

Drake's sunset

We have acquired a reputation for writing the introduction to our lists in a style, recently reviled by the British Prime Minister, as he attempted to whip up public enthusiasm for a multi-million pound, Disneyesque dome. "Cynics have rubbished the idea" apparently (shocking!) but they are only a part of "an ignoble, unpatriotic and nihilistic tradition", "an inglorious strand of British history." It is, on the whole, a "strand of British history" that some of us are proud to continue to try to spin, even if only in something apparently so trivial in the scheme of things as horticulture.

But it is impossible to be seriously negative without having a concept of the positive, no matter how idealistic that may be. You cannot have villains without having heroes. Heroes must be few. They need not be perfect but they must stand above a mass of self-serving mediocrity. Of course we have heroes in the field of collecting. E.K. Balls, Peter Davis, Rupert Barneby...and in horticulture? One of our gardening heroes died last winter.

after the war, he
went to Scotland and
grew alpine plants

Jack Drake was the first serious influence on Jim's work with plants. In the early 1960's, springs and

summers were spent away from university in Edinburgh, working at Jack Drake's Inshriach Nursery in the Scottish Highlands. Collecting seed from the vast range of plants growing there for the Inshriach seed-list was a summer activity.

Memories of Jack in those days continue to be a delight. His likes and dislikes among plants were clear-cut. He very much regretted that he could not grow some of his favourites at Inshriach. No kniphofias (pronounced 'correctly' with the K and P sounded) and no aubrieta (pronounced as most of us do). Always with a hint of hypochondria, he consumed 'Yeastvite' (does it still exist?) regularly - "marvellous thing". He was devoted to Danny Kaye, "a very funny man", and dashed off to Inverness to see his latest films.

Perhaps if Jim had ended up going to work with him full time, Jack Drake might not have remained a hero. It is best to preserve a little distance between reality and ideals.

His funeral service in Somerset was the shortest we have ever attended. Jack would have appreciated it. "Now that's what I call a funeral service. He went through that like a dose of salts." A couple of appropriately rousing hymns led by an extrovert vicar, who sang at the top of his voice, and the shortest possible resume of Jack's life. "After the war, he went back to Scotland and grew alpine plants." Fifty years. Just like that.

make mine a double prawn cocktail

When Jack went south to live in Somerset, we saw him several times each year. He still grew plants enthusiastically and sifted the best lewisias from his 'Sunset Strain' until his last year. We now grow the last of his selected seedlings here.

We almost always went out for a pub lunch with him and another old friend, Helen Barton. If that prerequisite of 1960's cuisine, prawn cocktail, was on the menu, Jack would order it. The last time we went to the bar of the hotel in Crewkerne, Jack proclaimed that he would not have a main course, "Just a double prawn cocktail."

After the cremation, we could not find a single person we knew from the plant world among the throng of Jack's extensive extended family, so we just went back to Wales. It was early evening as we turned homeward from Bristol. We drove into the west, chasing the most brilliant sunset either of us can remember towards the Atlantic for mile after mile. We had almost reached Swansea when the last glow faded. The particulates from Jack's incineration performed brilliantly. Every shade from his lewisias was there. Oranges. Yellows. Pinks. For a moment we caught a hint of the distinctive shade of prawn cocktail. Double, of course.

The bells! The bells!

"Who cares, indeed!", writes Roger Warner, curator of the Camellia Mountain Botanic Garden at St. Helena, California, in response to our comments on the smothering of curatorial skills by the British horto-botanical establishment. "The botanical gardens of California are limping along. The vegetable world has no sex appeal. If you can't eat it or make medicine out of it or saw it into lumber, it has no value; thus the rise of the botanical monastic movement. Every Sunday morning, we play a tape-recording over loudspeakers of

Quasimodo, the bell-ringer, ringing his chimes and screaming 'SANCTUARY!' We are collecting the hardy evergreen *Magnoliaceae* of China. We try to get them before they are turned into chairs or chopsticks and then redistribute propagating material. Sadly our existing botanical gardens are so underfunded or run by morons that we have difficulty getting anyone to accept our offers; thus we despair and turn up the volume on the loudspeakers....I find that seed pans of rarities help to dispel the gloom."

Helleborus thibetanus and other holy grails

Following a recent trip to China to cement relations, Will McLewin has arranged for an importation of a substantial number of cultivated *Helleborus thibetanus* divisions. These are even, field-grown, flowering size plants. In fact the ones we have here are in flower now, in shades of pale pink to very pale pink (more or less white). As we note this is advertised in a current RHS publication, 'The Garden', at a rather high price, some of you may wish to know that Will has these for sale at a basic retail price of £12 each (including postage & packing for UK customers), falling to £6 or even £3, if you wish to buy by the 100 or can use smaller divisions to grow on in bulk. Inquiries for these and for a range of Chinese tree-peonies (including cultivars approximating to that other holy grail, *Paeonia rockii*) from a specialist Gansu nursery to Will McLewin (not to us) at Phedar Nursery, Bunkers Hill, Romiley, Stockport, SK6 3DS (telephone & fax : 0161 430 3772). We hope to have seed available later in 1998. In accordance with our usual line of thought, we feel seed will give the best chance of establishing this disjunct species and learning of its requirements in western gardens.

Ordering from this list could not be easier

We shall accept your personal cheque in US \$, £ sterling or DM, with two qualifications: cheques in US \$ must be on a US bank account - charges on negotiating cheques on foreign accounts are very high in the USA (foreign banks can sometimes sell you a US \$ cheque drawn on one of their US branches); please do not send Eurocheques made out in US \$ - these are unfamiliar to the US banking system. Payments from France can cause problems. While we price in FF, we must ask French customers not to send cheques in FF and especially not to use cheques on 'La Poste'. These have proved very difficult to handle. A Eurocheque made out in £ sterling is excellent; a Giro payment in sterling is used by many French customers - you can price in FF and have the current equivalent sent to us in £ sterling. FF cash sent by registered letter is also no problem. If fluctuations in exchange rates mean that it is advantageous to select a currency other than your own, please do so - it makes little difference to the operation of our

business. Apart from personal cheques, payments can be made in bank-notes for any of these currencies (please send by registered mail), a bank draft or International Money Order (in sterling for these please). We do not operate a Giro account to enable direct transfers nor do we accept credit card payments at present. If remitting by sterling cheque, it is great help both to you and to us, if you send us an open cheque, limited to the total value of your order. Obviously it cannot be made out for more than the limit but it can certainly be made out for less, avoiding annoying credits or refunds - you will only pay for what we have sent after the order is despatched. If you do not wish to do this, a list of some possible substitutes will be very helpful - we shall not use them unless we have to and, if we do, we always try to send more than the value of the items not supplied. We shall not pay in your cheque until after your order has been sent - it is in our interest, as well as yours, to complete your order as quickly as we can.

PLEASE HELP US BY PRINTING YOUR NAME & ADDRESS CLEARLY. NO CHARGE FOR AIRMAIL ON SEEDS OR LISTS.

New customers please understand

There may be a delay of some weeks before you receive your order. Most orders come in during the first week or so after we send out a list. We usually receive orders very much faster than we can despatch them. If you feel your order is too long in arriving, check with your bank to find out if your cheque has been cashed - we do not pay in cheques until orders have been despatched. If it has been cashed, let us know immediately. One or two items are lost or delayed each year. In such an unlikely event, you will find us totally sympathetic. We are glad to say such problems are very rare. Postal services are on the whole reliable. We try to be as reliable ourselves.

Our population reference numbers

The species in our lists are divided into five distinct geographical areas. Within these areas they run in alphabetical order. The numbers appearing before the names run in numerical order (which means we do not much like generic 'splitting'). These numbers refer to particular populations, mainly in the wild, though cultivated material without data is given a number also. Wild collections which cannot be fully identified will be found under a five-digit field number. This number refers to a collection made by us on a particular date only. Both sets of numbers are permanent. The use of population references is to avoid seed from the same population of plants being distributed under a proliferation of field-numbers. In some instances, the same population of plants can be found in our own field-notes under a multitude of field-numbers, when it has been visited by us at different times, in different years. When another collector is involved their name or field number is quoted in the data following the plant name.

Identified species from Europe, W Asia & N Africa have six-digit numbers here, though they have an 0. before them on our records and you may sometimes see this on a label. The seven-digit numbers start with a 1. for North America, 2. for South America, 3. for Southern Africa (S of the Sahara), 4. for Eastern Asia and 5. for Australasia. Garden hybrids and selections (with which we are not much concerned) start with 6.

Cultivated seed, which has become increasingly evident in our lists, as we build up stocks raised from seed of wild origin, is marked with an asterisk (*). The field-data given in these cases refers to the parents. All cultivated seed was collected in 1997 or 1998. Most is hand-pollinated but it will not necessarily produce similar-looking seedlings. As our parent-stocks represent samples of wild populations, seedlings will show the variation present in the wild. We attempt to preserve the genetic diversity of the wild plants not to impose our concepts on them.

. welcome to our list

North American Delphiniums were a great success in 1997

The most exciting plants to flower here last season were the *Delphinium* species, grown from seed collected in western North America in 1995. A carnival of gentian-blue, scarlet and yellow species flowered over a long period in our cold greenhouse. Others found many did just as well and lasted longer in flower in the open garden. North American species are prefixed with the number 1

and Kniphofias are progressing well

Most 1996 seed from South African summer-growers, listed last spring, germinated quite well though many species did not appear until later in summer when temperatures are higher. So, there is no great hurry to sow these. In spite of the late start they made good progress, especially *Kniphofia*, which made large plants, producing a few late flowers. Species from southern Africa start with the number 3

You can find an expanding range of East Asian species

At present almost all from cultivated plants, some established from seed collected over the last decade or so by western visitors, but we hope within the next few years to be including material collected by local botanists in China and elsewhere in the far East of Asia. Our population references for East Asian species are all prefixed with the number 4

but if you don't know your onions start here with

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

This section covers species from 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. In general, nomenclature follows the basic floras, 'Flora Europaea', 'Flora of Turkey' & 'Flora Iranica', rather than horticultural

publications. There has been 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. 'Splitting' has been more fashionable in such areas but we have tried to indicate the affinities in brackets.

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.-

125.205 : ALCEA RUGOSA * No data. A good, clear-yellow hollyhock with lobed leaves & bristly stems of 1.5m. or more. Well illustrated in Phillips & Rix, Vol. 2, page 41. A very hardy perennial from the steppes of S Russia, SE to Turkmenistan. . . . (15+) **B**

127.203 : ALKANNA AUCHERIANA * Turkey, Icel, NNE of Gulnar. 1200m. Limestone fissures. (Pads of silvery-grey rosettes & azure-blue forget-me-not flowers - in the finest, bluest form in the Gulnar area. A few cultivated seeds of this classic alpine-house plant, difficult but by no means impossible to grow & definitely best, in the UK, kept under glass throughout the year.) (10+) **E**

Allium : a fine bunch of onions

While it has its devotees, many gardeners do not fully appreciate the qualities of this large & diverse genus, spread throughout the N Hemisphere with main centres in Europe & W Asia, as well as in western N America. We list a good range from the latter area later in this list. As well as some little-grown Turkish species, we have wild-collected seed of several Central Asian ones. All listed enjoy a situation in a well-drained site in full sun in the UK, if grown in the open garden. Most here tend

to be more successful in alkaline soils in the more continental climate of the E of Britain, rather than in the wetter, more equable climate of the W. Though strictly speaking winter-growers, most flower so late in the season & mature their seed later in summer, that they fit in with summer-growing species for winter-sowing. Although many of the following are easily grown, accommodating garden-plants, there are no species here likely to become aggressive under average garden conditions.

130.110 : ALLIUM AKAKA * No data. From a particularly good, deep pink form grown by Alan Edwards. One of the dwarfer & most western members of Sect. *Acanthoprason*, distributed from E Turkey & NW Iran, N into Armenia & Azerbaijan, frequently on loose shale or scree slopes. One or two, broad, glaucous leaves & short, stout stems with splayed shaving-brush umbels of many, campanulate flowers. Always attractive but all too often a pale or grubby shade of mauve. Bulb-frame or pot in the UK. . . . (10) **D**

130.500 : ALLIUM ANACOLEUM * Turkey, Van, Kavussahap Dag. 2500m. Stony slopes in steppe vegetation. (From the highest mountains of SE Turkey & N Iraq. Hemispherical umbels of little, purple-pink bells on 15cm. stems in summer.) (10+) **C**

130.600 : ALLIUM ATROPURPUREUM * No data. A handsome, 50cm. high plant from SE Europe & Turkey. Linear basal leaves & many-flowered umbels of starry flowers in deep, rich, red-purple on stems of about 50cm. (15+) **A**

131.000 : ALLIUM CALLIDICTYON * Turkey, Agri, near Tutak. 1600m. Ex a N. Stevens coll. (A small, dainty species from E Turkey, N Iran & N Iraq. About 20cm. high with fastigiate umbels of narrow, pink flowers with cut segments.) (15+) **B**

131.400 : ALLIUM CAROLINIANUM * No data. Most material in cultivation appears to originate from the KBE 268 coll. at about 4000m. on the limestone of the Razbal Gali pass, Kashmir, in 1983. Attractive & little-known, red-purple species. (15+) **C**

132.000 : ALLIUM DARWASICUM Tadjikistan, Varzob valley. (Elegant umbels of upturned, white flowers. 50cm.) (20+) **C**

132.810 : ALLIUM INSUBRICUM * No data. This is "*A. narcissiflorum* of gardens". Both species are closely related and equally local in the wild : *A. narcissiflorum* with sugar-pink, erect flowers in the French Alps ; *A. insubricum* from above Lake Como in N Italy with drooping bells in a lovely soft, dim wine-purple. Choice, slow-growing but not difficult in limestone scree. (10) **C**

132.950 : ALLIUM JESDIANUM Tadjikistan, Seravschan ridge, Shing valley. (A fine, variable, Central Asian, bulbous species, usually about 1m. high & long confused with *A. rosenbachianum*. Janis Ruksans has named a most distinct, early flowering clone, 'Shing', from this valley : extremely dense, dark purple umbels on 70cm. stems & yellowish-green foliage.) (20+) **C**

134.060 : ALLIUM MYRIANTHUM * Turkey, Denizli, Pamukkale. 400m. Ex a N. Stevens coll. (A type-locality coll. of this distinct, E Mediterranean, 80cm. high, plant with dense mop-heads of numerous, tiny, white flowers on purple pedicels.) (20+) **B**

134.200 : ALLIUM NEVSKIANUM * Tadjikistan, Varsob Gorge. (In Sect. *Acanthoprason* (like *A. akaka* & *A. karataviense*) with large umbels of rich, dusky, pinkish-red flowers. Satisfactory outside so far with Alan Edwards (Surrey, UK). (10) **E**

134.410 : ALLIUM OBLIQUUM * No data. A fine, ball-headed species distributed through Central Asia & S Siberia. Up to 1m. high with dense, almost spherical, umbels of many, cup-shaped, pale-yellow flowers with projecting yellow stamens. (15+) **B**

134.801 : ALLIUM ORIENTALE * Turkey, Antalya, Irmasan gecidi. 1530m. Openings in *Abies*, on limestone. (From a worthwhile form of this variable, 50cm. high species. Rounded umbels of white flowers with lilac-purple anthers & filaments.) (20+) **A**

136.200 : ALLIUM ROSEUM * Portugal. Ex an A. Edwards coll. (A good form with no bulbils in the umbels. About 30cm. high with many, large, attractive, bright-pink flowers, each with darker stripes along the segments. Best grown in a warm site.) (15+) **A**

137.010 : ALLIUM SENESCENS * No data. An excellent, hardy garden-plant, spread in the wild from SW Europe E into Siberia. Close clumps with flat foliage send up hemispherical umbels of lilac flowers on stems of about 30cm. (20+) **A**

137.100 : ALLIUM SIBTHORPIANUM * Ex a N. Stevens coll. (A W Turkish endemic, maintained by Kollmann in the 'Flora of Turkey', though allied to the diverse, E Mediterranean *A. paniculatum* complex. Much dwarfer than the latter, with a few, thready leaves and 15cm. stems carrying umbels of little, purplish pink bells with pointed segments, each one darkly veined.) (10+) **C**

138.900 : ALLIUM STIPITATUM Tadjikistan, Varzob. (A wild coll. of this imposing Central Asian, summer-flowering bulb. Ribbed stems of a 1m. or more high carry almost spherical umbels of starry, purple flowers with tapering, twisted segments.) (20+) **C**

139.000 : ALLIUM SUBVILLOSUM * No data. A W Mediterranean plant from maritime sands & grasslands, about 50cm. high, with many-flowered, hemispherical umbels of cup-shaped, pure-white flowers. Warm site or bulb-frame in the UK. (20+) **B**

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

- 138.980 : **ALLIUM SUWOROWII** * No data. Another good Central Asian bulb with stems approaching 1m. in height, carrying rounded umbels of many, starry, rose-purple flowers with narrow segments, reflexing & twisting as they mature. (15+) **B**
- 139.200 : **ALLIUM TAURICOLA** * Turkey, Sivas, Ziyaret Tepe. 2200m. Limestone fissures. (An autumn-flowering Turkish alpine-endemic. About 15cm. high with fastigate umbels of purple-pink flowers after the thready leaves have gone dormant.) . . . (15+) **C**
- 140.510 : **ALTHAEA CANNABINA** * No data. An easily grown, elegant, airy perennial hollyhock from S and E Europe. Pink mallow-flowers on long wiry, axillary stems or in terminal panicles can rise to about 1.5m. above the lobed, downy leaves. (10+) **A**
- 153.200 : **ANCHUSA UNDULATA** * Turkey, Mugla, Gok Tepe. 1500m. Open, stony area with sparse *Pinus*, on limestone. (Proving a pleasing, herbaceous perennial for a sunny, well-drained site ; 30-50cm high with cymes of deep violet-blue flowers.) . . . (20+) **B**
- 155.050 : **ANDROSACE ALPINA - COMPACT FORM** * No data. Seed from Jim Almond of a fine variant of this calcifuge European high alpine & one sought after by alpine-house specialists as, unlike most forms, which tend to straggle in cultivation at low altitudes, this remains quite tight. Its origins are obscure but we recollect seeing photographs taken in Austria by Lionel Bacon of very compact plants. Apart from its habit, this is quite typical *A. alpina* with rich-pink flowers from green rosettes (10+) **E**
- 163.050 : **ANGELICA PACHYCARPA** No data. A very local species from coastal rocks near La Coruna in NW Spain & Ilha Berlenga in Portugal. Described by Tim Ingram as an "unique *Angelica* of compact, sturdy habit & remarkable, varnished, deep-green foliage." A fleshy perennial up to 1m. high according to 'Flora Europaea' - biennial according to Tim. Hot, dry site in the UK (10+) **C**
- 169.800 : **ANTHRISCUS SYLVESTRIS - from DARK-LEAVED FORM** * From the intriguing form of this member of the *Umbelliferae*, widespread throughout Europe, currently circulated as 'Raven'sWing'. Dull, divided, brown-purple foliage & 1.5m. umbels of tiny pinkish-parchment flowers. Most purple-leaved plants come 'true' from seed but it will vary a little. (10+) **B**
- 174.201 : **AQUILEGIA PYRENAICA** * France, Pyrenees-Atlantiques, E of Col d'Aubisque. 1600m. Among *Fagus* scrub on limestone. (Like so many members of this genus, local and infrequent in the wild but not a problem in cultivation, at least under rock-garden conditions in moist climates. Exquisite, nodding, rich-blue columbines on branching, 20cm. stems above cut foliage.) (15+) **C**
- 195.150 : **ARUM CYRENAICUM** * No data but from the Libyan population. Large spathes, green outside & purplish rose inside with deep purple spadices. A plant of the scrub along the 'green belt' in Cyrenaica, NE Libya. Safest protected from frosts. (10) **B**
- 195.170 : **ARUM DIOSCORIDIS** (var. *dioscoridis*) * No data. (Darkly mottled spathes, sometimes almost entirely maroon-black when the blotches run together. A low altitude plant which needs a warm, dry site in the UK. Best grown in the bulb-frame.) (10) **C**
- 197.150 : **ARUM RUPICOLA** var. **VIRESCENS** (*A. conophalloides*) * No data. From several Turkish colls. of this widespread SW Asian species in the form with grey-green spathes, often narrowly purple-bordered, & massive, cylindrical lilac-grey spadices. Withstands very low winter-temperatures but best protected from excess moisture in the UK by a bulb-frame. (10) **B**
- 202.800 : **ASPERULA ORIENTALIS** * No data. A very fine blue-flowered annual distributed in the steppe & oak scrub areas of E Turkey & W Iran, S into Syria. About 25cm. high & as much across with angled stems, whorled with oblong leaves, carrying heads of bright-blue, tubular flowers, surrounded by a ruff of narrow bracts. Will sow itself, if suited in a dryish, sunny site. (50+) **A**
- 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**
- 220.705 : **ASTRANTIA MAXIMA** (subsp. *maxima*) * No data. An exquisitely lovely meadow-plant from the Caucasus & neighbouring NE Turkey. A little dwarfier with much larger heads than *A. major*, in green-veined, soft rose-pink & carried singly on 60cm. stems over a very long period in summer. The running-clumps with three-lobed, basal foliage enjoy a cool, rich soil (20+) **A**
- 224.105 : **ATHAMANTA MACEDONICA** subsp. **ARACHNOIDEA** * No data. The race of this Balkan member of the *Umbelliferae*, endemic to the Oros Taiyotos of the Greek Peloponnese. Tim Ingram describes this slow-growing, 1m. high perennial as "a remarkable plant" with strong clumps of cut, grey, downy foliage erupting into a much-branched woolly inflorescence of numerous umbels of white flowers. Small basal shoots perennate to repeat the process. For a sunny, very well-drained place. (20+) **B**
- 224.270 : **ATHAMANTA TURBITH** subsp. **HAYNALDII** * No data. From the limestones of Albania & adjacent areas, this delightful little perennial for a hot, dry site is highly regarded by Wilhelm Schacht. We used to grow it in Dorset & found it permanent, choice & slow-growing. A filigree of bright-green foliage cut into linear threads with delicate white umbels on 30cm. stems. (20+) **C**
- 224.300 : **ATHAMANTA VESTINA** * No data. Included under *A. cretensis* in 'Flora Europaea' & considered to be an eastern intermediate of it with *A. turbith* subsp. *haynaldii*, to which Tim Ingram compares it as a robust version. Fine filigree mounds of bright-green foliage & many, fine, pure-white, 60cm. umbels. A good, choice perennial for a dry site. (15+) **B**
- 245.001 : **BUPLEURUM ANGULOSUM** * France, Hautes-Pyrenees, Vallee d'Ossoue. 1500m. Steep limestone scree on S-facing slope. (A very choice, slow-growing perennial with neat tufts of narrow leaves & 30cm. branching stems of large, rounded, *Astrantia*-like heads in an exquisite, glaucous jade-green, which always attract much attention & are coveted by flower-arrangers. Not at all difficult to grow in a well-drained site in sun or part-shade but needs some patience to establish.) (15+) **B**

