORUS FOETIDUS** - from 'Ruth' * Outstanding black-green foliage. Sepals become red-tinged. (10+) B
- 561.402 : HELLEBORUS LIVIDUS** * Spain, Mallorca. (From parents raised from wild seed but open-pollinated in the UK, so 'contamination' with *H. argutifolius* cannot be ruled out. About 30cm. high with untoothed, silver-veined, purple-backed leaves & cream-green flowers flushed with pink. Best grown shaded & frost-free but can survive in a sheltered site in the UK.) (15+) C
- 561.706 : HELLEBORUS MULTIFIDUS** subsp. **ISTRIACUS** Croatia, Krk. W. McLewin coll. (Island population.) (10+) D
- 561.806 : HELLEBORUS NIGER** Slovenia, Bohinj. W. McLewin coll. (The classic Christmas Rose, from the population discovered by Will where a large percentage of the plants have flowers which flush to red shades as they mature.) (15+) D
- 561.820 : HELLEBORUS NIGER** * No data. From a fine clump we have in the garden - it flowers by Christmas & continues into spring. Probably crossed with its neighbours of *H.n.* subsp. *macranthus* persuasion from N Italy, which set no seed. (15+) B
- 562.006 : HELLEBORUS ODORUS** Hungary, Mecsek Mts., near Komlo. W. McLewin coll. (Hungarian populations tend to be much more isolated and more homogeneous than those to the S in former Yugoslavia, where most intergrade confusingly.) (15+) C
- 562.050 : HELLEBORUS ODORUS** * Bosnia. From authentic wild material but hybrids can occur in gardens. (15+) B
- 562.405 : HELLEBORUS ORIENTALIS** Georgia, N of Tblisi. From a superb colony with rounded, cream-coloured flowers. Will visited some of these Georgian populations in flower in 1996. Having seen his photographs of this, we can see where so-called hybrid clones, such as 'Sirius' may have their origins - in fact rather than having progressed, they may have regressed. (15+) E
- 562.411 : HELLEBORUS ORIENTALIS** Georgia, SE of Bordzhomi. Both creams & deep pinks with intermediates. (15+) E
- 562.415 : HELLEBORUS ORIENTALIS** Ukraine, near Nalchik. From an interesting locality N of the Black Sea. (15+) D
- 562.600 : HELLEBORUS PURPURASCENS** Hungary, Bukk Mts. W. McLewin coll. (Will tells us there are some superb dull-purple clones in these populations of this neat, predominantly Hungarian species, very little-known in cultivation.) (10+) E
- 562.806 : HELLEBORUS TORQUATUS** * Cultivated seed from parents derived from populations in the Kolasin & Andrijevica areas of Montenegro. May have crossed to some extent with other members of Section *Helleborastrum*. (10+) E
- 563.000 : HELLEBORUS VESICARIUS** Turkey, Adana, Nur Da. above Hasanbeyli. 1150m. Among deciduous *Quercus* on shaley slope. 7.6.94 (An extraordinary relic, like no other in its inflated seed-capsules, up to 15cm. long. Summer-dormant & best suited to the bulb-frame in the UK. Our colls. made in the 1980's have flowered & set seed. This 1994 seed-bank material will be no better or worse than fresh seed - it always germinates irregularly & produces cucumber-like seedlings, which usually go dormant without producing true leaves. These first-year, dormant roots can be lost through overdrying & this is the most critical period.) (8) E
- 563.253 : HELLEBORUS VIRIDIS** subsp. **OCCIDENTALIS** UK, Gloucestershire, near Stroud. (The little British race, which so readily crosses in gardens. From an isolated & undisturbed colony, secure on private-land. Deeply toothed leaves.) (15+) C
- 567.020 : HERMODACTYLUS TUBEROSUS** * No data. The irresistible, green & velvety-black iris of the Mediterranean. Tuberous-rooted & summer-dormant, this is easy enough to grow outside in the UK but needs a very hot, dry spot to flower well. ... (15+) B
- 571.000 : HYACINTHELLA ATCHLEYI** * Greece, Evia, mainland hills opposite Halkida. 200m. Open limestone slopes with sparse scrub. (Lots of little, clear-blue bells on wiry, 10-15cm. stems in early spring. Only grows around here & Thebes. It is surprising how few people know & grow this delightful genus of dwarf bulbs, which all have an extremely long flowering period.) (15+) C
- 571.160 : HYACINTHELLA HISPIDA** * Turkey, Nigde, E of Ulukisla. 1500m. Steep, exposed, limestone slopes. (Distinct, hairy leaves & 10cm. racemes of up to 30 blue-violet flowers. Like most in this dainty & neglected genus, a local plant.) (15+) C
- 571.200 : HYACINTHELLA LAZULINA** * Turkey, Icel, NE of Gulnar. 800m. Among stones on limestone slopes. (Recent 'split' from *H. heldreichii*, mainly from the area S of Karaman. Glaucous leaves & deepest blue, violet-shot flowers.) (15+) C

- 572.201 : HYACINTHOIDES NON-SCRIPTA** UK, Dyfed, below Ffostrasol. 150m. Mixed, deciduous woodland. 12.7.96 (From our population of bluebells, most spectacular of native bulbs, which 'townie' conservationists imagine is 'threatened'.) (20++) A
- 572.300 : HYACINTHOIDES REVERCHONII** * Spain, Jaen, Sierra de Cazorla, above source of the Guadalquivir. 1400m. Red clay pockets on limestone cliffs. (An obscure, narrow-endemic. Glossy leaves & wide-open, rich-blue flowers. 15cm.) (15+) C
- 572.340 : HYACINTHOIDES VINCENTINA** - White form. * No data but only known from the Cabo S. Vicente in S Portugal. Ex a V. Horton coll. (White form of this disjunct relative of *H. italica*, distinguished by its yellow, instead of blue, pollen.) . . . (10+) C
- 572.600 : HYACINTHUS ORIENTALIS subsp. CHIONOPHILUS** * Turkey, Sivas, Ziyaret Tepe. 2100m. Limestone crevices & among rocks. (Dwarf, few-flowered hyacinth - a snow-melt alpine from the high mountains in S Central Turkey. Pale slate-blue, waxy flowers with long perianth lobes, on short stems. Stays neat here under glass & has the most exquisite scent.) (15+) C

Iris : easy garden-plants and junos to challenge the specialist

We cannot generalise about this large & diverse genus, restricted to the Northern Hemisphere but native to almost every type of cold-climate habitat. All the *Iris* seed, currently available from this area, is listed here as all are best sown in autumn or early winter. Most fall into three groups. The bearded irises (Section *Iris*), most of which can be grown in a well-drained site in full sun outside in the UK but some of the Turkish species are not so easy & merit bulb-frame conditions. The spurias (Series *Spuriae*) usually make good, easy garden-plants in most of Europe & N America. They tend to be plants from areas with cold winters & hot, dry summers, though often from habitats very wet in spring, as well as in scrub & grassland.

The junos (Subgenus *Scorpiris*) include some of the most difficult of bulbs to challenge & frustrate the specialist. There are also comparatively easily grown ones which will be no trouble in a bulb-frame or in pots in the alpine-house. So, do read the comments about these & don't waste your money (& also the efforts others have made to produce this seed) by trying to grow the difficult ones before you have grown the easier species. Several juno listings are from Alan McMurtrie (Toronto, Canada), who is mainly involved in hybridising within this group but has hand-pollinated spare flowers of some of the species to make 'pure' species material available. The best reference for all the species is 'The Iris' by Brian Mathew.

- 583.900 : IRIS ATTICA** * (Sect. *Iris*) Greece, Viotia, Oros Parnassos. 1200m. Limestone pockets. (Mainly from pale yellow forms with some blues & purples. The dwarfest bearded iris, ideal for an alpine-house pan with frequent repotting.) (10+) C
- 584.300 : IRIS AUCHERI** (*I. sindjarensis*) (Subgen. *Scorpiris*) * Turkey, Diyarbakir, NW of Diyarbakir. 800m. Ex A.N. McMurtrie 2282 (From the famous, variable, Leylek Station population. Most seedlings are likely to be some shade of blue, though this colony can vary from pure whites to deep violet-blues. One of the easier ones to grow in the UK. 15-30cm. high.) (8) C
- 584.301 : IRIS AUCHERI** - White forms * Field data as above. (From some outstanding whites selected in flower.) (8) E
- 584.302 : IRIS AUCHERI** - Deep blue-purple forms * Field data as above. (From exceptionally deep violet clones.) (8) E
- 584.305 : IRIS AUCHERI** Syria, Bishmishli. Among limestone boulders. R. Wallis coll. (About the S limit for the species.) . . . (8) C
- 585.520 : IRIS CAUCASICA** (Subgen. *Scorpiris*) * No data. Ex A. McMurtrie. (Easier than some but still a temperamental plant for the specialist. Translucent, pale chartreuse-yellow flowers between grey-green leaves on 15cm. stems.) (8) D
- 588.020 : IRIS GRAMINEA var. PSEUDOCYPERUS** (Ser. *Spuriae*) * No data. A robust race of this easy S European plant. Fine, red-purple flowers, white-pencilled & yellow-shaded, nestle in the 30cm. clumps of broad, rich-green, glossy foliage. . . . (15+) A
- 589.801 : IRIS ILLYRICA** (Sect. *Iris*) * Slovenia, NW of Permani. 500m. Open karst, in rich, meadow vegetation. (An attractive, medium-sized, violet-purple bearded iris, occasional on the limestone from here to the N Croatian coast. 30cm.) (10) B
- 590.100 : IRIS JUNONIA** (Sect. *Iris*) * Turkey, Antalya, Gidengelmez Dag, S of Madenli. 1900m. Fissures on limestone-cliff. (A very local bearded iris from high altitudes in the Taurus. Here, in the W of its distribution it inclines towards the W Turkish *I. purpureo-bracteata*, in its somewhat inflated, purple-tinged bracts. Pale yellow, tinged with purple in this form. 30-40 cm. high.) (8) C
- 590.200 : IRIS KERNERIANA** (Ser. *Spuriae*) * Turkey, Gumushane, S of Kelkit. Ex Horton & Stevens 2508. (An elegant N Turkish endemic with very narrow leaves & creamy-yellow flowers on slender, 30cm. stems. For a sunny, well-drained site.) (10+) C
- 590.910 : IRIS MAGNIFICA** (Subgen. *Scorpiris*) * No data. A splendid Central Asian, possibly the easiest juno to grow (even outside in a sunny bed) in the UK. Large pale lavender flowers & glossy, green leaves on stout stems of 60cm. or more. (10+) B
- 590.911 : IRIS MAGNIFICA** - White form. From a selected, absolutely pure white, grown by A. McMurtrie (8) D
- 591.335 : IRIS ORCHIOIDES** (Subgen. *Scorpiris*) * No data but the genuine species (not the yellow form of *I. bucharica* distributed as this). Pale yellow flowers, tinted with purple & blotched with deep yellow on the falls, on violet tubes. 20-30cm.) (5) E
- 591.350 : IRIS ORIENTALIS** (Ser. *Spuriae*) (*I. ochroleuca*) * No data. An easily grown, imposing species of 1m. or more, native to saline marshes from NE Greece into Turkey. Pure-white flowers with striking yellow blotches on the rounded falls (15+) A
- 592.550 : IRIS PERSICA** (Subgen. *Scorpiris*) * From several colls. of this rather difficult & temperamental juno from S Turkey, usually in oak-scrub or open pine woods. Translucently tinted, yellow-crested flowers in browns & plum-purples to blue-green. (8) E

Species from Europe, W Asia & N Africa : Seeds from Jim & Jenny Archibald

- 596.060 : IRIS ROSENBACHIANA** (Subgen. *Scorpiris*) * No data. An exquisite, little juno, of medium difficulty, from the Pamir-Alai, at up to 2000m. Bright green leaves & rich-purple flowers with bright-orange crests on the falls. (6) E
- 596.802 : IRIS SCHACHTII** (Sect. *Iris*) * Turkey, Malatya, WNW of Darende. 1500m. Open, limestone slopes. (From both the dull purple & pale yellow forms of this fine bearded iris, 15-20cm. high. Excellent here under glass.) (10) C
- 597.810 : IRIS SINTENISII** (subsp. *sintensisii*) (Ser. *Spuriae*) * No data. Balkan & NW Turkish species, about 30cm. high & an excellent garden-plant. Clumps of grassy leaves & rich violet-blue flowers, rather like large versions of *I. reticulata*. (10+) A
- 598.850 : IRIS STENOPHYLLA** (Subgen. *Scorpiris*) * As with *I. persica*, not enough seed from any one coll. So, amalgamated seed of this beautiful, little violet-blue to purple juno from steppe areas of central S Turkey. Needs care but not impossible. (6) E
- 599.610 : IRIS SUBBIFLORA** (Sect. *Iris*) * No data. Bearded iris, about 30cm. high, from Portugal. Upright leaves and flowers in a silky, imperial violet. Said to be satisfactory outside in the UK but we give it a warm summer-rest under glass here. (10+) B
- 600.100 : IRIS TROJANA** (Sect. *Iris*) * No data. W Turkish bearded iris with distinctive, bicoloured flowers. Pale blue standards & red-purple falls with beards of white, yellow-tipped hairs. 60cm. Usually good outside in a hot, dry site in the UK. (10+) B
- 600.411 : IRIS UNGUICULARIS subsp. CARICA** (var. *angustifolia*) (Ser. *Unguiculares*) Greece, Fokida, Oros Parnassos above Gravia. 1000m. Open, stony slope & margin of scrub. 7.6.96 (The smaller, narrower leaved eastern race of the classic winter-flowering iris, excellent outside in most of the UK, in a well-drained sunny site. Deep violet flowers all winter.) (10+) C
- 600.414 : IRIS UNGUICULARIS subsp. CARICA** (var. *angustifolia*) Greece, Messinia, above Kardamili. 100m. Base of NE-facing cliff. 14.5.95. D.M. Hoskins 95-8 (The S Peloponnese forms tend to be dwarfer and incline to the Cretan race.) (10+) C
- 600.910 : IRIS VICARIA** (Subgen. *Scorpiris*) * No data. Central Asian, sometimes confused with *I. magnifica* : almost as robust & growable as it is. About 50 cm. high with pale blue-violet flowers, crested with white & blotched with yellow on the falls. (8) C
- 601.110 : IRIS WILMOTTIANA** (Subgen. *Scorpiris*) * No data. From the Pamir-Alai but described from material grown in the UK in 1901. Very rarely seen today - the plant grown as "*I. willmottiana alba*" appears to be a form of *I. bucharica*. 15-20cm. high, with glossy leaves & white-crested, soft-lavender flowers, blotched with white & deeper purple on the falls. (6) E
- 601.650 : IRIS ZAPRJAGAJEWII** (Subgen. *Scorpiris*) * Tadjikistan, Pamir. 2200m. (Related to *I. rosenbachiana* & *I. nicolai*. Like them, flowering as the greyish leaves appear. Pure-white, yellow-crested flowers, sometimes violet-tinted on their tubes.) (6) E
- 630.410 : LEUCOJUM NICAENSE** * No data. Only known from the corner of SE France near the Italian border & all but extinct in the wild. Spring-flowering with wide, white bells on stems of 15cm. at most. Not difficult in the alpine-house. (15+) B
- 630.450 : LEUCOJUM ROSEUM** * France, Corsica, Pointe de Revellata NW of Calvi. Pockets on granite. (Delicate, tiny, fairy-like autumn-flowering bulb. Shell-pink bells dance on thready stems. Best under glass in 'cyclamen conditions' in the UK.) (15+) C
- 630.480 : LEUCOJUM TINGITANUM** * Morocco, Rif, above Chaouene. Ex the J.W. Blanchard & T. Norman coll. (This fine, spring-flowering plant was considered a doubtful species by many, until recently rediscovered & introduced. With white bells on 20cm. stems, this may be closest to *L. nicaense* & has proved quite easily grown in similar conditions in the alpine-house.) (10+) D

Lilium : grow them from seed for fertile, virus-free plants

Sow all as soon as you can : *L. candidum*, for instance, usually comes up by November here. If not sown early enough, it will just wait till the next season to germinate. Others will not appear above ground for some considerable time. With some, like *L. martagon*, which germinate hypogeally, forming a tiny

bulb underground before producing true leaves, expect a delay, in any case. The material from Georgia is from 1995 collections & is unlikely to be available from 1996 colls. In spite of what we have seen written to the contrary, *Lilium* seed stores extremely well if kept refrigerated under dry conditions.

- 632.001 : LILIUM ALBANICUM** * Greece, Ioanina, Katara. 1700m. Ex an F. Baxter coll. (The beautiful, yellow, sparsely speckled race of *L. carniolicum* from the acid mountains around Albania, in Macedonia & NW Greece. About 60cm. high.) (10+) D
- 632.401 : LILIUM BULBIFERUM** (var. *bulbiferum*) * Italy, Friuli-Venezia-Giulia, below Passo di Predil. 1100m. Openings in *Picea* & *Fagus* woodland on limestone. (The eastern type-race of this spectacular lily. Upward-facing flowers in a deeper orange-red than *L.b.* var. *croceum* of Alpine meadows. No trouble in the open-garden here. Stem-bulbils sent till winter. 60cm. high.) (10+) B
- 632.600 : LILIUM CANDIDUM** * Greece, Lakonia, W of Sparti. 500m. Steep, limestone slopes among *Euphorbia*, *Phlomis*, etc. (Incomparable, pure-white lily. Older cultivated stock is sterile & full of virus. This is from stock maintained here by hand-pollination from our 1983 wild seed coll. It survives outside in our wet climate but we grow it under glass for seed.) (15+) C
- 633.202 : LILIUM CHALCEDONICUM** * Greece, Viotia, Oros Elikonas above Evangelistria. 1500m. Margin of *Quercus* & *Abies* woodland. (Stunning, scarlet lily, about 1m. high with up to 15 flowers in mid-summer. Good drainage & sun.) (15+) C

