News from

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NEWSLETTER & SEED LIST JANUARY, 2003

ALLIUM
2002 seeds from an exciting range of species from Turkey, Iran and Central Asia

EREMURUS
2002 seeds from Kazakhstan and Uzbekistan

PAEONIA
2002 wild collections from the Caucasus

CALOCHORTUS
2002 seed from an unrivalled range plus many other North American bulbs

LILIUM
2002 collections from California & Oregon

ALSTROEMERIA
and other South American genera

Tashkent Botanic Garden, 2002 : obviously the place to learn about the

THE FLORA OF CENTRAL ASIA

Norman had been taken around the Rustanov Botanic Garden many years ago by the assistant director, Igor Belolipov. We had a free morning in the city so decided to find him. The young girl at the gate of the garden had never heard of Igor Belolipov, world-authority on the flora of Central Asia & curator of the great collection of plants amassed at Tashkent in the 1960's and 1970's. An elderly lady, the only other occupant of the office-building, was consulted and we were directed to the agricultural institute where he was now Professor of Botany. "You must see the gardens before you visit Professor Belolipov." she said, handing us a plan annotated in Russian. "Here are the plants from North America, here are the plants from the Far East and here are the plants from Central Asia." We wondered if she had looked at the gardens for the past decade. Nowhere was there anything but total neglect and overgrown dereliction. The only surviving & thriving inhabitants were the urban weeds of Central Asia.

Igor greeted us with delight and plied us with cups of herbal tea. Old photographs were produced of him with various notable American botanists, whom he had met during a visit to the U.S.A. in the the 1970's : "Here I am with Professor Arthur Cronquist." "What happened to the botanic garden?" we asked. "After independence there was no money to pay anyone, so everyone left. I was lucky enough to find a position here. I am now the only professor of botany in Uzbekistan. I am paid $20 a month by the institute but I have a small pension from Soviet days, so my wife and I can survive. It's not so bad. We can buy a kilo of meat each month for $5. When I go, there will not be a professor of botany in Uzbekistan any more." Perhaps he has been more fortunate since the disintegration of the "evil empire" than the amiable Professor Asimov who approached us in the lobby of the Hotel Uzbekistan on the morning of our arrival in Tashkent. He spent his days there hoping for an altruistic Egyptologist to materialise. "I do appreciate that you may not be able to help with any work in Egyptology but I thought you had kind faces." he had said. He would probably have been delighted to be engaged for $5 each week. "What can you get for $5 in Uzbekistan?" we asked our driver and some of his colleagues. "Quite a lot of bread," said Farid. "A taxi to Chimgan." (where we had just been with our car and driver at a cost of $100 for the day.) "A girl for a whole night," said Rustam from Samarkand. "And a professor of botany for a whole week," I added.

Ordering from this list could not be easier

We shall accept your personal cheque in US $ or £ sterling. Cheques in US $ must be on a US bank account, as charges on negotiating cheques on foreign accounts are very high in the USA (foreign banks can sometimes sell you a US $ cheque drawn on a US branch). Apart from personal cheques in these two currencies, payments can be made in US $, £ sterling or € bank-notes (please send by registered mail), a bank draft or International Money Order (in US $ or £ sterling for these please). Personal € cheques are at present a problem as there is, as yet, no central bank clearing system within the eurozone. This makes it disproportionately expensive for us to have cheques for comparatively small amounts cleared. We hope this difficulty will be resolved in time. In the meantime we should be grateful if eurozone customers send payment in € by cash by registered mail or use a bank draft in US $ or £ sterling : just convert at the current exchange rate. 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 a 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.
THERE IS NO CHARGE FOR POSTAGE, BY AIRMAIL IF ABROAD, ON SEEDS OR LISTS.

New customers please understand

There may be a delay before you receive your order. While we are ready to send out orders by return, most come in during the first few weeks after we send out a list. We receive orders 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, very reliable.

Customers in the USA and New Zealand

Some customers in the United States have expressed concern as to the threat by the USDA to apply regulations regarding the importation of seeds in 2002. The regulations are not new but the authorities have previously adopted a realistic, pragmatic approach in applying them to small quantities. We doubt if it is practical for this to change. We have had no reports of any of the many orders sent from our last list failing to arrive. We always replace, credit or refund if an order does not arrive & are happy to continue to take any risk ourselves until we see how things work out. Packets will be labelled honestly and accurately "Dried botanical specimens." Phytosanitary certificates, even if we can persuade our local office to issue them for tiny quantities of seeds, will be meaningless but they will not come cheaply in Britain. New Zealand customers have a more serious problem. With a much smaller volume of mail entering the country and, we suspect, an overstaffed agricultural inspectorate, it is best to stick to the list of permitted species.