- 245.090 : BUPLEURUM FRUTICOSUM** * No data. A shrubby, Mediterranean species, the only woody member of this genus in *Umbelliferae* much grown in the UK, where it is just on the borderline of hardiness. About 2m. high, it can be particularly fine on chalky soils & in maritime areas with its umbels of acid-yellow flowers against the leathery, blue-green foliage. (20+) **B**
- 245.180 : BUPLEURUM SALICIFOLIUM** * No data. Endemic to cliffs at up to 1000m. in the western Canary Islands, this will tolerate a few degrees of frost but must be considered tender in most of the UK. An attractive small shrub with narrow, linear, grey-blue leaves and umbels of green-yellow flowers. Originally from stock grown at the Chelsea Physic Garden, UK. (20+) **C**
- 245.210 : BUPLEURUM SPINOSUM** * No data. A classic hedgehog-hummock of the High Atlas. Low mounds, about 20cm. high, with rich green leaves and greeny-yellow flowers but the vicious, straw-yellow spines are the most obvious feature. (20+) **B**
- 250.500 : CAMPANULA ALPESTRIS** (*C. allionii*) * France, Vaucluse, Le Mont Ventoux. 1800m. Loose, limestone screes. (One of the most spectacular of European alpinists with "immense flowers...of the most gorgeous satiny purple." Better grown outside in a scree-bed or trough in the UK than cosseted under glass, though it does well in the summer-heat of Denver.) (20+) **C**
- 251.300 : CAMPANULA ARVATICA** (subsp. *arvatica*) * Spain, Leon, Picos de Europa, NE of Fuente De. 1900m. Fissures on limestone cliffs. (A delicate but soundly perennial endemic of this N Spanish range, towering up from the Atlantic. Dainty, prostrate stems carry profuse, wide-open, violet flowers. Quite amenable outside in scree or a trough in the UK.) (30+) **C**
- 252.700 : CAMPANULA CARPATHA** * Greece, Karpathos. Shady, limestone crevices. Ex a H.& I. Barton coll. (A superlative alpine-house species, seldom without a profusion of its large, elongated bells in soft blue-violet against its downy foliage. Introduced by Peter Davis in 1950 & rapidly lost, this is from the Barton's 1983 re-introduction which we maintain here. This choice long-lived, Karpathos endemic, has been disadvantaged through the similarity of its name to that of the easy *C. carpatica*.) (30+) **D**
- 253.600 : CAMPANULA COLLINA** * Turkey, Trabzon, Soganli Dag. 2300m. Open meadows. (One of the most adaptable & worthwhile Turkish species for the open rock-garden in the UK. About 20cm. high with profuse, violet bells.) (20+) **B**
- 256.001 : CAMPANULA HAWKINSIANA** * Greece, Ioanina, Katara. 1700m. Unstable, S-facing serpentine scree. (Wiry, prostrate, tiny-leaved stems with wide bells in intense violet with electric-blue or white centres. Alpine-house or lime-free scree.) (50+) **C**
- 256.002 : CAMPANULA HAWKINSIANA** * Greece, Ioanina, N of Konitsa. 700m. Loose, unstable serpentine detritus. (A taller, 30cm. high, more upright race here than the preceding one, maybe better suited to the open, in a scree-bed in the UK.) (50+) **C**
- 256.800 : CAMPANULA INCURVA** * Greece, Magnisia, Oros Pilio, above Portaria. 1200m. Mica-schist cliffs. (A stunning monocarpic species, narrowly endemic to this area. Its widely radiating, prostrate, branching stems, which in nature spread over the face of the cliff, do need space but the profusion of huge, ice-blue 'Canterbury Bells' is breathtaking.) (30+) **B**
- 257.400 : CAMPANULA LACINIATA** * Greece, Karpathos, WSW of Arkassa, Cape Paleokastrou. Sea-level. Limestone fissures. Ex a H.& I. Barton coll. (Rosettes of slashed leaves send up a stout stem clustered with shallow bowls in "cold crystalline lavender" with large white centres. "The fairest Campanula in all Greece" wrote Tournefort, its discoverer; "one of the finest monocarpic species known" wrote Peter Davis in 1938. Unique & unrivalled but again needs space under glass in the UK.) (30+) **D**
- 260.210 : CAMPANULA PATULA** subsp. **ABIETINA** * No data. A comparatively dwarf, stoloniferous perennial in an attractive and variable species-group, seldom seen in cultivation but widespread through Europe to the Altai & Caucasus. This race is centred on the mountains of Romania from the Carpathians down into the N part of the Balkan peninsula. Rosettes of bright-green leaves send up wiry stems of about 20cm. bearing several upward-facing, open, starry flowers in rich purple. Rich, gritty soil. (50+) **C**
- 264.900 : CAMPANULA TOMMASINIANA** Croatia, Istra, Ucka. 1300m. Limestone crevices. (Narrowly endemic to this one mountain in Istria & close to *C. waldsteiniana* but with a profusion of more tubular bells in rich-violet on its 10cm. high tufts. These two are among the finest & choicest dwarf Campanulas which can be grown with care outside in the UK.) (50+) **C**
- 265.500 : CAMPANULA TROEGERAEE** * Turkey, Artvin, Barhal Valley, NW of Yusufeli to Sarigol. 600-700m. Crevices in shady, igneous cliffs. (From our 1986 & 1988 introductions, now growing well here under glass. A magnificent relative of *C. betulifolia*, with which it intergrades in the adjacent Coruh valley. In this the great white bells of *C. betulifolia* are split down and opened out almost flat to form a breathtaking flower. The thick, greyish, densely pubescent leaves are also most distinct.) (30+) **E**
- 266.000 : CAMPANULA WALDSTEINIANA** * Croatia, Velebit Planina, Mali Halan between Obrovac & Sveti Rok. 1100m. Fissures in vertical limestone. (Tiny, beautiful Velebit endemic, a few cm. high, with many, wide-open, blue flowers on branching, wiry, fine-leaved stems. Alpine-house, trough or limestone-scrub in the UK. A great success on the rock-garden at Denver.) (50+) **C**
- 280.010 : CENTAUREA ATROPURPUREA** * No data. Acquired by Tim Ingram under the name "*C. benoistii*", which neither he nor we can trace, but it would appear to be this robust Balkan species (though naming *Centaurea* is never easy). A strong perennial up to 2m. high with clumps of pinnatisect leaves and red-purple flower-heads emerging from attractive, golden-brown, spiny involucre over a very long period in summer. Seems easy so far in any open, well-drained site. (8) **C**
- 294.050 : CHAENORHINUM GLAREOSUM** * Spain, Granada, Sierra Nevada, below Pico del Veleta. 3300m. Mica-schist crevices and detritus. (A Sierra Nevada endemic, one of the highest alpinists there, or indeed in Europe. Threadly stolons send up short, flopping stems with tiny, rounded, smooth leaves & racemes of comparatively large, flat, spurred flowers, in variable shades of bright-pink & lilac, with yellow palates. In 1913, Farrer singled it out as "the only undisputed member of its family to deserve attention...choice and delicate...neat and delightful." In 1935 (before the days of an AM from the 'Joint Rock'), it received a Certificate of Merit as *Linaria glareosa*. In 1998, it is little-known and very seldom-seen in alpine-houses. Sad!) (30+) **D**

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

- 294.550 : **CHAEROPHYLLUM HIRSUTUM** - from **PINK FORM** From the raspberry-pink form of this umbellifer from the mountain-meadows of S Europe. A robust perennial with cut, downy, soft-green basal foliage and 1.2m. stems with flat umbels of many tiny pink flowers. In character in the wild-garden or cottage-garden & well-behaved here in good, moist soil. (15+) **B**
- 295.285 : **CHAMAECYTISUS HIRSUTUS** * No data. A very variable species, usually with a calcifuge tendency in nature, core of a complex of taxa extending E from central Europe into central Asia. This is a fine, erect-growing form of this neat shrublet, about 20cm. high, with downy leaves & racemes of bunched, rather large, yellow pea-flowers in late spring & early summer. . . . (10+) **B**
- 309.501 : **CLEMATIS FLAMMULA** Greece, Lakonia, W of Sparti. 1200m. M. Jope coll., 15.11.96 (A characteristic woody climber of the S European limestones. Up to 5m. high with large panicles of many, small, fragrant, white flowers. Wonderful here in the autumn sunlight with its silvery seed-heads mingled with the scarlet hips of the rose over which it scrambled.) (20+) **A**
- 392.550 : **DELPHINIUM STAPHISAGRIA** Greece, Crete, Anapoli. 750m. Open scrub. M. Jope coll., 17.10.96 (A fine, sturdy biennial from the Mediterranean limestones. Seldom seen in gardens &, even if listed, we are told often turns out to be the wrong thing. Sow the large seeds in a hot site. Up to 1 m. high with pubescent, palmate leaves & dusky, deep-blue flowers.) (15+) **A**

Digitalis : easy-going foxgloves flower fast from seed

- 407.210 : **DIGITALIS DAVISIANA** * From an N Stevens coll. A slender, SW Turkish, rhizomatous perennial, about 50cm. high, distributed from Mugla to Antalya, in limestone screes of the coniferous forest zone, between 600 & 1600m. Most closely related to *D. grandiflora*, with pale yellow, orange-veined foxgloves. A local plant in nature and seldom-seen in gardens. (30+) **B**
- 407.401 : **DIGITALIS FERRUGINEA** (subsp. *ferruginea*) * Greece, Trikala, above Panagia to Katara. 1500m. Margins of *Pinus* woodland. (Long, dense racemes of yellowish, orange-brown-netted flowers with projecting lips, on 1.5m. stems.) (50+) **A**
- 407.601 : **DIGITALIS FERRUGINEA** subsp. **SCHISKINII** * Turkey, Artvin, Genya Dag above Artvin. 1700m. Open banks in *Picea* woodland. (The W Caucasian race, just entering NE Turkey. Smaller flowers with narrower lips than the preceding.) (50+) **A**
- 408.300 : **DIGITALIS LAMARCKII** * Turkey, Gumushane, Vauk Dagı, Guvercinlik. 1800m. Open, stony slopes. (Perfectly distinct from *D. lanata* in NE Turkey, this is an outstanding perennial. Clumps of narrow, dark-green leaves send up 50cm. stems of large, soft-brown, baggy flowers with huge, prominent, white lips. Long-lived in a well-drained site in full sun.) (50+) **B**
- 408.500 : **DIGITALIS LANATA** * Greece, Kavala, Pangeo. 1000m. Open areas in deciduous woodland. (50+) **A**
- 408.505 : **DIGITALIS LANATA** * Bulgaria, Pirin Planina, near Bansko. Ex an A. Edwards coll. (A 1m. high Balkan perennial in Sect. *Globiflorae*, like the preceding. Densely packed racemes of creamy, brown-veined flowers with white lips.) (50+) **A**
- 409.002 : **DIGITALIS LUTEA** * France, Alpes-Maritimes, Col de la Couillole. 1600m. Open limestone slopes. (Many, small, pale-yellow tubular flowwers packed into stiff spikes. A pleasant, easy herbaceous perennial for a sun or semi-shade.) (50+) **A**
- 409.402 : **DIGITALIS OBSCURA** * Spain, Soria, Puerto del Pinar. 1100m. Among limestone debris on open slopes. (A shrubby perennial with narrow, shiny foliage & amber foxgloves, yellow marked with rust-red inside. This population was only 20-30cm. high in the wild but is somewhat taller in cultivation. A most distinct Spanish endemic for a dry, sunny situation.) (50+) **B**
- 409.610 : **DIGITALIS PARVIFLORA** * No data. A leafy, 60cm. perennial from the mountains of N Spain. In the Sect. *Tubiflorae*, like *D. lutea* & *D. viridiflora*, with long, dense, woolly racemes of tubular, red-brown, purple-veined flowers. (50+) **A**
- 410.000 : **DIGITALIS THAPSI** * Spain, Avila, Sierra de Gredos, Puerto del Pico. 1300m. Granite fissures & in loose, granite grit on steep slopes. (Another Iberian endemic, quite close to *D. purpurea* but a good perennial in a sunny, well-drained place or lime-free scree-bed. Leaves & stems all covered in yellowish indumentum & with many, large, downy, sugar-pink flowers.) (30+) **B**
- 410.400 : **DIGITALIS VIRIDIFLORA** * Macedonia, Baba Planina, Pelister, towards Kula Vrv. 1500m. Dryish, grassy slopes. (A downy, 70cm. high perennial from the Balkans with dense many-flowered racemes of small, greenish yellow flowers.) . . . (50+) **A**
- 412.180 : **DIONYSIA INVOLUCRATA** * Tadjikistan, Pamir-Alai, Khandar river gorge. 1000m. & over. Ex J. Halda colls. (This & *D. aretioides* have proved the most amenable of an intractable genus. Still a plant only for the experienced alpine-house grower. Cushions of sticky-leaved rosettes with umbels of sugar-pink flowers. A little hand-pollinated seed from Jim Almond) (10+) **E**
- 415.250 : **DORONICUM** aff. **COLUMNNAE** * Greece, Pela, Kaimakcalan, NW of Edessa. 1800m. (In 1996, we collected material from two eye-catching clones of a fine yellow daisy from a variable population in a wooded gully on this Macedonian border mountain. These do not match either winter-dormant *D. columnnae* or, the other possibility, allied, summer-dormant *D. orientale*, precisely & may be fertile hybrids or intergrades. Neat small, bright-green, basal leaves, partially dying away in summer, with stems of about 50cm. carrying big, many-rayed, bright yellow daisy-heads, up to 7cm. across, in early spring.) (20+) **C**

- 424.120 : DRACUNCULUS VULGARIS** * No data. When we were collecting in the E Mediterranean area in the 1980's, we listed this regularly but we have not had wild seed for some years. This is UK seed of this spectacular aroid, up to 1m. high, with pedately divided foliage & huge, fleshy, brown-purple spathes on maroon-spotted stems. Arresting in a hot, dry site in the UK. (8) **B**
- 424.125 : DRACUNCULUS VULGARIS** (var. *creticus*) Greece, Crete, Omalos. M. Jope 97-61 : 15.10.97 (A wild collection from the Cretan form, which usually has the large divided leaves spectacularly marked with oblique silver slashes.) (8) **D**
- 428.250 : EBENUS CRETICA** Greece, Crete, N of Moni. 125m. M. Jope 97-69 : 17.10.97 (One of the most outstanding of the chasmophytes endemic to the limestone cliffs & gorges of Crete. Also, in our experience, one of the most growable in this splendid, little genus in the pea family, centred on SW Turkey. We kept it for many years in a pot in our alpine-house in Dorset and Joy Hulme grew it well on her rock-garden in Surrey for a long period. Getting hold of it in the first place has always been the problem (though cuttings can be rooted with some difficulty) as wild seed is not easy to collect & is rarely available. A dwarf shrub, usually more erect & compact in cultivation in the UK, where it seldom exceeds 20-30cm. high, than in nature, with its neat, silky, grey-white foliage & stems providing a perfect setting for the dense racemes of bright-pink flowers, amid papery, silvery bracts in summer.) (5) **E**
- 428.270 : EBENUS CRETICA** var. *MICROPHYLLA* Greece, Crete, Topolia. 310m. M. Jope 97-63 : 16.10.97 (Melvyn collected seed from two populations, distinct in their aspect & habit, one of which we guess may be separated under this name.) (5) **F**
- 432.300 : ECHIUM RUSSICUM** * No data. A striking plant, almost 1m. high, from the dry grasslands of E central Europe, N into Russia. Spike-like inflorescences of many rusty-red flowers with the stamens exerted on long, red filaments. A bristly, short-lived perennial, evocatively illustrated, growing in Russian *Stipa*-steppe, in Rix & Phillips 'Perennials' Vol. 1., p. 170. (15+) **B**
- 458.510 : ERYNGIUM ALPINUM** * No data. Very local in its distribution through the limestone ranges of S Europe, E from SE France. Most distinct in its cylindrical, dome-shaped, blue heads surrounded by a great ruff of finely cut, feathery, steely-blue bracts, which are softly, not sharply, spiny - nor are the toothed, cordate basal leaves. For good, well-drained soil in sun. (15+) **B**
- 460.010 : ERYNGIUM BOURGATHI** (subsp. *bourgathii*)* No data. A fine, 40cm. high, very hardy perennial, distributed from the Pyrenees through Spain. Much-cut, spiny basal foliage & rounded, blue heads, encircled by dissected, spiny bracts. (20+) **A**
- 460.210 : ERYNGIUM CAMPESTRE** * No data. A Central European perennial, actually recorded in S England but very seldom seen in gardens. Cut, spiny, leathery basal leaves & erect corymbs about 50cm. high, "beautifully structured in green-white" writes Mike Tucker, with whom this has proved very slow-growing, taking several years to flower. "Worth the wait", he says. (15+) **B**
- 461.000 : ERYNGIUM GLACIALE** * Spain, Granada, Sierra Nevada, towards Pico del Veleta. 2700m. Exposed stony slopes & schistose screes. (An alpine endemic of the Sierra Nevada & High Atlas, this is the smallest perennial species, 5-20cm. high with deeply-cut, spiny foliage & silver-blue stems & spiny bracts. Long-lived & accommodating in sunny scree in the UK.) (15+) **C**
- 461.500 : ERYNGIUM MARITIMUM** * UK, England, Devon, Exmouth. Among grass on stable sand-dunes just above sea-level. Ex a M. Tucker coll. (The Sea Holly itself, maybe the loveliest of the genus but little-known in gardens & by no means easy. Spiny basal leaves, stems & bracts all in the same matt bluish-grey, a little paler than the blue flower-heads. Less than 30cm. high & slow-growing, it merits every care in sunny scree or a raised bed, where it never fails to attract attention.) (10+) **B**
- 462.200 : ERYNGIUM SPINALBA** * France, Vaucluse, Le Mont Ventoux. 1800m. Limestone scree & stony areas. (A superlative species, local on the limestones of the SW Alps. This originates from our 1984 coll., maintained by Mike Tucker (Somerset, UK), who finds it has proved a neat, "low-growing plant, silvery all over, like a dwarf silver *E. alpinum*." The flowers are an unusual, pale blue-green and the whole plant is seldom more than 30cm. high. Give it as much sun & sharp drainage as possible. (15+) **B**
- 465.010 : ERYSIMUM SUFFRUTICOSUM** * No data. A very fine, 60 cm., shrubby wallflower, originally from Strybing Arboretum near San Francisco. In the complicated *E. sylvestre* group, it does not wholly match *E. suffruticosum*, a plant from NW Africa & Sicily (which would account for its marginal hardness). Exquisitely scented, very large, pale-yellow flowers in spring. (10+) **B**
- 481.502 : EUPHORBIA RIGIDA** Greece, Fokida, N of Amfissa. 850m. Open, gravelly slope. 6.6.96 (Much esteemed member of Sect. *Myrsiniteae* with erect, sculptured stems of spirally arranged, pointed, fleshy leaves, about 30cm. high. In spring, its flat acid-yellow heads stand out against the blue-grey evergreen foliage. Usually perfectly hardy in a hot, dry site in the UK.) (10+) **C**
- 481.503 : EUPHORBIA RIGIDA** Turkey, Antalya, Bey Da., between Kemer & Ovacik. N. Stevens coll., May, 1997. (A fresh coll. from Turkey where it often has the raylet leaves flushed with orange and pink as they open and again as they mature.) (10+) **D**
- 485.110 : FERULA COMMUNIS** subsp. *GLAUCA* * No data. A distinct variant of the giant fennel of the Mediterranean area with greyish leaves, distinctly silvery glaucous beneath. One of the most spectacular members of the *Umbelliferae*, towering to 2m. or more high with its huge, yellowish umbels on stout stems rising above the great mounds of finely-cut foliage. (15+) **B**
- 515.050 : GENTIANA ACAULIS** * No data. From a fine garden-form in the *G. acaulis* group. A classic rich-blue trumpet gentian, reliably floriferous with Alan Edwards in Surrey, UK. Most cultivars in British gardens, grown under this blanket-name, seem closest to *G. dinarica* from the eastern limestones & may be of hybrid origin. Good, rich, well-drained soil in sun (50+) **A**
- 515.400 : GENTIANA ANGUSTIFOLIA** * France, Hautes-Alpes, Pic de Gleize, NNW of Gap. 1900m. Steep, stony, limestone slopes. (A spectacular, rich-blue trumpet gentian, limited to the limestones of the SW Alps & in especially fine form here with narrow-leaved clumps, which can dry up almost completely in summer, and huge trumpets on short stems. We were told that trials of the *G. acaulis* group were abandoned at Wisley "because they all looked the same"; one can only assume the material submitted was wrongly named. The species are very distinct indeed - this one is of special importance in warm, dry, limy gardens.) (30+) **C**

- 515.652 : GENTIANA ASCLEPIADEA - from PALE BLUE FORM *** From a beautiful paler, turquoise-blue form of the elegant willow gentian, one of the loveliest of autumn-flowering, herbaceous plants. Slow from seed but gradually builds up clumps of 60cm. stems carrying clusters of blue trumpets in the axils of the pointed, lanceolate leaves from late summer until the frosts. A species of moist, mountain woodland from central Europe to the Caucasus and well-suited to semi-shade in UK gardens.) (50+) **B**
- 518.400 : GENTIANA GELIDA *** Turkey, Gumushane, Kop Dag. 2300m. Moist to dryish turf. (A handsome, late-flowering species, superficially rather like *G. septemfida* but with creamy yellow flowers, deeper yellow striped with green outside. Not too easy to grow but but successful with some. This seed is from Dinah Batterham who grows it well outside in Dorset, UK.) (20+) **D**
- 519.500 : GENTIANA PARADOXA *** Georgia, Abkhazia. (A relict surviving in a few places on the limestones between Sochi & Sukhumi at around 1300m. Unlike any other. Erect, 20cm. stems, clothed in linear, verticillate leaves & each bearing 1 or 2 trumpets, olive-green outside with pale-blue plicae & lobes. Not too difficult outside but choice enough for the alpine-house.) (50+) **C**

Geranium : a pain to collect but a pleasure to grow

It is only since we started growing & collecting cultivated seed in Wales that we have been able to list a small range of this popular & adaptable genus. Collecting wild seed in sufficient quantity to list is exceptionally difficult, as only one or two seed-heads ever seem to be ripe at a time. In cultivation, the same problem exists but can be solved by regular visits, every day or so, over a period of weeks. The existence of a large number of (often very similar) cultivars testifies to the current popularity of the genus and to its capacity for hybridization. All

of the following are open-pollinated and some seedlings may show variation through hybridization but these are likely to be exceptions rather than a general rule. One must assume that the genus as a whole is of very ancient origin, as some of the 400 or so species occur in the cool-temperate areas of every continent. We plan to increase the range of authentic material we list from all areas. The majority of the hardy, perennial, herbaceous ones are easily grown, long-flowering garden-plants in the UK and almost all the following fall into this category.

- 525.750 : GERANIUM IBERICUM** Georgia, Bakuriani area, Tskhra-tskharo pass. 2300m. Alpine meadows. (About 50cm. high with much-divided, hairy leaves, cut into many deep lobes. A multitude of purple-veined, violet-blue flowers in summer. Seldom seen in cultivation, where its name is often misapplied to *G. x magnificum*, its sterile hybrid with *G. platypetalum*.) (10+) **B**
- 526.400 : GERANIUM MADERENSE *** No data but our stock is traceable back to original material sent from Madeira by Major Pickering to our old friend Trevor Crosby, at the that time Curator of the Leeds University Botanic Garden., before it had been described as a new species. At about 1.5m. high, the largest *Geranium*, with trunk-like stems, propped up by the old, reflexed leaf-stalks, bearing an immense mound of purple-pink flowers. Essentially a winter-growing plant, it is really safest, frost-free under glass in the UK but we grew it well outside in Dorset for a time & it is certainly worth attempting in milder coastal areas. (10+) **B**
- 526.630 : GERANIUM PALMATUM (*G. anemonifolium*) *** No data. The other Madeiran endemic in Sect. *Anemonifolia*, sometimes confused in cultivation with the preceding, this lacks the trunk-like stem & persistent, propping leaf-stalks of *G. maderense*. Slightly smaller, it still forms massive rosettes of fleshy divided leaves with inflorescences, over 1m. high, with hundreds of purple-rose flowers on stems covered with purple, glandular hairs. Possible in a sheltered site outside in S & W Britain. (10+) **B**
- 526.800 : GERANIUM PLATYPETALUM *** Georgia. No further data. Ex a R. Lancaster coll. (From a clone, named 'Georgia Blue', collected by Roy Lancaster, but seems quite typical of this species. Darkly veined, rich violet-blue flowers in midsummer on plants of about 30cm. Rounded, hairy, lobed leaves, much less cut than the allied *G. ibericum*. Excellent & long-flowering.) (10+) **B**
- 526.920 : GERANIUM PRATENSE f. ALBIFLORUM *** No data. From a vigorous, 1m. high, white-flowered form of our native meadow cranesbill, a species which extends E to the Himalayas. Fine in the wild-garden with its deeply cut foliage. (10+) **A**
- 526.930 : GERANIUM PRATENSE 'STRIATUM' *** In this odd form of the British meadow cranesbill, some flowers are blue, some white & some variably streaked with violet-blue on a white ground. Most seedlings usually inherit this eccentricity. (10+) **A**
- 527.000 : GERANIUM PSILOSTEMON *** Turkey, Artvin, Genya Dag. 1700m. Wet meadow in *Picea* woodland. (Our favourite among the larger ones with its stunning, luminous, magenta flowers, darkly veined & with glossy black centres. About 1m. high with large, cut, basal leaves, which emerge from shiny, crimson sheaths in spring & colour to orange & scarlet in autumn.) (10+) **B**
- 528.220 : GERANIUM SANGUINEUM *** No data. Mainly from Max Frei's selected clone 'Elsbeth'. A long-flowering, reliable species, widespread through Europe to the Caucasus, usually in dryish, limestone habitats but does not resent our acid soil in a wet climate. A bushy growth of much-branched stems, clad in deeply cut leaves, with a profusion on bright magenta-pink flowers. (10+) **A**
- 528.500 : GERANIUM SYLVATICUM *** Greece, Drama, Falakro. 2200m. Moist meadow. (From a fine form of this widespread European species. Good rose-pink flowers with large white centres on erect, leafy plants, about 1m. high.) (10+) **B**
- 528.520 : GERANIUM SYLVATICUM *** No data. From Amy Doncaster's dwarfier, blue selection - rich lavender-blue flowers with tidy white centres on plants of about 60cm. These two may have crossed but the seedlings should all be worthwhile. (10+) **C**

- 580.100 : IBERIS CANDOLLEANA** * France, Vaucluse, Le Mont Ventoux. 1800m. Loose, limestone scree on summit ridge. (Most refined of its genus and the piece de resistance among the fascinating flora of this isolated Provençal limestone massif, where it grows "tucked in among the rocks, its leaves completely hidden by corymbs of lilac flowers" (wrote Dwight Ripley in 1938). A thoroughly perennial tiny shrublet, mysteriously 'disappeared' into the annual *I. pruitii* complex in 'Flora Europea'. Remaining only a few cm. across & long-lived, even in our wet garden, though more likely to be white than lilac in cultivation.) (15+) **D**
- 582.510 : INULA MAGNIFICA** * No data. A splendid 2m. high Caucasian, which needs space in moist, rich soil. "Superb and dignified" with "heads of brown buds opening to large, vivid deep-yellow daisies" writes Graham Stuart Thomas. (20+) **B**
- 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**
- 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**
- 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**
- 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**
- 612.510 : KNAUTIA MACEDONICA** * No data. A floriferous, eye-catching, 1m high, herbaceous perennial, with masses of little 'scabiouses' in summer. While it can vary quite a lot in shade when it is growing in the limestone meadows of its native Balkans, this is from the deep crimson form usually found in cultivation. Easy & reliable in a well-drained, sunny site in the UK. (20+) **B**
- 619.010 : LATHYRUS LATIFOLIUS - WHITE FORM** * From the outstanding white version of this vigorous, perennial pea, usually grown as 'White Pearl'. Beloved by Gertrude Jekyll, it climbs to about 3m. with masses of pure-white sweet-peas. (10+) **A**
- 619.510 : LATHYRUS ROTUNDIFOLIUS** * No data. Another excellent perennial climber. From W Asia & more restrained than the preceding, usually with winged stems of 1-2m. & sweet-peas in a distinctive shade of pink in summer. (10+) **A**
- 619.710 : LATHYRUS TINGITANUS - PINK FORM** * Morocco, near Tangier. (Fine, seldom-seen form of this, usually purple-flowered, annual from S Spain & NW Africa. Climbing to over 1m. it sows itself in Harry Hay's Surrey garden.) (10+) **A**
- 619.850 : LATHYRUS VERNUS** * No data. From the typical, purple-blue form of this compact, early-flowering perennial, with erect stems, eventually about 30cm. high but flowering as they burst through the bare earth in early spring. An adaptable delight with such spring flowers as the woodland *Corydalis* & *Anemone* spp. & with tidy clumps of foliage later in the season. (8) **A**
- 619.860 : LATHYRUS VERNUS - PINK & WHITE FORM** * From the charming form with bicoloured, pink & white flowers, called 'Albo-roseus'. Expect it to come quite evenly from seed. Stands out more in the garden than the darker type-form. (10+) **A**
- 627.801 : LEUCANTHEMOPSIS RADICANS** (*L. pectinata*) * Spain, Granada, Sierra Nevada, SE of Pico del Veleta. 3000m. Open, stony areas on schist. (Endemic to the Sierra Nevada & one of the choicest of alpine *Compositae*. Tight mats of tiny, much-cut, greyish leaves produce sulphur-yellow daisies, which flush crimson as they age. To Farrer, it was "a treasure to be much desired" and to Giuseppi, who probably introduced it in 1933, "one of the prettiest plants in existence...a difficult plant to grow but more than worth the trouble it gives." Try it in a Spartan, acid scree-mix in full sun in the alpine-house or a trough. Giving it too much water in summer can be just as dangerous as in winter - these are dry & windy mountains after snow-melt is over.) (possibly 20+) **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**
- 634.810 : LILIUM PYRENAICUM** * UK, Wales, below Ffostrasol. 200m. Mixed deciduous woodland on acid soil. (May or may not be native here, 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+) **C**
- 635.220 : LILIUM SZOVITSIANUM** * No data. Doubtfully 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 worthwhile & appear distinct in the garden. This is usually one of the best garden-plants in the genus. (15+) **C**
- 663.000 : LYSIMACHIA EPHEMERUM** * Spain, Jaen, Sierra de Cazorla. 850m. Among grasses & rushes on open, wet slope. (A most distinguished-looking herbaceous perennial, esteemed by discriminating gardeners from A.T. Johnson to G.S.Thomas yet seldom seen. Erect stems of about 1.5m., clad with thick, smooth, greyish leaves, end in slender spires of many, little, white, lilac-tinged flowers. Easy but restrained in any good border soil in the UK, though a wet-grower in the wild.) (20+) **B**

Paeonia : fresh from Azerbaijan, Georgia & Russia

We list fresh 1997 seed collected both from cultivated plants & from natural populations in the republics of the former USSR, as well as elsewhere, but, even if sown promptly, this may not show leaf-growth until spring, 1999. These are plants for the dedicated and patient grower. Always keep ungerminated seed - it is large enough to check that it is sound. Like some lilies, many peonies will germinate hypogeally, forming a root-system underground during the first cool period before sending up true leaves the following season. There are once again some exceptional wild collections here. While we should like to list

a complete range of this genus regularly every year, peony-enthusiasts will appreciate, these are all too often unpredictable opportunities. Most species are very local in nature, occurring, sometimes in large numbers, in isolated colonies. It can be a lot of trouble to arrange to collect seed from them, especially as the anarchic situation in several of 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 many of these collections.