- 633.910 : LILIUM KESSELRINGIANUM** No data. Seed from Georgia of this beautiful, creamy-yellow lily with wide-open, outward-facing flowers, distinct from *L. monadelphum* in colour & in its acute, recurved segments, like *L. rhodopeum*. (15+) **E**
- 633.950 : LILIUM LEDEBOURII** * Iran, Gilan, Talish. 1700-1900m. Openings in degraded *Fagus* forest. Ex an A. Ala coll. (Only known from one locality in Iran & one or two in Azerbaijan. A superlative plant, proving accommodating in several British gardens. Up to 15, white flowers, banded with yellow-green & lightly speckled with purple, with deep orange anthers.) (15+) **E**
- 634.040 : LILIUM MARTAGON** * No data. From a wide range of forms of this widespread Euro-Siberian turkscap lily. Stems of about 2m., whorled with dark leaves carry speckled, pendant flowers in pale pink to maroon. Easy in UK in light shade. (20+) **A**
- 634.050 : LILIUM MARTAGON f. ALBUM** * No data. From some fine green-tinged whites. Usually comes 'true'. (20+) **B**
- 634.150 : LILIUM MONADELPHUM** No data. Georgian seed, presumably of the type-race of this scented yellow lily. (15+) **D**
- 634.810 : LILIUM PYRENAICUM** * UK, Wales, below Ffostrasol. 200m. Mixed deciduous woodland on acid soil. (May or may not be native, though the distribution fits other Pyreneans, but certainly now wild. Dwarfier than populations we have seen in the Pyrenees, at about 60cm., with bright yellow, brown-spotted, turkscap flowers above close-packed, narrow leaves.) (15+) **B**
- 635.210 : LILIUM SZOVITSIANUM** Georgia, Bakuriani area. Woodland. (Doubtfully consistently separable from *L. monadelphum* & others in this intergrading group of beautiful, fragrant, pale yellow Transcaucasian lilies, which are mainly distinguished by the dimensions & proportions of their flowers. All are beautiful, worthwhile & likely to appear distinct in the garden.) (15+) **C**
- 635.220 : LILIUM SZOVITSIANUM** * No data. UK grown seed. Usually one of the best garden-plants in the genus. (15+) **B**
- 687.950 : MUSCARI ANATOLICUM** * Turkey, Konya, Sultan Dag. 1760m. Exposed limestone ridgetop. (Appears to be thistiny, recently described species, rather like *M. discolor* in its open-mouthed, white-tipped flowers but easier to flower here.) . . . (15+) **C**
- 688.002 : MUSCARI ARMENIACUM** * Turkey, Gaziantep. Ex a N. Stevens coll. (From a fine, royal-blue form.) (20+) **A**
- 688.101 : MUSCARI AUCHERI** * Turkey, Bolu, near Abant Golu. 1000m. Ex N. Stevens 2541 (A striking bicoloured form of this easily grown species. Mid-blue and white flowers over short, neat foliage. From a cool, moist part of Turkey.) (20+) **A**
- 688.500 : MUSCARI BOURGAEI** * Turkey, Denizli, Honaz Dag, SE of Denizli. 1700m. Gravelly areas on exposed, limestone ridge. (W Turkish, alpine endemic, only recorded above 1500m. Glaucous foliage & very dense heads of globular flowers, in mid-blue to violet-blue, with paler lobes, on 10 cm. stems. Not too easy but settling down with us under glass.) (15+) **C**
- 688.600 : MUSCARI CAUCASICUM** * Turkey, Kars, SSW of Sarikamis. 1800m. Stony, igneous slopes. (Very handsome *Leopoldia*, extending across Transcaucasia to NW Iran. About 30cm. high in this form. Striking, amethyst-violet sterile flowers.) (15+) **A**
- 688.602 : MUSCARI CAUCASICUM** * Turkey, S of Karaman . 1100m. Open steppe. (Taller form, 50-60cm high.) (15+) **A**
- 689.050 : MUSCARI aff. COMOSUM** * Greece, Ioanina, N of Konitsa. 800m. Clay over shale. (Will not key-out as *M. comosum* as the bulb tunics are not pink but otherwise similar. We are glad to say we helped dissuade Kit Tan from describing it.) (15+) **A**
- 689.450 : MUSCARI GRANDIFOLIUM** * Morocco, Middle Atlas Mts., above Ifrane. 1700m. Red clay on limestone. (Not unlike a large version of the next, but best under glass. Fine heads of blue-black flowers from china-blue buds. 20-30cm.) (20+) **B**
- 689.800 : MUSCARI LATIFOLIUM** * Turkey, Balikesir, Kaz Da. 1200m. Openings in coniferous woodland. (A very local species but an easy garden-plant in the UK. Racemes of deepest violet-black flowers from pale-blue buds.) (10+) **B**
- 689.901 : MUSCARI LONGIPES** * Turkey, Sivas, WSW of Hafik. 1300m. Calcareous hills. (Distinct *Leopoldia* with a big tassel of violet, sterile flowers. The pedicels elongate greatly in fruit & the dry stem blows away tumbleweed-fashion.) (10+) **B**
- 690.010 : MUSCARI MACROCARPUM** * No data. A gloriously scented species, near *M. muscarimi*, very local in SW Turkey & some E Aegean islands. Greyish, channelled leaves & yellow flowers opening from dull-purple buds on 15cm. stems.) . . . (10+) **C**
- 690.150 : MUSCARI MIRUM** * Turkey, Mugla, SE of Altinyayla. 1650m. Open, stony slope on serpentine ridge. (Recently described & distinct in flower, foliage & seed. Subtle rather than spectacular in dull gold & purple. Not easy & needs some care.) . . . (10+) **D**
- 690.201 : MUSCARI MUSCARIMI** * Turkey, Burdur, W of Yesilova. 1280m. Loose, serpentine talus on open slope. (Local, SW Turkish endemic, always on serpentine in our experience. Grey-green leaves & racemes of greyish-ivory flowers opening from purple-brown buds. Famously scented (deliciously different to *M. macrocarpum*) & esteemed for over 200 years.) (10+) **C**
- 690.700 : MUSCARI PSEUDOMUSCARI** * Iran, Mazendaran, S of Chalus. 1500m. Ledges on limestone cliffs. (Lovely endemic of the Chalus gorge, described as *M. chalusicum* in the 1960's. Heads of china-blue bells - open-mouthed, not pinched in.) . . (15+) **B**
- 691.200 : MUSCARI TENUIFLORUM** * Turkey, Kayseri, S of Pinarbasi. 1200m. Limestone fissures. (A tall *Leopoldia*, about 50cm. high, distinct from *M. caucasicum* & *M. comosum* in the black teeth to the fertile perianths. Violet sterile flowers.) (15+) **A**
- 691.250 : MUSCARI aff. TENUIFLORUM** * Turkey, Hakkari. Ex a N. Stevens coll. (A distinct taxon, which seems confined to either side of the ranges along the border of Hakkari & Iran. Paul Furse dubbed it the 'bluehot poker' & we still grow an Iranian bulb, collected in the 1960's, which is self-sterile. The tallest of all, almost up to 1m. in the wild & at least 60cm. here, this can be keyed-out as *M. longipes*, as the lower pedicels elongate in seed & it is then intermediate between these two.) (15+) **C**

Narcissus : the wild daffodils of the west

Unlike most of the main genera of 'bulbs' in this section (*Colchicum*, *Crocus*, *Fritillaria* and so on), which have the centre of their diversity & distribution in Turkey, *Narcissus* is very much a western genus, spread S from Britain to NW Africa and centred on Spain. Many species from higher rainfall areas or moist, montane habitats in Spain & Portugal grow well outside in UK gardens. Some, however, from drier areas, especially the Moroccan ones, need a dry, summer rest. These are ideal alpine-house or bulb-frame plants, especially valuable as many flower during winter & very early spring. A great many of the original wild collections from which the following cultivated seed has been grown, were made by John Blanchard, whose lifetime's work with this genus is unrivalled. We follow the nomenclature used in his monograph, 'Narcissus - A Guide to Wild Daffodils', the best reference work on the genus. It can be described as an informed gardener's compromise as far as

names are concerned. A thorough botanical revision of the genus would appear to be badly needed but it would be very unlikely to suit both botanists & gardeners, so it is perhaps better unwritten. Many species are both extremely variable & ill-defined. We have to deal with a diversity of taxonomic concepts. The leading current 'splitter', the Spanish botanist Fernandez Casas, whose work recalls that of Pugsley with the trumpet daffodils, has now moved on to the Moroccan populations, where previously we had only Maire's 'lump'n'split' names (which required very long labels). Most descriptions are wholly inadequate to define the taxon concerned and distinguish it from others, in any case. Keys just do not work when applied to wild populations. Gardeners, however, will find the sum of characteristics in most populations distinct enough. 'Splits' are shorter to write out but it is very much a question of 'take your pick' concerning the name you stick on them.

- 693.701 : NARCISSUS ALPESTRIS** Spain, Aragon, above Cerler, SE of Benasque. 1500m. JWB 94-08 (The loveliest but most difficult trumpet-daffodil. Drooping, white flowers & glaucous leaves. 15cm. A little 1994 seed-bank material left.) (10+) **E**
- 693.800 : NARCISSUS ASSOANUS** (*N. juncifolius*, *N. requienii*) * France, Haute-Pyrenees, Vallee d'Ossoue. 1500m. S & W-facing limestone cliffs & slopes. (Beautiful, little, clear yellow jonquil. A delight in a pot but accommodating in the garden.) (10+) **B**
- 695.110 : NARCISSUS BULBOCODIUM var. CITRINUS** * No data. The cool lemon yellow race of hoop-petticoats, mainly prevalent in N Spain & often quite late-flowering. Usually among the best for growing outside in UK gardens. (15+) **B**
- 695.400 : NARCISSUS BULBOCODIUM var. GRAELLSII** * Spain, Sierra de Guadarrama. Ex a J.W. Blanchard coll. (Distinct, dwarf, slightly greenish-white race, neglected in literature but proving quite easy to grow in acid soil.) (15+) **C**
- 696.200 : NARCISSUS BULBOCODIUM subsp. NIVALIS** (*sensu* Maire in 'Flore de l'Afrique du Nord') * Morocco, High Atlas Mts., above Tizi-n-Tichka. 2000m. In turf. (This does need another name. A dwarf, snow-melt plant different to Spanish ones sometimes called '*nivalis*'. Broad, prostrate, glossy foliage & brilliant yellow, upward-facing flowers with much exerted anthers.) . . . (15+) **B**
- 696.410 : NARCISSUS BULBOCODIUM subsp. OBESUS** * No data. From a fine very free-flowering form grown by Dinah Batterham. Dark-green leaves & rich yellow flowers with large, horizontal coronas. Good outside in UK gardens. (10+) **B**
- 696.600 : NARCISSUS BULBOCODIUM var. PALLIDUS** * Morocco, High Atlas, Tizi Gourane above Amizmiz. 1800m. Schist fissures. (Cultivated seed from our 1982 coll. Recently named *N. jacquemondii*, (*q.v.*), by Fernandez Casas.) (10+) **C**
- 696.700 : NARCISSUS BULBOCODIUM subsp. PRAECOX** * Morocco, High Atlas Mts., Moulay Brahim gorge below Asni. 1000m. Humus-filled pockets on limestone boulders. (Robust with big, primrose-yellow flowers in mid-winter. Alpine-house.) . . . (10+) **C**
- 698.250 : NARCISSUS BULBOCODIUM var. TENUIFOLIUS** * Portugal. Ex a J.W. Blanchard coll. (Vigorous, floriferous, very deep yellow, dwarf hoop-petticoat with dark, thready leaves. Excellent alpine-house pan-plant.) (15+) **B**
- 6.99.806 : NARCISSUS CANTABRICUS** (subsp. *cantabricus*) * Spain, Malaga, near Estepona. Ex a B. Corneille coll. (A reliable & free-flowering form with profuse, pure-white hoop-petticoat flowers in early winter to brighten the alpine-house.) (10+) **C**
- 699.850 : NARCISSUS CANTABRICUS var. PETUNIOIDES** * Selfed seed from the original clone of this spring-flowering taxon, described by Fernandes from material grown by John Blanchard's father. (It should have had a *clonal* name.) All will be white but some will have the distinct, flat, round corona of the parent. The name can be applied legitimately only to these (10) **E**
- 699.950 : NARCISSUS CAVANILLESII** (*Tapeinanthus humilis*) Morocco, N of Ounara, ESE of Essaouira (Mogador). J.W. Blanchard 93-02. (A little stored, wild seed left of this distinct plant, only recently placed in *Narcissus*. Upward-facing, starry, yellow flowers before the leaves, in autumn. In exceptionally fine form in this area with broader segments & 2-3 flowers per stem.) (15+) **D**
- 700.000 : NARCISSUS CORDUBENSIS** * Spain, Malaga, Serrania de Ronda. Ex a J.W. Blanchard coll. (A fine, scented, deep yellow jonquil, near *N. fernandesii*, with up to 3 flowers on 20-30cm. stems. Accommodating in pots or the bulb-frame.) (15+) **B**
- 700.200 : NARCISSUS CUPULARIS** * Italy, Sardinia. 800m. Ex a T. Norman coll. (Dwarf, pale yellow to cream tazetta, 15-20cm. high. Listed in the past as *N. tazetta* subsp. *aureus* (it would be this in 'Flora Europaea') & *N. bertolonii primulinus*.) (8) **B**
- 700.310 : NARCISSUS CYCLAMINEUS** * No data. Thought to be all but extinct but well established in UK gardens, where it can sow itself when suited in heavy, acid loam. Like no other in its long, narrow trumpet and reflexed perianth segments. . . . (15+) **B**

- 701.050 : NARCISSUS aff. FERNANDESII** * Spain, SE of Almaden. Ex J.W. Blanchard 86-03 (Originally from an isolated colony mentioned on p.83 of John's monograph. M. Tucker writes "stunning" - a tall jonquil with up to seven large flowers.) (10+) **D**
- 701.850 : NARCISSUS JACQUEMONDII** (see also 696.600 : *Narcissus bulbocodium* (subsp. *vulgaris*) var. *pallidus*) Morocco, High Atlas Mts., between Asni & Amizmiz. J.W. Blanchard coll. (A 1996 type-locality coll. by John of this recently named little hoop-petticoat, which appears to be the same taxon we have listed under Maire's name. Suit yourselves. A good alpine-house plant with pale to deeper primrose flowers in early spring (much later than *N.b.* subsp. *praecox*). About 10cm. high.) (15+) **D**
- 702.450 : NARCISSUS NEVADENSIS** * Spain, Granada, Sierra Nevada, upper Rio Monachil valley. 2200m. Wet-flush on W-facing slope. (Isolated, very local Sierra Nevada endemic but not difficult outside in the UK. This & *N. longispathus* from Jaen (probably the same thing) differ from all other trumpet daffodils in having 2-4 flowers per stem, bicoloured in this case.) (10+) **C**
- 702.480 : NARCISSUS NOBILIS var. LEONENSIS** * No data. The imposing, western race of this large, striking trumpet daffodil, with pale-yellow to white segments around the deep yellow trumpet. From the Picos de Europa in NW Spain & beyond. . . . (5) **C**
- 702.500 : NARCISSUS OBVALLARIS** UK, Wales, Dyfed, below Ffostrasol. 150m. Open grassland & deciduous woodland. (Our lovely, local Welsh trumpet daffodil. Really an imaginary taxon but generally different to the more eastern British colonies of *N. pseudonarcissus* in its horizontal to upright-facing flowers which tend to be concolourous rather than bicoloured.) (20+) **B**
- 705.100 : NARCISSUS ROMIEUXII** (subsp. *romieuxii* var. *romieuxii*) * Morocco, Middle Atlas Mts., above Ifrane. 1700m. Leafsoil over clay in mixed woodland. (From a splendid colony, as numerous as bluebells in a British wood, from which we first collected in 1962, best-known under the field-number 805. Extremely variable in form & colour from cream to deeper yellows.) . . . (15+) **B**
- 705.120 : NARCISSUS ROMIEUXII** - Ex 'Julia Jane' selfed * Data as above. From an outstanding clone, selected in flower here from among thousands. The parent is virtually a pale yellow version of *N. cantabricus* var. *petunioides* with large flowers, whose coronas open flat or even slightly reflex. The clonal name, of course, should not be applied to seedlings, which will vary.) (10+) **E**
- 705.200 : NARCISSUS ROMIEUXII var. RIFANUS** * Morocco, Rif Mts., Iguermalet. Ex J.W. Blanchard 89-28 (From authentic material of this delightful, pale-yellow hoop-petticoat, proving to be a good grower under glass in the UK.) (10+) **B**
- 705.302 : NARCISSUS ROMIEUXII subsp. ALBIDUS** * Morocco. Ex JWB 91-17 (A pretty, distinct, pure-white hoop petticoat from NE Morocco & W Algeria. Projecting, scattered anthers. It may be better placed as a race of *N. cantabricus*.) (10+) **C**
- 705.500 : NARCISSUS RUPICOLA** (subsp. *rupicola*) * Spain, Avila, Sierra de Gredos, NE of Pico Almanzor. 1800m. In turf on open slopes. (A very neat member of Sect. *Apodanthae* with flat, clear-yellow flowers & glaucous leaves. A plant of acid soils.) . . (8) **C**
- 705.600 : NARCISSUS RUPICOLA subsp. MARVIERI** * Morocco, Middle Atlas, S of Ksar-el-Ksiba. 1700m. N-facing, limestone slope with *Quercus* & *Cedrus*. (The yellow race endemic to Morocco. Larger & flowers earlier here than the preceding but not quantifiably different. Not easy in our experience. Needs careful watering & appreciates a warmer, drier rest in summer.) . . . (8) **C**
- 705.701 : NARCISSUS RUPICOLA subsp. WATIERI** * Morocco, High Atlas Mts., above Tizi-n-Tichka. 2300m. Moist, or shaded sites on rocky slopes. (One of the most beautiful of wild daffodils. The incomparable, crystalline-white race from the great massifs of the central High Atlas. We have only found it on acid soils. Grow it cool & never bake it when dormant.) (10+) **C**
- 706.303 : NARCISSUS SEROTINUS** Morocco, Zaian Mts., Pont Martin. 900m. JWB 93-09 (Widespread, autumn-flowering species. White flowers with orange coronas before the leaves. Keep it hot & dry in summer. Some stored, 1993 seed left.) (15+) **C**
- 707.320 : NARCISSUS TRIANDRUS** (var. *triandrus*) * No data. A delightful species with up to 6 elegant white flowers, their tepals reflexing back from the cup-shaped coronas, on 20-30cm. stems. The sole member of Section Ganymedes & not very satisfactorily divisible into subspecific taxa. The pure-white, broader leaved type-race seems confined to NW Spain & perhaps adjacent N Portugal. Not always the easiest to grow - a cool site outside in acid, sandy soil seems the ideal in the UK. (15+) **B**
- 707.420 : NARCISSUS TRIANDRUS var. CERNUUS** (subsp. *pallidulus*) * Over much of Portugal & Spain, cream to pale yellow-flowered colonies occur, sometimes varying to deeper shades & usually narrower-leaved. Just as beautiful & fastidious. . . (10+) **B**

Paeonia : sumptuous flowers & foliage reward patience

As with *Lilium*, mostly 1995 seed (even the 1996 wild coll.), at present but best sown before the weather cools in autumn. Also like some lilies, most peonies will germinate hypogaeally, forming a root-system underground during the first cool period before sending up true leaves the following season. There are some exceptional wild collections here. As most peony-enthusiasts will appreciate, these are all too often unique opportunities. Peonies are very local plants in nature, occurring,

sometimes in large numbers, in isolated colonies. It can be a lot of trouble to arrange to collect seed from them. There may be 1996 seed from Georgia & neighbouring republics in winter but the anarchic situation in these areas compounds both the difficulties of collection and the problems of communication & transport. Our thanks to Will McLewin for his painstaking collaboration with the botanists in the republics of the former USSR, who have made most of these collections.