- 745.802 : PAEONIA ANOMALA** Russia, Khakassia, Shirinsky district. (A central Siberian coll. of this fine species, widespread in the colder areas of N Asia. Foliage cut into narrow segments, beautiful even without the flat flowers, up to 9cm. across, in deepest rose-pink. Well depicted in the wild in Rix & Phillips, Vol. 1. We do not know how much this varies in different sites.) (6) C
- 745.950 : PAEONIA BIEBERSTEINIANA** (*P. tenuifolia* complex) Russia, Stavropol district. (Possibly from the open grassland-habitat illustrated as that of "*P. tenuissima*" on p.93 of Rix & Phillips 'Perennials' Vol. 2. Much dissected leaves but less finely cut than *P. lithophila* foliage & bright red flowers. Distinct from the others in this geographically disjunct complex in its greyish, hairy foliage. Like the Georgian populations, this seems to be a rather local plant. A small amount of seed again this season.) (6) E
- 746.020 : PAEONIA BROTEROI** * No data. A fine species, confined to the Iberian peninsula. Smooth, much cut foliage, glaucous beneath & deep-pink bowls with a mass of yellow stamens around densely woolly follicles. (6) C
- 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. (6) C
- 746.130 : PAEONIA CARTHALINICA** (*P. tenuifolia* complex) Georgia, Dampalo hills, Kartli. (An obscure entity & a very local plant indeed, only known from the one colony in this area. Apparently the most robust of the *P. tenuifolia* complex, described as over 1m. high with bright red flowers & foliage less finely cut than some of the others. We have only a very little seed.) (6) F
- 746.150 : PAEONIA CAUCASICA** (*P. mascula* complex) SE Georgia, Daba area. (The fine Caucasian representative of the widespread & variable *P. mascula* complex, distributed through S Europe eastward to N Iran. About 50cm. high with dissected, flat, smooth foliage, glaucous beneath, & big rosy-red flowers with woolly follicles & purple filaments to the yellow anthers.) (6) C
- 746.305 : PAEONIA CORIACEA** (*P. mascula* complex) Spain, Granada, near Alhama de Granada. (A 1997 wild coll. which Will McLewin's collector is sure is *P. coriacea* rather than *P. broteroi*. This species is only known in Europe from S Spain, though it extends into Morocco & Algeria. We do not know the peonies in this locality, only the *P. broteroi* colonies in the Sierra Nevada, about 60km. to the E. There should be no confusion as the two are utterly distinct in foliage & in fruit. *P. coriacea* has fewer, much broader, rather smooth, leathery leaflets & usually only 2 glabrous follicles with attenuate tips (whereas *P. broteroi* has up to 4 densely woolly follicles). It can be easily confirmed as soon as the first true leaves appear. A fine species with beautiful, rose-pink flowers set against most distinct, lead-green foliage. Moroccan material we have cultivated was very slow-growing.) (6) E
- 746.500 : PAEONIA DAURICA** (*P. triternata*) (*P. mascula* complex) Ukraine, Krim (Crimea). (Close to *P. mascula* but distinct in its few, rounded leaflets with undulate margins. This name has been applied to plants in SE Europe & Turkey which approach the Crimean ones but for the purist this is the only 'real thing'. The valid name is an unfortunate misspelling of "*P. taurica*".) (6) D
- 746.640 : PAEONIA LITHOPHILA** (*P. tenuifolia* complex) Ukraine, Krim (Crimea). (The Crimean race, which probably constitutes most plants cultivated in the west as "*P. tenuifolia*", is distinct in its light-green, much dissected leaves finely cut into a mass of filiform segments. Glossy, brilliant red bowls hold bright yellow stamens in early summer on compact plants, about 50cm. high. Maybe the most striking of this complex and possibly the most numerous in the wild, this is the race we grew as "*P. tenuifolia*" in our Dorset nursery years ago from seed received from what was then the Nikita Botanic Garden in Yalta.) (6) D
- 746.680 : PAEONIA MACROPHYLLA** (*P. wittmanniana* complex) * Georgia, Bakhmaro area. Woodland. (A little cultivated seed of this rather distinct plant from wild-collected stock growing in the Bakuriani botanic garden. Creamy white flowers.) (6) F
- 746.707 : PAEONIA MASCULA** (subsp. *mascula*) * Greece, Samos. 700m. On mica-schist. Ex a D. Hoskins coll. (Few) (6) D
- 747.110 : PAEONIA MLOKOSEWITSCHII** * No data. "A sovereign among Paeonies" according to Farrer. Few would disagree. Large, pale lemon-yellow flowers with deeper yellow stamens above 60cm. clumps of rounded, greyish-green leaves. In the soft climate of the UK, the crimson-tinted, young foliage sometimes develops early and can be scorched by cold winds but that is the fault of our climate not the species. We have some good batches of cultivated seed again this season (6) C

- 747.150 : PAEONIA OFFICINALIS** (subsp. *officinalis*) Croatia, Istria. We are told this is a very fine pink form of this variable S European species. We have tentatively placed this under the type race until we can see the foliage & flowers. (6) C
- 747.850 : PAEONIA STEVENIANA** (*P. wittmanniana* complex) (possibly the same as *P.w.* var. *nudicarpa*) Georgia, Bakuriani area. (Likely to be wholly different to *P. mlokosewitschii*. Maybe with paler flowers, just tinged with citron-yellow, holding stamens with reddish filaments, over larger, more wrinkled foliage. Will McLewin thinks these may give deeper yellows than *P. mlokosewitschii*. We still know little of the variation of these Caucasian populations & suspect that Russian 'splitting' is justified.) (5) F
- 747.900 : PAEONIA TENUIFOLIA** Georgia, Igoeti area. Steppe. (The different populations segregated by Russian botanists as this, *P. carthalinica* & the more western *P. biebersteiniana* & *P. lithophila* are separated on foliage characteristics, height & colour, though we doubt if the latter two features are consistent. This type-race should have rich-green, glabrous foliage, less finely cut than *P. lithophila*, & crimson flowers. This collection is from a very small isolated colony at the SE extremity of the distribution of this group & it is described by the Georgian botanist as 'scarce', which probably means that there is only a handful of plants.) (6) F
- 747.960 : PAEONIA TOMENTOSA** (*P. wittmanniana* complex) Azerbaijan, Lerik, Sinabad, Talysh. (Very little-known. Plants from seed collected in the Iranian Talysh in the 1960's (as *P. wittmanniana*) were compact with white flowers & most distinct.) (5) F
- 748.109 : PAEONIA WITTMANNIANA** * Georgia, Abkhazia. (A little cultivated seed of this splendid pale-yellow species, core of the complex populations of yellow and cream Caucasian peonies, collected from stocks of wild origin, growing in Tblisi & Bakuriani botanic gardens. The natural habitat is not currently accessible due to the anarchic situation in Abkhazia.) (6) E
- 751.202 : PAPAVER BRACTEATUM** * Turkey, Hakkari, W of Semdinli. 1600m. Steep, stony slopes. (Sumptuous, big oriental poppies in crumpled scarlet silk with glossy black centres, on bristly 60cm. stems from stout, perennial clumps.) (50+) A
- 752.300 : PAPAVER PAUCIFOLIATUM** * Turkey, Kars. From an E. Pasche coll. (AHEP 83-65). (A slightly more slender version of *P. orientale* with unblotched, brick-red flowers. A Transcaucasian plant, just entering Turkey in the NE corner.) (50+) B
- 752.560 : PAPAVER RHOEAS - MOTHER OF PEARL** * A pale flowered strain developed by Cedric Morris - some lovely things in soft, silvery shades and pearly pinks. An easy hardy annual - sow it where you want it to grow (100+) A
- 752.605 : PAPAVER SPICATUM** (var. *spicatum*) (*P. heldreichii*) * No data. An aristocratic endemic of the SW Turkish limestones and a long-lived perennial - Jack Elliott still grows plants raised from a Paul Furse collection made in the 1960's. Clumps of grey-white, hairy foliage send up 1m. high racemes of delicate, soft-apricot flowers from silvery buds. Unlike many poppies it is very shy in producing seed in cultivation, which probably accounts for the fact it remains so little-known in gardens. (20+) D
- 752.700 : PAPAVER SYRIACUM** Turkey, Adana, Nur Da. above Hasanbeyli. 1150m. N. Stevens coll., June, 1997 (A most striking poppy which proved irresistible to Norman. Possibly a form of this 30cm., annual species native from the Amanus S into W Syria. The rich crimson flowers have spectacular peacock-feather blotches of black topped with a broad white band.) (50+) B
- 761.000 : PETROMARULA PINNATA** * Greece, Crete, Hania, Platania. Ex M Jope 95-50 (One of the strangest Cretan endemics, a monotypic genus of the *Campanulaceae*, perhaps nearest to *Asyneuma* or *Phyteuma*, only found on the island's limestone cliffs. Saxatile it may be but it is too tall for most rock-gardeners & is most likely to appeal to hardy-plant enthusiasts, growing in a raised-bed or other well-drained site, where it seems hardy & accommodating. Robust rosettes of deeply cut, long-stalked, smooth, dark leaves produce a stem almost 1m. high with a few side-branches - "practically from top to bottom this is one mauve raceme of hundreds of small stary flowers - the effect is striking, as they all seem to open at once" wrote Peter Davis.) (30+) C
- 774.950 : PIMPINELLA MAJOR - from PINK FORM** * From one of the pink forms, grown as 'Rosea', of this perennial member of the *Umbelliferae*, native from Britain across Europe to the Caucasus. We are unwilling to use the name *P.m.* var. *rubra*, other than for wild collected material from the central European ranges, but this may fit in to it as it is fairly dwarf at about 50cm. Dark green, pinnate foliage, with rounded, toothed segments, and raspberry pink umbels in summer. Easy in any good, moist soil. (15+) B
- 784.121 : POTENTILLA NITIDA** * No data. From the splendid selection 'Rubra' with rich, deep pink flowers, exquisitely studding tight pads of silvered foliage. An endemic of the limestones of the E Alps & one of the loveliest European alpiners. (20+) B
- 808.020 : RAMONDA MYCONI** * No data. From several forms of this beautiful Pyrenean endemic, with its flat rosettes of wrinkled, hairy leaves, including whites & pinks, as well as the classic violet one. By far the easiest of this trio of relic members of the *Gesneriaceae* & the best for garden-purposes, unrivalled in a N-facing dry-stone wall. Though utterly hardy, these have not forgotten their tropical ancestry & are best raised from their very fine seeds sown, like *Rhododendron*, uncovered on the surface of a sterile, peaty soil, in gentle warmth, watered from below, and covered with a pane of glass or kept in a plastic bag.) (100+) B
- 808.401 : RAMONDA SERBICA** * Greece, Ioanina, Farangi Vikou. 800m. Limestone fissures. (Least well-known & reputedly the most temperamental of the three species in cultivation. Usually considered to be best grown in the alpine-house in shade though this seed is from plants, growing happily here in a trough outside in a NW-facing corner. Rosettes of rather greyish, hairy leaves & more bell-shaped, violet flowers, approaching those of *Jankaea* in form, with distinctive dark purple anthers.) (50+) E
- 820.200 : RHAPONTICUM HELENIIFOLIUM** (*Centaurea heleniifolia*, *Leuzea rhapsontica* var. *heleniifolia*) * France, Hautes-Alpes, Pic de Gleize, NNW of Gap. 2000m. Limestone talus on S-facing side of summit-ridge. (Placed in *Leuzea* in 'Flora Europaea' (following a 1973 Czech revision) & belonging to a distinct, possibly ancient, group of *Compositae*, dotted here & there across Eurasia in widely separated and usually very limited habitats. Clumps of large, undivided, dentate leaves, white tomentose beneath, send up stalwart, 1.5m. stems with massive heads of pale rosy-purple flowers, appearing from an involucre of papery, silvery bracts. A slow-growing, big, bold, statuesque plant, needing really good drainage & probably resenting disturbance.) (10+) D

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

- 823.000 : RHODODENDRON UNGERNII *** Turkey, Artvin, Genya Dag above Artvin. 1600m. *Picea* woodland with *R. ponticum* undergrowth. (Grown from seed we collected in 1986, this will be at least as 'pure' as wild seed, as there are no other species in flower here in late July & early August, when its big trusses of white bells appear - in nature a month after the other Turkish species are over. A most distinct species, up to 7m. high with large, spectacular foliage, felted beneath. Hardier than *R. ponticum*, which it replaces in frost-pockets & on colder slopes. Uncommon on this mountain but dominant around Tiryal Dag.) (30+) **D**
- 843.200 : SALVIA CADMICA *** Turkey, Konya, Sultan Daglari, SW of Aksehir. 1750m. Open sites in stony clay over limestone. (First found on Sultan Dag by Bornmueller in 1899, we saw this fine plant in flower here in 1994. Norman Stevens established it from cuttings & this seed is from in his Cambridge garden. A W Turkish endemic, which might belong with such as *S. caespitosa* in the woody-based, pinnate-leaved group, except that the hairy, wrinkled basal leaves are entire. The 30cm. stems are ringed with pure-white flowers, each surrounded by a large, campanulate greenish-yellow calyx, which persists & expands in fruit.) (10) **D**
- 844.201 : SALVIA CYANESCENS *** Turkey, Bolu, W of Goynuk. 800m. Loose, exposed shale slopes. (A delightfully airy perennial with flat rosettes of felted leaves and diffuse, branching stems, about 50cm. high, of lovely pale-violet flowers. One of several species now well-established in Colorado gardens from collections we made in the early 1980's. Hot, dry site in the UK.) (20+) **B**
- 845.201 : SALVIA HYPARGEIA *** Turkey, Adana, N of Saimbeyli. 1200m. Open rocky areas. (Neat clumps of narrow, grey-green, wool-backed leaves & 50cm. herbaceous stems whorled with lilac-blue flowers. Now a standard plant in Denver garden-centres but quite accommodating in the UK with good drainage in full sun - used to do well on the RBG Edinburgh rock-garden.) (20+) **B**
- 847.051 : SALVIA RECOGNITA *** Turkey, Nevsehir, W of Urgup. 1200m. Base of cliffs in light shade. (A most distinct, woody-based perennial, up to 1m. high & sticky with glandular hairs. Pinnate leaves & large, widely spaced, rose-pink flowers on elegant, sparsely branched stems. Seed from Richard Riedy in New Mexico but successful with many growers in the UK & Australia.) (15+) **C**
- 852.002 : SARCOCAPNOS BAETICA *** Spain, Albacete, below Riopar Viejo. 1100m. Fissures on N-facing limestone cliffs. (Not so splendid as *S. crassifolia* var. *speciosa*, which we have not yet induced to set enough seed. Nevertheless, a fine form of this *Corydalis*-like chasmophyte, forming long-lived tufts of thick, blue-grey foliage with racemes of spurless, white, yellow-centred flowers. Definitely alpine-house only in N Europe, avoiding too much shade, food & water to keep it compact.) (10+) **E**
- 911.200 : SESELI ELATUM subsp. OSSEUM** No data. An E European member of the *Umbelliferae*, proving an excellent plant for a hot, dry situation with Tim Ingram in Kent, UK. He describes it as having "attractive silver-grey, finely cut foliage forming neat clumps to about 30cm., followed by myriads of white umbels in branching heads to about 1m." (20+) **B**
- 911.300 : SESELI PALLASHI (*S. varium*)** No data. Another species from E central Europe, very close to the preceding and described, by Tim Ingram, in this form, as like a compact version of it. Branching umbels of tiny white flowers. (20+) **B**
- 936.001 : STYRAX OFFICINALIS** Greece, Crete, Topolia. M. Jope 97-64 : 16.10.97 (An ancient species, the only European member of the genus, which crops up again in California. Less easy in the UK than some of the E Asian ones, as it likes a hot summer to ripen its wood. A rounded, deciduous shrub, up to 5m. high, with clusters of beautiful, scented, white flowers in summer.) (5) **B**
- 941.400 : TANACETUM PRAETERITUM *** Turkey, Antalya, Bey Dag. 2000m. Limestone slopes. Ex a P.& P.Watt coll. (A woody, 20cm. high, high-altitude, SW Turkish endemic, originally introduced by Peter Davis, but never so widespread in gardens as more eastern *T. densum* (long grown under the misapplied name *Chrysanthemum haradjanii*). The two are superficially similar in foliage and habit, though the intricately cut leaves are harder & more silver in *T. praeteritum*, but immediately distinct in flower as this has white ligules, whereas *T. densum* has none. Totally hardy in full sun with good drainage in a scree-bed. (about 20+) **C**
- 950.010 : THALICTRUM AQUILEGIFOLIUM *** No data. A splendid, 1-2m. tall, herbaceous plant, spread from W Europe, E across Asia. Branching stems rise above the smooth, cut foliage to carry wide panicles of fluffy, pale to deep lilac-pink flowers, whose colour comes from the broad filaments & anthers, not petals. Hardy & easy in any good soil, which does not dry out. (15+) **A**
- 950.011 : THALICTRUM AQUILEGIFOLIUM var. ALBUM *** From the beautiful, creamy-white version. (15+) **A**
- 961.260 : TRACHELIUM JACQUINII subsp. RUMELIANUM *** No data. Characteristic of Greek limestone cliffs in late summer, with its dense corymbs of soft bluish lilac flowers on 15cm. stems from rosettes of leathery, toothed leaves. (50+) **C**
- 981.500 : VERBASCUM MACRURUM** Greece, Crete, above Laki towards Omalos. M. Jope 97-65 : 17.10.97 (A robust, 1m. high, E Mediterranean biennial, clothed in rough, yellowish hairs, with dense spires of yellow flowers.) (50+) **A**
- 982.105 : VERBASCUM RORIPIFOLIUM (*Celsia roripifolia*) *** No data. A tall, airy biennial from NE Greece & adjacent Bulgaria. Around 1m. high with branched inflorescences of lots of little, yellow flowers. (50+) **A**
- 982.950 : VERBASCUM WIEDEMANNIANUM *** Turkey, Gumushane, WNW of Bayburt. 1600m. Stony clay in fallow-fields. (An outstanding purple-flowered exception among over 200 yellow Turkish *Verbascum* spp. A local N Turkish endemic without any close relatives, still sadly confused in gardens with the widespread *V. phoeniceum*. Monocarpic or a short-lived perennial, with stout, narrow spires, up to 2m. high, packed with scented, violet-purple flowers with the filaments covered in purple hairs. It can be temperamental and will always remain a connoisseurs' plant. Needs a long cold period to germinate well.) (50+) **C**

We shall be in North America again this summer and collections from the West will be the main feature of one of our lists in the latter half of 1998

In the meantime, we list some seed from cultivated plants of wild origin along with a few wild collections made by others. Nomenclature for Californian species follows 'The Jepson Manual', published in 1993, in most cases. 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 these areas. We edit with gardeners' interests in mind.

- 1.011.010 : ACTAEA ALBA** (*A. pachypoda*) * No data. From eastern woodlands, this is surely the finest of fruiting herbaceous plants. The small, fluffy racemes of white flowers, rising to about 60cm. above elegantly cut foliage, are followed, in autumn, by a display of striking white, 'doll's eye' fruits on thickened red pedicels. Slow-growing but permanent in a shady site.) (10) **B**
- 1.030.003 : ALLIUM ACUMINATUM** * Idaho, Butte Co., SW of Arco. 1400m. Among *Artemisia* on open, level steppe. (One of the most showy of the more eastern species, remaining dwarf. Round, brilliant purple-pink umbels on 15-20cm. stems.) . . . (15+) **B**
- 1.030.702 : ALLIUM DICHLAMYDEUM** * Cal., Sonoma Co. 10m. Coastal bluff in fog-belt. (One of the best of the larger species with fine, bright-pink heads on 20-30cm. stems. A fine plant, very satisfactory & trouble-free in a frame in UK.) (15+) **B**
- 1.030.800 : ALLIUM FALCIFOLIUM** * Cal., Humboldt Co., SSW of Willow Creek. 1580m. Stony openings among conifers on serpentine. (Red-purple flower-heads on 5cm. stems between two little, thick, falcate leaves in early spring.) (15+) **B**
- 1.032.600 : ALLIUM PLATYCAULE** * Cal., Modoc Co., Warner Mts. E of Davis Creek. 1750m. Open, gravelly areas. (Round, deep rose umbels on short flat stems between two thick, falcate leaves. A spectacular species, resembling the SW Asian Sect. *Acanthoprason*. Not too easy to germinate and grow on, it needs cold winters & is all but impossible with Jim & Georgie in low-altitude, W California. UK seed - it fits in with those from similar climates in E Turkey, Iran & Central Asia.) (10+) **D**
- 1.048.210 : AMSONIA TABERNAEMONTANA var. SALICIFOLIA** * No data. Doubtfully sustainable, narrow-leaved variant of this species widespread but local in wooded areas of SE North America, E to Kansas & S into Texas & Georgia. An elegant, woody-based, willow-leaved perennial up to 1m. high with cymes of starry, pale-blue flowers with darker blue tubes. (10+) **B**
- 1.060.210 : AQUILEGIA CHAPLINEI** * New Mexico, Eddy Co. Ex a S. Walker coll. (A close relative of *A. chrysantha*, endemic to the Guadalupe Mts., E of El Paso on the border of Texas & New Mexico, where its delicately cut, ferny foliage sheets the moist cliff-faces around Sitting Bull Falls. Long-spurred, pale yellow flowers on stems of around 30cm.) (20+) **C**
- 1.061.200 : AQUILEGIA LARAMIENSIS** * Wyoming, Albany Co., Laramie Mts. above Friend Creek. 2280m. Granite fissures and ledges. (Pure white flowers with short, incurved spurs. 10cm. A sweet, little plant close to *A. saximontana*.) (15+) **D**
- 1.110.201 : ASTRAGALUS UTAHENSIS** * Utah, Sevier Co., SE of Salina to Fishlake Plateau. 2000m. Stony clay in openings among *Juniperus* & *Quercus*. (Marcus Jones, pioneer of Utah botany, thought this the most beautiful flower in the state. Mats of white-felted leaves, brilliant carmine-purple racemes and pods clad in long, shaggy, silver-white hairs. A spring-flowering member of Sect. *Argophylli*, which is not so difficult to grow & flower well in the UK as some. 1997 UK seed from Tim Ingram) (10+) **C**
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We did not offer any seed from *Calochortus* in 1997. There will be fresh wild collections listed in 1998 and we are also now producing our own seed from some here but, if you are interested in them now, our seed-bank of the genus is extremely comprehensive. Ask!

- 1.231.810 : CLEMATIS VIORNA *** No data. A semi-woody, pinnate-leaved, eastern species, climbing to 2-3m. Little, nodding, leathery, narrow-mouthed bells with recurved tips to the sepals, in red-purple, followed by feathery, brown seed-heads. . . . (15+) **B**
- 1.256.500 : COMPTONIA PEREGRINA** Canada, Nova Scotia, Lunenburg Co. J. Weagle coll. (A monotypic genus related to the European *Myrica gale* with slender, erect, deciduous shrubby growth up to about 1m. high & beautifully cut, aromatic, ferny leaves. Easy & permanent in acid, peaty soil in full sun, it can be cut back annually like a herbaceous plant.) (10+) **B**
- 1.257.500 : COPTIS GROENLANDICA** Canada, Nova Scotia, Lunenburg Co. J. Weagle coll. (A demure member of the *Ranunculaceae*, "of the utmost charm," writes Farrer, with "elfin white buttercups." A lovely but very seldom-seen, little carpenter for cool, woodland or peat-bed conditions & an ideal companion for such choice genera as *Shortia* & *Epigaea*. (30+) **D**

Delphinium : the scarlet & gold larkspurs take to cultivation

All here are more or less summer-dormant perennials, retiring underground to a variety of rootstocks when it is hot and dry. All could be grown in bulb-frame conditions in cooler, summer-wet climates but the larger ones have to be attempted in the open garden. Choose as well-drained and as sunny a site as possible for all. Late sowing may not give them a long enough

cool period. If they do not come up the first year, they come up the next, as with most summer-dormant species. Taxonomically, the genus is difficult with many hybrids. We have found Michael Warnock's account in the new 'Jepson' very workable and realistic so far and the nomenclature used here, for the Californians, follows his assessment of the genus.