- 745.801 : PAEONIA ANOMALA** Russia, Kemerovo, Tisul, foothills of Kuznetsk Alatau. 450m. Forest meadow. (A central Siberian, wild coll. of this fine species, widespread in the cold-climate areas of N Asia. Narrow leaf-segments. Flat, red flowers.) (6) **C**
- 745.950 : PAEONIA BIEBERSTEINIANA** (*P. tenuifolia* group) Russia, Stavropol area. (Finely cut foliage. Crimson.) (6) **D**

Species from Europe, W Asia & N Africa : Seeds from Jim & Jenny Archibald

- 746.100 : **PAEONIA CAMBESSEDESII** * The dwarfest species, endemic to the limestones of the Balearic Islands, and best with some protection, in cyclamen-conditions, in the UK, though most of this seed is from a plant grown outside in Hampshire. About 30cm. high with beautiful, smooth, grey-green foliage, crimson beneath, & big, rosy flowers, up to 10cm. across, in spring. (8) C
- 746.150 : **PAEONIA CAUCASICA** (*P. mascula* group) SE Georgia, Daba area. (Caucasian version of a widespread group.) . . (6) C
- 746.640 : **PAEONIA LITHOPHILA** (*P. tenuifolia* group) Ukraine, Krim (Crimea). (Much dissected leaves. Deep red.) (6) D
- 747.000 : **PAEONIA MASCULA** subsp. **RUSSI** Italy, Sardinia. 1050m. T. Norman coll. (1995 seed collected in May, 1996, when it was in full flower - "breathtaking" writes Tom Norman. Distinctive, smooth, red-backed foliage is usually just expanding as the glorious purple-pink, bowl-shaped flowers open. At 20-45cm. high, the dwarfest race of the *P. mascula* group.) (8) E
- 747.150 : **PAEONIA OFFICINALIS** - Pink form. Croatia, Istria. We are told this is a fine plant. A few seeds only left. (6) C
- 747.850 : **PAEONIA STEVENIANA** (*P. wittmanniana* group)(maybe same as *P.w.* var. *nudicarpa*) Georgia, Bakuriani area. . . (5) F
- 747.960 : **PAEONIA TOMENTOSA** (*P. wittmanniana* group) Azerbaijan, Talysh. Iranian Talysh plants we had were white. . . (5) F
- 758.001 : **PELARGONIUM ENDLICHERIANUM** * Turkey, Erzincan, E of Refahiye. 1500m. Igneous scree. (This & the next are extraordinary, disjunct relicts stranded in Turkey, thousands of miles from their nearest relatives in Sect. *Jenkinsonia*, in the Cape. Local but widespread from Mugla in the SW to the Coruh valley on the Georgian border. Butterfly-like flowers with two large, upper petals are usually magenta. This is from a bright-pink form with crimson veins. Spectacular in the bulb-frame, creating a brilliant patch of colour in mid-summer, Absolutely temperature-hardy & possible outside in the UK in a very sunny, dry site.) (5) C
- 758.100 : **PELARGONIUM QUERCETORUM** * Turkey, Hakkari, S of Hakkari. 1300m. Limestone scree on steep E-facing slope with *Quercus*. (A much larger plant, about 60cm. high, with rounded, lobed, soft, green leaves & crown-like umbels of brilliant sugar-pink flowers. Discovered quite recently in N Iraq this just creeps into SE Turkey in the Zap gorge. Our stock grew well at the base of a S-facing wall in Dorset, UK, but we grow it here with protection. A local plant in nature & rare in cultivation.) . . . (5) E
- 800.710 : **PULSATILLA HALLERI** subsp. **SLAVICA** * No data. Basal leaves much woollier & less finely cut than *P. vulgaris*. From a pale lilac form of the Carpathian race of this eastern species with its widely isolated populations. (15+) B
- 800.800 : **PULSATILLA HALLERI** subsp. **TAURICA** Ukraine, Krim. (Wild seed of the Crimean race, which opens its, usually dark violet, flowers on very short, 5cm. stems. Foliage much more finely cut & woollier than the preceding.) (15+) C
- 801.000 : **PULSATILLA MONTANA** * Slovenia, NW of Permani. 500m. Exposed karst with diverse meadow-vegetation. (Seed grown in Dorset, UK, from our 1990 coll. A handsome thing with bells of intense black-violet & a cone of golden anthers.) (15+) C
- 827.150 : **ROMULEA BULBOCODIUM** - Knightshayes form * A fine, vigorous, comparatively hardy form of this widespread, variable, Mediterranean species. Grassy leaves & big rich-violet crocus-like flowers with yellow throats in spring. (20+) A
- 827.151 : **ROMULEA BULBOCODIUM** - Late form * No data. From Alan Edwards but originally from Cedric Morris . . . (15+) A
- 827.310 : **ROMULEA BULBOCODIUM** - *R. chusiana*. * Gibraltar. (This wide-ranging species defies attempts to divide it up into races & the current botanical fashion is one of despair. Almost all are thrown together. Nevertheless some plants from SE Spain, which have been called *R. chusiana*, are particularly splendid & desirable horticulturally - large flowers in rich violet with extensive yellow-orange centres. Not likely to be so good in the garden as the preceding two but the one for the alpine-house.) (10) C
- 827.410 : **ROMULEA BULBOCODIUM** var. **CROCEA** * No data. All-yellow race from sandy soils in S Turkey. (10) C
- 872.602 : **SCILLA AUTUMNALIS** * Turkey, Balikesir, NE of Ayvalik. 100m. Among *Cistus* on igneous rock. (Conical racemes of bluish lilac flowers on 15cm. stems appear before the leaves in early autumn & continue over a long period.) (20+) A
- 873.020 : **SCILLA BIFOLIA** Greece, Fokida, Oros Parnassos. 2100m. Open, stony, limestone slopes. 7.6.96 (The high altitude, Greek, race of this widespread, variable 'species-group'. Difficult to sort into clear-cut taxa but this has been distinguished as *S. nivalis* and *S. b.* var. *subnivalis*. It follows the melting snows with a wash of ultramarine-blue, starry flowers.) (20+) B
- 873.210 : **SCILLA BITHYNICA** * No data. Thanks to Brian & Margaret Mathew's 'Bulb Newsletter' (No. , March, 1996), we can name this excellent plant which sows itself here. Quite close to *S. messemiaca* (which we have not tried outside) with 20cm. racemes of starry flowers. Seed from both the pale-blue & the white with navy-blue anthers. They look well intermingled.) (20+) A
- 873.650 : **SCILLA HOHENACKERI** * Iran, Mazendaran, S of Chalus. (Paul Furse's 'Caspian Bluebell'. Early-flowering with delightful, soft violet-blue flowers with reflexed segments. Often grows in quantity in the crevices of large, limestone boulders in the Caspian woodlands. Hardy in the UK but the flowers are better protected from the winter-weather.) (15+) B
- 874.400 : **SCILLA LILIO-HYACINTHUS** * France, Hautes-Pyrenees, N of Col du Pourtalet. 1500m. Deciduous woodland. (Easy garden-plant in the cool climate of the UK. Attractive, lush, glossy leaves & racemes of starry pale-blue flowers.) (15+) A
- 874.800 : **SCILLA LITARDIERI** * Bosnia & Hercegovina, above Dubrovnik to Trebinje. 500m. Fragmented limestone. (Heads of starry, pale-blue flowers on 20cm. stems. A lovely plant, local in nature but hardy in a sunny site in the UK.) (15+) A

A : \$2.00 ; £1.50 ; DM4,- ; FF13.- C : \$4.00 ; £2.50 ; DM6,- ; FF21.- E : \$7.00 ; £4.50 ; DM12,- ; FF40.-
 B : \$3.00 ; £2.00 ; DM5,- ; FF17.- D : \$5.00 ; £3.50 ; DM9,- ; FF30.- F : \$9.00 ; £6.00 ; DM15,- ; FF50.-

- 875.000 : SCILLA MELAINA** * Turkey, Hatay, E of Belen. 1300m. Fissures on & at base of limestone cliffs. (More or less endemic to the Amanus Mts. Little known but excellent & trouble-free under glass here. Should be hardy in the UK & may eventually prove a fine garden-plant. Possibly closest to *S. mischtschenkoana* (*S. tubergeniana*) but with prussian-blue flowers.) (15+) **C**
- 875.200 : SCILLA MESSENIACA** * Greece, Messinia, S of Kardamili. 30m. In shade, among limestone rocks. (Very local & confined to the tail-end of the Taigetos but seems totally temperature-hardy here. Racemes of pale-blue, starry flowers. 20cm.) (15+) **B**
- 878.000 : SCILLA VERNA** * Spain, Avila, Sierra de Gredos, SW of Hoyos de Espino. 1700m. Moist turf on open slopes. (Racemes of starry, lilac-blue flowers with blue-purple anthers. A montane, snow-melt form of this W European species.) (15+) **A**
- 933.000 : STERNBERGIA CANDIDA** Turkey, Mugla, SE of Fethiye. 1100m. Limestone crevices, ledges & talus on steep slopes with sparse *Cedrus*. D.B. Stephens coll. (from a different site to our 1994 seed). (Unique in this otherwise yellow-flowered genus. Discovered by Oleg Polunin in 1976 & described in 1979. Robust with large, scented, pure-white flowers on 10cm. stems in winter to early spring. Not difficult in a bulb-frame or alpine-house in the UK, though fully temperature-hardy.) (10) **D**
- 933.601 : STERNBERGIA SICULA** * Greece, Magnissia, Oros Pilio. From an I. Barton coll. (Autumnal golden goblets.) (5) **B**
- 950.603 : THALICTRUM ORIENTALE** Greece, Messinia, Kardamili. 30m. Dense shade in leafsoil. D.M. Hoskins 95-3. (The very local populations in the S Peloponnese are far removed from the better-known S Turkish plants & are always white-flowered. This & the next are the only two species in Europe with showy, petaloid perianth-segments, like some of the SE Asian ones. Both are summer-dormant & fit in with more conventional 'bulbs'. Grow this dainty, 20cm. high shade-lover with *Cyclamen* (10+) **D**
- 950.700 : THALICTRUM TUBEROSUM** * Spain, Huesca, W of Anzanigo. 600m. Steep, stony, limestone banks (This coll. has proved to be taller & more spectacular than other examples of this Pyrenean endemic we have seen. Planted out under glass, it is about 40cm. high with airy panicles of big, ivory flowers over a long period. Ideal for the bulb-frame.) (10+) **D**
- 969.205 : TULIPA ARMENA** (var. *armena*) * Turkey, Gumushane, Kose Dag. 1900m. Steep, open, gravelly slopes. (The eastern, NE Turkish, race of this magnificent scarlet tulip. Separated from the next & *T. julia* mainly on the characters of the hairs of the bulb-tunics, these are all highly variable in the external colours of their red flowers & the internal markings.) (15+) **C**
- 969.252 : TULIPA ARMENA** var. *LYCICA* * Turkey, Antalya, N of Akseki. 1400m. Steep, limestone slopes with *Quercus* & *Pinus*. (The western race. Absolutely stunning red flowers with central black blotches & glaucous, undulate leaves. 15cm.) (15+) **B**
- 969.370 : TULIPA BIEBERSTEINIANA** * Turkey, Antalya, SW of Elmali. 1600m. Ledges on limestone cliffs. (A very pretty, dwarf yellow species, which we have listed under *T. orphanidea* & *T. sylvestris*. We'll stick with this name, although it is ignored by the Marais account in 'Flora of Turkey'. Such are the problems of tulip-names. About 15cm. high & worthwhile, anyway. (15+) **B**
- 969.550 : TULIPA CLUSIANA** * From a collection made in Nepal. The species in a broad sense extends from E Iran to Tibet. The white W Himalayan tulips with pink exteriors are confusing & some might place this in *T. stellata* or *T. aitchisonii*. (10+) **C**
- 969.601 : TULIPA CRETICA** * Greece, Crete, Mt. Dikti, E face. Norman Stevens' pale-pink, non-stoloniferous form of this dainty Cretan endemic, much coveted by those who have seen it. You have to grow this from seed for a good increase. (15+) **C**
- 969.900 : TULIPA HETEROPHYLLA** Kazakhstan, Tien Shan, S of Alma Ata. 2690m. T. Dickerson 94-58 (A member of a group of Central Asian tulips with long, beaked capsules & untuliplike seeds, which have been separated into both *Orythia* & *Eduardoregelia*. Very dwarf. Yellow flowers with dark exteriors. Illustrated in this locality in Rix & Phillips p. 117.) (10) **E**
- 970.300 : TULIPA ILIENSIS** * No data. A neat, little tulip from the Pamir-Alai, in the group around *T. kolpakowskiana*. Smaller even than *T. cretica*. Flowers with greenish-rimmed, rosy-carmine exteriors open to flat, yellow stars. (15+) **C**
- 970.400 : TULIPA JULIA** * Turkey, Hakkari, Zab gorge at Bagisli. 1500m. Loose, igneous scree. (Differs technically from *T. armena*, the other truly wild, E Anatolian red tulip, in the matted, woolly hairs inside the bulb-tunics but it usually also has more pointed outer segments. May or may not have the central, black blotch rimmed with yellow but always eye-burning scarlet or orange.) (10+) **C**
- 970.710 : TULIPA POLYCHROMA** * No data. From several forms of this dwarf species, 'lumped' under *T. biflora* by some. A finer plant than commercial *T. biflora* with big yellow-centred white flowers, sometimes pink-backed, on short stems. (15+) **B**
- 971.100 : TULIPA REGELII** * Ex a J. Ruksans coll. We have a very few seeds of this extraordinary, tiny Central Asian. Those of you who have seen Henrik Zetterlund's photograph of this, illustrating one of his lectures, will know all about. (8) **F**
- 971.410 : TULIPA SPRENGERI** * No data. Found last century near Amasya in N Turkey & now thought to be extinct in the wild. Very much alive in cultivation. The best garden-plant in the genus for the UK, often sowing itself freely. Likes a good, heavy, slightly alkaline soil but is accommodating. Elegant, scarlet-orange, olive-green-backed flowers in June, later than any other. (20+) **A**
- 971.950 : TULIPA SYLVESTRIS** * No data. From the stock growing splendidly in Peter Chappell's Hampshire garden. Apparently naturalised from Britain to NW Iran, this is usually shy-flowering & of limited fertility. This form flowers profusely & sets seed well. About 30 cm. with large, scented, clear yellow flowers, greenish outside. Good soil in a very sunny site. (15+) **B**
- 971.800 : TULIPA TSCHIMGANICA** * A gorgeous thing, mainly recorded from the Chimgan valley, NE of Tashkent in Uzbekistan. Its ancestry may have involved what are now the sympatric *T. kaufmanniana* & *T. dubia*. Utterly distinct in its yellow flowers with central markings of cerise-red, which can vary from a mere fleck to a blotch almost covering each segment. (10+) **C**

As our last list featured North American species in some detail, we list only the summer-dormant species with brief field data here. Copies of our January, 1996, list containing much more information are available on request. Most seeds listed were collected by ourselves during 1995. There is also a substantial number of collections made by others. Other collectors are abbreviated: JA for John Andrews, FG for Stan Farwig & Vic Girard, JGR for Jim & Georgie Robinett. We have included some 1996 material from Jim & Georgie & there may be a little more in the next list but there will be no repeats of *Lilium* collections, as they are abroad at present. Cultivated seed (marked *) has been gathered in 1996. A few species are offered from our seed bank. The date of wild-collections is almost always given. All seed collected prior to 1996 has been stored in low humidity under refrigerated conditions.

Experience over several years has convinced us that little, if any, deterioration in viability will have occurred. Nomenclature for Californian species usually follows 'The Jepson Manual', published in 1993. This is "good in parts" but no way approaches the outdated 'A Californian Flora' by Munz & Keck (1959), which remains our primary reference. The incomplete but superlative 'Intermountain Flora' and 'A Utah Flora' (Welsh, 1987) are used for taxa occurring within their areas. As always, we edit with gardeners' interests in mind. North American reference numbers printed against names here are permanent population references, just as in the other sections. Although most N American seeds will be sent out with only the numbers on the packets this year, these numbers run in alphabetical, as well as numerical, order so identification of packets from this list will be simple.

- 1.130.100 : *BLOOMERIA CROCEA* Cal., San Diego Co. 1030m. J. & G. Robinett coll. 22.7.95 (Golden stars. 30cm.) ... (20+) B
 1.130.150 : *BLOOMERIA CROCEA* var. *AUREA* Cal., San Luis Obispo Co. 170m. Heavy clay slope. 21.6.95 ... (20+) B
 1.130.200 : *BLOOMERIA CROCEA* var. *MONTANA* Cal., Ventura Co., Wagon Road Canyon. 1450m. 2.8.95 ... (20+) B
 1.140.100 : *BRODIAEA CALIFORNICA* Cal., Yuba Co. 630m. Serpentine scree. J. & G. Robinett coll. 27.8.95 ... (20+) B
 1.140.400 : *BRODIAEA ELEGANS* Cal., Shasta Co., S of Shingletown. 1000m. Among grasses in open areas. 30.7.95 ... (20+) B
 1.150.001 : *CALOCHORTUS ALBUS* Cal., Tuolumne Co., Italian Bar NE of Columbia. 750m. 19.6.95 ... (20+) A
 1.150.002 : *CALOCHORTUS ALBUS* Cal., San Luis Obispo Co., W of Paso Robles. 550m. 21.6.95 ... (20+) B
 1.150.050 : *CALOCHORTUS ALBUS* - DWARF COASTAL FORM Cal., San Luis Obispo Co. 660m. 20.7.95 ... (10+) E
 1.150.100 : *CALOCHORTUS ALBUS* var. *RUBELLUS* Cal., San Luis Obispo Co., W of Templeton. 400m. 21.6.95 ... (20+) C
 1.150.500 : *CALOCHORTUS AMABILIS* Cal., Solano Co., Mix Canyon NW of Vacaville. 550m. 17.6.95) ... (20+) A
 1.150.504 : *CALOCHORTUS AMABILIS* Cal., Humboldt Co., Eel River Valley. 80m. ... (15+) B
 1.151.000 : *CALOCHORTUS AMOENUS* Cal., Tulare Co., NE of Springville. 1100m. 20.6.95 ... (20+) B
 1.151.003 : *CALOCHORTUS AMOENUS* Cal., Tulare Co., 600m. N-facing clay bank. JGR coll. 22.6.95 ... (20+) B
 1.151.500 : *CALOCHORTUS ARGILLOSUS* * Cal., San Luis Obispo Co., NE of San Luis Obispo. 180m. ... (20+) C
 1.151.501 : *CALOCHORTUS ARGILLOSUS* Cal., San Mateo Co. 150m. Serpentine clay. JGR coll. 31.7.95 ... (20+) C
 1.151.502 : *CALOCHORTUS ARGILLOSUS* Cal., San Benito Co., Arroyo Dos Picachos. 350m. FG coll. ... (15+) D
 1.151.503 : *CALOCHORTUS ARGILLOSUS* Cal., San Benito Co., Panoche Road, SE of Hollister. 450m. FG coll. ... (15+) D
 1.152.000 : *CALOCHORTUS AUREUS* Arizona, Coconino Co., WSW of Kayenta. 1980m. ... (20+) D
 1.153.000 : *CALOCHORTUS BRUNEAUNIS* Cal., Inyo Co., White Mts., Westgard Pass. 2230m. 5.8.95 ... (20+) C
 1.154.000 : *CALOCHORTUS CATALINAE* Cal., Los Angeles Co., Santa Monica Mts. 540m. JGR coll. 17.6.95 ... (20+) C
 1.155.002 : *CALOCHORTUS CLAVATUS* Cal., Los Angeles Co., Santa Monica Mts. 520m. JGR coll. 21.7.95 ... (20+) C
 1.155.003 : *CALOCHORTUS CLAVATUS* Cal., San Luis Obispo Co., Cuesta Ridge. 665m. JA coll. 1993 ... (20+) C
 1.155.200 : *CALOCHORTUS CLAVATUS* var. *AVIUS* Cal., El Dorado Co., ENE of Pollock Pines. 1280m. FG coll. ... (20+) D
 1.156.001 : *CALOCHORTUS CONCOLOR* Cal., San Diego Co. 1060m. Sandy soil in chaparral. JGR coll. 21.7.95 ... (15+) C
 1.156.500 : *CALOCHORTUS COXII* Oregon, Douglas Co., W of Myrtle Creek. 450m. Steep serpentine slopes. 6.7.92 ... (15+) E
 1.158.000 : *CALOCHORTUS EURYCARPUS* Idaho, Butte Co., W of Craters of the Moon. 1520m. 20.7.95 ... (20+) B
 1.158.500 : *CALOCHORTUS EXCAVATUS* Cal., Inyo Co., Owens Valley, S of Bishop. 1350m. 27.6.95 ... (20+) D
 1.159.000 : *CALOCHORTUS FLEXUOSUS* Cal., Inyo Co., Amargosa Range, Daylight Pass. 1315m. 25.6.95 ... (20+) D
 1.163.001 : *CALOCHORTUS HOWELLII* Oregon, Josephine Co., Eight Dollar Mt. SW of Selma. 500m. 28.7.95 ... (15+) D

- 1.163.500 : *CALOCHORTUS INVENUSTUS* Cal., Ventura Co., Mt. Pinos. 2680m. Granite grit. 2.8.95. (20+) B
1.163.502 : *CALOCHORTUS INVENUSTUS* Cal., San Diego Co. 1060m. Sandy clay. JGR coll. 22.7.95 (20+) B
1.164.000 : *CALOCHORTUS KENNEDYI* Cal., Inyo Co., SW of Gilbert Summit. 1620m. Open stony slope. 25.6.95 (20+) B
1.164.001 : *CALOCHORTUS KENNEDYI* Cal., Los Angeles Co. 1300m. Desert chaparral. JGR coll. 21.7.95 (20+) B
1.164.002 : *CALOCHORTUS KENNEDYI* Cal., Ventura Co., Lockwood Valley. 1540m. 2.8.95 (20+) B
1.164.004 : *CALOCHORTUS KENNEDYI* Cal., Ventura Co., Mt. Pinos. 2530m. Opening among *Pinus*. 2.8.95 (15+) D
1.164.200 : *CALOCHORTUS KENNEDYI* var. *MUNZII* Cal., Inyo Co., Panamint Range. 2130m. 25.6.95 (20+) D
1.164.504 : *CALOCHORTUS LEICHTLINII* Cal., Fresno Co. 1740m. Woodland, in granite sand. JGR coll. 1.9.95 (20+) C
1.164.505 : *CALOCHORTUS LEICHTLINII* Cal., Fresno Co. 2180m. Chaparral, in granite sand. JGR coll. 1.9.95 (15+) D
1.166.000 : *CALOCHORTUS LUTEUS* Cal., Lake Co., N of Clear Lake. 410m. Among grasses on open slope. 1.8.95 (20+) A
1.166.001 : *CALOCHORTUS LUTEUS* Cal., Sonoma Co. 50m. Gravelly clay. JGR coll. 5.8.95 (20+) A
1.166.004 : *CALOCHORTUS LUTEUS* * No data. From a very fine creamy-yellow form, maybe a hybrid. (20+) A
1.166.100 : *CALOCHORTUS LUTEUS* X *SUPERBUS* Cal., Lake Co., Walker Ridge. 600m. Heavy clay. 1.8.95 (20+) B
1.167.500 : *CALOCHORTUS MINIMUS* Cal., Placer Co., Monumental Ridge W of Truckee. 2040m. JA coll. 1994.) (15+) C
1.168.000 : *CALOCHORTUS MONOPHYLLUS* Cal., Tuolumne Co. 750m. N-facing clay bank. JGRcoll. 22.6.95 (15+) D
1.168.001 : *CALOCHORTUS MONOPHYLLUS* Cal., Butte Co. 550m. JGR coll. 23.5.96 (15+) D
1.169.500 : *CALOCHORTUS NUDUS* Cal., Plumas Co., NNW of Quincy. 1100m. Margin of marshy meadow. 28.6.95 .. (15+) C
1.169.503 : *CALOCHORTUS NUDUS* Cal., Trinity Co., W of Mt. Eddy. 2080m. Wet mountain-meadow. JA coll. 1995 ... (15+) E
1.169.600 : *CALOCHORTUS NUDUS* X *MINIMUS* Cal., Plumas Co., N of Spanish Ranch. 1220m. 28.6.95 (15+) C
1.170.003 : *CALOCHORTUS NUTTALLII* Colorado, Mesa Co., SW of Whitewater. 1800m. Sandstone slopes. 9.7.95 ... (20+) C
1.170.004 : *CALOCHORTUS NUTTALLII* Utah, Uintah Co., WSW of Maeser to Lapoint. 2000m. Sandstone.) (20+) C
1.170.500 : *CALOCHORTUS OBISPOENSIS* Cal., , NE of San Luis Obispo. 150m. Serpentine cliffs. 21.6.95 (15+) D
1.171.000 : *CALOCHORTUS PALMERI* Cal., Los Angeles Co., San Gabriel Mts. 1770m. JA coll. 1993 (15+) D
1.171.101 : *CALOCHORTUS PALMERI* var. *MUNZII* Cal., Riverside Co. 1300m. Sandy clay. JGR coll. 22.7.95 (15+) E
1.171.500 : *CALOCHORTUS PANAMINTENSIS* Cal., Inyo Co., Panamint Mts. 2300m. 4.8.95 (15+) E
1.171.510 : *CALOCHORTUS* aff. *PANAMINTENSIS* Cal., Kern Co., W of Walker Pass. 1650m. 3.8.95 (15+) E
1.173.504 : *CALOCHORTUS PLUMMERAE* Cal., Riverside Co. 580m. Dry chaparral. JGR coll. 22.7.95 (20+) C
1.174.500 : *CALOCHORTUS PULCHELLUS* * Cal., Contra Costa Co., Mt. Diablo. 520m. Steep sides of gully. (15+) C
1.175.800 : *CALOCHORTUS SIMULANS* Cal., San Luis Obispo Co. 660m. Gritty clay bank. JGR coll. 20.7.95 (15+) D
1.176.000 : *CALOCHORTUS SPLENDENS* * Cal., Ventura Co., off Lockwood Valley Road. Sandy clay. (20+) A
1.176.001 : *CALOCHORTUS SPLENDENS* Cal., Lake Co., Walker Ridge. 600m. Serpentine. 1.8.95 (20+) B
1.176.004 : *CALOCHORTUS SPLENDENS* Cal., San Diego Co. 1000m. Clay in open woodland. JGR coll. 22.7.95 (20+) B
1.176.500 : *CALOCHORTUS STRIATUS* Cal., Los Angeles Co., N of Lancaster. 760m. Alkaline desert scrub. 24.6.95 .. (15+) D
1.177.000 : *CALOCHORTUS SUPERBUS* Cal., Mariposa Co., NNW of Hell Hollow. 700m. Serpentine slope. 19.6.95 ... (20+) A
1.177.005 : *CALOCHORTUS SUPERBUS* Cal., Shasta Co. 780m. Clay meadow in full sun. JGR coll. 14.7.95 (20+) B
1.177.020 : *CALOCHORTUS* aff. *SUPERBUS* Cal., Santa Clara Co., W of Morgan Hill. 270m. FG coll. (15+) C
1.177.500 : *CALOCHORTUS SYNTROPHUS* Cal., Shasta Co., N of Montgomery Creek. 580m. Clay slope. 30.7.95 (15+) E
1.178.002 : *CALOCHORTUS TOLMIEI* Oregon, Josephine Co., Eight Dollar Mt. SW of Selma. 450m. 13.6.95 (20+) B
1.178.005 : *CALOCHORTUS TOLMIEI* Cal., Shasta Co., S of Shingletown. 1000m. Mixed woodland. 29.6.95 (20+) B
1.179.000 : *CALOCHORTUS UMPQUAENSIS* Oregon, Douglas Co. 300m. Serpentine scree JGR coll. 1.7.95 (15+) E
1.179.500 : *CALOCHORTUS UNIFLORUS* * Cal., Lake Co., NE of Middletown. 290m. Open meadow in heavy clay. (15+) B
1.179.501 : *CALOCHORTUS UNIFLORUS* Oregon, Josephine Co., SW of O'Brien. 550m. Wet depressions. 1.7.95 (15+) B

Species from North America : Seeds from Jim & Jenny Archibald

- 1.180.500 : **CALOCHORTUS VENUSTUS** * Cal., Tuolumne Co., NE of Columbia. 650m. Steep, open, stony slope. (20+) A
 1.180.505 : **CALOCHORTUS VENUSTUS** Cal., Kern Co., Mt. Pinos. 2120m. Openings among *Pinus*. 2.8.95 (20+) B
 1.180.506 : **CALOCHORTUS VENUSTUS** Cal., Los Angeles Co. 500m. Gritty soil in full sun. JGR coll. 23.7.95 (20+) B
 1.180.507 : **CALOCHORTUS VENUSTUS** Cal., Fresno Co. 1740m. Sandy, granitic soil. JGR coll. 1.9.95 (15+) D
 1.180.520 : **CALOCHORTUS VENUSTUS 'AURORA STRAIN'** * From Stan Farwig & Vic Girard's selections. (15+) D
 1.180.550 : **CALOCHORTUS VENUSTUS** Cal., Kern Co., Cuddy Valley. 1840m. Among *Pinus*. JA coll. 1995 (15+) D
 1.181.500 : **CALOCHORTUS VESTAE** Cal., Mendocino Co., SW of Covelo. 390m. Heavy clay slope. 1.8.95 (20+) A
 1.181.505 : **CALOCHORTUS VESTAE** Cal., Trinity Co. 1030m. Serpentine-clay slope. JGR coll. 19.8.95 (20+) B
 1.181.506 : **CALOCHORTUS VESTAE** Cal., Trinity Co., 900m. Woodland on serpentine clay. JGR coll. 19.8.95 (20+) B
 1.182.003 : **CALOCHORTUS WEEDII** (var. *weedii*) Cal., San Diego Co. 750m. Chaparral. JGR coll. 22.7.95 (15+) C
 1.182.004 : **CALOCHORTUS WEEDII** (var. *weedii*) Cal., San Diego Co. 1350m. JGR coll. 17.9.95 (15+) D
 1.182.200 : **CALOCHORTUS WEEDII** var. **VESTUS** Cal., Monterey Co. 700m. Serpentine. JA coll. 1995 (15+) E
 1.182.500 : **CALOCHORTUS WESTONII** Cal., Kern Co., S of Alta Sierra. 2050m. Coniferous woodland. 3.8.95 (15+) E
 1.191.010 : **CAMASSIA LEICHTLINII - WHITE FORM** * No data. From a striking, cream-white clone. 1m. (20+) A
 1.191.101 : **CAMASSIA QUAMASH** Oregon, S of Tiller. 460m. Along gully on serpentine slope. 28.7.95 (20+) A
 1.191.102 : **CAMASSIA QUAMASH** Cal., El Dorado Co. 2000m. Open, wet meadow. JGR coll. 23.9.95 (20+) A
 1.191.103 : **CAMASSIA QUAMASH** Idaho, Valley Co., NNE of Lowman. 2050m. Open, wet meadow. 21.7.95 (20+) A
 1.240.000 : **CLINTONIA ANDREWSIANA** Cal., Mendocino Co., W of Comptche. Redwood forest. JA coll. 1995 (10+) C
 1.255.500 : **COMMELINA DIANTHIFOLIA** * New Mexico, Chiricahua Mts. Ex an S. Walker coll. (20+) B
 1.255.620 : **COMMELINA COELESTIS 'ALBA'** (*C. tuberosa* group) * 1m. high, tuberous-rooted perennial. (10+) B
 1.300.000 : **DELPHINIUM ANDERSONII** (var. *andersonii*) Nevada, White Pine Co., NW of Ely. 2200m. 4.7.95 (20+) C
 1.300.700 : **DELPHINIUM CARDINALE** Cal., Ventura Co., NW of Ojai. 650m. Among scrub on steep slope. 2.8.95 (20+) D
 1.300.701 : **DELPHINIUM CARDINALE** Cal., Los Angeles Co., Santa Monica Mts. 500m. JGR coll. 21.7.95 (20+) D
 1.300.850 : **DELPHINIUM DECORUM** subsp. **TRACEYI** Cal., Siskiyou Co., SW of Castle Lake. 1580m. 29.7.95 (20+) D
 1.300.900 : **DELPHINIUM DEPAUPERATUM** * Cal., Sierra Co., SE of Sierraville. 1870m. Gravelly areas. (20+) B
 1.302.700 : **DELPHINIUM NUDICAULE** Cal., Plumas Co., S of Greenville. 1370m. Steep, gravelly slope. 28.7.95 (20+) C
 1.302.750 : **DELPHINIUM NUDICAULE** Cal., Mendocino Co., ESE of Covelo. 1980m. Serpentine outcrop. 31.7.95 (20+) D
 1.302.751 : **DELPHINIUM NUDICAULE** * Cal., Trinity Co., N of Zenia. 1660m. Serpentine outcrop. (1m. high form.) (15+) D
 1.302.902 : **DELPHINIUM NUTTALLIANUM** Cal., Modoc Co., WNW of Canby. 1420m. Wet, stony site. 15.6.95 (15+) C
 1.303.100 : **DELPHINIUM PARISHII** Cal., Inyo Co., SW of Gilbert Summit. 1620m. Open, stony slope. 25.6.95 (20+) C
 1.303.102 : **DELPHINIUM PARISHII** Cal., Inyo Co., Panamint Range, Wildrose Canyon. 2130m. 25.6.95 (20+) C
 1.304.500 : **DELPHINIUM VARIEGATUM** (subsp. *variegatum*) Cal., Mendocino Co., SW of Covelo. 390m. (20+) C
 1.308.300 : **DICHELOSTEMMA IDA-MAIA** * Cal., Humboldt Co., NNE of Orleans. 180m. Woodland margin. (20+) C
 1.308.303 : **DICHELOSTEMMA IDA-MAIA** Cal., Shasta Co. 400-800m. 28.6.96 JGR coll. (20+) C
 1.308.501 : **DICHELOSTEMMA VOLUBILE** Cal., Fresno Co. 1550m. Granite-sand slope. JGR coll. 1.9.95 (20+) C
 1.309.100 : **DISPORUM HOOKERI** var. **OREGANUM** Idaho, Benewah Co., SW of Sanders. 820m. Woodland. 23.7.95 (10) B
 1.309.300 : **DISPORUM SMITHII** * No data. A plant of the W Coast redwood forests. Cream flowers & orange fruits. (10+) B
 1.310.500 : **DODECATHEON CLEVELANDII** Cal., Santa Barbara Co. 1150m. Serpentine meadow. JGR coll. 17.6.95 (20+) B
 1.311.000 : **DODECATHEON HENDERSONII** Cal., Plumas Co., S of Greenville. 1370m. Steep, stony slope. 28.6.95 (20+) A
 1.311.700 : **DODECATHEON SP.** Oregon, Josephine Co., SW of O'Brien. 500m. Serpentine, wet in spring. 13.6.95 (20+) C

A : \$2.00 ; £1.50 ; DM4,- ; FF13.- C : \$4.00 ; £2.50 ; DM6,- ; FF21.- E : \$7.00 ; £4.50 ; DM12,- ; FF40.-
 B : \$3.00 ; £2.00 ; DM5,- ; FF17.- D : \$5.00 ; £3.50 ; DM9,- ; FF30.- F : \$9.00 ; £6.00 ; DM15,- ; FF50.-

- 1.350.200 : ERYTHRONIUM CALIFORNICUM Cal., Humboldt Co., SSW of Willow Creek. 1580m. 30.7.95 (20+) C
- 1.350.202 : ERYTHRONIUM CALIFORNICUM Cal., Trinity Co. 1030m. Serpentine scree. JGR coll. 4.7.95 (20+) C
- 1.350.003 : ERITHRONIUM CALIFORNICUM Cal., Mendocino Co., ESE of Covelo. 1600m. Oak woodland. 31.7.95 .. (20+) C
- 1.350.400 : ERYTHRONIUM CITRINUM Oregon, Josephine Co., SW of Selma. 550m. Steep slope. 13.6.95 (20+) C
- 1.350.500 : ERYTHRONIUM CITRINUM var. RODERICKII Cal., Trinity Co., Scott Mts. 1250m. JA coll. 1995 (20+) D
- 1.351.000 : ERYTHRONIUM GRANDIFLORUM (var. *grandiflorum*) Utah, Cache Co. 2400m. 19.7.95 (20+) C
- 1.351.002 : ERYTHRONIUM GRANDIFLORUM (var. *grandiflorum*) Idaho, Nez Perce Co. 300m. 25.7.95 (20+) C
- 1.351.101 : ERYTHRONIUM GRANDIFLORUM var. CANDIDUM Wash., Whitman Co., Kamiak Butte. 1020m. (15) E
- 1.351.200 : ERYTHRONIUM HELENAE Cal., Lake Co., NW slope of Mt. St. Helena. 700m. Serpentine. 17.6.95 (15) D
- 1.351.201 : ERYTHRONIUM HELENAE * Cal., Lake Co., SE of Middletown. 450m. Chapparal on serpentine. (15) D
- 1.351.300 : ERYTHRONIUM HENDERSONII Oregon, Jackson Co., N of Medford. 400m. Among scrub. 2.7.89 (20+) C
- 1.351.301 : ERYTHRONIUM HENDERSONII Oregon, Jackson Co. 1030m. Serpentine-clay. JGR coll. 1.7.95 (15+) C
- 1.351.500 : ERYTHRONIUM HOWELLII Oregon, Josephine Co., E of Takilma. 670m. Among conifers. 12.6.95 (20+) C
- 1.351.600 : ERYTHRONIUM IDAHOENSE Idaho, Kootenai Co., NW of Worley. 800m. *Pinus* woods. 23.7.95 (15) E
- 1.351.700 : ERYTHRONIUM KLAMATHENSE Cal. Siskiyou Co., SW of Castle Lake. 1580m. Among scrub. 29.7.95 (15) D
- 1.351.701 : ERYTHRONIUM KLAMATHENSE Cal., Shasta Co. 1200m. Open woodland. JGR coll. 30.6.95 (15) D
- 1.351.900 : ERYTHRONIUM MONTANUM Canada, BC, Vancouver Is., San Juan Ridge. 800m. A. Guppy coll. 1995 (15) D
- 1.352.000 : ERYTHRONIUM MULTISCAPOIDEUM Cal., Butte Co., N of Magalia. 600m. Serpentine. 16.6.95 (20+) C
- 1.352.100 : ERYTHRONIUM MULTISCAPOIDEUM (*E. "cliftonii"*) Cal., Butte Co., S of Pulga. 420m. 16.6.95) (15+) D
- 1.352.200 : ERYTHRONIUM NUDOPETALUM Idaho, Valley Co., NNE of Lowman, Cache Creek. 2050m. 21.7.95 (15) E
- 1.352.300 : ERYTHRONIUM OREGONUM (subsp. *oregonum*) Washington, Ridgefield. 60m. G. Burrell coll., 1995 (15) C
- 1.352.400 : ERYTHRONIUM OREGONUM subsp. LEUCANDRUM Oregon, Douglas Co., S of Tiller. 460m. 14.6.95 . (20+) C
- 1.352.700 : ERYTHRONIUM PLURIFLORUM Cal., Madera Co., Shuteye Peak. 2310m. Granite ledges. JAcoll., 1995 ... (20+) E
- 1.352.800 : ERYTHRONIUM PURPURASCENS Cal., Plumas Co., S of Greenville. 1370 m. Granite-grit. 28.6.95 (15+) D
- 1.352.801 : ERYTHRONIUM PURPURASCENS Cal., Placer Co., Monumental Ridge. 2060m. JA coll. 1994 (20+) D
- 1.353.000 : ERYTHRONIUM PUSATERII Cal., Tulare Co., Jordan Peak. 2774m. Granite rock-falls. JA coll. 1995 (20+) E
- 1.353.100 : ERYTHRONIUM REVOLUTUM Canada, BC, Vancouver Is., above Skutz Falls. A. Guppy coll., 1995 (20+) C
- 1.353.120 : ERYTHRONIUM REVOLUTUM * No data. Fresh 1996 seed from the vigorous population in varying shades of pink, naturalised in Peter Chappell's Hampshire garden. If you just want some good garden-plants for the UK this is for you (20+) B
- 1.353.300 : ERYTHRONIUM TUOLUMNENSE Cal., Tuolumne Co., NE of Columbia. 750m. Woodland. 19.6.95 (15+) C
- 1.370.000 : FRITILLARIA AFFINIS (*F. lanceolata*) Cal., Solano Co., NW of Vacaville. 550m. Scrub. 17.6.95 (20+) B
- 1.370.001 : FRITILLARIA AFFINIS * Cal., Tuolumne Co., W of Chinese Camp. 360m. Chaparral. (15+) B
- 1.370.050 : FRITILLARIA AFFINIS Oregon, Josephine Co., SW of Selma. 450m. Among volcanic debris. 13.6.95 (15+) C
- 1.370.100 : FRITILLARIA AFFINIS Washington, Clark Co., near Ridgefield. 60m. G.Burrell coll. 1995 (20+) B
- 1.370.200 : FRITILLARIA AFFINIS (*F. lanceolata*) Idaho, Kootenai Co., ESE of Worley. 750m. Woodland 23.7.95 (20+) C
- 1.370.301 : FRITILLARIA AGRESTIS Cal., Alameda Co., ESE of Livermore. 450m. Among grass on clay. 8.6.95 (20+) C
- 1.370.402 : FRITILLARIA ATROPURPUREA Cal., Siskiyou Co., SW of Castle Lake. 1580m. mong scrub . 29.7.95 (15+) D
- 1.370.500 : FRITILLARIA BIFLORA Cal., San Luis Obispo Co., San Simeon Bay. 10m. Coastal grassland 21.6.95 (20+) B
- 1.370.501 : FRITILLARIA BIFLORA Cal., Santa Barbara Co. 1150m. Serpentine-clay meadow. JGR coll. 17.6.95 (20+) C
- 1.370.650 : FRITILLARIA EASTWOODIAE (*F. phaeanthera*) Cal., Shasta Co., S of Shingletown. 1000m. 29.6.95 (20+) C
- 1.370.800 : FRITILLARIA GLAUCA * Cal., Humboldt Co., SSW of Willow Creek. 1580m. Serpentine talus. 30.7.95 (15+) E
- 1.371.101 : FRITILLARIA LILIACEA Cal., Sonoma Co. 240m. J.& G. Robinett coll. 27.5.96 (15+) D