- 1.300.700 : DELPHINIUM CARDINALE *** Cal., Ventura Co., NW of Ojai. 650m. Among scrub on steep slope above dry stream-bed. 2.8.95 (Truly breathtaking when we saw it in flower for the first time in 1995, this thrilled us again by flowering over a long period under glass here in 1997. Others found it lasted even longer outside. This has no affinities with *D. nudicaule*, in spite of its red flowers. A big plant, well over 2m. here, from a massive rootstock. A much branched stem carries a long succession of opulent flowers in brilliant, eye-burning scarlet-red. Starting in May in nature, there were still a few out in August & it continued after that outside in the UK. Unlike all the others, seed takes a long time to mature. Endemic to the S Coast Ranges just into Mexico & recorded up to 1500m. it seems reasonably hardy in the UK, though if foliage appears early, this may need protection.) . . . (20+) **D**
- 1.300.701 : DELPHINIUM CARDINALE** Cal., Los Angeles Co., Santa Monica Mts. 500m. N-facing clay bank in chaparral. Ex a J. & G. Robinett coll. (Branching stems to 1m. and more. Considerable superficial differences exist between populations & this was certainly the case with these in cultivation. More upright & less wide-branching than the preceding. Try both.) (20+) **D**
- 1.300.900 : DELPHINIUM DEPAUPERATUM *** Cal., Sierra Co., SE of Sierraville. 1870m. Open, gravelly areas among sparse *Pinus*. (Our 1989 coll. 10949 & 1992 coll. 12728, distributed as *D. nuttallianum* but it seems to fit in better with this. A pretty species with flights of rich purple flowers on branching 20cm. stems over a long period in spring before it disappears in summer) (20+) **B**
- 1.302.500 : DELPHINIUM LUTEUM *** Cal., Sonoma Co., SW of Bodega. Ex a W. Roderick coll. (The species itself hovers on the verge of extinction, known from two small populations growing on seasonally wet cliffs near the coast NW of San Francisco. It is essential to maintain this unique plant in cultivation but, unfortunately, it is none too generous about setting seed in the UK, even when several clones are grown. This listing represents the efforts of three growers. A truly beautiful plant when well grown under glass in the UK - the only really yellow N American. Branching stems, about 30cm. tall with large, waxy, shining, clear bright-yellow flowers. Dave Hoskins found it did well outside but make sure you have several plants before you try.) (15+) **E**
- 1.302.700 : DELPHINIUM NUDICAULE *** Cal., Plumas Co., S of Greenville. 1370m. Among conifers on steep, gravelly, clay slope. 28.7.95 (A high altitude inland form, about 30cm. high of this scarlet-orange species. Tony Chalkley raised some pinkish flowered plants, possible hybrids with *D. nuttallianum* or a similar species, from a coll. we made here. None appeared here.) (20+) **C**
- 1.302.751 : DELPHINIUM NUDICAULE *** Cal., Trinity Co., N of Zenia. 1660m. Serpentine outcrop. (This appears to be a distinct, tall race endemic to the high, inaccessible serpentines of the inner N Coast Ranges. We found similar plants in one other site, further S, in 1995, though we have never succeeded in locating this again above Zenia. A marvellous thing, up to 1m. high with the long-spurred, brilliant scarlet flowers held out on long pedicels, & of course totally temperature-hardy. 1997 seed, from plants established from our 1989 coll. & grown successfully since then, as a border-plant outside by Dinah Batterham in Dorset, UK.) (15+) **D**
- 1.302.902 : DELPHINIUM NUTTALLIANUM *** Cal., Modoc Co., WNW of Canby. 1420m. Vernal wet, open, stony site. (Possibly this very variable, widespread, deep-blue, dwarf species, 20-30cm. here, though some key out as *D. depauperatum*.) (15+) **C**
- 1.303.100 : DELPHINIUM PARISHII *** Cal., Inyo Co., SW of Gilbert Summit. 1620m. With sparse *Artemisia* on open, stony slope. (A cold-desert species with 50cm. racemes downy, white-eyed flowers in a beautiful pale azure-blue. A lovely thing if well-grown but needs a lot of sunlight to keep it in character and would certainly vanish in the open garden. Bulb-frame in UK) (20+) **C**
- 1.304.500 : DELPHINIUM VARIEGATUM (subsp. variegatum) *** Cal., Mendocino Co., SW of Covelo. 390m. Heavy clay on open, grassy slope. 9.6.95 (A brilliant species around 50cm. high with racemes of flowers in rich, deep royal-blue. This was a particular success here in 1997, growing about 1m. high under glass and providing a gentian-blue spectacular for months. It was also good enough to set plenty seed. Should be easy in a bulb-frame in the UK & worth trying in a well-drained site outside.) (20+) **C**

- 1.461.790 : IRIS THOMPSONII** Oregon, Curry Co., near Agness. J. & G. Robinett coll. 29.6.96 (Ignored by "Jepson" and Munz but reinstated as a 'good' species in a recent paper. Localities given for the 'true' plant are mainly quite low down, near the coast on either side of the Oregon-California line. Jim & Georgie's photographs here show flowers in plum to violet shades.) (15+) **D**
- 1.461.800 : IRIS THOMPSONII** Cal., Del Norte Co., SW of Gasquet. 530m. Stony openings among sparse conifers. 2.7.95 (From one of two places where Boyd Kline considers the 'true' plant grows. If you wish, you can call this *I. innominata* 'Dwarf Purple Form'. The smallest iris we have seen in this series. Not seen in flower by us but Boyd says it is rich blue-purple.) (15+) **D**
- 1.496.500 : LEWISIA COTYLEDON var. HECKNERI** * Cal., Trinity Co., N of Junction City. 1640m. Fissures on vertical, shaded, serpentine cliffs. (Last summer, we had only this race of *L. cotyledon*, from our 1989 coll., so seed should be pure. A distinct, disjunct taxon limited to this area. Toothed leaf-margins & wide panicles of the largest, most sumptuous flowers, twice the diameter of the type-race, in white richly striped pink. The race which gave size to the garden-hybrids. Grow the real thing.) (20+) **C**
- 1.496.800 : LEWISIA LEANA** * Cal., Trinity Co., Mt. Eddy. 2400m. Stony serpentine slopes with sparse *Pinus*. (Rosettes of succulent, linear leaves send up 15cm. high panicles of many bright magenta-pink flowers. Mature seed is dark brown not black.) . . . (15+) **E**
- 1.497.000 : LEWISIA OPPOSITIFOLIA** * Oregon, Josephine Co., Waldo Hill. 600m. Among serpentine detritus along gully. 13.6.95 (A type locality coll. of this pretty, summer-dormant species. In its 'pure' form an Illinois Valley endemic. Narrow, blunt, succulent leaves and 15cm. umbels of up to 6, rounded, white flowers, occasionally pink in the bud, with red-fringed sepals. A plant of stony 'flats' and along the sides of gulleys, seasonal seeps, very wet in spring but completely dried-out in summer.) (20+) **D**
- 1.497.200 : LEWISIA REDIVIVA** * Wyoming, Albany Co., E of Centennial. 2700m. In granite grit of open, stony 'flats'. 15.7.95 (We think this is perhaps the most beautiful and thrilling of all N American plants. The tiny clusters of fleshy, linear leaves are hardly noticeable under the huge, diaphanous, water-lily flowers, appearing successively on the shortest of stems. The Wyoming colonies, though wildly variable in flower-shape & colour, are generally of a richer pink than we have seen in gardens.) (20+) **C**
- 1.497.202 : LEWISIA REDIVIVA** * Idaho, Butte Co., NE of Carey. 1520m. E & SE-facing slopes of stony ridge. (From a splendid site, which we found in 1989. We have never seen this colony flowering in the wild but all the seedlings which have so far flowered with us have been white. It is rather similar, in fact, to the Californian plants separated as var. *minor* and we suspect that there are at least two distinct taxa currently included under *L. rediviva*. Smaller, rounder flowers than the preceding.) (15+) **D**
- 1.497.610 : LEWISIA TWEEDI** * No data. The famous endemic of the Wenatchee granites, in Washington. Acknowledged queen of the lewisias (though we get a bigger kick from *L. rediviva*) and unlike any other (in fact, removed from the genus *Lewisia* by some authorities on *Portulacaceae*). Rosettes of smooth, fleshy, obovate leaves and immense, silky flowers in palest tea-rose shades of salmon, apricot and cream. Not difficult with care in a very gritty, lime-free mix, dryish from late summer to spring. (20+) **C**
- 1.497.611 : LEWISIA TWEEDI - FROM PINK FORM** * No data. A distinct form which can be relied on to come fairly evenly from seed. Altogether proportionately smaller than the preceding with darker green foliage smaller rich pink flowers. (15+) **C**

Lilium : capricious aristocrats from our seed-bank

Seed ripens late from mid-September into October, long after we have left California in recent years. Most of the following are from Jim & Georgie Robinett, who know this genus well and can be relied on to collect top-quality, correctly named material. The species fall very roughly into two groups : the dry-growers with ovoid bulbs with longer, unjointed scales and the wet-growers with rhizomatous bulbs with shorter, jointed scales. In the latter group, *L. pardalinum*, the equivalent of the eastern *L. superbum*, is the focus of a number of taxa. These have been placed under it at subspecific level by Mark Skinner in "Jepson" but we keep them at specific level here, as we feel

this is of more use to gardeners. There is a great deal of introgression and hybridization. Many stands of *L. pardalinum* itself are extremely variable. Obviously the wet-growers are going to be much more amenable to the open-garden in cool temperate climates, seldom needing the very wet conditions of their natural habitats. These are well-suited to the peat-bed or similar humus-rich conditions. In all cases, the westerners are plants of lime-free soils. Seed sown in winter should give no problems. We had great success from sowing our 1989 refrigerated, seed-bank seed in 1995, so the collections made in 1995 should still give acceptable germination.

- 1.498.500 : LILIUM COLUMBIANUM** Cal., Humboldt Co. 500 m. J. & G. Robinett coll. (A spectacular lily of the redwoods, extending N into Canada. Up to 30 golden orange turkscaps, speckled with maroon. Not a plant of really wet sites) (15+) **B**
- 1.498.800 : LILIUM 'ELDORADO DITCH LILY'** Cal., Eldorado Co. 1000m. J. & G. Robinett coll. 8.9.95 (A mysterious, apparently natural, hybrid from along a few man-made watercourses in the N Sierra Nevada. Stems whorled with bright-green leaves can reach 1.5 m. & carry as many as 30 upright, flaring bells, usually pink but also sometimes in orange or brick-red.) (15+) **C**
- 1.498.900 : LILIUM HUMBOLDTII** (subsp. *humboldtii*) Cal., Yuba Co. 550m. J. & G. Robinett coll. 10.95 (Local northern race of this dry-grower from the N Sierra Nevada. Up to 40 strongly recurved, maroon-speckled flowers in orange-yellow. 2m.) . . (15+) **D**

- 1.499.100 : LILIUM KELLEYANUM** Cal., Tulare Co., E side of Moses Mt. 2070m. J. Andrews coll. (An obscure, high altitude wet-grower from the S Sierra Nevada, collected where Wayne Roderick considers the 'true' species grows - further N it intergrades with *L. parvum*. Up to 25 fragrant, uniformly yellow, pendant, wide bells with dull-red anthers. 1m.) (15+) **D**
- 1.499.200 : LILIUM KELLOGGII** Cal., Humboldt Co. 800m. J. & G. Robinett coll. 30.9.95 (A dry-grower from around the California-Oregon line, usually in openings among conifers. Can have 15-20 fragrant, turkscap flowers in pink, striped yellow on the basal third of each segment & speckled purple along the edges. Narrow, greyish, crinkled leaves. Usually under 1m.) . . . (15+) **D**
- 1.499.400 : LILIUM MARITIMUM** Cal., Sonoma Co. 30m. Open woodland. J. & G. Robinett coll. 18.8.95 (An uncommon, little lily, reputed always to grow within the sound of the Pacific - almost frost-free in winter & cool in summer. Red-orange, funnel-shaped, slightly nodding flowers, spotted basally. Anything from 1-13 flowers on stems from 25cm. to 1m. or more.) (15+) **E**
- 1.499.700 : LILIUM PARDALINUM** Cal., Placer Co. 1400m. Open, wet mountain meadow. J. & G. Robinett coll. 23.9.95 (Most widespread wet-grower, extremely variable but distinct in its very long filaments & capacity to form wide clonal rhizomatous mats. Red-orange turkscap flowers with maroon spots margined with yellow towards the recurving segment-tips.) (20+) **B**
- 1.499.750 : LILIUM PARDALINUM HYBRID** Cal., Placer Co. 1350m. J. & G. Robinett coll. 23.9.95 (Possibly hybrids here with yellow *L. parvum*, which grows in the area. Nodding flowers on some plants are flatter and golden-orange.) (20+) **B**
- 1.499.900 : LILIUM PARRYI** Cal., Los Angeles Co., San Gabriel Mts., along Little Rock Creek. 1990m. J. Andrews coll. 1993 (A southern species, like no other in its strongly fragrant, bright yellow, trumpets, with a few tiny, sparse maroon dots, up to 30 on stems of about 2m. A local plant of wet meadows & streamsides in coniferous forest in SW California & S Arizona.) (20+) **D**
- 1.499.920 : LILIUM PARRYI *** Arizona, Santa Cruz Co., Huachuca Mts. S of Tucson. Ex a S. Walker coll. (1997 UK seed derived from the one of the few, small Arizona stands. Not so different to the preceding but should be maintained in gardens.) (10+) **D**
- 1.500.000 : LILIUM PARVUM** Cal., El Dorado Co. 1800m. Wet meadow. J. & G. Robinett coll. 23.9.95 (The high altitude wet-grower of the N Sierra Nevada. Upward-facing, bell-shaped flowers, in orange shades. Can reach 2m. but usually less.) . . . (20+) **C**
- 1.500.050 : LILIUM PARVUM** Cal., Placer Co., Monumental Ridge. 2030m. J. Andrews coll. 1994 (An even, distinct local race. Fragrant, flatter flowers in yellow to clear orange-yellow with a few crimson spots. A wet-grower, on granite here.) (15+) **D**
- 1.500.400 : LILIUM RUBESCENS** Cal., Humboldt Co. 500m. N edge of woodland. J. & G. Robinett coll. 19.8.95 (A dry-grower with stems of up to 2m. carrying 20 or more upward-facing, extremely fragrant, white trumpets, maturing to pink-purple.) (15+) **D**
- 1.500.401 : LILIUM RUBESCENS** Cal., Humboldt Co. 80m. Edge of redwood forest in moderate shade. J. & G. Robinett coll. 19.8.95 (Quite a low altitude for this beautiful Coast Range endemic, closest to *L. washingtonianum*. The wide trumpets open white with minute purple dots, which suffuse until it is wine-coloured. Whorls of grey-green leaves with crinkled edges.) (15+) **D**
- 1.500.500 : LILIUM SHASTENSE** Cal., Shasta Co. 1400m. Wet meadow, along a creek across old lava-flow. J. & G. Robinett coll. 29.9.95 (Wet-grower, currently placed as a subsp. of *L. pardalinum* but does not increase clonally to the same extent. Nearest to *L. vollmeri* with similar two-toned, red-orange flowers but has yellow to orange pollen. Up to 1.8m. with 30 flowers.) (20+) **C**
- 1.500.900 : LILIUM VOLLMERI** Oregon, Josephine Co. 500m. Along wet ditch. J. & G. Robinett coll. 29.9.95 (Wet-grower near the preceding but has purple anthers & red pollen. A splendid, 2m. high population here. A local serpentine-species.) (15+) **C**
- 1.501.001 : LILIUM WASHINGTONIANUM** (subsp. *washingtonianum*) Cal., Butte Co. 1100m. J. & G. Robinett coll. 28.9.95 (Marvellously fragrant, great flaring white trumpets, up to 12cm. across, face out or nod slightly on stems of 40-120cm., whorled with crinkled, grey-green leaves. A dry-grower, usually in open scrub or woods, and reputedly difficult to grow well.) (15+) **D**
- 1.502.020 : LINANTHASTRUM NUTTALLII** (*Linanthus nuttallii*, *Gilia nuttallii*) Arizona, Apache Co., Mogollon Rim. 2750m. Clay scree beside forest road. M. & P. Stone 97-003 (An attractive, aromatic, woody based perennial widespread throughout the middle elevations of the drier ranges in the West. Usually placed in a monotypic genus of *Polemoniaceae*, as one very variable species. Slender stems, up to 30cm. tall, with opposite, much-cut leaves carry clusters of long-tubed, scented, white flowers.) (8) **C**
- 1.515.300 : LUPINUS ALBIFRONS** (var. *albifrons*) * Cal., Contra Costa Co., above Orinda. 450m. (A fine shrubby perennial, about 1m. high. Silky, silvery foliage & 30cm. racemes of pale to deep lavender-blue flowers with yellow to white banner-patches, maturing to purple. Has proved a successful garden-plant from the UK to Australia. Tim Ingram (Kent, UK) considers this the most reliable silver-leaved lupin, hardy to -10 C or less - remarkable considering its comparatively low altitude origin.) (10+) **B**
- 1.517.010 : LUPINUS BICOLOR *** Cal., Butte Co, N of Oroville, Table Mountain. 400m. (An extremely variable dwarf, annual species, about 20cm. high. Petals are usually blue with a white banner spot, maturing to magenta, & the keel is white. Alan Edwards commends this form as a first-rate garden-plant. Germination can be irregular but it sows itself where suited.) (15+) **A**
- 1.534.350 : LUPINUS POLYPHYLLUS** (var. *polyphyllus*) * Canada, BC, Vancouver Is., S of Port Renfrew. Sea-level. Ex N. Macer 94- (A fine large herbaceous perennial from moist sites and marshy areas, distributed S into California & E into Idaho. Lush, palmately compound foliage & densely whorled racemes of purple-blue flowers can rise to as much as 1.5m. high. An excellent wild-garden plant, absolutely hardy in the UK & much less formal than its sophisticated children.) (15+) **B**
- 1.535.000 : LUPINUS VARIICOLOR *** Cal., Sonoma Co., above Shell Beach. 20m. Ledges on coastal cliffs. (A woody based perennial about 60cm. high, with downy, greyish leaves & short racemes of beautiful, blue & creamy-white flowers. A coastal plant but Tim Ingram (Kent, UK) writes "one of the best shrubby lupins in the garden, hardy to at least -10 C.") (10+) **B**

Species from North America : Seeds from Jim & Jenny Archibald

- 1.586.310 : MAURANDYA BARCLAYANA *** No data. A Mexican climber in an attractive, showy genus in *Scrophulariaceae*, close to *Antirrhinum* & *Asarina* (under which some have been included) but with open, funnel-shaped flowers. All these will flower the first year from seed if sown early in warmth. These are tender perennials, which enjoy the summer climate outside in the UK but must be overwintered dryish & frost-free if you want to keep them. Big, downy, rose-purple flowers in summer. (30+) **B**
- 1.586.410 : MAURANDYA ERUBESCENS** (*Lophospermum erubescens*) No data. Another fine, woody-based, Mexican climber for similar treatment. Glandular-hairy, rose-pink flowers, mottled within, on whitish tubes in summer & autumn. (30+) **B**
- 1.586.610 : MAURANDYA PURPUSII** (*Lophospermum purpusii*) * A tender, tuberous-rooted, Mexican perennial, which can easily be overwintered in a dormant state, if stored dry & frost-free. Non-climbing with slender, 40cm. long, prostrate stems & lots of long-stalked, carmine-purple flowers, with lined & bearded throats, from the leaf-axils in summer. (30+) **B**
- 1.620.000 : MILLA BIFLORA** Arizona, Cochise Co., Dragoon Mts., Cochise Stronghold. 1770m. Open, gravelly areas between granite rocks. M.& P. Stone 97-021. (A predominantly Mexican, monotypic bulbous genus, near *Brodiaea*, from one of its more northern localities. Umbels of large, scented, white flowers on slender tubes, sometimes lilac tinted as they open, on stems of around 30cm. high. Possibly best treated as summer-growing & kept dry in winter, when it should be temperature-hardy in the UK, but it can be induced to flower in both spring & early autumn. Sally Walker says it rarely sets much seed in Arizona.) (15+) **D**
- 1.622.000 : MIMULUS CARDINALIS *** Cal., Eldorado Co. 1300m. Streamside in open woodland. Ex a J.& G. Robinett coll. (A glandular-hairy, 60cm., hardy rhizomatous perennial with a multitude of striking, orange-scarlet flowers.) (100+) **B**
- 1.645.000 : NEMOPANTHUS MUCRONATUS** Canada, Nova Scotia, Halifax Co., Ferguson's Cove. J. Weagle coll. (A deciduous shrub 1-3m high in a monotypic genus in *Aquifoliaceae*, close to *Ilex*. Very little-seen in UK gardens, perhaps because the forms grown here seldom bear their crimson fruits as freely as in N America. This wild coll. is from a northern locality & gathered from a selected, particularly heavily fruited, large berried clone, which may bring its good qualities across the Atlantic.) (20+) **B**
- 1.653.500 : OENOTHERA ORGANENSIS** New Mexico, Dona Ana Co., Organ Mts. c. 1800m. Around pools & seeps in canyon bottoms. M.& P. Stone 97-013 (An extremely local endemic from this range on the Mexican border. Untried in cultivation in the UK, as far as we know. This seed was given to Mike & Polly by BLM staff at the the Dripping Springs Visitor Center, where it grew in a bog by the side of a small pool. May well prove quite easily grown in normal garden conditions in the wetter UK.) . . . (15+) **E**
- 1.695.015 : PAEONIA BROWNII** Oregon, Wallowa Co., N of Wallowa. 1000-1200m. G. Burrell coll., 1997 (A summer-dormant species adapted to the extreme climate of cold, inland steppe & not at all easy to grow in areas with softer, wetter weather, such as the UK. About 40cm. high with beautiful, cut, glaucous leaves & globular, nodding flowers with thick petals in bronze-maroon, thinly margined with yellow. From a colony of distinct plants with a suckering habit, red stems & red-tinged foliage.) (6) **D**
- 1.808.100 : RHODODENDRON CANADENSE** (*Rhodora canadensis*) Canada, Nova Scotia, Lunenburg Co. J. Weagle coll. (From an outstanding colour form (marked in the wild but open-pollinated) of this deciduous azalea, in its own subsection & with a distinct, two-lipped corolla. Bright rose, purple-anthered flowers cluster on the naked twigs of erect shrubs about 1m. high. Often growing in swampy areas in nature, this is one of the hardiest & most colourful of early shrubs for a moist site. (50+) **C**
- 1.855.400 : SILENE HOOKERI *** Oregon, Josephine Co., E of Takilma. 850m. Openings among conifers, in stony turf. (We have our cultivated stock rolling now under glass - one of our favourite plants. Decumbent stems with downy, greyish leaves & a very long succession of flowers with deeply cut petals, soft salmon-pink in this form. Eventually summer-dormant.) (10+) **C**
- 1.855.500 : SILENE HOOKERI subsp. BOLANDERI *** Cal., Trinity Co., S of Hayfork. 750m. Openings among conifers on W-facing slope. (Seed now available from our own cultivated stock of this very local plant, limited to this area. Utterly distinct both horticulturally & botanically and possibly worthy of specific status (though all subspecific divisions are currently disregarded in modern 'standard' floras - possibly more through ignorance than by good judgement). Large, pure-white flowers with the petal blades deeply cut into linear segments. A plant raised from our 1993 coll. was awarded a PC, when exhibited in the UK in 1995 - full write-up in the Dec., 1995, AGS Bulletin. A little more difficult to grow & maintain than the type-race listed above) (8) **D**
- 1.855.501 : SILENE HOOKERI subsp. BOLANDERI** Cal., Trinity Co., W of Weaverville, Munger Gulch. 760m. J. Andrews coll. 1995. (A little refrigerated wild seed left from N of Hayfork Divide but still in the drainage of the Trinity River.) (8) **E**
- 1.860.300 : SISYRINCHIUM DOUGLASHII *** Oregon, Jackson Co., Siskiyou Mts. SSE of Ashland. 1370m. Open meadow on SW-facing slope. 3.7.95 (Surely the finest of the genus with "a succession of noble hanging bells in a deep and flashing imperial violet." Early-flowering, 20cm. high and summer-dormant. Growable in the alpine-house or scree-bed in the UK.) (15+) **B**
- 1.980.200 : VIBURNUM CASSINOIDES** Canada, Nova Scotia, Lunenburg Co. J. Weagle coll. ("One of the finest American viburnums" says 'Bean'. "Grossly underrated" writes John Weagle : "bright, perky foliage ; smooth bark ; bright pink berries change to blue then black ; magnificent fall colour ; tolerates very dry or acid conditions". A shapely, rounded, deciduous shrub, about 2m. high, with thick-textured, oval leaves, "chocolate or bronze-tinted when young..bright red before they fall." Cymes of yellow-white flowers followed by fruits passing from "green to pink or red and finally to dark blue," according to 'Bean'. It sounds as if it should be in every garden & garden centre. We don't have it in our garden (yet). Do you? (20+) **C**