Species from North America : Seeds from Jim & Jenny Archibald

- 1.371.200 : FRITILLARIA MICRANTHA Cal., Mariposa Co., NE of Coulterville. 1050m. Coniferous forest. 19.6.95 (20+) B
- 1.371.201 : FRITILLARIA MICRANTHA Cal., Tuolumne Co., ESE of Groveland. 950m. Mixed woodland. 19.6.95 (20+) B
- 1.371.202 : FRITILLARIA MICRANTHA Cal., Tuolumne Co., NE of Columbia. 750m. Deciduous woodland. 19.6.95 (20+) B
- 1.371.350 : FRITILLARIA OJAIENSIS Cal., Ventura Co., NNW of Ojai. 533m. J. Andrews coll. 1993 (15+) E
- 1.371.500 : FRITILLARIA PINETORUM Cal., Kern Co., Mt. Pinos. 2650m. Granite grit. 2.8.95 (15+) D
- 1.371.520 : FRITILLARIA PINETORUM Cal., Tulare Co., Jordan Peak. 2770m. Granite. JA coll. 1995 (15+) D
- 1.371.600 : FRITILLARIA PLURIFLORA Cal., Lake Co., Walker Ridge. 600m. Heavy clay. 17.6.95 (20+) C
- 1.371.601 : FRITILLARIA PLURIFLORA Cal., Colusa Co., Bear Valley. 530m. J. Andrews coll. 1994 (20+) C
- 1.371.602 : FRITILLARIA PLURIFLORA Cal., Colusa Co. 400m. Heavy clay of grassy meadow. JGR coll. 11.6.95 (20+) C
- 1.371.700 : FRITILLARIA PUDICA Idaho, Butte Co., NE of Carey. 1520m. E & SE-facing slopes. 20.7.95 (20+) C
- 1.371.701 : FRITILLARIA PUDICA Washington, Whitman Co., Kamiak Butte. 1020m. Open, SE-facing slope. 22.7.95 . . (20+) C
- 1.371.800 : FRITILLARIA PURDYI Cal., Trinity Co., S of Bear Creek Trailhead. 960m. Serpentine slope. 12.6.95 (20+) C
- 1.371.801 : FRITILLARIA PURDYI Cal., Mendocino Co., ESE of Covelo. 1980m. Serpentine slope. 31.7.95 (20+) C
- 1.371.802 : FRITILLARIA PURDYI Cal., Trinity Co. 880m. Serpentine scree in full sun. JGR coll. 4.7.95 (20+) C
- 1.371.803 : FRITILLARIA PURDYI * Cal., Napa Co., Mt. St. Helena. Serpentine. (15+) C
- 1.371.903 : FRITILLARIA RECURVA Cal., Butte Co. 800m. J.& G. Robinett coll. 15.6.96 (After the scarcity of this scarlet species last year, we have this 1996 coll. from the Robinetts as well as excellent cultivated seed from D. Hoskins & ourselves.) . . (20+) D
- 1.371.905 : FRITILLARIA RECURVA * Cal., Trinity Co., NNW of Zenia. 1630m. Among conifers on serpentine. (15+) D
- 1.371.906 : FRITILLARIA RECURVA * Cal., Trinity Co., above Canyon Creek N of Junction City. 500m. (15+) D
- 1.372.000 : FRITILLARIA RECURVA var. COCCINEA Cal., Lake Co., Mt. St. Helena. 700m. Serpentine. 17.6.95 (10+) F
- 1.372.050 : FRITILLARIA RODERICKII (possibly *F. grayana*, lost under *F. biflora* in "Jepson") * Cal., Mendocino Co. Among grass in open woodland on clay. Cultivated seed from the Robinetts, grown from an original coll. by Wayne Roderick. . . (15+) C
- 1.372.150 : FRITILLARIA VIRIDEA Cal., San Benito Co., W of San Benito Mt. 970m. JA coll. 1995 (20+) E
- 1.460.000 : IRIS BRACTEATA Oregon, Josephine Co., Waldo Hill. 650m. Open, stony, serpentine areas. 28.7.95 (15+) C
- 1.460.100 : IRIS CHRYSOPHYLLA Oregon, Douglas Co., Calapooya Divide. 1120m. Coniferous forest. 6.7.92 (15+) B
- 1.460.202 : IRIS DOUGLASIANA * Cal., Sonoma Co., Irish Hill. 150m. grassy slopes with coastal exposure. (15+) B
- 1.460.310 : IRIS FERNALDII * No data. Restricted to the Coast Ranges around San Francisco Bay. Creamy yellow. (15+) B
- 1.460.400 : IRIS HARTWEGII (subsp. *hartwegii*) Cal., Fresno Co., Stump Springs Road. 1800m. FG coll. 1994 (10+) B
- 1.460.600 : IRIS HARTWEGII subsp. COLUMBIANA Cal., Tuolumne Co., NE of Columbia. 650m. 19.6.95 (15+) C
- 1.460.700 : IRIS HARTWEGII subsp. PINETORUM Cal., Plumas Co., N of Quincy. 1070m. Coniferous forest. 30.7.95 . (15+) C
- 1.460.790 : IRIS INNOMINATA Oregon, Curry Co., Rogue River valley. JGR coll. 29.6.96 (Pure, yellow colonies are elusive. Jim & Georgie travelled N to check these in flower. Their photographs are of superb, rich yellows with brown veins) (15+) C
- 1.460.800 : IRIS INNOMINATA Oregon, Curry Co., N of Agness. 400m. Stony slopes in coniferous zone. 2.7.95 (V. Cohen described these in 1965, as "golden-yellow & orange". In 1993 Galen Burrell says "a beautiful orchid color" with a few creams.) . . . (15+) C
- 1.461.150 : IRIS MISSOURIENSIS Washington, Whitman Co., Steptoe Butte. 1020m. N-facing slope. 25.7.95 (15+) C
- 1.461.300 : IRIS MUNZII Cal., Tulare Co., E of Springville. 520m. Among boulders in scrub-filled gully. 20.6.95 (15+) C
- 1.461.520 : IRIS TENAX * No data. Seed from a very fine, rich purple-blue form grown by Alan Edwards. (15+) B
- 1.461.790 : IRIS THOMPSONII Oregon, Curry Co., near Agness. JGR coll. 29.6.96 (Ignored by "Jepson" and Munz but reinstated as a 'good' species in a recent paper. Photographs of the plants here are of flowers in plum to violet shades.) (15+) D
- 1.461.800 : IRIS THOMPSONII Cal., Del Norte Co., SW of Gasquet. 530m. Serpentine. 2.7.95 (From one of two places where Boyd Kline considers the 'true' plant grows. The smallest iris we have seen in this series - Boyd says it is rich blue-purple.) (15+) D
- 1.496.500 : LEWISIA COTYLEDON var. HECKNERI * Cal., Trinity Co., N of Junction City. 1640m. Serpentine. (20+) C

- 1.496.700 : LEWISIA KELLOGGII Cal., Placer Co., Monumental Ridge. 2060m. Granite. JA coll. 1995 (20+) E
- 1.497.000 : LEWISIA OPPOSITIFOLIA Oregon, Josephine Co., Waldo Hill. 600m. Serpentine detritus. 13.6.95 (20+) D
- 1.497.200 : LEWISIA REDIVIVA Wyoming, Albany Co., E of Centennial. 2700m. Granite grit. 15.7.95 (Pinks) (20+) C
- 1.497.201 : LEWISIA REDIVIVA * Wyoming, Fremont Co., Wind River Mts. 3000m. Granite grit. (Pinks) (15+) C
- 1.497.202 : LEWISIA REDIVIVA Idaho, Butte Co., NE of Carey. 1520m. Stony, igneous ridge. 20.7.95 (Whites) (15+) D
- 1.497.300 : LEWISIA REDIVIVA var. MINOR Cal., Mono Co., N of Conway Summit. 2200m. JA coll. 1995 (15+) E
- 1.498.100 : LILIUM BOLANDERI Cal., Humboldt Co. 1200-1500m. In chaparral on serpentine. JGR coll. 30.9.95 (15+) D
- 1.498.500 : LILIUM COLUMBIANUM Cal., Humboldt Co. 500 m. JGR coll., 1995 (15+) B
- 1.498.800 : LILIUM 'ELDORADO DITCH LILY' Cal., Eldorado Co. 1000m. JGR coll. 8.9.95 (Natural hybrid.) (15+) C
- 1.498.900 : LILIUM HUMBOLDTII (subsp. *humboldtii*) Cal., Yuba Co. 550m. JGR coll. 10.95 (15+) D
- 1.499.000 : LILIUM HUMBOLDTII subsp. OCELLATUM Cal., San Diego Co. 1300m. Chaparral. JGR coll. 17.9.95 (10+) E
- 1.499.100 : LILIUM KELLEYANUM Cal., Tulare Co., E side of Moses Mt. 2070m. JA coll. (15+) D
- 1.499.200 : LILIUM KELLOGGII Cal., Humboldt Co. 800m. JGR coll. 30.9.95 (15+) D
- 1.499.201 : LILIUM KELLOGGII Cal., Humboldt Co. 1150m. JGR coll. 30.9.95. Selected deep pink. (15+) E
- 1.499.400 : LILIUM MARITIMUM Cal., Sonoma Co. 30m. Open woodland. JGR coll. 18.8.95 (15+) D
- 1.499.700 : LILIUM PARDALINUM Cal., Placer Co. 1400m. Open, wet mountain meadow. JGR coll. 23.9.95 (20+) B
- 1.499.750 : LILIUM PARDALINUM HYBRID Cal., Placer Co. 1350m. JGR coll. 23.9.95 (20+) B
- 1.499.900 : LILIUM PARRYI Cal., Los Angeles Co., San Gabriel Mts., Little Rock Creek. 1990m. JA coll. 1993 (20+) D
- 1.500.000 : LILIUM PARVUM Cal., El Dorado Co. 1800m. Wet meadow. JGR coll. 23.9.95 (20+) C
- 1.500.050 : LILIUM PARVUM Cal., Placer Co., Monumental Ridge. 2030m. JA coll. 1994 (15+) D
- 1.500.400 : LILIUM RUBESCENS Cal., Humboldt Co. 500m. N edge of woodland. JGR coll. 19.8.95 (15+) D
- 1.500.401 : LILIUM RUBESCENS Cal., Humboldt Co. 80m. Edge of redwood forest. JGR coll. 19.8.95 (15+) D
- 1.500.500 : LILIUM SHASTENSE Cal., Shasta Co. 1400m. Wet meadow on old lava-flow. JGR coll. 29.9.95 (20+) C
- 1.500.900 : LILIUM VOLLMERI Oregon, Josephine Co. 500m. Along wet ditch. J. & G. Robinett coll. 29.9.95 (15+) C
- 1.501.000 : LILIUM WASHINGTONIANUM (subsp. *washingtonianum*) Cal., Shasta Co. 1000m. JGR coll. 29.9.95 (15+) D
- 1.501.001 : LILIUM WASHINGTONIANUM (subsp. *washingtonianum*) Cal., Butte Co. 1100m. JGR coll. 28.9.95 (15+) D
- 1.151.100 : LILIUM WASHINGTONIANUM subsp. PURPURASCENS Cal., Humboldt Co. 1200m. JGR coll. 30.9.95 (15+) D
- 1.695.001 : PAEONIA BROWNII Cal., Plumas Co., ESE of Beckwourth. 1520m. Stony slopes. 28.6.95 (8) D
- 1.839.000 : SCOLIOPUS BIGELOVII Cal., Mendocino Co., W of Boonville. 330m. Redwood forest. JA coll. 1995 (10+) D
- 1.855.400 : SILENE HOOKERI * Oregon, Josephine Co., E of Takilma. 850m. Openings among conifers, in stony turf. (10+) C
- 1.855.501 : SILENE HOOKERI subsp. BOLANDERI Cal., Trinity Co., W of Weaverville. 760m. JA coll. 1995. (8) E
- 1.855.550 : SILENE HOOKERI var. INGRAMII Oregon, Douglas Co., S of Tiller. 460m. Serpentine slopes. 14.6.95 (8) E
- 1.860.302 : SISYRINCHIUM DOUGLASHII Oregon, Jackson Co., Siskiyou Mts. 1100m. JGR coll. 28.6.96 (15+) B
- 1.920.010 : TRILLIUM CHLOROPETALUM - RED FORM * From the deep crimson form of this 30cm. species from moist, W Coast woodlands. Large leaves, beautifully mottled with grey. Sessile, erect-petalled flowers. Our own 1996 seed. (10) D
- 1.920.520 : TRILLIUM RIVALE * Cultivated seed of this dwarf, serpentine endemic from Boyd Kline's garden in Medford, Oregon, including pinks & his 'Purple Heart'. No trouble from dried seed but may need two cool periods before germination. (10+) E
- 1.925.100 : TRITELEIA BRIDGESII Cal., Shasta Co., N of Montgomery Creek. 580m. Among sparse scrub. 30.7.95 (20+) B
- 1.925.120 : TRITELEIA BRIDGESII 'ROBINETT SELECTIONS' * Shades of pink, rose & lavender (20+) B
- 1.926.600 : TRITELEIA IXIOIDES subsp. ANILINA Cal., Fresno Co. 2450m. Open woodland. JGR coll. 1.9.95 (20+) B
- 1.926.700 : TRITELEIA IXIOIDES subsp. SCABRA Cal., Fresno Co. 1740m. Steep granite slope. JGR coll. 1.9.95 (20+) B
- 1.926.820 : TRITELEIA LAXA 'GIANT LAVENDER' Cal., Tulare Co. 600m. 22.6.95. (75cm. Robinett selection.) (20+) B
- 1.926.850 : TRITELEIA LAXA 'HUMBOLDT STAR' * Extremely dark purple flowers. Up to 40cm. high. (20+) B

Most 1994 collections from Chile & Argentina and many from Ecuador are still available. If you are interested in S American species, ask for earlier lists to be sent. The seed is stored in low humidity under refrigerated conditions & we continue to have satisfactory reports on 1996 sowings & good results ourselves. In the present section, we offer mainly 1996 harvested seed

from cultivated plants, which are low-temperature growers best sown by early winter. We have now given population reference numbers to all identified material. Even with only two visits to Chile & Argentina, some populations had acquired four field-numbers. In any case, all packets of those listed will carry the name & brief field data, if any, on the parent material

Alstroemeria : the 'Peruvian Lilies' come from Chile

This spectacular genus, either placed in the *Liliaceae* or separated with *Bomarea* into the family *Alstroemeriaceae*, has its centre in Chile. The variation, complexity & colours of its flowers is immense, as is the range of habitats within a limited area. More species than *A. aurea* & the *A. ligtu* hybrids can be expected to prove good garden-plants in the UK but most will be best grown in a raised bed or bulb-frame. In pots, the tubers can be vulnerable to freezing, though the only one we had damaged in the low temperatures of the 1995-96 winter was coastal *A. pelegrina* & even then we did not lose it completely.

Ideally seed should be given a warm period followed by a cool period for germination. We have always found this occurs at a reasonably even temperature between 5 & 10 degrees C (40-50F). Soaking seed in warm water for 24 hours before sowing, then placing the seed at the bottom of a domestic refrigerator should give the even 5C required, though we have found conventional sowing in autumn quite satisfactory ourselves. The names follow those in the meticulously researched 'Die Gattung *Alstroemeria* in Chile' by E. Bayer (1987). We are grateful to Dr. Bayer for her help over one or two problems.

- 2.026.400 : ALSTROEMERIA AUREA** Chile, VIII, Nuble, SW of Termas de Chillan. 1500m. Open banks in *Nothofagus* woods. 4.3.94 (Outstanding population, singled out for mention by Bayer, at one of the most northern stations for this species. Coppery reds & orange-scarlets. About 60 cm. high & possibly the easiest, most reliable species outside in the UK.) (15+) **B**
- 2.026.410: ALSTROEMERIA AUREA** Chile, IX, Cautin, W of Vilcun. 200m. Among scrub at woodland margins. 6.3.94 (The more widespread bright yellow race from the colder wetter S. A hardy & easy garden-plant in the UK.) (15+) **B**
- 2.026.900 : ALSTROEMERIA EXSERENS** Chile, Reg. Metro., La Parva to Valle Nevado. 2800-3100m. Steep, loose, stony slopes. 8.3.94 (A high altitude species with about the largest flowers in the genus on the dwarfest of plants. Flat-faced flowers with broad, overlapping segments in rich pink with darker tips & crimson flecking on the yellow ground of the upper, inner ones.) (10+) **D**
- 2.026.950 : ALSTROEMERIA aff. EXSERENS *** Chile, VI, Cachapoal, NE of Coya. Ex an A. Brinck coll. (as *A. exserens*) (Much taller, about 60cm.. Long, narrow leaves & big heads of rose-pink flowers, neatly banded bright yellow above the white, crimson-speckled zone of the upper, inner segments. A bit like a very large *A. pallida*. Worthwhile & hardy.) (10+) **B**
- 2.027.010 : ALSTROEMERIA aff. GARAVENTAE *** Chile, V, Quillota, Cerro La Campana. (Ex an A. Brinck coll. made a little to the N of the type-locality (at 2000m. on the Cerro Vizcacha, W of Santiago). We wonder if *A. garaventae* & the equally obscure *A. zoellneri* (q.v.) intergrade or cross here. Large flowers heavily speckled on every segment (not just the inner ones) with lines of crimson dots on the salmon-pink ground, which ages to ruby shades. 30cm. Should be hardy in most of the UK.) (10) **E**
- 2.027.110 : ALSTROEMERIA HOOKERI** (subsp. *hookeri*) * No data. A beautiful dwarf species, 15-20cm high, with narrow, greyish leaves & medium-sized, green-tipped, pastel pink flowers, blotched with gold & lightly speckled with red-brown on the white ground of the inner segments. From low altitudes in Regions VII & VIII but temperature-hardy here under cold glass. (10+) **C**
- 2.027.800 : ALSTROEMERIA LIGTU subsp. INCARNATA *** Chile, VII, Cerro de los Cipreses (Rio Teno valley E of Curico). 1500m. Ex an A. Brinck coll. (Very local, robust, 1m. high race, always with a pink ground-colour & distinct in its rather short, broad, upper segments. Glowingly described by Mike Tucker as "gorgeous...the largest flowered plant I have...the best one here" but not as satisfactory as some in the open garden & it does best protected from excess moisture in his bulb-frame.) (10+) **C**
- 2.027.900 : ALSTROEMERIA LIGTU subsp. SIMSII** (*A. haemantha*) * Chile, VI, Cachapoal, Rio Cachapoal valley W of Pangal. 950m. Openings among scrub in sandy soil. (From our coll. of *A. revoluta* (12529). We assume both grew intermingled. Long known as *A. haemantha*, a misapplied name, the tallest race of *A. ligtu*, reaching 1.6m. with umbels of up to 50 flowers in orange-red to tomato-red with long, prominent, upper, inner segments streaked red-brown. Hardy in a well-drained site in the UK.) (10+) **B**
- 2.028.300 : ALSTROEMERIA MAGNIFICA subsp. MAXIMA *** Chile, IV, Choapa, Pichidangui. Ex an A. Brinck coll. (Very large, flat, lilac flowers heavily marked with dark red. Though a low altitude coastal race, centred on the Valparaiso area, the overwintering rosettes of distinctive, glossy leaves were unharmed in our unheated greenhouse in the severe 1995-96 winter. 50cm.) (10) **C**
- 2.028.500 : ALSTROEMERIA PALLIDA *** Chile, Reg. Metro., Lagunillas, ENE of San Jose de Maipo. 2200m. Steep, open, stony slopes. (Few alpine plants can rival the spectacle of this in flower. Remaining 20cm. or less high with us under glass here, its umbels of large flowers in pale to deep pink or white have the upper, inner segments blotched with gold & streaked crimson.) (10) **C**
- 2.028.610 : ALSTROEMERIA PATAGONICA *** The dwarfest of all, with the most southern distribution, S from Santa Cruz & Chubut in Argentina to Tierra del Fuego. Narrow, twisted, blue-grey foliage & small, upward-facing, orange-yellow flowers on stems under 10cm. high. Absolutely hardy in the UK & possible in a trough or scree-bed but maybe easiest in the alpine-house. (8) **D**