- 2.002.910 : ABUTILON VITIFOLIUM** * No data. A lovely, fast-growing, Chilean shrub, reaching 4m. or more high & quite hardy in the S & W of the UK. Downy, grey, maple-like leaves & massed pale to deep purple-blue, hollyhock-flowers. (20+) **A**
- 2.005.500 : ACAENA MAGELLANICA** Falkland Islands, E of Stanley, Whalebone Bay. 5m. Gravel. R. Reid coll. (Mats of glaucous, downy, pinnate leaves covered with round, red-tinged, burred heads. A plant of S Argentina & the Antarctic islands.) (20+) **B**
- 2.066.500 : ARMERIA MACLOVIANA** Falkland Is., E of Stanley, Cape Pembroke lighthouse. 5m. Wet sand between rocks. R. Reid coll. (Falklands representative of this cosmopolitan maritime genus - mounded pink thrift inured to the Atlantic gales.) (20+) **B**
- 2.127.000 : BOMAREA ISOPETALA** * Ecuador, Azuay, Rio Quinuas valley, WNW of Cuenca. 3250m. Vestigial stands of montane scrub. (Possibly safest grown frost-free. We have not tried it outside, though this a cold area & it should be as hardy as the next. A tuberous-rooted perennial climbing to about 2m. with dark, leathery leaves & heads of rose-pink, green-tipped flowers.) (8) **E**
- 2.128.101 : BOMAREA MULTIFLORA subsp. CALDASII** * Ecuador, Napo, Papallacta. 3100m. Margins of montane forest. (These magnificent, mainly climbing, tuberous-rooted perennials in *Alstroemeriaceae* with regular flowers (unlike *Alstroemeria*) are centred on the N Andes, where many grow at considerable altitudes. They grow easily in a greenhouse, unheated or barely frost-free, & are possible outside in sheltered sites in the UK. As well as under glass, we have this growing outside against a N-facing wall, where it is cut to the ground each winter & tends to be late in making new growth in spring, so that it does not flower until very late in the season. Seed usually germinates rather slowly & irregularly. This name appears to cover a disconcerting range of plants, varying in habit, proportions of perianth-segments & the amount of speckling inside the flowers. Plants in this area climbed to 2-3m. with heads of up to 50 bell-shaped flowers, usually unspotted, with scarlet outer segments & orange inner ones. (8) **C**
- 2.128.103 : BOMAREA MULTIFLORA subsp. CALDASII** * Ecuador, Pichincha, Cerro Pichincha above Quito. 3200m. Among scrub. (Much more slender, to 2m., with about 12 pendant flowers, speckled on the orange inner segments.) (8) **C**
- 2.131.500 : BRACHYOTUM LEDIFOLIUM** * Ecuador, Carchi, NW of El Carmelo. 3300m. Montane scrub on steep slope. (Most widespread Ecuadorean member of this genus in *Melastomataceae*, mostly extremely local dwarf shrubs of the high altitude paramo. About 60cm. high here in an unheated greenhouse but can probably be kept more in character if grown outside in peat-bed conditions in summer in the UK - possibly best protected in winter unless you live in the mildest of western climates. Pendant, pale-yellow flowers with reddish calyces on stiff, narrow-leaved shrubs in nature - laxer & broader-leaved grown here.) (30+) **D**
- 2.151.000 : CALANDRINIA CAESPITOSA** * Argentina, Neuquen, Lacar, Cerro Chapelco above San Martin de los Andes. 1800m. Talus & rock-fissures on steep slopes. (A splendid alpine, now being quite successfully grown in both Europe & the USA. Rolf Fiedler describing it here (as "*C. portulacoides*" - it has possibly also been described as *C. skottsbergii*) states it "forms low armeria-like tufts of slightly succulent narrow leaves and has big yellowish-orange flowers up to 5cm. across." Others describe it as "yellow suffused with orange" and "deep gold" - the *Lewisia tweedyi* of the S Andes but not so easy to grow & flower as it.) (15+) **E**
- 2.151.050 : CALANDRINIA CAESPITOSA (C. rupestris)** * Argentina, Mendoza, Malargue, Valle de las Lenas. 2660m. Along snow-melt gulleys & stony areas occupied by late snow-patches. (A brilliant, jewel-like, little plant, deserving of recognition at some level to separate it from the preceding. Altogether smaller with many little bright orange-scarlet flowers with glossy yellow centres, both garish & charming. It grew well in the 1970's from a B.C.& W. coll. (as *C. rupestris*) both in an alpine-house pan and outside in a trough or scree-bed. It even reached the stage of appearing for sale with the easier alpiners in the Wisley plant centre. Then it was suddenly not around any more. We have it again from our 1994 coll. - it should be possible to maintain it this time.) (15+) **D**

Calceolaria : slippers of all shapes & sizes

An amazingly diverse genus in the Andes. Some of the collections from Ecuador have been most successful in cultivation in milder parts of the UK, especially in Ireland but for the most part they are too tender to be reliable outside in most British winters. The southern Andeans will tolerate much lower temperatures than are ever experienced in the UK, where the problem for some will be too much moisture. There are

comments under individual species. The excellent account by Ulf Molau in 'Flora of Ecuador' makes identification straightforward for the northern ones but there is no similar source of information for the species from Chile & Argentina. Seeds are extremely small and need careful handling to avoid losing seedlings through damping-off but they usually germinate quite easily if sown in warmth.

- 2.180.200 : CALCEOLARIA ARACHNOIDEA** * Chile, Reg. Metro., NE of Valle Nevado (E of Farellones). 3200m. Among igneous rocks on steep slopes. (Tight basal rosettes of white-felted leaves send up 20cm. stems of black-maroon bubbles. Quite easy & absolutely temperature-hardy if protected from too much wetness from late summer through the winter.) (50+) **C**
- 2.180.500 : CALCEOLARIA BIFLORA** * Argentina, Mendoza, Lujan, Cordon del Plata W of Portrellillos. 2600m. Wet stone-slide on steep slope. (A representative of a variable complex (this would be *C. luxurians*, if "split") characteristic of wet-flushes and sides of snow-melt streams. Mats of flat, plantain-rosettes & masses of tiny, dancing, yellow bubbles on 20cm. stems.) (50+) **C**

- 2.181.501 : CALCEOLARIA ERICOIDES *** Ecuador, Pichincha, Cerro Pichincha, E slope above Quito. 3600m. Montane scrub on steep slopes. (An extraordinary, erect shrub, up to 1m., with tiny linear leaves, altogether like *Erica arborea* but with the upper stems packed with little, upturned, sulphur-yellow bubble-flowers. This has grown & flowered well outside in the UK summers but just does not seem able to survive our winters in the open. Possible from cuttings & seed, though it does not set much.) (100+) **E**
- 2.186.000 : CALCEOLARIA PERFOLIATA *** Ecuador, Carchi, NW of El Carmelo (SSE from Tulcan). 3100-3300m. Montane scrub on steep slopes. (Representative of several scandent, herbaceous perennials. Climbs to about 4m. with downy leaves & a multitude of bright yellow flowers. From a cold, very wet area and possible as an annual outside in the UK as well as under glass) . . . (50+) **C**
- 2.186.100 : CALCEOLARIA PINIFOLIA** Argentina, Mendoza, Lujan, Cordon del Plata W of Portrellillos. 2800m. Fissures & ledges on igneous cliffs. (Stored seed, collected 11.3.94 but germinating well last year. An extraordinary, saxatile species, like no other, distributed locally N from here into the drier ranges of San Juan & Coquimbo. Tufts of dark, leathery, narrow leaves, just like pine-needles stuffed into the fissures, with yellow flowers, their horizontal, cradle-shaped lips speckled crimson inside. A woody-based, very long-lived xerophyte quite easy to grow (but not so easy to flower) in year-round alpine-house conditions.) (100+) **E**
- 2.188.501 : CALCEOLARIA TENELLA *** Argentina, Rio Negro, Bariloche, Cerro Tronador E side. 1300m. Fissures on shaded, igneous cliffs. (Creeping pads of minute rosettes with crimson-speckled, lemon-yellow fairy-flowers on thread-like stems. A collection of this sweet, tiny plant made not much below the glaciers on Tronador & proving fairly tough so far.) (50+) **C**
- 2.198.200 : CALTHA SAGITTATA** Falkland Islands, E of Stanley, Whalebone Bay. 5m. Wet, shallow peat over clay. R. Reid coll. (This is a neat, dwarf *Caltha*, possibly the most horticulturally worthy of the S Americans. It is widely distributed from the central Andes down to Tierra del Fuego in wet, montane sites. Pads a few cm. high with lots of little white flowers.) (20+) **C**
- 2.297.610 : ERYNGIUM DECAISNEANUM (*E. pandanifolium*) *** No data. This & the following belong to a group of species distributed from S Brazil through Paraguay & Uruguay into N Argentina, essentially grassland plants, often from wet sites in the pampas. Their evergreen rosettes of leaves may look exotic but they are usually hardy in the UK in any good, rich soil in full sun. Branching stems of many purplish, thimble-heads can rise to 3m. above the basal, sword-shaped, spine-edged foliage. (20+) **B**
- 2.297.810 : ERYNGIUM EBRACTEATUM *** No data. "An unique species...curiously attractive", writes Tim Ingram. Clumps of narrow, grey foliage, almost indistinguishable from *Yucca filamentosa*, send up 1.5m., ridged, branching stems with many small, plantain-like, purplish flower-heads. Little-known in cultivation but from N Argentina & should be quite hardy. (20+) **C**
- 2.297.910 : ERYNGIUM EBURNEUM (*E. bromeliifolium*) *** No data. Bromeliad-like tufts of narrow, evergreen, spine-edged foliage & 2m. high candelabra of green-white heads. In our experience, the easiest, toughest & most reliable of these S American entire-leaved species. Reputedly from S Brazil into N Argentina but we have seen similar plants in Chile & W Argentina. (20+) **B**
- 2.299.800 : ERYNGIUM VENUSTUM *** No data. We could not verify the name but seed is from *Umbelliferae* enthusiast Tim Ingram, who recommends it as a good hardy perennial for a hot, dry spot with "very attractive foliage forming 30cm. wide, glossy green rosettes of spiky, pinnate leaves" & 45cm. high stems of "modest green-yellow thimbles in late summer" (20+) **C**
- 2.390.000 : GRINDELIA CHILOENSIS *** Argentina, Mendoza, Lujan, Cordon del Plata W of Portrellillos. 2000m. Among scrub on river gravels in valley bottom. (A showy, 1m. high woody perennial with thick, narrow, toothed leaves & erect stems carrying big buds, oozing with white latex, opening to large, bright-yellow heads with so many rays that they appear semi-double. .) (10+) **C**
- 2.555.000 : LOBELIA TUPA *** Chile, Reg. VI, Cachapoal, ESE of Machali. 900m. Openings among scrub in gravelly soil. (A regal Chilean endemic, towering to 2.5m. with spires packed with thick-textured, hooded, scarlet flowers, exquisitely adapted for humming-bird pollination, above the large, rough, grey-green foliage. Will need a well-drained, sunny site.) (50+) **C**
- 2.570.000 : LUZURIAGA MARGINATA** Falkland Islands, base of Mt. Kent. 100m. In shade of large rocks in 'stone run'. R. Reid coll. (A shrubby *Lapageria* & *Philesia* relative from these cold, windswept, Atlantic islands & the adjacent S tip of Chile & Argentina. Runs underground, like *Philesia*, & sends up 20cm. stems clad in little, narrow, alternate, leathery leaves & carrying pale-pink flowers followed by fleshy, purplish fruits. We grow *L. radicans* from the more northern Chilean forests but have never seen this southern, cold-climate relative mentioned as being in cultivation. May not be too easy to get established initially.) (5) **E**
- 2.583.000 : MALESHERBIA LINEARIFOLIA *** Chile, Reg. Metro, below Farellones. 2100m. Open, rocky slopes & along ridgetops. (A superb, woody-based herbaceous perennial, sadly so far proving neither easy to grow in the UK nor, indeed, to germinate. Those who have succeeded have rated it "a beautiful plant". About 60cm. high with stems & leaves covered in glandular hairs and panicles of flowers, about 2cm. across, somewhat *Delphinium*-like in effect, in rich, dusky blue-violets & red-violets, generously produced over a long period. Temperature hardy but needs rather dry conditions - try it in a well-drained sunny site.) (15+) **D**
- 2.615.500 : MONTIOPSIS SERICEA (*Calandrinia sericea*) *** Chile, Reg. Metro., Lagunillas (ESE of San Jose de Maipo). 2300m. Open, stony slopes. (Certainly the finest of the group of hairy-leaved, crimson-flowered species for the alpine-house grower - if the unsatisfactory & unwieldy genus *Calandrinia* is 'split', as seems helpful & sensible, this is in Subgenus *Montiopsis* of *Montiopsis*. If it is not, it is in Subgenus *Hirsutae* of *Calandrinia*. Hummocks of silvery-grey, downy foliage with generously produced brilliant magenta flowers on short stems. To keep its character, it must have full sun & year-round alpine-house conditions.) (20+) **D**

- 2.628.500 : MUTISIA OLIGODON** * Chile, Reg. VIII, Bio Bio, SE of Antuco to Volcan Antuco. 650m. Among scrub on steep slopes of volcanic ash. (A great success here in our cold greenhouse from our 1991 coll. Technically separated from *M. spinosa* (*M. retusa*) in that it is not a climber but forms wide-spreading, suckering mounds of stems, about 30cm. high. In cultivation, our plants are about 60cm. high and straggle through an adjacent *Correa*. All the plants we have seen under this name from other sources in the UK have been quite strong-growing climbers and incorrectly named. Bean mentions a plant (of the real thing) raised from Comber's seed flourishing for 40 years in a Sussex garden and it does seem to be one of the best for UK gardens. Certainly the classiest & most aristocratic of these pink Andean daisies with a summer-long succession of broad-rayed heads in what Bean describes as a "beautiful silky pink (almost salmon-pink)." Try it outside in scree or a raised bed and be assured that this is the true plant - it came from the locality where Poeppig collected the material he described as this in 1835 - "Andes de Antuco.") (8) **D**
- 2.629.401 : MUTISIA SUBSPINOSA** * Argentina, Mendoza, S of Termas de Villavicencio. 2000m. Among scrub. (Nothing to do with pink *M. spinosa* & in Sect. *Guariruma* with *M. retrorsa* & *M. decurrens*, this is endemic to the extreme, dry climatic strip along the E Andean foothills, N from Mendoza, through San Juan into La Rioja provinces. Under cold-glass with us, this suckers widely underground & forms new climbing stems annually, so has taken a long time to build-up 2m. stems & to flower with us from a 1991 coll. Large daisy-heads in a softer, yellower orange than those of fiery *M. decurrens* but nevertheless a brilliant climber. If attempted outside in the UK, it might succeed best in dry soil under a south wall but it should be just the plant for Colorado.) (8) **E**
- 2.693.200 : ORTHROSANTHUS CHIMBORACENSIS** * Ecuador, Carchi, NW of El Carmelo (SSE of Tulcan). 3300m. Grass & *Espeletia* paramo, in wet, black, peaty soil. (A member of the *Iridaceae* characteristic of the N Andean moorland - the paramo. Clumps of tough, iris-leaves & erect, 60cm. stems, close-packed with rich-blue flowers, rather like a blue *Libertia*. This seems to be quite reliably hardy in most of the UK and certainly thrives in areas with cool, moist summers.) (30+) **C**
- 2.698.100 : OURISIA ALPINA** * Argentina, Neuquen, Lacar, Cerro Chapelco above San Martin de los Andes. 1680m. Moist sides of gulleys. Ex a J. Andrews coll. (Tidy, dark, mat-forming rosettes of basal leaves with long-tubed, pink flowers carried daintily on 10cm. stems in summer. A plant of damp, peaty patches, probably growable outside in a peat-bed in the UK but mostly so far nurtured under glass. Our friends Bob & Rannveig Wallis had a fine pan in their shaded *Cyclamen*-house in 1997.) (30+) **E**
- 2.698.501 : OURISIA MICROPHYLLA** * Chile, Region VIII, Nuble, SSW of Termas de Chillan. 1600m. Shaded, apparently dryish, crevices on igneous cliffs. (One of the loveliest saxatile plants of the S Andes. Mounds of thready stems with tiny, imbricate leaves carry profuse, soft-pink, primula-like flowers over a long period. Quite easy in the alpine-house in 'dionysia conditions' - do not overwater or overfeed or it can collapse. Such advice seems to have gone unheeded by many as it seems scarce again.) ... (30+) **E**
- 2.745.500 : PHILIBERTIA GILLIESII** * Argentina, Mendoza, Valle de Uspallata, N of Uspallata. 2100m. Loose gravels in open areas. (A fascinating little climber in *Asclepiadaceae*, which we listed in 1995 under our field-number 14179 as an *Oxypetalum* sp. This has since flowered outside in the UK & been identified at Kew as this little-known plant. Certainly "something completely different." A woody-based perennial, twining to about 30cm. in the wild (rather more in cultivation) with thin, wiry stems & lots of little, complicatedly beautiful flowers, buff outside & crimson to rose within. It is absolutely temperature-hardy (this is a bleak valley at the base of Aconcagua, bitterly cold in winter) but intolerant of excess moisture in winter or summer.) (10) **E**
- 2.840.100 : SCHIZANTHUS GRAHAMII** * Argentina, Mendoza, Malargue, Valle de las Lenas. 2200m. Loose, stony soils on steep slopes & along gulleys. (This & the next are the two species in a small genus of the *Solanaceae*, (all but confined to Chile), which have climbed to high elevations & acquired a perennial, even if short-lived, habit. Much-cut, glandular foliage & branching stems to about 50cm., carrying successions of 'upside-down', butterfly-like flowers. This, a species of many aliases, including *S. gilliesii*, just infiltrates the border with Argentina here in its most violent colour-form - shocking pink & luminous orange. It can be grown with a care in scree-bed conditions in the UK, though it is neither easy to keep for long nor to germinate from seed.) (20+) **D**
- 2.840.150 : SCHIZANTHUS HOOKERI** * Chile, Reg. Metro., NE of Valle Nevado. 3100m. Open slopes - among igneous rocks on sandy soil. (Hardly less spectacular, though more delicately coloured. Lilac flowers with attenuated, flame-shaped, upper lips in rich yellow, grading into white, topped & tailed with lilac. Both of these are opportunistic colonists of disturbed slopes.) (20+) **C**
- 2.870.201 : SISYRINCHIUM ARENARIUM** * Argentina, Neuquen, Lacar, Cerro Chapelco. 1680m. Among igneous rocks on exposed slopes. (A member of a diverse complex, currently 'lumped' to include *S. cuspidatum*, *S. pearcei*, etc. About 30cm. high with spikes of pale-yellow flowers with purplish exteriors from clumps of greyish, iris-leaves. Pleasant & not difficult.) (20+) **C**
- 2.970.200 : TROPAEOLUM AZUREUM** * Chile, Reg. Metro., Chacabuco near Polpaico. 500m. Hot, dry hillslopes, scrambling through low bushes. Ex Pern & Watson 6055 & subsequent Watson colls. in the same area. (1998, Tasmanian seed of this beautiful, fragile, tuberous-rooted climber. In the UK, where it is not so easy to maintain, this is best kept frost-free when growing in winter & dry when dormant in summer. Very beautiful with many, flat-faced flowers in soft violet-blues with white centres.) (5) **E**
- 2.974.010 : TWEEDIA CAERULEA** (*Oxypetalum caeruleum*, *Amblyopetalum caeruleum*) * No data. A beautiful, twining, semi-shrubby member of the *Asclepiadaceae* from Argentina with hairy, heart-shaped leaves and, in summer, axillary panicles of many, 5-lobed flowers, which start in turquoise-tinted blues flushing with purplish shades to mature to lilac. Needs to be frost-free to survive a UK winter but it grows quite quickly & easily from seed or cuttings so can spend its summers outside. (10+) **B**

If our plans materialise, there will be many more collections from the Drakensberg & other South African summer-rainfall areas listed early in 1999

The summer-growers of southern Africa

Though it is simple in theory to appreciate the precisely opposite rainfall patterns of southern Africa, it is not quite so simple to understand the plants which grow in the two very different climates. We have the disconcerting fact that there are both summer-growers & winter-growers in the same genus : think of *Gladiolus*. This makes it impossible to generalise about the cultivation of any widespread S African genus. Generalisations about most genera are usually based on 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. We try to help by listing only summer-growers in our winter & spring lists. A fair generalisation on S African species for UK gardeners might be that the summer-growers are the ones you may be able to grow in the open garden & the winter-growers are the ones you would have to grow under glass in the UK. The summer-growers tend to germinate at higher temperatures, so should be sown in spring, though some do seem to need a prior cool period. Our next list in summer, 1997, will include only winter-growing S Africans along with all the other better-known low-temperature winter-growers : hellebores, cyclamen, most of the northern hemisphere 'bulbs' and so on.

3.001.110 : AGAPANTHUS CAMPANULATUS (subsp. *campanulatus*) * The dwarfest, usually about 50cm. high (15+) **B**

3.001.152 : AGAPANTHUS CAMPANULATUS subsp. **PATENS** KwaZulu-Natal. 1500m. R.& R.Saunders coll. (15+) **B**

3.001.210 : AGAPANTHUS CAULESCENS (subsp. *caulescens*)* Distinct in its leek-like habit with glossy leaves from a basal stem. Dense umbels of rather drooping, rich-blue flowers with widely spreading lobes, on stems of about 1m. (15+) **B**

Albuca : giant snowdrops look up from the rocks

In the *Liliaceae* & with about 70 species spread from Arabia down through Africa to the Cape, where, as usual, most species occur, this is a genus much neglected by gardeners. The following collections are all from summer-growers which should be temperature-hardy in most of the UK. The general pattern of the flowers is of a *Galanthus*-shape but they are

usually carried upright in terminal racemes, rather than drooping, & are most often heavily banded with green on the spreading outer segments, as well as the erect inner ones. The ground-colour is either white or yellow & we have indicated the colour of the flower-remains, where we can, but we have seen none of the following wild collections in flower.

3.006.410 : ALBUCA SHAWII * No data. A species of many synonyms (*A. elliottii*, *A. minima*, *A. trichophylla*) from between 1800m. & 2400m. in the Drakensberg. Up to 50cm. high with bright yellow flowers. Alan Edwards tells us that the flowers & foliage are very aromatic, smelling "like the tropics" - we assume the tropical, flower-fringed shores of an advertising commercial. . . . (15+) **C**

15680 : ALBUCA SP. E Cape, Witteberg, E of Lady Grey. 2200m. Diorite fissures. 18.3.96 (Yellow. 60cm.) (15+) **C**

15845 : ALBUCA SP. Orange Free State, Drakensberg, Mont-aux-Sources. 2900m. Stony slope. 25.3.96 (50cm.) (15+) **C**

15856 : ALBUCA SP. Lesotho, Drakensberg, Mont-aux-Sources. 3000m. Gravelly cliff-ledges. 25.3.96 (5cm.) (15+) **D**

3.012.500 : ANDROCYMBIUM STRIATUM E Cape, Drakensberg, NE of Rhodes to Naudesnek. 2200m. Loose, sandy clay. 16.3.96 (A summer-grower in this genus of *Colchicum*-relatives, with about 30, mainly winter-growing, species distributed S from the Mediterranean, through E Africa to the Cape. Many, stemless flowers from leaf rosettes flat on the ground.) (20+) **B**

3.016.200 : ANISODONTEA ELEGANS N Cape, N of Matjiesfontein to Sutherland. c. 1200m. R.& R. Saunders coll. (A 1m. high shrub with showy magenta flowers from the interior mountains, used to plenty winter-frosts but under dry conditions.) . . . (15+) **C**

3.016.400 : ANISODONTEA JULII * Cultivated seed of this, the only species of the Natal Drakensberg, up to 2300m. Another 1m. high shrub with beautiful, large, pink mallow-flowers. Temperature-hardy in the UK but will need dry conditions (15+) **B**

- 3.018.500 : APTOSIMUM aff. PROCUMBENS** W Cape, N of Beaufort West, S of Trapvoetkop. 1600m. Sandy clay on open 'flats'. 12.3.96 (Few S Africans might add to the range of cushion-plants suitable for year-round alpine-house cultivation in the UK. This is certainly one. The genus *Aptosimum*, the 'Karoo Violets', is in the *Scrophulariaceae* & somewhat recalls *Penstemon*. If you crossed *P. purpusii* with *Gypsophila aretioides*, you might expect something like this. Rock-hard mounds of grey-green rosettes with stemless flowers in velvety, imperial-violet. The climate here, with its low, irregular rainfall, resembles that of the Great Basin, in Nevada & Utah, & this should be treated like, say, *Lepidium namum*. Listed last year as *A. indivisum*, following a determination on herbarium material left at Kirstenbosch, but this is not correct. It is obviously nearest to *A. procumbens*) (15+) **E**

Aristea : gentian-blue perennials from the high grasslands

A genus of around 50 species of rhizomatous perennials, in the *Iridaceae*, confined to subsaharan Africa, about 80% of them in the winter rainfall area of the SW Cape. A few ascend to high altitudes in the summer rainfall area & one, the handsome *A. grandis*, is illustrated in Phillips & Rix 'Perennials' Vol.2. Most are on a similar pattern, forming clumps of linear, sometimes falcate, iris-like leaves with erect stems carrying, in the case of our collections of the following summer-growers, stemless clusters of many flowers, each lasting only a day but opening in succession over a long period. The flowers are almost always

blue, notably intense gentian-blue in many cases. The wild colls. will be temperature-hardy in the UK but with the exception of 15632, which was in a damp site, they may not be so tolerant of wet UK winters, so choose a sunny, well-drained place & keep them moist in a dry summer. Peter Goldblatt identified fruiting material of 15632 as possibly *A. woodii*, but Hilliard & Burtt give the altitudinal limit of this as 1800m. & state it is replaced higher up by *A. montana*. Under the circumstances, we feel it best not to assign possible names until everyone has flowering material to look at.

- 15632 : ARISTEA SP.** E Cape, Drakensberg, Naudesnek. 2450m. Among grass on steep slope. 17.3.96 (15cm.) (20+) **C**
- 15744 : ARISTEA SP.** KwaZulu-Natal, Drakensberg, SE of Sani Pass. 2800m. Steep, grassy slope. 21.3.96 (30cm.) . . (20+) **C**
- 15759 : ARISTEA SP.** KwaZulu-Natal, N of Himeville. 1200m. Among grass in gravelly soil. 22.3.96 (20cm.) (20+) **C**
- 15812 : ARISTEA SP.** Orange Free State, Platberg E of Harrismith. 2350m. Open, stony grassland. 24.3.96 (20cm.) . . (20+) **C**
- 3.032.100 : CEPHALARIA NATALENSIS** KwaZulu-Natal, Drakensberg, Cathedral Peak. c.2000m. R.& R. Saunders coll. (With about 14 species, S Africa is a secondary centre for these scabious-relatives in the *Dipsaceae*. A 1-2m. high perennial.) . . . (20+) **B**
- 3.035.000 : CLEMATIS BRACHIATA** W Transvaal, near Wolmaransstad. c. 1200m. R.& R. Saunders coll. (One of two S Africans in this cosmopolitan genus. Grows up to 2000m. in the Drakensberg. Small, scented, cream, pink-tinted flowers.) (20+) **B**
- 3.036.500 : COTYLEDON ORBICULATA** W Cape, NNW of Beaufort West. 1550m. Ledges & crevices on igneous rock outcrops. 12.3.96 (In a species-group of spectacular saxatile plants with large, fleshy, grey rosettes, widespread in the drier areas of S Africa. A splendid, scarlet-flowered representative from the winter-cold but dry mountains of the Karoo. About 50cm. here.) (50+) **B**
- 3.036.550 : COTYLEDON ORBICULATA var. OBLONGA** KwaZulu-Natal, S of Sani Pass. 2850m. Ledges on E-facing basalt cliffs. 21.3.96 (The Natal Drakensberg race well-illustrated in Phillips & Rix 'Perennials' Vol. 2, p. 57. One of the paradoxes which alpine-vegetation sometimes comes up with. Large rosettes of succulent, obovate, blue-white foliage produce 30cm. stems of elongated, pendant bells. Whether these will be in the soft apricot of the illustration or the scarlet of the previous coll., we do not know but it may prove one of the most exotic-looking species hardy in the UK. Certainly it will be temperature-hardy but remember cliffs act as efficient storage-heaters & the winters here are dry, so try it in a well-drained, sunny site.) (50+) **C**
- 3.060.550 : CRASSULA SETULOSA var. CURTA** E Cape, Drakensberg, ESE of Ben Macdhui. 2750m. Moist, gravelly area. 17.3.96 (One of the few true high-alpines in this mostly S African genus of about 300 species. Tight, *Saxifraga*-like mats of tiny, fleshy, bright-green leaves with small, flat panicles of pink-budded, white flowers on 5cm., downy, red stems.) (50+) **C**
- 3.100.000 : CROCOSMIA AUREA** KwaZulu-Natal, near Merrivale. 1500m. R.& R. Saunders coll. (Though with an altitudinal limit of 1800m. in the Drakensberg, usually in the shade of forest remnants, this is considered the most tender. Maybe garden-stock came from a very low altitude. About 1m. high with spikes of large, outward-facing flowers, usually in soft orange-yellow.) (15+) **B**
- 3.100.300 : CROCOSMIA PANICULATA** KwaZulu-Natal, near Merrivale. 1500m. R.& R. Saunders coll. (Big, panicles of outward-facing flowers on stems of 1m. or more high. Spectacular sheaves of pleated foliage. Like *C. aurea*, this grows in wet, shady places in nature. Seems indestructable in UK gardens but we have never seen it set seed, so guess we have but a single clone) . . . (20+) **A**
- 3.105.510 : CYRTANTHUS BREVIFLORUS** Lesotho. No further data. Our own 1997 seed from the stock originally introduced by Helen Milford & hardy in the UK. As the species goes, this is quite a dwarf form, about 30cm. high - it can be much taller. Though bulbous it is usually a plant of wet, peaty habitats - we have seen it on an island in a fast-flowing stream, growing about 1m. high. Arching stems carry pendant, yellow, tubular flowers. Seed harvested in September should give good germination. (10+) **D**
- 3.130.800 : DIASCIA INTEGERRIMA** E Cape, Drakensberg, NE of Rhodes. 1900m. Open, gravelly banks & among rocks. 16.3.96 (Comparatively few of this mainly annual, exclusively S African genus, currently in fashion in the UK, reach high elevations. This is one of the higher growers, attaining almost 3000m. in the Drakensberg & forming, spreading, stoloniferous clumps of 30cm. erect, wiry stems, clad in little, linear leaves & with racemes of twin-spurred, soft-pink, darker-throated flowers.) (20+) **B**

Dierama : the hairbells from mountain marsh and grassland

The 1991 publication of the beautifully illustrated Hilliard & Burt monograph stimulated interest in this exquisitely graceful genus of the *Iridaceae*. With over 40 species spread from the Cape to Ethiopia, it is unusual in that it is absent from the winter-rainfall area of the SW Cape. Its centre of diversity is in the summer-rainfall area of KwaZulu-Natal with 26 species there. In 1996, we were far too late in the season to collect seed from most of the Natal species, which grow at lower altitudes, but the high Drakensberg species are here. We are not over optimistic of the potential of many of the lower altitude species

in the UK. We guess the criterion might be whether they are wet-growers or species from winter-dry grassland. A low altitude species from a winter-wet habitat may well prove more tolerant of UK garden conditions than a dry-grower from a higher altitude. The two hardiest are already in cultivation, *D. dracomontanum* & *D. pauciflorum*, both outstanding & reliable here in W Wales, tolerating our cold, wet winters. Lower altitude, dry-growers may not be so easy. We have emphasised the need for a sunny well-drained site where we feel it might be necessary to alleviate winter-wetness.

- 3.141.100 : DIERAMA DRACOMONTANUM** OFS, Drakensberg, Mont-aux-Sources. 2900m. Among grasses on open, moist, stony slopes. 25.3.96 (The highest altitude species & an excellent, hardy garden-plant in the UK, forming compact, grassy tufts, sometimes spreading by stolons with us, with pendant clusters of wide-open flowers between brown bracts, dancing on wiry stems of about 60cm. in late summer. All the late flowers seen here were of beautiful coral-red & terracotta-pink shades.) (15+) **B**
- 3.141.120 : DIERAMA DRACOMONTANUM** * Our 1997 Welsh-grown seed from a coral-pink C.D.& R. coll. (30+) **B**
- 3.142.000 : DIERAMA IGNEUM** * S African cultivated seed of this low to middle-altitude species, well worth trying in the UK in a sunny well-drained site. About 1m. high with bells varying from pale to deep lilacs & rose-pinks.) (15+) **B**
- 3.142.500 : DIERAMA LATIFOLIUM** KwaZulu-Natal, WSW of Nottingham Road, Soutar Hill. 1700m. Open, grassy slopes. 22.3.96 (A tall plant from the grasslands E of the Drakensberg, reaching 2100m. Large clumps of grassy leaves send up many tough stems to as much as 3m., with arching sprays of pale to deep-pink, or occasionally wine-red, flowers among papery, white bracts. A magnificent plant, used to drier winter conditions, so best tried in a well-drained, sunny site in winter-wet climates.) (10+) **D**
- 3.142.800 : DIERAMA MEDIUM** * S African cultivated seed of this fairly local species from the E Transvaal & neighbouring Swaziland. An extremely dainty plant of seasonally marshy grassland between 1300m & 2000m., it should be suited to UK gardens. About 70cm. high with clustered bells in pale-mauve to magenta-pink, among brown bracts, on the finest of stems. (15+) **C**
- 3.143.500 : DIERAMA PAUCIFLORUM** E Cape, Drakensberg, ESE of Ben Macdhui. 2750m. Among grasses on open slope, in moist, peaty soil. 17.3.96 (An outstanding garden-plant in the UK. Tolerant of winter-wetness (it sometimes grows in standing water with sphagnum in the wild), this also survived the 1995 drought here unharmed & was untouched by the recent severe winter. Dwarfier than *D. dracomontanum*, it flowers earlier than any other we have at present with many, wiry, 40cm. stems from dense grassy tussocks, with wide-open, sometimes upward-facing, bright purple-pink flowers amid rust-brown bracts.) (15+) **C**
- 3.143.501 : DIERAMA PAUCIFLORUM** * E Cape, Drakensberg, Naudesnek. 2500m. Wet, peaty soil. Ex CD & R 192. (1997 seed from our cultivated stock of the Compton, D'Arcy & Rix coll., made in the same area as our wild seed.) (15+) **B**
- 3.144.200 : DIERAMA ROBUSTUM** E Cape, Drakensberg, NE of Rhodes. 2000m. Among grasses on open slopes. 16.3.96 (Reaching higher altitudes, between 1600m. & 2900m., than any other except *D. dracomontanum*, this is the commonest Lesotho species, extending into the Natal & Cape Drakensberg. A close clump of 1m. long leaves sends up a single, occasionally more, 2m. arching stem with many pendant clusters of large bells, usually pink but variable from cream to deeper shades. This is a plant of drier slopes & though temperature-hardy may be intolerant of winter-wetness so give it a well-drained, open site in the UK.) (15+) **B**
- 3.144.201 : DIERAMA ROBUSTUM** E Cape, Witteberg, E of Lady Grey. 1900m. Among rocks & scrub. 18.3.96 (15+) **B**
- 15555 : DIERAMA SP.** E Cape, N of Tarkastad, SW of Toorberg. 1400m. Among rocks on steep, grassy slope. 15.3.96 (Collected on the farm, 'Glenlex', beyond the tail-end of the Drakensberg, where they grade into the Stormberg & Bamboesberg. This whole area is little collected & no *Dierama* spp. are recorded. The nearest species are *D. grandiflorum* to the W with *D. jucundum* & *D. robustum* in the Cape Drakensberg far to the NE. May be resentful of winter-wetness. About 2m. high.) (10+) **D**
- 3.171.500 : DISSOTIS CANESCENS** Zimbabwe, Chimanimani Mts. c. 1500m. R.& R. Saunders coll. (A striking, erect, shrubby member of the *Melastomataceae*, about 50cm. high with deep mauve-pink flowers. A wet-grower, commended by Rod Saunders as comparatively hardy. Should be happy outside in a UK summer, needing minimal frost-protection to overwinter.) (50+) **D**
- 3.230.050 : EUCOMIS AUTUMNALIS subsp. AMARYLLIDIFOLIA** Orange Free State, Platberg E of Harrismith. 2350m. Moist, stony slope on summit plateau. 24.3.96 (The dwarfest of the pineapple lilies listed here at about 15cm. high. Its small, papery capsules would appear to place it in this taxon. A very desirable little plant, which will certainly be hardy in the UK) (8) **E**
- 3.230.100 : EUCOMIS AUTUMNALIS subsp. CLAVATA** Orange Free State, Drakensberg, Mont-aux-Sources. 2800m. Steep, moist, grassy, SW-facing slope. 25.3.96 (A dwarf, broader-leaved race of *E. autumnalis*, ascending to above 3000m. Its rosette of wide leaves lies flat on the ground, with the dense, cylindrical head packed with fleshy, yellow-green flowers & topped with the characteristic pineapple tuft rising to 30cm. here. Compton thinks this is probably not in cultivation in the UK.) (8) **C**

- 3.230.220 : EUCOMIS BICOLOR** * No data. 1997 cultivated seed from stock grown outside in Wales. (Wavy-edged leaves & 60 cm. purple-spotted stems, with cylindrical racemes of creamy green flowers, each neatly edged with deep purple. Widespread along the E slope of the Natal Drakensberg at up to 2300m. according to Hilliard & Burtt but we found it at almost 3000m.) (10) **B**
- 3.230.510 : EUCOMIS MONTANA** * S African cultivated seed. Endemic to Swaziland on moist, grassy slopes at around 1500m. Semi-erect foliage, purple-tinged & purple-speckled below, & stems of about 30cm. with short, dense racemes of green flowers with purple anther-filaments. Almost certainly never grown in the UK, it should be as hardy as any other listed here.) (8) **C**
- 3.235.100 : EURYOPS ACRAEUS** KwaZulu-Natal, Drakensberg, N of Sani Pass. 2850m. Fissures in cold, S & SE-facing cliffs 20.3.96. (Possibly the finest in the genus for UK rock-gardeners, its stiff, platinum-plated bushes with aristocratic, bright-yellow daisies are well-known from Helen Milford's 1939 introduction, long-grown incorrectly as *E. evansii*.) (10+) **D**
- 3.240.000 : GARULEUM WOODII** OFS, Platberg E of Harrismith. 2300m. Rock fissures & gravelly ledges. 24.3.96 (This blue-flowered shrubby member of the *Compositae*, which could pass for a *Felicia*, follows the Cave Sandstone from SE Lesotho to here on the Platberg. Should certainly be temperature-hardy in the UK but may resent winter-wetness. A distinguished, stiffly compact, saxatile shrub, 20cm high but more across, with fine, rich-blue, yellow-centred 'daisies'. Worthy of the alpine-house.) (10) **D**
- 3.252.000 : GLADIOLUS AURANTIACUS** KwaZulu-Natal, N of Pietermaritzburg, near Albert Falls dam. 1300m. R. & R. Saunders coll. (A summer-grower, flowering at the start of the rainy season in spring, before the leaves appear, with 60cm. spikes of up to 12, large, long-tubed, orange-yellow flowers, usually speckled with red. From quite low altitudes in Natal & SE Transvaal, it should be little trouble to overwinter it dry & frost-free, planting it outside in summer, but it may prove quite hardy.) (20+) **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 & totally 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. (From foothill grassland along the summer rainfall, Drakensberg escarpment from E Cape to the Transvaal up to 2300m. & should be fairly hardy. Funnel-shaped flowers, among big, glaucous bracts, densely speckled with red or maroon on a whitish ground. 40cm.) (15+) **B**
- 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**
- 3.270.850 : GLADIOLUS PERMEABILIS** subsp. **EDULIS** E Cape, N of Tarkastad. 1200m. Among grasses on rock-slabs. 15.3.96 (A widespread but local race in the dry, continental climate of the interior, ascending to almost 3000m. & flowering when it has the chance (in summer or autumn here), according to the rainfall. Slender stems, about 50cm. high, with 12 or so flowers, with attenuate tips to the segments, in cream, usually tinged with muted pink or mauve-grey, blotched with yellow, edged with purple, on the lower, lateral lobes. Will be temperature-hardy but is unlikely to be tolerant of excess moisture at any time.) (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. from the E Cape to the Transvaal. Distichous spikes, about of up to 40 cream to lavender, funnel-shaped flowers with elongated, yellow, dark-edged markings on the lower lobes.) (15+) **C**
- 3.300.200 : GLUMICALYX GOSELOIDES** KwaZulu-Natal, Drakensberg, N of Sani Pass. 2850m. In turf & among stones at base of SE-facing cliffs. 20.3.96 (In a small genus of 6 herbaceous perennial species in *Scrophulariaceae*, more or less endemic to the alpine region of the high Drakensberg, this has proved accommodating & hardy in cultivation in the UK & is illustrated growing in Kent in Rix & Phillips Vol. 2, page 110. Aromatic, leafy clumps of creeping stems rising to carry dense, nodding heads of long-tubed, pale-yellow flowers with bright orange interiors. In spite of the colour, demure rather than flamboyant.) (20+) **C**
- 3.305.000 : GOMPHOSTIGMA VIRGATUM** E Cape, Witteberge, SE of Lady Grey. 1900m. Among rocks at edge of fast-flowing stream. 18.3.96 (A suffrutescent perennial, immediately named by Panayoti "The White Wonder of the Witteberge", as we were both at a complete loss to identify it. In a genus of 2 species (the other is tropical) in the *Loganiaceae*, this appears to be endemic to the rocky beds of fast-flowing streams in the SE African mountains but we doubt if it will need such a specialized situation in cultivation. If growable, it should be perfectly hardy & certainly moisture-tolerant in the UK. Bushes of whippy, dark-green stems, about 2m. high, wreathed with white, crucifer-like flowers - try to imagine a cross between a *Cytisus* & a *Crambe*.) (20+) **B**
- 3.350.300 : HELICHRYSUM ADENOCARPUM** OFS, Platberg E of Harrismith. 2350m. Rocky places in open, stony grassland on summit plateau. 24.3.96 (A plant of stony grassland climbing to about 3000m. in the Drakensberg but nowhere there did we see such a splendid population as here on the Platberg, where almost all had the exterior of the shining, silvery phyllaries, painted with brilliant carmine-pink. Tidy & compact with neat, greyish basal foliage & big heads on erect, 10-15cm. stems.) **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**
- 15741 : HESPERANTHA SP.** KwaZulu-Natal, S of Sani Pass. 2850m. Steep, grassy slope. 21.3.96 (30cm. high) (20+) **C**
- 3.439.500 : INDIGASTRUM ARGYREA** E Cape, NNW of Graaff-Reinet, Ouberg. 1500m. Loose, gravelly soil on sandstone slopes. 13.3.96 (A pretty, little pea of the Karoo mountains. Prostrate with silvery leaves & lots of bright carmine-pink flowers) (15+) **D**

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.-

Kniphofia : redhot poker cool off by the streams

Collecting seed from this splendid genus of herbaceous perennials in the *Liliaceae* (or *Asphodelaceae*, if you wish to split the family) was our particular aim during our 1996 visit to S Africa. The genus of about 70 species, spread from the Cape N through E Africa into the Yemen, with over 40 of them in S Africa, is particularly relevant to gardeners in cool temperate climates as they are mainly plants of the mountains & moister habitats, much more prevalent in the summer rainfall area than in the SW Cape. In Britain, though the genus is well-known and there are quite a lot of specific names about, many of these are misapplied or applied to plants of possible hybrid origin. Writing in 1914, the S African botanist N.E. Brown commented "that in a very great majority of cases plants of this genus raised from seed produced in any garden where more than one kind is

grown, whether that garden be in South Africa or Europe, will not be true to name." We hope the following collections will help to start sorting out confusion. We have not seen all of the following in flower & names must be regarded as somewhat tentative but, fortunately, one of the main diagnostic characters, the bracts, is evident in fruiting material & this combined with distribution has enabled us to be reasonably confident of most names. Nomenclature follows the 1968 monograph by L.E. Codd. Easily accessible information for gardeners does not exist. There is an excellent account by Jane Taylor in 'The Plantsman' Vol.7, Part 3 (Dec., 1985) but the best reference once again is Phillips & Rix 'Perennials' Vol. 2, pages 160-163, where several of the following are illustrated, along with reliable, accurate information.

- 3.460.500 : KNIPHOFIA CAULESCENS** KwaZulu-Natal, Drakensberg, S of Sani Pass. 2850m. Ledges on E-facing cliffs. 21.3.96 (A splendid species of a proven indestructible nature & garden worth in the UK. Yucca-like clumps of fine blue-grey foliage send up stout stems with dense inflorescences of pale greenish yellow to cream flowers from coral to flame buds.) (20+) C
- 3.461.900 : KNIPHOFIA HIRSUTA** E Cape, Drakensberg, ESE of Ben Macdhui. 2750m. Among grasses on open, moist slope. 17.3.96 (Virtually endemic to Lesotho but we're right on the border here. A wet-growing alpine, immediately identifiable by its solitary crowns of broad-based, dull-green foliage, distinctly hairy along the nerves on both sides. Dense heads of pendulous buds in shades of dull orange, coral or salmon open to greenish yellow flowers, a rather lurid combination. About 50cm. high.) . . . (20+) C
- 3.462.010 : KNIPHOFIA ICHOPENSIS** (var. *ichopensis*) KwaZulu-Natal, Carters Hill E of Mkhomazi. 1600m Among grasses & scrub on steep, moist slope. 22.3.96 (A grassland plant of central KwaZulu-Natal, running up to about 2000m. in the Drakensberg. Long, lax heads of widely spaced, arcuate, cylindrical flowers, variable in colour from cream & yellowish green to salmon, on stems of 1m. or less. In a group including *K. laxiflora* & (the true) *K. rufa*, unfamiliar in gardens. This is can be distinguished from *K. laxiflora*, even in seed, by its lanceolate, acuminate bracts. Maybe safest from winter-wetness in a well-drained site.) (15+) C
- 3.462.011 : KNIPHOFIA ICHOPENSIS** KwaZulu-Natal. 1500m. R & R. Saunders coll. (Possibly green-flowered form.) . . (15+) C
- 3.462.210 : KNIPHOFIA LAXIFLORA** KwaZulu-Natal, Soutar Hill, WSW of Nottingham Road. 1700m. Among grasses on rocky slope. 22.3.96 (A variable species, widespread in the summer rainfall area to over 1500m. For a well-drained, sunny site in the UK. Erect buds deflex as the long, tubular, widely spaced flowers open in pale-yellow, coral, salmon or orange.) (15+) C
- 3.462.211 : KNIPHOFIA LAXIFLORA** KwaZulu-Natal, N of Himeville to Mkhomazi. 1200m. Among grasses on open, rocky slope. 22.3.96 (Narrow, greyish leaves with narrow spikes on 1m. stems. A greenish yellow form, photographed in this area, is illustrated in Rix & Phillips 'Perennials' Vol.2, p. 163, but colour can vary in adjacent plants within a single colony.) (15+) C
- 3.462.300 : KNIPHOFIA LINEARIFOLIA** E Cape, Witteberge, SE of Lady Grey. 1500m. Among long grasses in marshy area. 18.3.96 (A member of the *K. uvaria* group with a northern & eastern distribution. A robust plant with fairly broad & erect, green foliage. Large, dense, very showy heads of yellow flowers opening from orange-red buds, on 1.5m stems.) (20+) B
- 3.462.600 : KNIPHOFIA NORTHIAE** E Cape, Drakensberg, ESE of Ben Macdhui. 2750m. Open sites along margins of streams. 17.3.96 (Certainly the most arresting foliage-plant in the genus, distinct from all others in its very broad, grey-green, leathery, arching, shallowly channelled leaves without a distinct keel, forming a large, evergreen rosette. Rightly described by G.S. Thomas as "very rare" in cultivation, the name has been misapplied in UK gardens to *K. caulescens*. Stout stems, from 20cm to 1.5m. high, with very large dense inflorescences, likely to be of creamy-white flowers from pale red buds in this E Cape race.) (20+) C
- 3.462.605 : KNIPHOFIA NORTHIAE** * E Cape, Drakensberg, Bastervoetpad. 2000m. Wet, peaty slope. Ex CD & R 164. (1997 British grown seed from this coll. which has now settled well in cultivation. Flowers much earlier than *K. caulescens*.) . . . (20+) C
- 3.462.900 : KNIPHOFIA PORPHYRANTHA** Orange Free State, Drakensberg, Mont-aux-Sources. 2800m. Steep, moist, grassy, SW-facing slope. 25.3.96 (A little, mid-summer flowering, high altitude species which must be hardy anywhere in the UK. Short leaves & 30-60cm. stems carrying stubby heads of pendulous, lemon-yellow flowers from buds often tipped with orange.) (15+) D
- 3.463.300 : KNIPHOFIA RITUALIS** Lesotho, Drakensberg, Mont-aux-Sources. 3000m. Among rocks at base of cliffs. 25.3.96 (Possibly the highest alpine in the genus. From the Lesotho border-ranges, usually in sandstone crevices. Closest to the western *K. sarmentosa*. At 40-80cm., taller than *K. porphyrantha* with longer, glaucous leaves & ovoid heads of pendulous yellow-green flowers opening from coral to orange buds. Illustrated in this area in Rix & Phillips, page 162. Certainly as hardy as any S African but used to being dry & frozen all winter so may be vulnerable to wetness then & need a very well-drained site.) (15+) D

- 3.463.800 : KNIPHOFIA STRICTA** E Cape, Drakensberg, SW of Rhodes. 1700m. Among rocks. 18.3.96 (A species from the little-collected ranges E of the Karoo, the Sneeuwberg, Stormberg & Witteberge, just reaching the Cape Drakensberg & SW Lesotho. at up to 2500m. Like no other in its narrow, rigid foliage, U-shaped in cross-section. About 1m. or less high with dense pokers of yellow flowers opening from orange to coral buds, usually pale yellow from soft-red buds here. Often growing among rocks, this may prefer a drier site than most in gardens but these can be bleak mountains & we do not doubt its hardiness.) (15+) C
- 3.500.000 : LEDEBOURIA COOPERI** KwaZulu-Natal, near Merrivale. 1500m. R.& R. Saunders coll. (Several species in this confused & confusing, mainly S African genus of bulbs, most of which were described under *Scilla*, climb to high elevations in the mountains of the summer rainfall region. This occurs in the Natal Drakensberg on grassy hillsides up to 2100m. & should be temperature-hardy in the UK. Purple-spotted leaves flat on the ground & racemes of small, nodding, purplish flowers) (15+) B
- 3.502.000 : LEDEBOURIA OVATIFOLIA** KwaZulu-Natal, near Merrivale. 1500m. R.& R. Saunders coll. (Quite widespread in the mountains of the summer rainfall area, S from the Transvaal into the Natal Drakensberg at up to 1980m. on sunny, grassy slopes. This has a single, oval leaf, purple below, & 10cm. high raceme of purple-pink and white flowers in late summer.) (15+) B
- 3.510.000 : LEONOTIS DUBIA** (*L. ocymifolia* var. *ocymifolia*) E Cape, NNW of Graaff-Reinet, Ouberg. 1500m. Loose gravelly soil on sandstone slope. 13.3.96 (This genus in the *Labiatae* appears to involve numerous races which have been 'lumped' or 'split' by different botanists. They are all on a general, somewhat *Phlomis*-like pattern with woody-based, stoloniferous stems & wrinkled leaves. Erect flower-stems, of about 1m. in this case, are whorled with elongated, velvet-covered, orange flowers.) (10+) C
- 3.510.100 : LEONOTIS DYSOPHYLLA** (*L. ocymifolia* var. *raineriana*) E Transvaal, Johannesburg area. R.& R. Saunders coll. (A 1.5m., grassland plant, illustrated in Rix & Phillips, Vol. 2, p.212, this & the preceding will be likely to withstand much lower temperatures than the better-known *L. leonurus* but all will need hot, dry, well-drained positions in the UK.) (15+) B
- 3.510.200 : LEONOTIS LEONURUS** W Cape, Lion's Head near Cape Town. R.& R. Saunders coll. (The least hardy but maybe the most spectacular, this can still be a great success in the UK against a S-facing wall - pictured thriving at Sissinghurst in Rix & Phillips, Vol. 2. About 2m. high with narrower leaves than the above & whorls of scarlet-orange velvet flowers.) (20+) B
- 3.512.500 : LESSERTIA PERENNANS** KwaZulu-Natal, near Merrivale. 1500m. R.& R. Saunders coll. (This exclusively African genus in the *Leguminosae* includes one or two summer-growers from higher altitudes. A beautiful species from grassy gulleys & boulder beds up to 2400m. in the Drakensberg, about 60cm. high with narrow leaves & a multitude of cerise flowers.) . . . (10+) C
- 15581 : LOTONONIS SP.** E Cape, Drakensberg, NE of Rhodes. 1900m. Gravelly banks & among rocks. 16.3.96. (An attractive, erect, silver-leaved shrub, about 30cm. high, with lots of lilac-blue pea-flowers. From a w inter-cold area) (5) C
- 15710 : MASSONIA SP.** Lesotho, Drakensberg, NE of Sani Pass. 2900m. Gravel-filled depressions on rock-slabs. 20.3.96 (Presumably the only one in this small genus of liliaceous bulbs (otherwise winter-growers from the W & N Cape) 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, dry & cold in winter, when it should withstand any British frosts.) (20+) C
- 3.545.200 : MELIANTHUS MAJOR** W Cape, near Porterville. 100m. R.& R. Saunders coll. (One of the most spectacular foliage-plants grown in British gardens collected in an inland locality at the foot of the Winterhoekberge. In mild areas of the UK this is a 2-3m. high, spreading shrub, as it is in nature. Huge, deeply cut & serrated, grey leaves. Deep crimson flowers.) (10+) B
- 3.550.301 : MORAEA ALTICOLA** E Cape, Drakensberg, NE of Rhodes. 2200m. Moist, grassy slope. 16.3.96 (Characteristic of the alpine, summit plateau of the Drakensberg, between 2200m. & 3000m., & by far the largest & most robust species. Unique, netted cataphylls enclose the leaf & stem bases. Imposing, 1m. high clumps of broad, leathery leaves & stout erect stems of large, pale-yellow flowers with deeper yellow nectar-guides. Singularly iris-like, this is hardy & easily grown in UK gardens.) (15+) B
- 3.557.800 : MORAEA ROBUSTA** OFS, Drakensberg, Mont-aux-Sources. 2700m. Among grasses on open slope. 25.3.96 (This occurs quite widely, if locally, in mountain-grassland, from SE Transvaal into KwaZulu-Natal & Lesotho. In the Subgenus *Grandiflora*, like *M. alticola*, & with similar large flowers, pale-yellow to cream in this case, but a much dwarfer plant, about 30cm. high. Not in cultivation as far as we know, this will be perfectly hardy & should prove a satisfactory plant in most UK gardens.) (10+) C
- 3.558.210 : MORAEA SPATHULATA** * No data. UK grown seed. Closely allied to *M. alticola* but widespread through the summer-rainfall area at lower altitudes. Perfectly hardy in most UK gardens. Fine yellow flowers on stems of 60 cm. or more.) . . . (15+) B
- 3.590.200 : NEMESIA CAERULEA** OFS, Drakensberg, Mont aux Sources. 3000m. Gravelly ledges below sandstone cliffs. 25.3.96 (A fine form of this alpine perennial, collected at the altitudinal limit for the species. More compact, with larger flowers in deeper blue-violet than the one photographed on the Sani Pass in Rix & Phillips, Vol. 2, page 111, & better than anything we have seen in cultivation under this name, though, of course, it may not live up to our expectations in gardens. Stems about 20cm. high from creeping mats of toothed leaves with a succession of spurred, flat-faced flowers with white, red-rimmed throats.) (20+) C
- 3.602.500 : OSTEOSPERMUM JUCUNDUM** OFS, Drakensberg, Mont aux Sources. 2900m. Open stony & grassy slopes. 25.3.96 (Highest alpine in the genus, recorded up to 3200m. Mat-forming clumps bearing a multitude of brilliant deep-pink daisies on stems of about 20cm. More compact than the clone originally distributed by Ingwersen's as 'Compacta' but not so diminutive as the true owner of this name, described by Vera Higgins in 1946 as *Dimorphotheca barberiae* f. *compacta* from a Helen Milford collection. Those prepared to interpret the name *Dimorphotheca* will appreciate seeds are of two different forms.) (10+) C