- 2.029.100 : ALSTROEMERIA PRESLIANA subsp. AUSTRALIS** * Chile, IX, Malleco, Cordillera de Nahuelbuta. 1200m. Openings in woodland, often in shade. (One of the most southern, distinct from the type-race in its striking, red-brown anthers, more elongated upper segments, heavily streaked with crimson, & intense, deep-pink ground-colour. 30cm. A hardy garden-plant.) (10+) C
- 2.029.410 : ALSTROEMERIA PULCHRA** (subsp. *pulchra*) * Ex Beckett, Cheese & Watson 4762 (Widespread in the Valparaiso-Santiago area up to 1000m. & of borderline hardiness in the UK. We are just too wet for it outside. In the *A. magnifica*-group with white flowers (pale lilac under glass), inner segments streaked with crimson on a bright yellow ground. 50cm.) (10+) B
- 2.030.001 : ALSTROEMERIA UMBELLATA** Chile, Reg. Metro., Lagunillas, ENE of San Jose de Maipo. 2200m. Loose, igneous talus on steep slope. 1.3.94 (Succulent rosettes of rounded, grey-green leaves & almost stemless umbels of dark-tipped, pink flowers, marked with gold & speckled with crimson. It has been flowered in the UK in a raised scree-bed.) (10+) D
- 2.030.310 : ALSTROEMERIA aff. ZOELLNERI** * Chile, V, Quillota, Cerro La Campana. Ex an A. Brinck coll. (From the same wild coll. which yielded *A. aff. garaventae*. According to Bayer, these two very distinct species, described in 1986, are both known only from their type-localities, both in this area. Brinck claimed to collect both here, This is nearer *A. zoellneri* than *A. garaventae*, with elegant pale lilac segments, barely speckled & smudged with yellow on the upper, inner ones. About 40cm. high.) (10) D
- 2.271.120 : CYPELLA HAUTHALLII subsp. OPALINA** * Argentina, Corrientes, N bank of Rio Uruguay. Full sun, in acid, red clay. Ex a J.A. Castillo coll. (Local race succumbing to habitat destruction. A spectacular succession of large, tigridia-like flowers in opaline-white, marked yellow inside, on branching, 15cm. stems, over 2-3 months in spring & early summer. A winter-grower, it tolerates frosts with Stan Farwig & Vic Girard in Concord, California but may be safest frost-free in the damper UK.) (20+) E
- 2.779.800 : RHODOLIRION MONTANUM** (*Rhodophiala rhodolirion*, not *Rhodophiala montana*, a yellow species, if you do not wish to split it.) Chile, Reg. Metro., Lagunillas, ENE of San Jose de Maipo. 2300m. Steep, loose, stony, E-facing slope. 1.3.94 (Most sumptuous & spectacular of high-alpine bulbs, thought to be ungrowable, but we flowered this from our 1991 coll. here this year & Alan Edwards has flowered the white form. Mainly deep-pink to red in this area, variously striated with purple.) (10+) C
- 2.779.820 : RHODOLIRION MONTANUM** Chile, Reg. Metro., NE of Valle Nevado. 3100m. Among igneous rocks in loose, sandy, soil on open slopes. 8.3.94 (Huge, pure-white trumpets intricately & variably patterned with lines of crimson dots.) (10+) C
- 2.780.000 : RHODOPHIALA ADVENA** * Chile, VIII, Bio Bio, S of Canteras (E of Los Angeles). 400m. Open site in sandy soil. (Red & yellow forms, with some in between, occur here but so far we have only flowered scarlet & apricot ones. 20-30cm.) (10+) C
- 2.780.200 : RHODOPHIALA ANDICOLA** Argentina, Neuquen, Lacar, Cerro Chapelco above San Martin de los Andes. 1680m. Exposed, stony slopes. 17.2.94 (Luminous, rich violet-pink, dark-throated, upward-facing flowers. 15-20cm.) (10+) D
- 2.780.400 : RHODOPHIALA ARAUCANA** Argentina, Neuquen, Passo del Cordoba. 1220m. Gravelly & sandy areas among steppe-plants. 19.2.94 (Maybe nearest *R. elwesii* but more slender, up to 30cm. high with 2-5 flowers per stem. These appear to open pale yellow & blush to red through tiny crimson dots suffusing over the segments. Better grower than *R. elwesii* so far.) (10+) E
- 2.780.800 : RHODOPHIALA ELWESII** Argentina, Neuquen, Lacar, E of Lago Lolog. 1100m. Open areas, among grasses & scrub, in sandy soil. 19.2.94 (Very beautiful with upward-facing, soft-yellow flowers with wine-coloured throats. Not easy) (10+) C
- 2.780.810 : RHODOPHIALA ELWESII** Argentina, Neuquen, Norquin, SSW of El Huecu. 1260m. Openings among scrub in sandy soil. 14.2.94 (Maybe far enough N for the allied *R. mendocina*, without the purple throat, but not seen in flower.) (10+) C
- 2.781.500 : RHODOPHIALA PRATENSIS** * Chile, IX, Malleco, Cordillera de Nahuelbuta. 1200m. Among scrub. (Elegant, pale scarlet species, about 20cm. high, which Prof. Grau suggests may be the "often wrongly interpreted *R. pratensis*.") (10) E
- 14390 : RHODOPHIALA SP.** Chile, VIII, Nuble, SW of Termas de Chillan. 1700m. In turf on broad, sloping cliff-ledge. 3.3.94 (Not seen in flower but flower remains red. Certainly temperature-hardy from this area.) (10+) D
- 2.940.010 : TECOPHILAEA CYANOCROCUS** No data. The famous blue Chilean crocus, supposedly extinct in the wild. Its crocus-like flowers in spring have no equal in the intensity of their gentian-blue. The colour forms come fairly 'true' from seed. (10) E
- 2.940.011 : TECOPHILAEA CYANOCROCUS 'LEICHTLINII'** Slightly paler blue form with a large white centre (10) E
- 2.940.012 : TECOPHILAEA CYANOCROCUS 'VIOLACEA'** Hand-pollinated from the dusky, violet-blue form (10) E
- 2.968.500 : TRISTAGMA NIVALE** Argentina, Neuquen, Lacar, Cerro Chapelco. 1680m. Among igneous rocks on exposed, stony slopes. 17.2.94 (Curled, fleshy leaves coil on the scree. Tubular flowers in purple-black to green. 10cm. Alpine-house.) (10+) D
- 2.971.200 : TROPAEOLUM POLYPHYLLUM** Argentina, Mendoza, Puente de Inca. 2720m. Steep, loose, clay slopes. 10.2.94 (Flowers vary here from the usual bright yellow to orange & red tints, along the 1m. long trails of deeply cut, blue-grey leaves. Can be trouble-free & vigorous when settled in UK gardens but it is not at all easy to establish in the first place, however.) (5) D
- 2.971.400 : TROPAEOLUM SESSILIFOLIUM** * Chile, Reg. Metro., Lagunillas. 2200m. Steep, open rocky slopes. (Well established from our 1991 & 1994 colls. & not difficult in a scree-bed or the bulb-frame. One of the dwarfiest in the genus with erect or flopping, 20-30cm., branching stems with tiny, lobed leaves & white or pale lavender flowers with orange-yellow centres.) (5) D
- 2.971.810 : TROPAEOLUM TRICOLOR** No data. A summer-dormant, tuberous-rooted climber with fascinating, complex flowers in scarlet, black, yellow & green. It grows up to middle altitudes in Chile but the winter growth is too vulnerable for cultivation outside in the UK. No trouble in a cold greenhouse, where it gives a long, arresting display in spring & early summer (8) C

Species from Southern Africa : Seeds from Jim & Jenny Archibald

Our main wild collections for 1996 were made in the summer-rainfall area of South Africa on a visit with Panayoti Kelaidis of Denver Botanic Garden. As all these are from summer-growing plants, we see no point in encouraging you to sow the seeds now & we are holding them back as a feature of our next list. In effect, by storing them, we are 'turning them round' for you & they will be sent out at an appropriate time for sowing. Most, if not all, of these appear to germinate at warm-temperatures (whereas almost all material in this list germinates at low-temperatures). This makes sense, as these summer-rainfall species grow in summer, not during the cold, dry winters of this region. As we made no collections from winter-growers, we are listing material of these from Rachel & Rod Saunders, whose travels in search of S African seeds extend far beyond the confines of the comparatively small part of S Africa with a frost-free Mediterranean climate. We hope this part of the list will be an educational introduction to this region for cold-climate gardeners.

The summer-growers & winter-growers of southern Africa

Experienced gardeners do not tend to think too much about summer-growers & winter-growers. You plant your daffodils & tulips in the autumn and your dahlias & gladioli in the spring. But what about the *Gladiolus* species the more specialised gardeners plant with the summer-dormant 'bulbs'? Yes, the hardier ones come from a Mediterranean climate in the northern hemisphere but most of the S African species need to be planted in autumn as well, as most come from a Mediterranean-type climate in the southern hemisphere. Why then do we plant the tall garden hybrids of S African species in spring? Simply because these were bred from the smaller number of summer-growing members in the genus not the winter-growing ones. There are both summer-growers & winter-growers in the same genus. This makes it impossible to generalise about the cultivation of any widespread S African genus.

Nowhere have we come across anyone who stresses this all important dichotomy. We have found little but inane generalisations about most S African genera, usually based on the low altitude, winter-growers from a small area in the SW Cape. This makes life difficult as it is absolutely fundamental to growing the plants. With S African plants, you simply have to know whether each individual species comes from the winter rainfall area or the summer rainfall area, before you know how to grow it. At the risk of being tedious, we have tried to

underline this essential division throughout this section of the list. To make it all more difficult for you & make you work hard, we have included both summer-growers and winter-growers from a single genus together here. In every case, the information is there for you but you have to read it. A fair generalisation on S African species for UK gardeners might be : the summer-growers are the ones you might be able to grow in your garden without much trouble & the winter-growers are the ones you can't. There are exceptions.

In future lists, we shall be kinder & list only winter-growing S Africans in this earlier list, along with all the other low-temperature winter-growers : hellebores, cyclamen, peonies, most of the northern hemisphere 'bulbs', etc. Summer-growers will be listed separately later. So, the next list in winter, 1996-97, will include high altitude collections of summer-growing members of the monocot genera *Agapanthus*, *Albuca*, *Aristea*, *Dierama*, *Kniphofia*, *Ledebouria*, *Moraea* & *Watsonia* as well as herbaceous & shrubby species belonging to such genera as *Alepidea*, *Aloe*, *Aptosimum*, *Cotyledon*, *Crassula*, *Diascia*, *Erica*, *Euryops*, *Garuleum*, *Glumicalyx*, *Gomphostigma*, *Helichrysum*, *Hirpicium*, *Indigofera*, *Lotononis*, *Nemesia*, *Osteospermum*, *Pelargonium*, *Phygelius*, *Plexipus*, *Protea*, *Sebaea*, *Streptocarpus*, *Sutera*, *Sutherlandia*, *Vernonia*, *Zaluzianskya* and no doubt several others.

Androcymbium : the colchicums go south to the Cape

In recent years, we have listed seed from one of the few Mediterranean species, collected at the N limit for this genus, which has about 30 species distributed S through E Africa to the Cape. These are very close to *Colchicum* but some are scapose & the flowers are surrounded by an involucre of bract-like leaves. The flower-segments are free, not joined into a tube, and have prominent yellow glands at the bases. The following few species provide a microcosm not only of this diverse genus but of the diversity of the S African flora. They illustrate what we have tried to explain above. Read on, note the habitats & the growing seasons. Now you know all about it.

- 3.010.100 : ANDROCYMBIUM CAPENSE** W Cape, Tulbagh, near Gouda. 100m. Sandy soil. R. & R. Saunders coll. (A low altitude to coastal winter-grower with prostrate, wavy-edged leaves & the creamy flowers enclosed in green bracts. Frost-free.) . . . (15+) **B**
- 3.010.300 : ANDROCYMBIUM CILIOLATUM** N Cape, Namaqualand. 1500m. Moist, sandy areas. R. & R. Saunders coll. (Sessile clusters of white flowers on prostrate leaves with ciliate margins. A winter-grower which should be temperature-hardy.) . . (15+) **C**
- 3.011.100 : ANDROCYMBIUM LONGIPES** Lesotho, Drakensberg, NW of Sani Pass. 2900m. Gravel-filled depressions on rock-slabs. 20.3.96 (A summer-rainfall species from high-alpine fell-fields on top of the Drakensberg. Prostrate rosettes.) (10+) **D**
- 3.011.500 : ANDROCYMBIUM MELANTHOIDES** E Cape, Ouberg NNW of Graaff-Reinet. 1700m. Wet-flush on sandstone slabs. 13.3.96 (A species from the mountain-ranges in the steppe-country of the Little Karoo - a summer-grower, when it gets the chance in this region of irregular rain. Up to 30cm. high with the flowers wrapped up in large, white, green-veined bracts.) (15+) **C**
- 3.012.000 : ANDROCYMBIUM PULCHRUM** N Cape, near Nieuwoudtville. 1300m. R. & R. Saunders coll. (A local, winter-growing endemic of the high, inland plateaux, which should be hardy in the UK under normal, unheated bulb-house conditions. Note our comments about such species under *Daubenya* & *Romulea*. Red-bracted flowers between twin, prostrate leaves.) (15+) **C**
- 3.012.500 : ANDROCYMBIUM STRIATUM** E Cape, Drakensberg, NE of Rhodes to Naudesnek. 2200m. Loose, sandy clay. 16.3.96 (A summer rainfall species. Very colchicum-like with many flowers from leaf rosettes flat on the ground.) (20+) **B**

A : \$2.00 ; £1.50 ; DM4,- ; FF13.- **C** : \$4.00 ; £2.50 ; DM6,- ; FF21.- **E** : \$7.00 ; £4.50 ; DM12,- ; FF40.-
B : \$3.00 ; £2.00 ; DM5,- ; FF17.- **D** : \$5.00 ; £3.50 ; DM9,- ; FF30.- **F** : \$9.00 ; £6.00 ; DM15,- ; FF50.-

3.017.561 : ANOMATHECA LAXA - WHITE FORM (*Lapeirousia cruenta*) * A lovely little summer-growing corm with 30cm. spikes of flat-faced white flowers, strikingly blotched with crimson. Surprisingly hardy in the UK as it is a low altitude species, extending N along the E Cape coast through the summer-rainfall area into Mozambique, in sandy soils.) (15+) **A**

3.017.650 : ANOMATHECA VIRIDIS W Cape, near Vanrhynsdorp. 200m. Stony clay slopes. R.& R. Saunders coll. (A winter-grower, about 30cm. high, with spikes of long-tubed green flowers from fans of green foliage. Maybe best frost-free but did well in our unheated (but virtually frost-free) lean-to greenhouse until smothered out by an adjacent *Crinum*.) (20+) **B**

ARISTEA : Mainly winter-growers but four collections of summer rainfall species from up to 2800m. in the winter list

CROCOSMIA : Wild collections of this small genus of summer-growers in our next list, as well as cultivated material.

3.106.000 : CYRTANTHUS EPIPHYTICUS E Cape, Drakensberg, Naudesnek. 2400m. In cliff fissures & among grasses & boulders on steep, SE-facing slope. 17.3.96 (A summer-grower but take the chance of acquiring it now. Seed of *Cyrtanthus* is normally of short viability. We are keeping this refrigerated & it was germinating well (in about 4 weeks) very recently. We'll send it out until about February, 1997. After that forget it. We suggest sowing immediately, keeping any seedlings frost-free & growing over the winter, if you can. They can be adjusted to normal, harder conditions in 1997. It will probably be growable outside in the UK. The specific name is not at all appropriate. This is an alpine chasmophyte from cool, moist, part-shaded cliffs between 1800m. & 2500m. in the Drakensberg. It will make an unbelievable alpine-house plant which will destroy the preconceptions of alpine 'purists' with a set mind. Yes, it grows in the sort of site you'd expect *Androsace pyrenaica* or *Primula reptans*. Yes, it will want the same treatment in cultivation : cool & moist in summer ; dryish & cold in winter. But, this has a 30cm. stem hanging-out about a dozen large, waxy flowers, with 4cm. long, arching tubes, in eye-burning scarlet. Beautifully illustrated in Hilliard & Burt.) (15+) **E**

3.106.500 : CYRTANTHUS FALCATUS * KwaZulu-Natal, Drakensberg, Loteni valley. (A little, fresh, UK-grown seed from Alan Edwards who received this summer-grower from Harry Hay. Not included by Hilliard & Burt, who deal with plants above 1800m. in this area, so we assume it either grows at lower altitudes or is listed under another name. A stout 40cm. stem carries a spectacular head of pendant tubular flowers, described as reddish-yellow rather than orange. Harry Hay flowers this successfully, by planting it out under glass & giving high potash feeds. It will be temperature-hardy if kept dry when dormant in winter.) (8) **E**

3.109.000 : DAUBENYA AUREA N Cape, Roggeveldberge, W of Middlepos. 1700m. R. & R. Saunders coll. (We listed seed from this unique species a few years ago, grown by our Californian friends Stan Farwig & Vic Girard. We told you that it tolerated considerable frost in the more continental climate of their garden in Concord & that they were able to grow this successfully because of their cold winters, whereas growers of S African species in milder climates, such as those of the Bay area or Kirstenbosch failed with it. We can certainly bear out its temperature-hardiness as it was quite untouched in our unheated bulb-house by the severe frosts of our 1995-96 winter. Our plants were raised from their seed sown in October & which germinated in one month. Seed sown late will wait till the following year but it comes up reliably in our experience. We have not yet flowered it but the bulbs progress steadily. A Roggeveld endemic like nothing else in flower. Possibly closest to *Massonia* & with a similar pair of ovate leaves flat on the ground but between these sits a stemless water-lily head of brilliant scarlet. A pot on the show-bench will create a sensation. The type-race is bright yellow & we have this growing on here also but this coll. is likely to be from reds. The Saunders point out that it may include seed of a *Neobakeria* (not a problem you get with cultivated material), which looks identical in seed. We doubt if many of you have a *Neobakeria* from the Roggeveld, so this may be no deterrent but don't complain if you get one.) (20+) **D**

DIERAMA : Seed from all the highest summer-growers with a representative range of middle-elevation ones in the next list.

EUCOMIS : Unusually for S African bulbs this is essentially a summer-growing genus & an important one for UK gardeners, as even the lower altitude ones are hardy here. Collections from up to 3000m. in the Drakensberg will be in our winter list.

Gladiolus : the summer-growers like it high but not always so dry

This is an important genus of corms, in the *Iridaceae*, with about 150 species distributed from its northern limits in S Europe & SW Asia down through E Africa to South Africa, where the majority, over 100, grow. As is the case with so many S African genera, the greatest number & diversity of these is in the winter rainfall area of the Cape. Most of the Cape winter-growers are best grown in frost-free, well-ventilated conditions in the UK but we already have a few of borderline hardiness, such as *G. cardinalis* & *G. tristis*. We believe there will be several dwarf winter-growers from high altitudes well-suited to cultivation in the same conditions as most of the Eurasian 'bulbs'. *G. watermeyerii*, from the high plateaux around Nieuwoudtville, was untouched by severe frosts in our bulb-house. These are for us to consider in the future. For the moment we concentrate on the summer-growers, a smaller group but still diverse, distributed from sea-level upwards in the E Cape & Natal, N into the Transvaal, reaching 3000m. in the

Drakensberg, where there are about a dozen species above 1800m. The only one of these established in British gardens is a form of *G. papilio*, a plant of marshy areas up to 2400m., which is no trouble in UK gardens, as long as it is not too hot & dry in summer. Most of the following summer-growers should prove just as hardy but the grassland & saxatile species may be resentful of winter wetness. It will be a matter of trial & initially the best way to treat some may be to grow the seedlings in pots, either plunged outside or in any open-frame for the summer, when they will enjoy plenty of moisture, & to cover them or store the pots dry in winter, when they are dormant & will need no moisture at all. Several will prove good, reliable plants for British gardens. Nomenclature follows the 1972 monograph, 'A Revision of the South African Species of *Gladiolus*' by Lewis & Obermeyer but this is soon to be supplanted by a two volume monograph by Peter Goldblatt, which will certainly necessitate some changes of the names & population references here.

A : \$2.00 ; £1.50 ; DM4,- ; FF13.- **C** : \$4.00 ; £2.50 ; DM6,- ; FF21.- **E** : \$7.00 ; £4.50 ; DM12,- ; FF40.-
B : \$3.00 ; £2.00 ; DM5,- ; FF17.- **D** : \$5.00 ; £3.50 ; DM9,- ; FF30.- **F** : \$9.00 ; £6.00 ; DM15,- ; FF50.-

- 3.252.000 : GLADIOLUS AURANTIACUS** KwaZulu-Natal, N of Pietermaritzburg, near Albert Falls dam. 1300m. R.& R. Saunders coll. (A summer-grower, flowering before the leaves appear, with 60cm. spikes of large, long-tubed, orange-yellow flowers. From quite low in Natal & SE Transvaal, it should be possible to overwinter it dry & frost-free but it may prove quite hardy.) . . . (20+) **B**
- 3.254.810 : GLADIOLUS CARDINALIS** * No data. A famous & glorious species, endemic to a small area in the mountains near Worcester & Paarl in W Cape, where it hangs out its large scarlet flowers, with white diamond-markings on the 3 lower segments, in midsummer, on moist cliffs near waterfalls or streams, at altitudes up to 1400m. A clump in our unheated greenhouse was magnificent this year. Though a late-flowering, winter-grower, with new growth appearing in autumn, it grows outside with D. Hoskins (Hampshire, UK), replacing growth damaged in winter & flowering a month or so later than with us.) (15+) **C**
- 3.257.200 : GLADIOLUS CRASSIFOLIUS** KwaZulu-Natal, near Underberg. 1600m. R.& R. Saunders coll. (A summer-growing, grassland species, widespread through the summer rainfall area from E Cape up through Lesotho into the Transvaal & climbing to about 2000m. in the Drakensberg. Spikes about 1m. high with up to 40, curved, bell-shaped flowers, usually in pink or mauve with long, dark blotches on the lower segments. Should be hardy & growable outside in most of the UK.) (15+) **B**
- 3.257.800 : GLADIOLUS DALENII** E Cape, Witteberge, E of Lady Grey. 2000m. Among grasses & scrub in deep, moist soil. 18.3.96 (A very showy member of a species group which extends N from the E Cape to Ethiopia & Arabia. Summer-growing, from altitudes up to 2500m. in the Drakensberg, this must be growable & hardy in most of the UK. About 60cm. high in this form with hooded, brilliant scarlet-orange flowers, large bright yellow blotches almost occupying their lower segments.) (20+) **B**
- 3.258.700 : GLADIOLUS ECKLONII** (subsp. *ecklonii*) KwaZulu-Natal, near Merrivale. 1500m. R.& R. Saunders coll. (A summer-grower from foothill grassland along the Drakensberg escarpment N from E Cape to the Transvaal at up to 2300m. & should be fairly hardy. Funnel-shaped flowers, amid glaucous bracts, densely speckled with red or maroon on a whitish ground. 40cm.) . . . (15+) **B**
- 3.261.000 : GLADIOLUS FLANAGANII** KwaZulu-Natal, Drakensberg, S of Sani Pass. 2850m. Fissures on SE-facing, basalt cliffs. 21.3.96 (The 'Suicide Gladiolus', a summer-growing alpine chasmophyte, almost always out of reach on inaccessible cliffs at the highest altitudes in the Lesotho & Natal Drakensberg, up to 3300m. Rounded, thick-textured, scarlet flowers with narrow, white guide-lines on the lower segments. A priority to establish in cultivation. We spare a very few seeds for the adventurous.) (8) **F**
- 3.261.900 : GLADIOLUS GUEINZII** W Cape, near Nature's Valley. Sea-level. R.& R. Saunders coll. (An odd species from sea-side sands along the summer-rainfall Cape & Natal coasts. Thick, fleshy leaves & pink flowers, blotched with red & striped with white on the lower segments. 50cm. Definitely frost-free when dormant but may be possible outside in summer in the UK.) (20+) **B**
- 3.267.200 : GLADIOLUS MACULATUS** subsp. **MERIDIONALIS** * No data. A winter-grower for frost-free conditions. An elegant, narrow-leaved, wiry-stemmed plant about 40cm. high with larger, clear salmon-pink flowers than the brown-mottled type-race. It grows in a few sites, in sandy soils, in the southern Cape & is no trouble under glass with minimal frost-protection. (15+) **C**
- 3.270.100 : GLADIOLUS OPPOSITIFLORUS** subsp. **SALMONEUS** E Cape, Drakensberg, Naudesnek. 2400m. Among grasses on steep, stony, SE-facing slope. 17.3.96 (One of the loveliest of all. About 60cm. high with, one-sided spikes of big, salmon-pink flowers, sparsely marked with crimson in their throats. The high altitude, inland race of the species which has contributed much to the large hybrids. If breeders had used this subspecies, they could have produced the desired second spike without trouble & given us really hardy hybrids. A summer-grower, likely to prove a good, hardy garden-plant in a well-drained site in the UK.) (8) **C**
- 3.270.850 : GLADIOLUS PERMEABILIS** subsp. **EDULIS** E Cape, N of Tarkastad. 1200m. Among grasses on rock-slabs. 15.3.96 (Widespread in the dry climates of the interior, ascending to 3000m. & flowering according to the rainfall. Slender 50cm. stems with 12 or so flowers, with attenuate tips to the segments, in cream, usually tinged with muted pink or mauve, blotched with yellow, edged with purple, on the lower, lateral lobes. Temperature-hardy but unlikely to be tolerant of excess moisture.) (10) **C**
- 3.276.500 : GLADIOLUS SAUNDERSII** E Cape, Drakensberg, NE of Rhodes to Naudesnek. 2200m. Ledges on diorite outcrops & on steep, rocky slopes. 16.3.96 (A startlingly spectacular summer-grower distributed from the Witteberge & Cape Drakensberg N through Lesotho at altitudes up to 2900m. but absent from almost all of the Natal Drakensberg. It has been confused with the very local, closely related *G. flanaganii*. Both are summer-growers with brilliant scarlet flowers marked with white on the lower segments but flower shape, habit & habitat are quite different. Almost certainly fully hardy in a well-drained site in the UK.) (10) **C**
- 3.276.501 : GLADIOLUS SAUNDERSII** E Cape, Witteberge, E of Lady Grey. 2000m. Diorite outcrops. 18.3.96 (10) **C**
- 3.277.700 : GLADIOLUS SERICEO-VILLOSUS** KwaZulu-Natal, near Merrivale. 1500m. R.& R. Saunders coll. (A summer-grower, widespread in montane grassland up to 2100m. N from the E Cape to the Transvaal. Distichous spikes, up to 2m. high with as many as 40 cream to lavender, funnel-shaped flowers with elongated, yellow, dark-edged markings on the lower lobes.) (15+) **C**
- 3.278.105 : GLADIOLUS STEFANIAE** * S African cultivated seeds of this extraordinary winter-grower, flowering in autumn before the leaves. Described in 1972 & restricted to a tiny area in the Langeberg, SW of Montagu in W Cape. About 30cm. high with a few large flowers, scarlet with median white stripes on the lower segments, & almost identical to those of the evergreen, forest-dweller *G. sempervirens*, from which it may have evolved. Frost-free but only barely so for this mountain-plant.) (10) **D**
- 3.279.500 : GLADIOLUS SYMONSII** KwaZulu-Natal, Drakensberg, S of Sani Pass. 2850m. Steep, grassy slope below basalt cliffs. 21.3.97 (A small, very slender summer-grower, 20-30cm. high, which, by elimination, appears to be this seldom-collected, alpine endemic from basalt outcrops at 2000-3000m. Pink, almost regular flowers with long anthers. A very few seeds.) (8) **E**

3.279.710 : GLADIOLUS TRISTIS * The fact that this winter-grower is comparatively hardy in much of the UK raises expectations that there should be more. It made itself at home in Helen & Ivor Barton's Devon garden & we grow it without trouble in an unheated greenhouse. We grew its hybrid with *G. cardinalis*, *G. x colvillei*, outside but the foliage was always too damaged in winter with us & it is now too under, unheated glass, though it is a great success in several Devon gardens. The species is quite widespread in the winter-rainfall area of W Cape at up to 1800m. Large, fragrant creamy white flowers on stems of 50cm. or more.) (20+) **B**

3.306.000 : GUNNERA PERPENSIS KwaZulu-Natal, Drakensberg, SW of Njesuthi valley. 2200m. Steep, wet, grassy slope. 23.3.96 (The only S African in this mainly southern hemisphere genus. A summer-grower & surely hardy in the UK. A rhizomatous perennial of marshy places, intermediate in size between the giant & tiny ones, with rounded foliage on stems of about 50cm.) (20+) **B**

Hesperantha : flowers of the west go east into the rain

With about 60 species, all in southern Africa, this cormous genus of the *Iridaceae* follows the standard distributional pattern. Most of them grow in S Africa itself. Of these, the larger number are winter-growers from the SW. However, over a dozen ascend to high altitudes in the summer rainfall area. Our collections of these summer-growers will be temperature-hardy in the UK but the saxatile ones & any others from similarly well-drained habitats are unlikely to tolerate wet British winters when they are dormant. They will need to be kept dry under glass then, just like any other high-alpines. All summer-growers

will be best outside in a British summer, kept well watered if the weather is hot & dry. Larger species from marshy habitats will probably be perfectly successful grown outside throughout the year in the UK. This is a diverse genus with many lovely things in it, variable in height & form from crocus-like to gladiolus-like plants, usually with white or pink flowers, often more deeply coloured on the exterior. The summer-rainfall species have been well investigated recently by Hilliard & Burt, so there should be no trouble in supplying names as soon as we have some flowering material available.

3.410.250 : HESPERANTHA BACHMANNII * A winter-growing, W Cape species, successful with our friends in California but will probably need to be grown frost-free in the UK. About 30cm. high with elegant white flowers with darker markings. (20+) **B**

3.415.500 : HESPERANTHA TYSONII E Cape, Drakensberg, Naudesnek. 2400m. Among grasses on steep, moist, SE-facing slope. 17.3.96 (A few late flowers here so we have a determination from Peter Goldblatt. One of the highest alpines in the genus, recorded up to 3300m. About 30cm. high with large, deep-pink flowers, vaguely like a wiry-stemmed *Schizostylis*, though first described by Baker in *Acidanthera*. This is likely to be tolerant of wet British winters & as well as very low temperatures.) (15+) **D**

15711 : HESPERANTHA SP. Lesotho, Drakensberg, NE of Sani Pass. 2900m. Shallow, gravel-filled depressions on rock-slabs. 20.3.96 (A tiny plant, a few cm. high, with minute, falcate leaves. Possibly *H. glareosa* or *H. hygrophila*.) (20+) **D**

15737 : HESPERANTHA SP. KwaZulu-Natal, Drakensberg, S of Sani Pass. 2850m. Fissures on vertical, SE-facing, basalt cliff. 21.3.96 (About 15cm. high or less. There are several saxatile species adapted to this type of habitat.) (15+) **D**

15741 : HESPERANTHA SP. KwaZulu-Natal, S of Sani Pass. 2850m. Steep, grassy slope. 21.3.96 (30cm. high) (20+) **C**

15792 : HESPERANTHA SP. KwaZulu-Natal, Drakensberg, SW of Njesuthi valley. 2200m. Steep, moist, grassy slope. 23.3.96 (Flower remains pink on wiry stems 30-50cm. high. Similar habit & habitat to *H. tysonii* but seeds are very different.) (20+) **C**

15838 : HESPERANTHA SP. Orange Free State, Drakensberg, Mont-aux-Sources. 2900m. Diorite rock crevices. 25.3.96 (About 3-10cm. high. Flower remains deep pink. Of similar habit & habitat to *H. scopulosa*, seen in flower elsewhere.) (15+) **D**

KNIPHOFIA : The collection of seed from this spectacular genus, which includes many wet-growers & montane plants, was one of our main aims in 1996. Our winter list will include about 20 collections from summer-growing species made at up to 3000m.

3.540.500 : MASSONIA DEPRESSA N Cape, Namaqualand, Kamiesberg. 1500m. R. & R. Saunders coll. (A winter-grower, like most in this small genus of liliaceous bulbs, with about 8 species recognized currently (though almost 40 have been described) mostly in the SW Cape. This is a sweet little plant with dense heads of white flowers sitting between the 2 flat, fleshy leaves. No trouble in a pan under glass, this high altitude coll. should be used to plenty frost but it will do no harm to keep it frost-free.) (20+) **B**

3.541.300 : MASSONIA PUSTULATA N Cape, Kamiesberg. 1500m. R. & R. Saunders coll. (A larger version but still with subsessile, white heads. The rounded, strongly-veined leaves are rough & covered with pustules. Should be just as hardy.) (20+) **B**

15710 : MASSONIA SP. Lesotho, Drakensberg, NE of Sani Pass. 2900m. Gravel-filled depressions on rock-slabs. 20.3.96 (Presumably the only one listed in Hilliard & Burt : as an unidentified species, "perhaps a small form of *M. echinata*", growing in "seasonally wet silt patches over rock sheets..2800-3000m., summit plateau only." A tiny summer rainfall plant with sessile heads (we assume of the usual white shaving-brush type) between 2 flat, ground-hugging, smooth, oval leaves. Certainly hardy in the UK & to be tried in a trough or alpine-house pan - fully exposed & kept wet outside in summer, dryish & cold in winter.) (20+) **C**

3.546.00 : MELASPHAERULA RAMOSA (*M. graminea*) * No data. A monotypic genus in the *Iridaceae* with 30cm. high branching sprays of greenish cream flowers lined with purple. A winter-grower from the SW Cape, no trouble if barely frost-free. . . . (15+) **B**

3.670.000 : RANUNCULUS BAURII Orange Free State, Drakensberg, Mont aux Sources. 2800m. Among rocks down, steep, wet gully. 25.3.96 (A big handsome buttercup which grows in wet sites at up to 3000m in the Drakensberg, so should be very hardy & easy outside in the UK. About 60cm. high with large, glossy, rounded leaves & sprays of bright yellow flowers.) (20+) **C**

Romulea : snow-melt winter-growers from the desert ranges

We cannot think of another really important genus of dwarf, winter-growing monocots still so neglected by northern hemisphere bulb-enthusiasts. In the *Iridaceae* & almost certainly derived from the same ancient ancestor as *Crocus*, this genus, like *Erica*, *Gladiolus*, *Pelargonium* & several others, has its centre of diversity in S Africa with a secondary, much more limited centre in the Mediterranean area of the northern hemisphere. Though there a great variation in characters, the general pattern is of corms with crocus-like flowers, carried severally on stems of about 10-20cm., though some will extend to 30cm. or so as they approach fruiting. Many of the montane ones will open their flowers at about 5cm. The assumption by bulb enthusiasts that S African species are best grown under frost-free conditions is true for the low altitude species of the SW Cape. Until now, these have been almost the only ones we have had access to. There are, however, a great many mountain-plants, distributed through the ranges spreading from Namaqualand in a great curve to the S & W, along the borders of the Northern Cape & of the Great Karoo, with many narrow endemics & an extraordinary explosion of species locally, particularly in the Nieuwoudtville area. Recently Rod & Rachel Saunders have been visiting these mountains when the plants are in flower & returning to collect seed. They have little doubt

that their collections of the following, made at high altitudes, will be perfectly temperature-hardy in most of Europe & N America : *R. amoena*, *R. atrandra*, *R. monadelphica*, *R. monticola*, *R. syringodeoflora*, *R. tetragona* & the races of *R. tortuosa*. Many more are likely to prove just as hardy as these but remember we are dealing with winter-growers from a dry, continental climate. They will need a summer rest & possibly some care with watering during the growing season. Treat them precisely as you would the majority of such N Hemisphere genera, as *Crocus*, *Fritillaria* or *Tulipa*, with which they will fit in perfectly in the bulb-frame or alpine-house, where they can have good ventilation during their winter growing-season. The high altitude monocots of these desert ranges are an untapped source for the northern hemisphere bulb-enthusiast. In this list you will find high collections of *Androcymbium*, *Massonia* & *Daubenyia* spp. We hope we can persuade Rachel & Rod Saunders to collect more. Give them a trial ; you will find these romuleas the most spectacular dwarf 'bulbs. The very few, summer rainfall *Romulea* spp., all from high in the Drakensberg (*R. macowanii*, etc.) are totally hardy & satisfactory outside in the UK but, if you want to be perverse, these would probably forgive you for treating them like the vast, winter-growing majority. Names follow the 1972 monograph by M.P. De Vos.

- 3.700.200 : ROMULEA AMOENA** N Cape, Bokkeveldberge, near Nieuwoudtville. 1300m. R. & R. Saunders coll. (One of the local species of the high stony plateaux of the Nieuwoudtville area, where it can carpet the ground in spring with its huge carmine to deep rose crocus-flowers, blotched purple-black in their throats. Should be as hardy & growable as most *Crocus* spp.) (20+) C
- 3.700.400 : ROMULEA ATRANDRA** (var. *atrandra*) N Cape, Roggeveldberge, W of Middlepos. 1800m. R. & R. Saunders coll. (Distributed more widely than most on the stony clays of the inland plateaux of the W. Large flowers in an intense magenta-rose, blotched with violet or blue-black above the yellow -cupped centres. Almost certainly temperature-hardy in the UK.) (20+) B
- 3.701.800 : ROMULEA DIVERSIFORMIS** N Cape, Komsberg, SE of Sutherland. 1800-2000m. R. & R. Saunders coll. (Very local in the desert-ranges of the Sutherland region, along the southern margin of the Great Karoo. Clean, bright, buttercup-yellow flowers, distinct in the absence of dark internal markings. Treat it like a bulb from S central Turkey or Nevada.) (15+) C
- 3.702.000 : ROMULEA EXIMIA** W Cape, near Darling. 60m. R. & R. Saunders coll. (A low altitude plant, confined to the Malmesbury area, inland & N of Cape Town. Dusky rose flowers, blotched with deep crimson in their throats, above a pale yellow cup. A superb thing & possibly needing only minimal protection, just frost-free, under glass in the UK.) (20+) B
- 3.703.400 : ROMULEA HIRTA** N Cape, near Middlepos. 1800m. R. & R. Saunders coll. (Another almost certainly temperature-hardy species from the continental climate of the inland plateaux, S of the Great Karoo, SE from around Nieuwoudtville to the Klein Roggeveld. Distinct, winged, ciliate leaves & pale yellow flowers, marked internally with a transverse brown band.) (20+) B
- 3.703.700 : ROMULEA KOMSBERGENSIS** N Cape, Komsberg, SE of Sutherland. 1800-2000m. R. & R. Saunders coll. (Only recorded from sandy soils on the high Komsberg plateau & inured to low winter-temperatures. Near *R. atrandra* but the big, rosy flowers are usually tipped with violet-blue & the buttercup-yellow cup, below a bluish band, has a brown base.) (10+) C
- 3.704.000 : ROMULEA LUTEOFLORA** N Cape, near Middlepos. 1800m. R. & R. Saunders coll. (More or less a yellow version of *R. atrandra* but distinct in its colour & chromosome number. Like it, a plant of high, cold habitats, mainly in the Cedarberg & Bokkeveld. Big, brilliant-yellow flowers, strikingly blotched internally with mahogany-brown.) (20+) B
- 3.704.050 : ROMULEA LUTEOFLORA** var. *SANISENSIS* Lesotho, Drakensberg, NW of Sani Pass. 2900m. Peaty turf along stream. 20.3.96 (An odd disjunction, only known in this locality. This is a summer-grower & the type-race is winter-growing.) (10+) C
- 3.704.150 : ROMULEA MACOWANII** var. *ALTICOLA* (*R. longituba* var. *alticola*) * Lesotho, no further data. (Ex the H. Milford type-collection, long grown & totally hardy outdoors in UK gardens. Long-tubed flowers (the longest in the genus) in yellow, shading to orange-yellow inside & tinged with brown or purple externally. Known only from this & one other coll.) (15+) B
- 3.704.170 : ROMULEA MACOWANII** var. *OREOPHILA* E Cape, Drakensberg, Naudesnek. 2450m. Exposed, gravelly areas on rock slabs of summit col. 17.3.96 (Conveniently, this trio of tiny, alpine, yellow-flowered summer-growers all come together alphabetically. This has a much shorter tube than the preceding & the bases of the flower & bract are often below the ground. From the Cape Drakensberg & adjacent ranges, it is nearer the type-race, centred on the mountains of the Karoo.) (10+) D