Species from Southern Africa : Seeds from Jim & Jenny Archibald

- 15522 : PACHYCARPUS SP.** E Cape, NNW of Graaff-Reinet, Ouberg. 1700m. Shallow pockets on flat sandstone of summit. 13.3.96 (A member of the *Asclepiadaceae* with leafy decumbent stems. The genus usually has mottled, bell-shaped flowers, as fascinatingly complex as most members of this family but we have not seen this in flower. Optimum drainage.) (10) **B**
- 3.605.000 : PAPAVER ACULEATUM** E Cape, Drakensberg, NE of Rhodes to Naudesnek. 2200m. Disturbed areas in loose, sandy clay. 16.3.96 (The only S African in this genus, this ascends to almost 3000m. Annual or monocarpic & rather like the Spanish & Moroccan taxa around *P. rupifragum*. A many-stemmed, bristly plant about 50cm. high with lots of orange flowers.) (50+) **B**
- 3.610.500 : PELARGONIUM ABROTANIFOLIUM** E Cape, NNW of Graaff-Reinet, Ouberg. 1700m. Shallow pockets on flat sandstone of summit. 13.3.96 (One of the most beautiful foliage-plants we have seen. Compact, shrubby hummocks, about 20cm. high, with leaves like silver parsley. The white flowers blotched with purple are hardly spectacular but demurely compliment the filigree-foliage. From the drier mountains of the Karoo, so unlikely to tolerate full exposure to the wet British climate.) (5) **E**
- 3.610.650 : PELARGONIUM ALCHEMILLOIDES *** No data. A plant of stony, grassy slopes up to 2500m. or so in the Natal Drakensberg. About 30cm. high with airy umbels of small, pink-white, mauve-blotched flowers intermittently throughout the year. Grows to over 1500m. in the summer rainfall area & might suit a sunny, well-drained sites in cool-temperate gardens.) (5) **B**
- 3.630.012 : PHYGELIUS AEQUALIS - YELLOW FORM *** KwaZulu-Natal, Mahwaqa hills, E of Underberg. c. 1500m. Ex a B.L. Burt coll. (From the distinct pale-yellow clone grown as 'Yellow Trumpet', originally from a plant selected in the wild & now established as reliably hardy in the UK. A fine, woody-based perennial with masses of late summer flowers.) (30+) **B**
- 3.630.150 : PHYGELIUS CAPENSIS** E Cape, Drakensberg, Naudesnek. 2400m. Among grasses on steep, wet, stony, SE-facing slope. 17.3.96 (Absent from the Natal Drakensberg, this is native to the E Cape & Lesotho, attaining higher altitudes than *P. aequalis*, along mountain streams & on wet slopes up to 2900m. Beautifully illustrated, in the site where this seed was collected, in Phillips & Rix, Vol. 2, page 114. Woody-based, 2m. stems with pyramidal inflorescences of scarlet, tubular flowers.) (30+) **B**
- 3.635.000 : PLEXIPUS NAMAQUANUS** E Cape, Swaershoek, SW of Cradock. 1500m. Fissures & gravelly ledges on rock outcrops. 14.3.96 (A woody-based, clump-forming *Zaluzianskya*-like perennial, 20cm. high by 30-40cm. across, with profuse large, white flowers with deeply notched petals. From the inland, continental climate of the mountains SW of the Cape Drakensberg, this may be most relevant to gardeners in Colorado-type climates with cold, dry winters but is worthy of trial in the UK.) (15+) **C**
- 3.650.500 : PROTEA DRACOMONTANA** KwaZulu-Natal, Drakensberg, W of Oliviershoekpas. 1500m. *Themeda*-grassland on open NW & NE-facing slopes. 26.3.96 (The vast majority of this famous genus from subsaharan Africa, with over 100 species, is concentrated in the winter-rainfall area of the SW Cape. These really need a Mediterranean-type climate to succeed. We list 3 of the half-dozen or so high altitude, summer-rainfall species, which realistically are the only ones which might be possible in the UK. This & the next are the dwarfest of these, low shrubs 30-60cm. high with large, leathery leaves & a fire-resistant, subterranean stock, which should also ensure regeneration if the top-growth is damaged by severe frost. Both have enormous, complex flower-heads. This colony varies from pale pinks & lilacs to deeper, rosy shades. Recorded up to 2400m., always on thin, stony soils overlying Cave Sandstone, it could be tried in a very well-drained, low-nutrient, lime-free soil in full sun (8) **C**
- 3.658.000 : PROTEA SIMPLEX** KwaZulu-Natal, N of Himeville to Mkhomazi. 1500m. Gravelly places & crevices on rock outcrops. 22.3.96 (Similarly dwarf at about 60cm., this is a local species of the Cave Sandstones up to about 1800m. in Natal.) (8) **C**
- 3.658.500 : PROTEA SUBVESTITA** KwaZulu-Natal, Drakensberg, SE of Sani Pass. 2400m. Open, rocky slopes. 21.3.96 (The highest collection at about the altitudinal limit for the species but, like the remaining Drakensberg species, a large shrub or small tree. Distinct from the others in its more elongated not widely cup-shaped, white flower-heads with red anthers.) (8) **C**
- 3.704.150 : ROMULEA MACOWANII var. ALTICOLA** (*R. longituba* var. *alticola*) * Lesotho, no further data. (One of the few summer-growers in the genus, ex the H. Milford type-collection, long grown & totally hardy outdoors in UK gardens, thriving in a scree-bed. Long-tubed flowers in yellow, shading to orange-yellow inside & tinged with brown or purple externally.) (15+) **B**
- 3.790.400 : STREPTOCARPUS GARDENII** KwaZulu-Natal, Drakensberg, SW of Njesuthi valley. 1400m. In moss on boulders in deep shade. 23.3.96 (Endemic to wet, shaded rocks, sometimes epiphytic on mossy tree trunks, to about 1800m. A beautiful plant with rosettes of narrowly ovate leaves & pale violet flowers, with pale-green tubes & purple-lined lobes, on 10cm. stems. One of the 3 species which ascend above 1500m. in the Natal Drakensberg & would suit alpine-house treatment, moist & shaded in summer, cool & dryish in winter. For seed-sowing conditions see comments under the European *Ramonda*.) (50+) **D**
- 3.790.700 : STREPTOCARPUS PENTHERIANUS** KwaZulu-Natal, near Merrivale. 1500m. R. & R. Saunders coll. (While this is also a plant of mossy rocks & fissures on sandstone cliffs up to 2000m., from our limited experience of these two, this seems to prefer somewhat more open, drier sites. Distinct flat rosettes of 2-3, large, almost square, ribbed, deeply veined leaves & elegant, little, butterfly-like white flowers, sometimes flushed lilac-pink, with yellow throats and long, curved tubes.) (50+) **D**
- 3.810.200 : SUTERA BREVIFLORA** E Cape, Drakensberg, NE of Rhodes. 1900m. Open, gravelly banks. 16.3.96 (This is a fine member of a fine African genus in the *Scrophulariaceae*, currently somewhat eclipsed in UK gardens by *Diascia*, a much smaller less diverse genus. There are about 130, mainly S African, species in *Sutera* with quite a few montane plants. Masses of flat-faced, bright orange-red flowers on 20cm. clumps. Much better than the straggly, pallid thing in Phillips & Rix.) (50+) **B**

- 3.812.000 : SUTERA HALIMIFOLIA** E Cape, NNW of Graaff-Reinet, Ouberg. 1500m. Loose, gravelly soil on open sandstone slopes. 13.3.96 (A pretty, diffuse, grey-leaved perennial of the Karoo mountains with 20cm. high clumps of upright, wiry stems bearing a profusion of dainty, little pink flowers over a long period. Maybe possible in a sunny scree or raised-bed.) (50+) **B**
- 3.820.600 : SUTHERLANDIA MONTANA** E Cape, Drakensberg, NE of Rhodes to Naudesnek. 2200m. Disturbed areas in loose, sandy clay. 16.3.96 (In 1994 we listed seed from the 1988 C.D. & R. coll. from this same area. This had attracted considerable publicity in the UK. Certainly the hardiest of this genus & temperature-hardy in most of the UK but doubtless resentful of winter-wetness. The soft, shrubby stems, clad in pinnate leaves reach about 30cm. in the wild & the display of large, scarlet pea-flowers in summer is spectacular, as are the huge, inflated, pale-green, red-tinged seed-capsules which follow them.) (10) **C**
- 3.841.010 : TRITONIA DISTICHA subsp. RUBROLUCENS** * No data. Distributed through the summer-rainfall mountains S from the Transvaal into E Cape, up to 1900m. in the Natal Drakensberg, on grassy slopes or sometimes in sandstone crevices. We have grown this for many years - perfectly hardy both in W England & W Wales, in spite of our wet winters. A pink "Montbrieta" with late-summer flowers in a soft, warm shade, almost exactly the same salmon-pink as *Dierama dracomontanum*. (15+) **B**
- 3.850.750 : TULBAGHIA LUDWIGIANA** KwaZulu-Natal. 1500m. R. & R. Saunders coll. (A small, mainly S African, genus of about 20 species, currently rather trendy. Surely one of the hardiest of the summer-rainfall species, recorded up to 1900m. Altogether *Allium*-like, with 30cm. stems of pendant flowers in which green-white segments surround a fleshy yellow corona.) (10+) **C**
- 3.851.011 : TULBAGHIA VIOLACEA** * No data. The best-known in the UK & fairly reliably hardy in a well-drained site, though not a species from any great altitude. This seed is from a large form, originating from the RBG Edinburgh. Large both in stature with stems of about 60cm. & flower-size with heads of up to 20 big pale violet flowers, each with 3 white corona scales.) (10+) **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. Several such low-elevation, W Cape species have settled in British gardens, when they originate from really wet habitats - wetter than needed in cultivation. 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**
- 3.952.800 : WATSONIA LEPIDA** KwaZulu-Natal, Drakensberg, W of Oliviershoekpas. 1700m. *Themeda*-grassland on open, NW & NE-facing, sandstone slopes. 26.3.96 (This should be in theory the hardiest species in the genus, from between 2000m. & 2500m. in the N Natal Drakensberg & Lesotho. In the *W. densiflora* complex & sometimes growing with another member, *W. confusa*, which tends to be a taller, clump-forming plant of wetter habitats. Usually with solitary 20-60cm. stems carrying dense spikes of pink flowers. Possibly best tried in a well-drained sunny site, in the rock-garden or in a scree-bed in the UK.) (15+) **D**
- 3.953.620 : WATSONIA PILLANSII** No data. From the plant, we grew for years as 'Stanford's Scarlet', almost certainly a selected form of this species. It grew well in Dorset & in Helen & Ivor Barton's high, chilly Devon garden. This is from Trevor Crosby in W Wales. Normally evergreen clumps of foliage may be smashed in a cold winter but it will reappear from below ground-level. The species is widely distributed through the E part of S Africa, usually in grassland, from the S Cape coastal area in a curve along the Natal coast into the Drakensberg, at low to middle elevations. In spite of its range, it varies very little in its spectacular spikes of 30 or so, brilliant orange-red, long-tubed flowers on 50-120cm. stems in late summer or autumn) (15+) **C**
- 3.955.200 : WATSONIA WILMANIAE** W Cape, Groot Swartberge, S of Prince Albert. 1500m. Seeps on rocky slopes & along stream. 28.3.96 (A tall wet-grower endemic to streamsides & marshes in the Swartberg & Kamanassie ranges of the S Cape. Flowering in late summer with spikes, up to 1.5m. high, of large flowers, unusually variable in colour. According to Goldblatt, the Swartberg populations range from deep red to orange, pink & cream. From such wet sites, this may well prove hardy in the UK.) (15+) **C**
- 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 member of a small S African genus of about 12 species. Somewhat *Scilla*-like & in the *Liliaceae*, a corm, about 10cm. high with narrow, channelled leaves & starry, white flowers. A crimson-brown scale on each segment gives these a distinct appearance & it will be well worth alpine-house cultivation (kept dry in winter), though it will be 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**
- 3.988.000 : XYSMALOBIMUM STOCKENSTROMENSE** KwaZulu-Natal, near Merrivale. 1500m. R. & R. Saunders coll. (A weird, 60cm. high herbaceous perennial in the *Asclepiadaceae*, which produces a such a diversity of fascinating species in S Africa. From open grassland in E Transvaal down into E Cape, up to 2400m. in the Drakensberg, with large, wavy-edged, dull-green foliage & rounded heads of complex cream & red flowers. Illustrated in Hilliard & Burtt Plate 24 (page 175).) (15+) **B**
- 15620 : ZALUZIANSKYA SP.** E Cape, Drakensberg, Naudesnek. 2450m. Shallow pockets of gravelly soil on exposed col. 17.3.96 (A tiny, pulvinate species with small, hard, pads of rosettes & almost stemless flowers. We saw none of this small, mainly S African, genus in *Scrophulariaceae* in full flower. Though flowers can be yellow it is to be expected that these collections will have long-tubed, white flowers, bright red in bud & on the reverse of the petals. These 3 are all suitable for the alpine-house.) (20+) **E**
- 15665 : ZALUZIANSKYA SP.** E Cape, Drakensberg, SW of Rhodes. 1700m. Among rocks in open site. 18.3.96 (Tight clumps of ground-hugging rosettes. Erect, 5-8cm. stems, apparently with large, white, red-backed flowers.) (20+) **D**
- 15758 : ZALUZIANSKYA SP.** KwaZulu-Natal, N of Himeville to Mkhomazi. c.1500m. Gravelly soil & crevices on rock outcrops. 22.3.96 (A caespitose perennial with a few large rosettes of stiff foliage. Flower stems to about 10cm.) (20+) **C**

- 4.005.210 : ACONITUM CARMICHAELII var. WILSONII** (*A. wilsonii*) * No data. A magnificent, summer-flowering, Chinese species. Deeply cut foliage and erect, 2m. high branching stems, distinct with their many, 40cm. long, axillary branches, forming pyramids, massed with deep blue and violet, helmet-shaped flowers. Permanent in rich, moist soil in sun or part-shade. . . . (20+) **B**
- 4.005.510 : ACONITUM HEMSLEYANUM** * No data. Another fine Chinese perennial. Herbaceous stems twining to 3m. or more, densely clad in deeply cut, rich-green foliage are massed with long racemes of spurred, violet helmet-shaped flowers in autumn. Splendid in a draughty, NE-facing corner here. More impressive than climbing aconites we have grown as *A. volubile*. . . . (20+) **B**
- 4.010.510 : ADENOPHORA CONFUSA** * No data. *Adenophora* is a delightful genus of about 50 species, very close to *Campanula* but distinguished from it by the thick, cupped disc surrounding the base of the style. They are all herbaceous perennials with their bells hanging in terminal racemes or panicles and, with the exception of European *A. liliifolia*, all are Asian. They are undeservedly neglected in gardens. The fact that, like those other *Campanula*-relatives, *Codonopsis*, their nomenclature is confused in cultivation and that the whole genus needs reviewing botanically, has not helped. The names of the two SE Asian species listed here are both valid but whether or not they are correctly applied to the plants concerned or are sustainable is another matter. We hope in time to increase our range of these worthwhile herbaceous plants and to start to try to sort out some of the confusion. In the meantime, if you do not know them, do try these two excellent summer-flowering ones, easily grown in any good soil in an open site or in part-shade and providing a long display of massed, pendulous, pale-blue bells on stems, about 1m. high in this case. (50+) **B**
- 4.011.010 : ADENOPHORA FORRESTII** * No data. In a variable group centered on SW China, this is on the same general pattern as the preceding but not so tall and also distinct in its foliage and the shade of the blue bells, as well as in its seeds. (50+) **B**
- 4.023.000 : ALLIUM PRATTII var. LATIFOLIATUM** * China, Sichuan, Emei Shan. 2600m. Cliff ledges. Ex E. Needham 981 (A recent, striking collection, unlike any other *Allium* we have in gardens, tentatively identified by Jill Cowley at Kew as this or perhaps *A. ovalifolium* - the names may be conspecific. Choice and slow-growing but proving hardy & trouble-free with Mike Tucker (Somerset, UK) in his shady, raised *Arisaema*-bed. It forms clumps of bulbs with reticulate tunics, their necks above the ground, like orchid pseudo-bulbs. These send up, in early spring, big, broad, shiny-green, aspidistra-like leaves, which look good well into the autumn. In midsummer, large, rounded umbels of purple-pink flowers rise above them on 30cm. stems. (5) **E**
- 4.030.200 : ANDROSACE BULLEYANA** * China, Yunnan, Diqing, Tang Dun, N of Zhongdian. 3120m. Ex KGB 267 (The scarlet-flowered *Androsace*, a spectacular monocarpic species, very large for the genus and almost *Primula*-like with big, dense umbels of large flowers on erect, 15-20cm. stems from neat basal rosettes. Not particularly difficult under alpine-house conditions in the UK and well worth the small trouble of maintaining from seed - it really is striking in a rich, velvety vermilion.) (10+) **E**
- 4.045.010 : ANEMONE RIVULARIS** * No data. A lovely, 60cm. high meadow-plant, widespread along the Himalaya, from Kashmir E into Tibet & Yunnan. Distinct from the umbel-flowered *A. narcissiflora*-group in its long-stalked flowers, individually cup-shaped, pure-white inside & usually slate-blue tinged outside. Easy & hardy in the UK in a good, moist soil in sun. (20+) **B**
- 4.060.210 : AQUILEGIA BUERGERIANA subsp. OXYSEPALA** * No data. A NE Asian plant, spread from E Siberia, N China & Korea down into Japan. Purple sepals surround the creamy petals with incurved spurs. About 50cm. high. (15+) **B**
- 4.080.500 : ARISAEMA AMURENSE** * No data. Appears to be the genuine species, an extremely hardy NE Asian plant, originally grown from seed received from the former USSR by Christoph Ruby. Impressively large, deeply veined foliage with broad leaflets of irregular size. Green spathes, striped with a paler shade, with elongated deflexed tips. Red autumnal fruits. (10+) **C**
- 4.081.510 : ARISAEMA CONSANGUINEUM** * No data. About 1m. tall with elegant, cut leaves & hooded green spathes, followed by nodding heads of scarlet fruits. One of the most widespread species growing through the Himalaya E into China. (10+) **B**
- 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) **E**
- 4.082.310 : ARISAEMA FLAVUM** * No data. A widespread species, native to the Himalayan region from Afghanistan to W China, & quite easy in a sheltered, shaded site in the UK. About 50cm. high with pedately cut leaves & small, chubby, pale yellow-green spathes, sometimes purple-flushed, striped or netted & usually followed by tight clusters of scarlet fruits. (10) **B**
- 4.097.610 : ARISAEMA SPECIOSUM** * No data. An eastern Himalayan, growing from Nepal into W China. A distinct, cylindrical tuber produces a single, large, trifoliate, red-margined leaf, rising to about 50cm. above the chocolate-purple & white, striped spathe, from whose elegantly attenuated hood the spadix appendage writhes out as a purple filament up to 50cm. long (5) **D**
- 4.099.010 : ARISAEMA TORTUOSUM** * No data. One of the tallest in the genus, up to 1m. high or more. Stout, purple-mottled stems with 2 or 3, large, pedate leaves carry green spathes above the foliage. From these an extraordinary, tapering, green or purple, S-shaped spadix-appendage snakes outwards then upwards. Distributed through the Himalayan woodlands from the Punjab E into SW China at altitudes between 1400m & 2800m., this seems to be a fairly reliably hardy species in the UK (10+) **C**

- 4.099.700 : ARISAEMA VERRUCOSUM var. UTILE** (*A. utile*) Nepal, Langtang valley. 2750m. Ex an E. Needham coll. (Distinguished from the type by its dark, brown-purple spathe, shorter spadix appendage & shorter stem, though it grew 1m high in 1997. Part of a spectacular, variable group around *A. griffithii*, spread along the Himalaya from the Punjab to Bhutan.) (5) **E**
- 4.099.901 : ARISAEMA YAMATENSE var. SUGIMOTOI** Japan, Honshu, Shizuoka Pref., Tenryu River Gorge. D. Elick coll. (From selected forms with very prominent silver splashes on the 7-11 leaflets of the pedate leaves. Most seedlings have shown these. A very local species, confined to the Tokaido district of Honshu, with long-acuminate, green spathes, yellowish inside.) (8) **F**
- 4.170.010 : CARDIOCRINUM GIGANTEUM *** No data. The giant Himalayan woodlander with immense, white trumpet-lilies on stems 2-3m. high. Must have sheltered half-shade in cool, moist, very rich humus - "a most gluttonous feeder." (20+) **B**
- 4.170.110 : CARDIOCRINUM GIGANTEUM var. YUNNANENSE *** No data. The race from central & W China. Dwarfier, usually about 2m., with horizontally held flowers & bronze tints on the large cordate leaves when they unfold in spring. (20+) **B**
- 4.190.200 : CIMICIFUGA FOETIDA *** China, Yunnan. Ex an I. Stokes coll. (An elegant woodlander with a wide distribution - from E Europe across into the Himalaya, N into Siberia (where it has been called *C. ussuriensis*) & SE into China (where it has been called *C.f. var. velutina*, *C. taquetii* & *C. mairei*). Biternate, dull-green foliage with 3-lobed leaflets. In late summer, 2m. stems arch with long racemes of white flowers with prominent yellow staminodes, followed by fine, upstanding fruiting follicles. (15+) **B**
- 4.201.810 : CLEMATIS NAPAULENSIS *** No data. A winter-flowering climber up to about 10m. high, occurring from N India into SW China and related to the Mediterranean *C. cirrhosa*. Clusters of flowers with cream-white sepals surrounding purple stamens, produced all winter under glass, where it is happiest in the UK. In growth in winter; deciduous in late summer. (20+) **B**
- 4.202.110 : CLEMATIS REHDERIANA *** No data. A lovely & distinct, deciduous climber, which can reach 8m., from W China, with downy, pinnate leaves and panicles of nodding, sweetly scented, velvety, primrose-yellow bells in autumn. (15+) **C**

Codonopsis : the climbing Campanulas

We are sure that this diverse, almost wholly E Asian, genus of tuberous-rooted perennials in the *Campanulaceae* is destined to become much better appreciated if reliably named material can be made available. We hope to list an expanding range of species & we already have several more from authentic wild sources progressing for the future. Recently, Chris Grey-Wilson has done much to assemble existing botanical information

(1990) and to sort out the *C. convolvulacea*-group (1995). We cannot yet give a full guarantee that all the following names are in line with the published information but we shall do so in time. Most are easily grown in rich, well-drained soil with part-shade & some will flower the first year from seed, though it is usually easier to leave the seedlings alone for their first season & to sort out the tuberous roots when dormant in winter.