- 3.704.600 : ROMULEA MONADELPHA** N Cape, near Nieuwoudtville. 1300m. R. & R. Saunders coll. (Another endemic of the Nieuwoudtville area, considered by De Vos to be "one of the rarest & most beautiful" species. Close to better-known *R. sabulosa* but with even more brilliant satin flowers in deep claret-red, with different black markings in their throats & distinct, shiny, black filament tubes. The Saunders think this may prove to be one of the hardiest. It will be sensational in the alpine-house.) (15+) C
- 3.704.700 : ROMULEA MONTANA** N Cape, S of Nieuwoudtville, near Moedverloor. 1300m. R. & R. Saunders coll. (Distributed at high altitudes S from the Bokkeveldberge to the Cedarberg. Shiny, buttercup-yellow flowers, usually blotched with dark brown & tinted or feathered red-brown outside. The name of the locality means 'lost hope' but we have high hopes for this.) (20+) C
- 3.704.800 : ROMULEA MONTICOLA** N Cape, near Moedverloor. 1300m. R. & R. Saunders coll. (Confined to the high plateaux of the Bokkeveld & Gifberg, this is sympatric with the preceding & remarkably similar in flower. The two are not at all closely allied, however, & have quite different corms. Red-brown backed, golden yellow flowers, with deeper yellow centres.) (20+) C
- 3.705.500 : ROMULEA PEARSONII** N Cape, Namaqualand, Kamiesberg. 1500m. R. & R. Saunders coll. (A Kamiesberg endemic, not unlike the more widespread *R. luteoflora* but distinct from this in its corm & fruiting habit. Lemon-yellow flowers, usually tinged or veined red-brown externally. Though from quite far N, it grows high enough for temperature-hardiness.) (20+) C
- 3.706.110 : ROMULEA SALDANHENSIS** * No data. From sandy clays near the Atlantic, N & S of Saldanha Bay. We have grown it unheated but it is safest frost-free. Big, bright-yellow flowers, darkly pencilled inside & marked brown outside.) (20+) B
- 3.706.800 : ROMULEA SLADENII** W Cape, Gifberg S of Vanrhynsdorp. 1000m. R. & R. Saunders coll. (Endemic to the sandstone of the Gifberg plateau. Very crocus-like with its white, yellow-centred flowers, usually purple-stained externally.) (20+) C
- 3.707.300 : ROMULEA SYRINGODEOFLORA** N Cape, near Middlepos. 1800m. R. & R. Saunders coll. (Endemic to the high plateaux near Sutherland NW to the edge of the Roggeveld. The only member of the small Section *Lomurea*, with rather flattened leaves, listed here. Flowers with long tubes & spreading, magenta-pink segments, yellow-striped, dark-red externally.) . . . (15+) B
- 3.707.500 : ROMULEA TETRAGONA** (var. *tetragona*) N Cape, near Middlepos. 1800m. R. & R. Saunders coll. (A most distinct plant, possibly not close to any other, though placed in Section *Hirtae* with *R. hirta*. Like it in its winged, hairy leaves but quite unlike it, however, in its corms & violet-rose to lilac-pink flowers with dark anthers.) (20+) B
- 3.707.700 : ROMULEA TORTUOSA** (subsp. *tortuosa*) N Cape, near Middlepos. 1800m. R. & R. Saunders coll. (A species from the cold, dry, western ranges, the Hantamberge, the Bokkeveldberge, the Komsberg & the Roggeveld. Fascinating, flexuose, spiralled leaves twist on the ground. Striking, big, yellow to orange flowers with spade-shaped black blotches on each segment.) . . . (20+) B
- 3.707.750 : ROMULEA TORTUOSA subsp. AUREA** N Cape, Komsberg SE of Sutherland. 1800-2000m. R. & R. Saunders coll. (According to De Vos, distinguished from the type-race "by its slightly larger, crocus-like, fragrant, buttercup-yellow or almost orange-yellow flowers without dark markings, with the upper part of the perianth segments paler yellow" among other characters. The two races are usually separated geographically but apparently colonies of intergrades occasionally occur.) (20+) B
- 3.750.000 : SCILLA DRACOMONTANA** E Cape, Witteberg, E of Lady Grey. 2200m. Fissures & pockets on diorite outcrops. 18.3.96 (This genus has only a few species in S Africa. Many taxa once included in it have been removed to *Ledebouria*. These are the 3 summer-growing, Drakensberg representatives. They are all plants of rocky areas & will be best kept dry during their winter dormancy. All should be temperature-hardy in the UK but should only be tried in well-drained sunny sites outside. This was about 15cm. high in seed. *S. natalensis* is the tallest, reaching about 1m. All are worthwhile with fine heads of blue flowers.) . . . (15+) C
- 3.750.500 : SCILLA NATALENSIS** KwaZulu-Natal, near Merrivale. 1500m. R. & R. Saunders coll. (20+) B
- 3.750.600 : SCILLA NERVOSA** KwaZulu-Natal, near Merrivale, 1500m. R. & R. Saunders coll. (20+) B
- 3.899.500 : WACHENDORFIA THYRSIFLORA** W Cape, near Bredasdorp. 50m. R. & R. Saunders coll. (This species, a member of the *Haemodoraceae*, is something of a feature in Cornish & other mild, UK gardens. It comes from marshy areas at low altitudes in the winter-rainfall area of the W Cape. As we shall see in our next list some of these W Cape low altitude species have provided material for British gardeners when they originate from really wet habitats. Described by G.S. Thomas as "most handsome", this is a 2m. perennial with arresting, ribbed foliage & tall, branching stems packed with rich-yellow flowers in summer.) (15+) B
- WATSONIA** : Our winter list will feature a good range of high altitude summer-growing species from the summer-rainfall areas.
- 3.980.000 : WURMBEA ANGUSTIFOLIA** E Cape, Drakensberg, ESE of Ben Macdhui. 2750m. Among grasses in wet-flush on open slope. 17.3.96 (A small genus in *Liliaceae* with about 12 species in S Africa. These two are summer-growing alpinists. Somewhat scilla-like corms, about 10cm. high with narrow, channelled leaves & starry, white flowers. A crimson-brown scale on each segment gives them a distinct appearance. Well worth alpine-house cultivation (kept dry in winter), though totally hardy.) (20+) C
- 15709 : WURMBEA SP.** Lesotho, Drakensberg, NW of Sani Pass. 2900m. Seasonally flooded, shallow, gravel-filled depressions on rock-slabs. 20.3.96 (Of similar habit & may be the same as the preceding or may be *W. burttii* or *W. pusilla*.) (20+) C
- 3.985.000 : XEROPHYTA VISCOSA** (*Vellozia viscosa*) Orange Free State, Mont-aux-Sources. 2900m. Diorite rock-slabs. 25.3.96 (A woody-based perennial in the *Velloziaceae*, if that helps you. One of the most stunning of alpine crevice-plants, usually on sandstone cliffs, forming mats of linear, sedge-like foliage which send up huge, pink, amaryllis-like flowers on sticky, 15cm. stems in late summer & autumn. Like nothing we know in cultivation in the UK. We should be even more effusive if we had more seed (early winter would be necessary for a good collection) and if we did not have the suspicion that it is going to be difficult to grow. To be tried in the UK in an alpine-house pan in gritty acid soil, stood outside all summer & kept dryish in winter.) (20+) E

Species from Eastern Asia**Seeds from Jim & Jenny Archibald**

- 4.082.100 : ARISAEMA ELEPHAS** (*A. wilsonii*) * China, Yunnan, Cangshan. 3200m. Ex E. Needham 1024. (Illustrated in the recent AGS Bulletin on Chinese plants (Vol.64, No.2, p.186), where Ron McBeath writes "one of my favourites...striking & handsome...reasonably easy to cultivate at Edinburgh." Mike Tucker, who produced this seed outside in Somerset, also finds it vigorous & hardy so far, though it appears early. Large, trifoliate, rugose leaves, often flushed purple & margined with red. Elongated black-purple spadices snake out from hooded spathes striped with parallel purple & translucent white lines. 40cm.) (5) **D**
- 4.086.200 : ARISAEMA NEPENTHOIDES** * Nepal, Modi Khola valley, near Sheopuri. 3050m. Ex E. Needham 410 (Widespread E from Nepal to W China, at altitudes up to 3300m., this is the only Himalayan member of Sect. *Arisaema* & unlike any other in its thick, digitate, glossy leaves on purple-blotched stalks. Handsome, irregularly brown-purple mottled, yellowish white, hooded spathes with distinctive, prominent side-lobes & a stubby, white spadix. Hardy in the UK & one of the first to flower.) (5) **C**
- 4.250.910 : DAPHNE RETUSA** * No data. Dwarfier, slower-growing version of the next. Both are native to W China. (5) **D**
- 4.251.010 : DAPHNE TANGUTICA** * No data. Fine, evergreen shrub, about 1m. high, with clusters of fragrant flowers, rose-purple outside & lilac-tinged white inside. We stopped listing daphnes as seed was not storing well. These are fresh-collected. (5) **B**
- 4.340.001 : ERYTHRONIUM JAPONICUM** Japan, Honshu, Kiyose. (The Japanese version of *E. dens-canis*, sometimes included under it (as *E. dens-canis* var. *japonicum*), with larger flowers of deeper rose-purple, marked with dark-purple towards the centres. Mainly distributed towards the N of the islands & also in Korea. Seed gives the best chance of establishing it.) (10+) **D**
- 4.340.002 : ERYTHRONIUM JAPONICUM** Japan, Honshu, Shirakawa, Takushima. (These are both 1996 wild colls.) . . . (10+) **D**
- 4.390.110 : FRITILLARIA CAMTSCHATCENSIS** * No data. A marvellous plant with stems of 30cm. or more, whorled with rich-green leaves, carrying nodding, thick-textured bells in darkest brown-purple. Distributed from Japan in a N Pacific arc through Sakhalin & Kamchatka into Alaska & Canada. Utterly hardy & quite easy outside in the UK in a cool situation. (20+) **C**
- 4.580.000 : PAEONIA EMODI** India, Garhwal Himal. 3000m. (Seed collected late in 1995, ideal for immediate sowing. A superlative W Himalayan species, distributed from Chitral to W Nepal, with bright-green foliage, deeply cut into tapering segments & huge, floppy, outward-facing, pure-white flowers, up to 4 on the 75cm. stems. Well suited to UK gardens.) (6) **E**
- 4.581.000 : PAEONIA OBOVATA** Russia, Sakhalin. (We assume this wild coll. will be from the pale-rose race, which we have never seen in cultivation & which is the only one we can find recorded from this island immediately N from Japan, & not from the white-flowered race, sometimes segregated as *P. japonica*. These are also supposed to differ in their stigmas & follicles. All this group, about 50cm. high, have beautiful lobed foliage. A unique opportunity to acquire seed from an obscure locality.) (6) **E**
- 4.581.600 : PAEONIA VEITCHII** var. **WOODWARDII** No data. Wide, dense clumps of shiny green, deeply cut foliage & slightly drooping, bowl-shaped flowers, usually in soft rose-pink. From up to 3000m. in SW China & excellent in the UK. (8) **C**
- 4.699.600 : RHEUM PALMATUM** - from red-leaved clone * One of the most imposing of herbaceous perennials but it needs space for its very large, deeply cut leaves, which in the parent are crimson, flushed with scarlet, as they emerge in spring, remaining crimson-tinted below well into summer, when a panicle of brilliant cerise flowers soars to about 3m. high. This is from 'Red Herald', selected, when we were at Buckshaw Gardens, as the best out of hundreds of seedlings from the variable plants circulated as 'Atrosanguineum', 'Bowles' Variety', etc. Sow the seed promptly, select the best but please don't call them 'Red Herald' . . . (20+) **B**
- 4.699.601 : RHEUM PALMATUM** - from green-leaved clone * From our other selected clone 'Green Knight', raised from a plant we had as *R.p.* var. *tanguticum*. Green-leaved but, if anything, larger & more spectacular in its spires of vivid cerise-red flowers. The very fine, jaggedly cut foliage tends to remain in better condition in recent hot summers &, on the whole, we prefer it in W Wales. Anyway, the two will probably have crossed & should provide a good range of variation. (20+) **B**

Species from Australasia**Seeds from Jim & Jenny Archibald**

- 5.125.000 : BLANDFORDIA PUNICEA** (*B. marginata*) Tasmania, South Bruny Island, Jetty Beach. M. Harvey coll. (Possibly the hardiest member of this small Australian genus in the *Liliaceae*. Reputedly difficult, this is no trouble in the sandy, peaty soil of our unheated greenhouse & it is worth trying outside in milder parts of the UK. Racemes of up to 25, tubular flowers, in scarlet tipped with orange-yellow, on stems of about 60cm. from tufts of narrow, leathery, dark-green leaves. A spectacular plant.) (30+) **C**
- 5.252.005 : CLEMATIS MARMORARIA** * No data. Open pollinated seed from Jim Almond, which may involve back crosses with the hybrid *C. x cartmanii*. Jim finds germination good if this is sown very fresh. His seedlings have all been compact & dwarf, even if they cannot be guaranteed as 100% pure *C. marmoraria*. Very recently collected seed, kept refrigerated. (10+) **D**
- 5.730.700 : PATERSONIA FRAGILIS** (*P. glauca*) Tasmania, Cockle Creek. M. Harvey coll. (A Tasmanian coll. of the one species in this attractive genus of the *Iridaceae*, which is near-hardy in the UK. Iris-like clumps of foliage & purple-blue flowers opening flat with 3, showy segments. About 30cm. high, this may succeed in mild parts of the UK. No trouble if protected.) (20+) **C**
- More Tasmanian collections & most E Asian species will be in our next list. We include only a few which are best sown early at present.

A : \$2.00 ; £1.50 ; DM4,- ; FF13.- C : \$4.00 ; £2.50 ; DM6,- ; FF21.- E : \$7.00 ; £4.50 ; DM12,- ; FF40.-
 B : \$3.00 ; £2.00 ; DM5,- ; FF17.- D : \$5.00 ; £3.50 ; DM9,- ; FF30.- F : \$9.00 ; £6.00 ; DM15,- ; FF50.-

A few garden hybrids & selections : Seeds from Jim & Jenny Archibald

While our main aim is to offer you seeds either from the wild plants themselves or from cultivated plants grown from wild seeds, we derive much pleasure in our own garden from cultivars which have been selected from the species or are of hybrid origin. Many are named clones and it is essential that vegetatively propagated stock is obtained from these but with two of our favourite genera, *Cyclamen* and *Helleborus*, sowing

seed from selected parents is the best way to propagate them. Both of these germinate at low-temperatures & are best sown before winter. The species will be found in the appropriate geographical sections. Those listed here are too far removed from wild plants to be included in there. Here is also an appropriate place to list seed from one or two other hybrids which should yield some worthwhile children.

- 6.027.900 : ALSTROEMERIA LIGTU HYBRIDS** Thriving in British gardens from Cornwall to Aberdeen - even here in our cold, wet garden. Every shade from pink to orange, flame & biscuit. By all accounts, derived from *A. ligtu* subsp. *simsii* (coll. by Clarence Elliott in 1927 as *A. haemantha*) & *A. ligtu* subsp. *incarnata* (coll. by Harold Comber in 1926 as *A.l. angustifolia*). The Comber plant was actually much more likely to be *A. presliana*, explaining the dwarf, deep pinks which sometimes appear.) (20+) **A**
- 6.360.010 : CYCLAMEN COUM 'WHITE FLOWERS'** Hardy species with flowers in midwinter. Variable leaves. (15+) **B**
- 6.360.050 : CYCLAMEN COUM 'PEWTER LEAVES'** From pink & white-flowered, silvery-leaved forms. (15+) **D**
- 6.364.050 : CYCLAMEN HEDERIFOLIUM 'APOLLO STRAIN'** Derived from the original 'Apollo' selected by E. A Bowles as the clone with the most outstanding foliage. Intricately silver-patterned leaves, often pink-flushed when young. (15+) **C**
- 6.364.051 : CYCLAMEN HEDERIFOLIUM 'WHITE APOLLO'** From white-flowered plants. Similar leaves. (15+) **D**
- 6.364.090 : CYCLAMEN HEDERIFOLIUM 'PEWTER LEAVES'** Leaves suffused with a silvery mist. (10+) **C**
- 6.364.140 : CYCLAMEN HEDERIFOLIUM 'SILVER ARROWS'** Long, narrow, silvered, arrow-head leaves. (10+) **C**
- 6.364.160 : CYCLAMEN HEDERIFOLIUM 'SILVER LEAVES'** From Jim Almond. Distinct from others listed. (10+) **C**
- 6.364.161 : CYCLAMEN HEDERIFOLIUM 'SILVER LEAVES - WHITE FLOWERS'** Similar foliage to preceding. . . (10+) **C**
- 6.499.700 : FRITILLARIA MESSANENSIS subsp. GRACILIS HYBRID** From Norman Stevens. Large brown flowers. (20+) **B**
- 6.564.100 : HELLEBORUS - FROM BLUE & BLACK-FLOWERED HYBRIDS** From Will McLewin's blue-blacks. . . (10+) **D**
- 6.564.120 : HELLEBORUS - FROM CREAM & YELLOW-FLOWERED HYBRIDS** Mainly from 'Sirius' & 'Orion'. . . (10+) **D**
- 6.564.140 : HELLEBORUS - FROM PINK-FLOWERED HYBRIDS** Good, clear-pinks from Will McLewin (10+) **C**
- 6.564.150 : HELLEBORUS - FROM PURPLE-FLOWERED HYBRIDS** From 'Andromeda' & other good purples (15+) **C**
- 6.564.170 : HELLEBORUS - FROM H. TORQUATUS HYBRIDS** From hybrids like 'Pluto', 'Titania' & 'Zua', close to or derived from *H. torquatus*. Mostly with smallish, early, cup-shaped flowers & much-cut, deciduous foliage. (10+) **D**
- 6.564.190 : HELLEBORUS - FROM 'ZODIAC-TYPE' HYBRIDS** From pinks with a zone of maroon speckles. (15+) **C**
- 6.564.200 : HELLEBORUS - FROM HYBRIDS OF ALL COLOURS** From purple, cream, pink, & speckled clones. (20+) **C**
- 6.575.500 : IRIS BUCCHARICA HYBRID** A juno, given to Norman Stevens as a bicoloured form of *I. orchioides*, Norman thinks it more likely to be an *I. bucharica* hybrid. Winged, yellow falls & cream-white standards. For the bulb-frame in UK. (10+) **B**
- 6.747.850 : PAEONIA SUFFRUTICOSA 'CHINESE HYBRIDS'** Cultivated seed from China collected from a wide range of named hybrid clones, singles & doubles, in purple, pink, white & green. If all seedlings look like 'Joseph Rock', don't complain. (6) **C**
- 6.802.550 : PULSATILLA - FROM RED FLOWERED HYBRIDS** From isolated, deep velvety terracotta-red parents. . . . (15+) **B**

Thank you very much for your help and support

While our main aim is to offer you seeds collected or grown by ourselves, a vast amount of help from our friends in Britain and abroad is always much in evidence in our lists. We are grateful to : John Andrews & Mike Broder, Stan Farwig & Vic Girard, Jim & Georgie Robinett (all California, USA), Jim Almond (Shropshire, UK), Dinah Batterham (Dorset, UK), John Blanchard (Dorset, UK), Galen Burrell (Washington, USA), Peter Chappell (Hants., UK), Phil Cornish (Glos., UK), Tony Dickerson (Worcs., UK), Kath Dryden (Herts., UK), Alan Edwards (Surrey, UK), Don Elick (Japan), Marcus Harvey

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