- 4.220.620 : CODONOPSIS CLEMATIDEA *** No data. The most frequently cultivated, often masquerading for others. Flopping stems rise to about 40cm. with many nodding, milky blue bells, exquisitely marked inside with purple & orange. Variable & widespread from the W Himalaya into Central Asia, at altitudes up to over 4000m. Usually easy & hardy if not too wet in winter. (30+) **A**
- 4.220.710 : CODONOPSIS CONVOLVULACEA *** No data. A twining perennial from E Myanmar & adjacent SW China. Up to 2m. high, it retires to a tuber when dormant in winter, when it can be stored cold & dry if pot-grown. Perfectly temperature-hardy but resents winter wetness & new growth is liable to slug-damage. Rather leathery, entire leaves & wideopen *Campanula*-flowers in clear, rich blue. Seed from Clive Brotherton who thinks this may be correctly named but note the following comments. (30+) **B**
- 4.221.210 : CODONOPSIS GREY-WILSONII** (*C. nepalensis* Grey-Wilson non Hara, most *C. convolvulacea* & *C. forrestii* of gardens) Widespread & maybe endemic in Nepal, this is superficially similar to *C. convolvulacea* but more vigorous, twining to over 3m., and with a striking crimson-ringed centre to the wideopen, lavender-blue flowers. According to Chris Grey-Wilson, most material grown as *C. convolvulacea* & *C. forrestii* belongs under this species, which he described in 1990 as *C. nepalensis*. (20+) **C**
- 4.221.211 : CODONOPSIS GREY-WILSONII - from WHITE FORM** (*C. convolvulacea* 'Alba', *C. nepalensis* 'Himal Snow') * From the superlative pure white form, originally selected out of a batch of seedlings from a 1954 Stainton, Sykes & Williams coll. in Nepal (possibly SSW 7765). Currently, advisedly, labelled 'Himal Snow' in the UK. A beautiful plant whatever its name. (20+) **D**
- 4.221.420 : CODONOPSIS LANCEOLATA *** No data. A hardy climber (especially distinct in its winged seeds, unlike any other we know) from N China through E Russia & Korea to Japan. This seed is from specialist Paul Kneebone, who describes it as "one of the best...covered in largish green bells with purple markings", growing about 2.5m. high. Don Elick described it as reaching 5m., often along streams, where "wide open bells reminiscent of a richly coloured *Fritillaria graeca* dangle in profusion." (15+) **D**
- 4.221.850 : CODONOPSIS OBTUSA *** Afghanistan, Panjshir Valley. 2400m. Beside stream. Ex P. Furse 8643. (A dubious, obscure name, considered to be a synonym for *C. clematidea* or *C. ovata*. We acquired this long ago identified as *C. obtusa* & no other positive, alternative determination has been suggested. Certainly near *C. clematidea* but the big, ice-blue bells lack the internal markings and shade into glossy yellow-green instead. Hardy & reliable with us in a raised bed over many years. (30+) **C**
- 4.222010 : CODONOPSIS PILOSULA *** No data. A climber, close to *C. tangshen*, from montane scrub in N China. The true plant is allegedly in cultivation but, the confusion of names is such that we cannot give a total guarantee this is it. Seed from Dinah Batterham (Dorset, UK) who has grown it outside for many years & describes it as having shiny, yellow-green bells. (20+) **B**

- 4.222.805 : **CODONOPSIS VINCIFLORA** * No data. A less vigorous member of the *C. convolvulacea* group from the E Himalaya & SW China with smaller, thinner-textured, toothed leaves & saucer-shaped, lilac-blue flowers. Twines delicately to no more than 1m. in height. Seedlings are best left to tangle the first season : sort out the dormant tubers & replant in winter. (20+) **B**
- 4.275.900 : **DICENTRA TORULOSA** * No data. An annual climber with much cut foliage and, in late summer, golden-yellow, bleeding-heart flowers, followed by clusters of extraordinary, reddish, sinuous fruits. This can be grown successfully as a hardy annual, sown outside, in the UK, but it will flower earlier in the summer if seed is started under glass. (20+) **A**
- 4.361.005 : **EUPHORBIA GRIFFITHII** * No data. This superlative Bhutan endemic loves our moist, acid clay, growing 1m. or more high here with many, running stems, clad in lush, green or purple-tinged leaves, carrying wide heads of orange-red bracts over a long period in early summer. Accommodating but less luxuriant in drier soils. Seed from the clones 'Fireglow' & 'Dixter'. (15+) **B**
- 4.426.310 : **GENTIANA PROLATA** No data. A choice, neat, mat-forming, late summer flowering species from Sikkim & Bhutan, which has been around in cultivation irregularly over the past century, sometimes grown as *G. ornata*. Free with its rich-blue flowers, banded with purple & cream outside, which are smaller, narrower & earlier than those of its Chinese cousins. (20+) **D**
- 4.430.510 : **GERANIUM CLARKEI - from PURPLE FORMS** * No data. A beautiful relative of *G. pratense* from the mountain meadows of Kashmir between 2000 & 4000m. Mats of creeping rhizomes send up deeply cut leaves and 50cm. stems with large, veined flowers, blue-purple in these forms, usually grown in the UK as 'Kashmir Purple', over a long period in summer. . . . (10+) **B**
- 4.432.010 : **GERANIUM SINENSE** * No data. A late-flowering, 60cm., woodland-plant of SW China, in Yunnan & Sichuan, long grown in gardens as the allied *G. delavayi* &, as such, extolled as a "connoisseur's plant" by such writers as A.T. Johnson & Will Inghwersen. Successions of many, small, inverted flowers with reflexed petals in ruby-black around a coral-pink base (10+) **A**
- 4.432.500 : **GERANIUM WALLICHIANUM** * India, Garhwal Himal. Ex an Udai Pradhan coll. A vigorous, wide-spreading form of this variable species, which dies back annually to a stout, compact rootstock. Bright pink flowers with distinct white centres produced from midsummer until the first severe frosts on prostrate, trailing stems 60cm. or more long. Extremely enthusiastic here - plants moved to a new site among shrubs climbed to over 2m. up adjacent *Magnolia sieboldii*. New & excellent. (10+) **B**
- 4.432.550 : **GERANIUM WALLICHIANUM 'BUXTONS VARIETY'** * No data. Called after E.C. Buxton, who gardened in N Wales, this comes so evenly from seed that it may be a geographical race. More compact than the Garhwal form, the long succession of soft lavender-blue flowers with large white centres is unrivalled. "A pearl beyond price" wrote G.S. Thomas (10+) **A**
- 4.478.150 : **INCARVILLEA DELAVAYI - FROM WHITE FORM** * From a good white form of this splendid, hardy, herbaceous perennial in *Bignoniaceae*. Beautiful, cut, basal foliage appears from stout, permanent tuberous roots & sturdy, 50cm. stems carry tropical-looking trumpet-shaped flowers. Easy & reliable in good soil in a well-drained, sunny site in the UK. (10+) **C**
- 4.481.905 : **IRIS MILESII** (Sect. *Lophiris*) * No data. An 1m. tall 'Evansia' from N India, in the W Himalayan region, up to 2700m. Fans of pale-green foliage & branched stems of yellow-crested flowers in lilac-pink mottled with purple, from spreading, green rhizomes. "Beautiful but rarely seen" writes Martyn Rix. Hardy & trouble-free in an open, well-drained site. (10+) **B**
- 4.482.850 : **IRIS SETOSA - from WHITE FORM** * From a beautiful, white form. We guess this is of Asian not N American origin. About 50cm. high with broad, flat falls, yellow-tinged at the base, in summer. Almost all, seedlings will be white. (15+) **B**
- 4.490.010 : **KIRENGESHOMA PALMATA** * No data. A most distinct, choice, slow-growing, hardy perennial in *Hydrangeaceae*, endemic to the mountain-woodlands of S Japan. About 1.5m. high here with erect, purple-black stems, clad in soft-green, palmately lobed, maple-like foliage & ending in branched cymes of waxy, pale-yellow bells in autumn. Cool, acid soil. (15+) **B**
- 4.516.001 : **LILIUM AURATUM** (var. *auratum*) * Japan, Honshu, Shizuoka Pref. Ex a D. Elick coll. (The "Queen of Lilies", a spectacular Honshu endemic, with huge, heavily scented flowers in waxy white, banded with gold & spotted with crimson, in late summer. A species of hill-slopes at quite low altitudes definitely not in a cool, wet, peaty place. English-grown seed from Mike Tucker (Somerset, UK) from plants raised from one of Don Elick's wild seed colls., which we listed a few years ago.) (10+) **D**
- 4.517.610 : **LILIUM DUCHARTREI** * Scottish seed of this glorious, stoloniferous, W Chinese species, closely allied to *L. taliense* & *L. lankongense*. Brownish, 1.5m. stems with up to 12, pendant, scented, white flowers, with recurving segments spotted with deep purple & reddening with age. Most cultivated stock appears to derive from the 1915 Farrer coll. in S Gansu, where he wrote that 'its cold bone-white turkscaps have a glacial beauty.' Moist but well-drained, humus-rich soil in light shade. (20+) **D**
- 4.518.110 : **LILIUM FORMOSANUM** var. **PRICEI** * Taiwan. 2600m. (A dwarf, alpine ecotype of this species with big, scented, white trumpets, purple-tinted outside. Almost all cultivated stock originates from seed collected by W. Price in 1912.) (20+) **B**
- 4.520.910 : **LILIUM PHILIPPINENSE** * No data. Slender, elegant, 1m., grassy-leaved stems with very long-tubed, pure-white, scented trumpets, sometimes tinged green or brown outside. From the mountains of Luzon in the N Philippines. (20+) **C**
- 4.522.220 : **LILIUM SPECIOSUM** var. **CLIVORUM** * Japan, S Shikoku, Agawa river gorge. Damp shady cliffs. Ex a D. Elick coll. (From Don's 1988 type-locality coll. of this very local race, described in 1956. A truly sumptuous plant, growing successfully in the UK, in rich, peaty soil, under glass & outside, with gloriously scented, crimson-speckled flowers in late summer.) (10+) **D**

- 4.524.000 : LINDELOFIA LONGIFLORA** * A rhizomatous, W Himalayan member of the *Boraginaceae* spread from Pakistan to Nepal in open meadows up to 3600m. Clumps of narrow leaves & erect, 60cm. stems with deepest blue flowers from blue-purple buds in summer. "Croziers of large deep-sapphire anchusa-flowers uncurling all the summer" wrote Farrer. (5) C
- 4.542.500 : LYSIMACHIA DECURRENS** * China, Yunnan, Dali, Cang Shan. 3000m. Loose gravel in road-cut. Ex I. Stokes 46.092. (A quietly attractive species proving most adaptable in both moist & drier, exposed sites in W Wales. Of mounded habit, about 50cm. high & as much across, because of the spreading side-shoots, with upright, stubby, white racemes in summer.) (50+) C
- 4.553.010 : MECONOPSIS PUNICEA** * The famous scarlet species from Tibet & China, N to Gansu, where it grows in damp meadows among *Rhododendron* scrub. Eulogised by Farrer, who saw it in Tibet in 1914, "hovering in flapping flags of vermilion... wave-winged butterflies of incandescent blood." Late sown seed should germinate after a full winter. (10+) E
- 4.574.500 : NEPETA SUBSESSILIS** * No data. A pleasant perennial, growing easily here. From moist mountain slopes in N Japan, on Hokkaido & Honshu. Stout, erect stems, about 60cm. high, with toothed, downy leaves carry densely verticillate, terminal spikes of lavender-blue flowers, individually large for the genus & like little penstemons. Late-season & long-flowering. (20+) B
- 4.580.001 : PAEONIA EMODI** Pakistan. D. Roberts coll. (A fresh collection made in N Pakistan late in 1997 - we hope field data will be available for the packets. A superlative W Himalayan species. Bright-green foliage, cut into tapering segments & huge, floppy, outward-facing, pure-white flowers, up to 4 on the 75cm. stems. From the western end of the species range & likely to vary from David Roberts' Garhwal coll. listed in 1996. The latter germinated well & the species is well suited to UK gardens.) (6) E
- 4.580.501 : PAEONIA LACTIFLORA** Russia, E Siberia. (The wild species is virtually unknown in gardens, where its influence is manifest only in the multitude of hybrid herbaceous species. Should have large white flowers with golden stamens.) (6) D
- 4.581.500 : PAEONIA SUFFRUTICOSA** subsp. **ROCKII** (*P. rockii*, *P. s.* 'Rocks Variety') No intelligible data. Wild-collected Chinese seed of this mythical tree-peony but do not hold your breath - one Australian grower has flowered a seedling from seed sown in 1996 (how do these people do this so quickly?) and there was no blotch on the flowers. While we can be confident the wild seed will produce huge flowers "refulgent as pure snow and fragrant as heavenly roses with a heart of gold", as described by Farrer, we cannot guarantee "each stainless petal flamed at the base with a clean and definite feathered blotch of maroon." (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
- 4.594.020 : PODOPHYLLUM HEXANDRUM** (*P. emodi*) * No data. From several forms of this slow-growing, herbaceous, woodland species, widespread through the Himalaya into China. Pink or white, cup-shaped flowers top the mottled parasols of the expanding leaves as they appear in spring to be followed by big, squashy, scarlet fruits, dangling below in autumn. (8) B
- 4.595.110 : POLEMONIUM CASHMERIANUM** * A fine, floriferous version of *P. caeruleum*, possibly not sustainable botanically. The *P. caeruleum* complex, with its circumpolar distribution is very variable & extends S to the Himalayas (this is not the slender *P.c.* subsp. *himalayanum*). Easy to grow & 1m. or more high with masses of flowers in quite a distinct slaty blue. (20+) A
- 4.617.410 : PRIMULA HELODOXA** (Sect. *Proliferae*) (*P. prolifera* group) * No data. Originally introduced by Forrest from Yunnan but now probably crossed with some of its allies, like Bhutanese *P. smithiana*, in gardens. Nevertheless, it remains the finest yellow candelabra primula with bright, clear-yellow whorls on 50cm. stems from evergreen rosettes of rich-green leaves. (50+) B
- 4.747.211 : RHODODENDRON MUCRONULATUM** * Near *R. dauricum* but vastly different from a gardener's viewpoint, this extremely hardy, deciduous, 2m. shrub, distributed from N China through Ussuri & Korea to N Japan, wreathes its slender, naked twigs with little, flat, rosy flowers in midwinter. Canadian seed from a pure-pink clone, from crossing newer 'Woodland Pink' & 'Cornell Pink' (selected in New York from a thousand seedlings raised from Japanese seed in the 1930's). This is *la creme de la creme*, it can flower in 2-3 years from seed & we are assured that it will come almost 100% evenly. (30+) E
- 4.830.505 : ROSCOEA CAUTLEYOIDES** * An arresting, SW Chinese relative of the gingers with hooded, orchid-like, cool-yellow flowers in late summer. Slow-growing but permanent in well-drained, humus-rich or peaty soil in light shade. (20+) B
- 4.838.050 : SALVIA BULLEYANA** * No data. A dry-meadow plant from Yunnan with big, bold, cordate leaves and 1m. stems with many, paired, soft-yellow flowers with distinctive brown-purple lower lips, over a long period in high summer. (15+) B
- 4.838.400 : SALVIA HIANS** * No data. A fine, characteristic Himalayan species, distributed from Pakistan to Bhutan on open slopes up to 3000m. Clumps of sticky, aromatic leaves & 60cm. stems whorled with rich purple-blue flowers. (20+) B
- 4.865.010 : SELINUM TENUIFOLIUM** * No data. "The queen of umbellifers...the most beautiful of all fern-leaved plants" according to E. A. Bowles. From Himalayan meadows at up to 4000m. between Kashmir & Bhutan. Over 1m. high with slow-growing clumps of very finely cut, soft-green foliage & lacy, flat, white heads. No trouble in a good, moist soil in sun or part-shade. (15+) B
- 4.877.010 : STYLOPHORUM LASIOCARPUM** * China, Sichuan. From recent colls of this perennial woodlander in *Papaveraceae*, sister to the N American *S. diphyllum*. Clumps of cut, toothed foliage, 30cm. high, with a long, late spring, succession of lucent yellow poppies each followed by an attenuated tapering seed-capsule. Hardy & easy in a cool, rich, sheltered site. (20+) C
- 4.878.211 : THALICTRUM DELAVAYI - WHITE FORM** (*T. diptercarpum* of gardens) * No data. The pure-white form of this exquisitely airy, 2m. high perennial from Yunnan. Maidenhair fern foliage, paler green than in the type-form. Wiry, 2m. stems, carry a myriad flowers, the petal-like sepals surrounding the hanging stamens. Cool site in good, humus-rich soil. (20+) B

- 5.025.010 : ANEMONE CRASSIFOLIA** * No data. Fresh, 1998 seed just received from Mike Jones of this summer-growing, Tasmanian endemic. We don't know it, have never seen it mentioned as in cultivation in the UK & have no time to find out more about it. Mike describes as "very, very attractive." Possibly best sown promptly - flowers in a couple of years. (8) **D**
- 5.070.105 : ASTELIA BANKSII** New Zealand, Mercury Island (NW of Coromandel Peninsula). T. Hatch coll. May, 1997. (A spectacular, distinct island race. Arching, 1m. high, peeling, silver-scaled leaves. Spectacular red-purple fruits.) (20+) **C**
- 5.125.000 : BLANDFORDIA PUNICEA** (*B. marginata*) Tasmania, South Bruny Island, Jetty Beach. M. Harvey coll. (Endemic to Tasmania and the hardiest member of this Australian genus in the *Liliaceae*. Reputedly difficult, it flowers without fuss 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.) (30+) **C**
- 5.250.050 : CLEMATIS ARISTATA** Tasmania, Mt. Wellington foothills. M. Harvey coll. 21.1.97 (A comparatively hardy climber, found up to about 700m. on Mt. Wellington, where "its cascades of creamy blossoms are a delight.") (20+) **B**
- 5.250.200 : CLEMATIS CUNNINGHAMII** New Zealand, Little Barrier Island (in Hauraki Gulf, W of Northland coast). 200m. Volcanic scoriae. T. Hatch coll. 21.1.97 (An elegant, intriguing species with soft-green, scented flowers.) (15+) **C**
- 5.252.200 : CLEMATIS PANICULATA** (*C. indivisa*) New Zealand, d'Urville Island. 600m. Exposed, ultramafic rocks. T. Hatch coll. 5.1.97 (A very beautiful, vigorous, evergreen, New Zealand climber, found in both main islands. Big panicles of unisexual, white flowers, up to 10cm. across with pink anthers on male plants. Marginally hardy in the UK but worth protecting.) (15+) **B**
- 5.300.100 : DIANELLA TASMANICA** Tasmania, Cockle Creek. M. Harvey coll. (We have long found this *Phormium*-relative from moist woodland hardy in the UK in a sheltered, shady place. Stoloniferous clumps of tough, leathery, bright-green foliage about 1m. tall with panicles of pale-blue flowers, which later develop into the most striking, glossy, violet-blue berries.) (15+) **C**
- 5.305.000 : DIPLARRENA LATIFOLIA** Tasmania, Mt. La Perouse, Moonlight Ridge. M. Harvey coll. 3.4.97 (A tall Tasmanian alpine endemic in *Iridaceae*. White *Moraea*-like flowers, marked with yellow & purple. Hardy in the UK.) (20+) **C**
- 5.437.510 : HEBE HULKEANA** * No data. An outstanding species, singled out in "Bean" as "of remarkable beauty and distinction". Native to dryish rock-outcrops in the NE corner of the S Island of New Zealand, it seems hardiest in the drier E coast areas of the UK but is probably safest in a sunny, well-drained site against a wall. A shrub, up to about 1m. high, with dark, glossy, toothed leaves & huge panicles of delicate pale-lavender flowers, individually large for this genus. (20+) **B**
- 5.630.010 : MYOSOTIDIUM HORTENSIA** (*M. nobile*) * No data. Some 1998 cultivated, New Zealand seed of this extraordinary plant, endemic to the Chatham Islands, where it grows along the beaches at the tide line but, according to Terry Hatch is now very rare indeed due to intensive grazing which has all but eliminated the unique flora of these islands. We grow plants of his collection from Pitt Is. here against a N-facing wall but we had no seed last year. Huge, ribbed, shining leaves & a long succession of giant forget-me-not flowers in celestial blue. Seed is usually irregular in germination but definitely comes up at lower temperatures, in spring or autumn, so do not cook it in a 'propagator'. It hates greenhouse conditions so plant it outside as soon as you can. (5) **C**
- 5.630.011 : MYOSOTIDIUM HORTENSIA - from WHITE FORM** * (5) **D**
- 5.728.250 : PARAHEBE PERFOLIATA** (*Derwentia perfoliata*) * No data. A lax, 50cm. shrubby perennial, reaching high altitudes on the ranges of SE Australia. Very tolerate of drought & perfectly hardy in the UK in a well-drained site. Leathery, blue-grey perfoliate foliage, purple-tinged when young, with racemes of violet-blue *Veronica*-flowers in early summer. (20+) **B**
- 5.820.050 : RICHEA ALPINA** Tasmania, Mt. Sprent. 800m. Wet, boggy, meadow. M. Harvey coll. 15.4.97 (About 90cm. high & appears to be this recently described high-altitude species but Marcus points out that it may be a dwarf form of *R. pandanifolia*, (though it seems to have a differently structured inflorescence). The genus *Richea* is quite small & almost wholly Tasmanian. It is in *Epacridaceae* but some resemble *Cordyline* in their foliage. *R. scoparia* (*q.v.*) is the only one of proven hardiness in the UK but these colls. by Marcus are from considerable altitudes & there is no reason why they should be less hardy.) (30+) **D**
- 5.830.300 : RICHEA SCOPARIA** Tasmania, Mt. Field, Tarn Shelf. M. Harvey coll., 1997 (Ascending to over 1300m., this is the only species of proven hardiness in the UK - it grows well on the rock-garden at the RBG Edinburgh. Most British stock seems to be derived from the H.F. Comber coll. of 1930. We seem to have but one colour-form but he describes the flowers varying in "white, pale or deep pink, red or maroon." It can form wide dense hummocks about 1m. high in exposed montane sites. Short, rigid, linear leaves cover the stems and the flowers are close-packed into stiff, terminal racemes. Low-nutrient, acid soil.) (30+) **C**
- 5.998.000 : XERONEMA CALLISTEMON** * New Zealand, Hen Island (W of Northland coast). (A really extraordinary member of the *Liliaceae*, only known from here & Poor Knight's Island, where it grows, wind-blasted with sea-spray, as a semi-epiphyte on volcanic scoriae. It must be grown frost-free in a well-drained, low-nutrient, lime-free medium. One would suggest something 'far-out', like old, weathered boiler-cinders, were it not for the fact that, when we last listed seed about 10 years ago, several British gardeners told us they were growing it without too much trouble & we have just been offered cultivated seed from a customer in California. So it is by no means impossible even if its spectacular sprays of brilliant red flowers remain incredible.) (30+) **C**

Our next list in summer 1998 will include seed from our own cultivated Hellebores and Cyclamen - freshly gathered for summer-sowing

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. With two of our favourite genera, *Cyclamen* and *Helleborus*, sowing seed is the best way to propagate them but both of these germinate at low-temperatures & are best sown before winter. We list seed now from a few other hybrids which should yield some worthwhile children and are suitable for spring sowing.

- 6.002.499 : AGAPANTHUS - from MID-BLUE HYBRIDS** Mainly from tough, vigorous 'Profusion' plus some others. . . . (20+) **A**
- 6.002.500 : AGAPANTHUS - from DEEP BLUE HYBRIDS** From a wide range of named, rich-blue hybrid clones, all hardy in the UK. These are mostly very near *A. campanulatus* : 'Podge Mill', 'Kingston Blue' & several L. Palmer clones. . . . (20+) **B**
- 6.002.510 : AGAPANTHUS - from PALE BLUE HYBRIDS** Mainly from our outstanding pale blue, 'Blue Moon' (15+) **B**
- 6.002.520 : AGAPANTHUS - from WHITE HYBRIDS** From tall 'Ardernei' to dwarfier 'Snow Baby' & 'Lady Moore'. . . . (15+) **B**
- 6.025.000 : ALLIUM HOLLANDICUM** Seed collected by Janis Ruksans in Latvia, from such clones as 'Purple Sensation' & 'Purple Surprise'. Seedlings may vary from 50-100cm. but all should have large umbels of deep purple-violet flowers. . . . (20+) **A**
- 6.223.000 : BERGENIA - from RED HYBRIDS** From some of the best modern crimson flowered hybrids : German ones like 'Abendglocken' & 'Admiral' as well as some of our own, like 'Bartok'. Good, tough foliage colours well in winter. . . . (50+) **B**
- 6.223.100 : BERGENIA - from WHITE HYBRIDS** From our compact white-flowered hybrids, bred from *B. stracheyi* 'Alba', such as 'Britten', 'Bach' & 'Beethoven'. Most seedlings will be apple-blossom pinks. Bronze weather-resistant winter-leaves. . . . (50+) **B**
- 6.415.000 : DIERAMA - from 'SLIEVE DONARD HYBRIDS'** Initially, *D. pulcherrimum*, with bell-shaped, rich carmine-pink flowers, & *D. pendulum*, with more flaring flowers in paler shades, were involved with *D. dracomontanum* being used later. Some of our stock, apparently almost pure *D. pulcherrimum*, was raised from Slieve Donard seed in the 1960's. We also include seed purporting to come from 'Blackbird', as well as pinks nearer *D. pendulum*. All supremely elegant plants about 2m. high. . . (30+) **A**
- 6.501.450 : GERANIUM - from 'BROOKSIDE'** The parent is supposedly a hybrid between *G. pratense* and *G. clarkei*, though its general appearance is much nearer to the former. It is very fertile & seedlings are comparatively even in appearance. Fine garden-plants with spreading stems producing successions of large, rich violet-blue flowers over a very long period in summer. . . . (10) **B**
- 6.747.850 : PAEONIA SUFFRUTICOSA 'CHINESE HYBRIDS'** Cultivated tree-peony seed from China collected from a wide range of named hybrid clones : mainly doubles, in purple, pink, white & green. What might result from seed is unpredictable. . . . (6) **C**

Thanks for your help and support in 1997. Our best wishes to all of you for 1998.

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. Collectors are mentioned in some instances but it is not possible to name sources in all cases. We are grateful to : John Andrews, Stan Farwig & Vic Girard, Noel Gielegem, 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), Alan Edwards (Surrey, UK), Don Elick (Japan), Terry Hatch (NZ), Marcus Harvey (Tasmania), Dave

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