Our population reference numbers

The species in our lists are divided into five 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. 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 (they have an 0. before them on our records and you will see this on labels). 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 or selections 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. Much 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.

The figure in brackets before the price code is the number of seeds per packet

Alliium : onions from Turkey to the Tien Shan

130.120 : ALLIUM aff. AKAKA (Sect. *Acanthoprason*) * Turkey, Kars, Kagizman to Pasli gecidi. 1800m. Limestone scree on W-facing slope. (Does not match the description of *A. akaka* in the 'Flora of Turkey' (nor indeed other populations we have seen) but it is from the Georgian border & it may be closer to another Transcaucasian species. An attractive, dwarf, pinkish, ball-headed *Allium*, about 15cm. high, with about 3, grey-green leaves, narrower & more upright than typical *A. akaka*.). . . . . (10+) **D**

130.410 : ALLIUM AMETHYSTINUM (Sect. *Allium*) * No data. A SE European species with rounded umbels of many, cylindrical, purple flowers on 50cm. stems sheathed with linear, channelled leaves. For a dry, sunny site. . . . . (20+) **A**

130.670 : ALLIUM BODEANUM (Sect. *Acanthoprason*) * No data. From an Anne Ala coll. maintained by Martyn Rix. A splendid endemic of Khorasan, in NE Iran, & adjacent Turkmenistan. In Sect. *Acanthoprason* & related to *A. cristophii* but with fewer, shorter, wider, falcate, blue-grey leaves & a shorter, fatter scape carrying a huge, spherical umbel of large, starry, violet-purple flowers with whitish perigonia. Rated as highly garden-worthy by Per Wendelbo, who considered it to be "certainly one of the more remarkable species of its genus." A rare plant in cultivation & safest in the bulb-frame in the UK. . . . . (10+) **E**

130.970 : ALLIUM CAESIUM * No data. Alan Edward's excellent, bulbil-free form of this Central Asian species, received from Tashkent Botanic Garden in happier days. About 30cm. high with umbels of many, violet-blue flowers . . . . . (15+) **B**

131.278 : ALLIUM CARDIOSTEMON (Sect. *Melanocrommyum*) * Turkey, Trabzon, S of Of. 1150m. (An adaptable species from a wide variety of habitats in E Turkey, N Iraq, Armenia & NW Iran. Dense many-flowered hemisphaerical umbels of darkest maroon-purple flowers on 60cm. stems, later in summer than most tall, ball-headed species.) . . . . . (20+) **C**

131.279 : ALLIUM CARDIOSTEMON * Armenia, Aragats. 970m. (Another form from the Armenian Caucasus.) . . (20+) **C**

131.320 : ALLIUM CARINATUM subsp. PULCHELLUM from DWARF FORM * No data. A compact form of one of the finest Europeans. Umbels of numerous pendant, purple bells with exserted yellow stamens open from erect buds. . . . . (20+) **B**

131.490 : ALLIUM CASPIUM (Sect. *Kaloprason*) * Iran, East Azerbayejan, SE of Marand. 1750m. Open stony slopes. (In the same section as *A. schubertii* & *A. protensum* &, like them, with flowers carried on pedicels of varying lengths but a dwarfer plant, 10-20cm. tall, with smaller, rounded umbels of many, widely campanulate, pale-green flowers, tinted with rose & with projecting stamens. A hardy species, centred on the Caucasus, from a cold area near the border with the former USSR.) . . . . . (10) **E**

131.850 : ALLIUM CUPULIFERUM * Tadjikistan, Hissar range. (A most distinct, arresting & very little known, 50cm. high species with umbels of large, purple, cup-shaped flowers carried in dense umbels on elongating pedicels, which extend to different lengths as the flowers open. "One of the most attractive Alliums" writes Latvian allium-enthusiast, Janis Ruksans) . (20+) **D**

132.309 : ALLIUM FETISOWII * Kazakhstan, Chu-Ili range. Ex RSK 77-17 (Dense violet-pink umbels. 40cm.) . . . (10+) **C**

132.551 : ALLIUM HAEMANTHOIDES (Sect. *Acanthoprason*) Iran, Lorestan, WNW of Dorud, above Razan pass. 2200m. Limestone rock-ledges. (Endemic to the highest Zagros from Sulaimaniyah in Iraq S to the Shiraz area of Iran. A short, stout scape of less than 15cm. rises between 2-3 broad leaves with a big, spherical umbel of pale rose, green-tinted flowers with linear tepals, carried on pedicels of different lengths, as in *A. protensum* and *A. schubertii*. Possibly not in cultivation before.) . . . (10+) **E**

132.750 : ALLIUM HIRTIFOLIUM (Sect. *Melanocrommyum*) * Iran, Lorestan, WNW of Dorud. 2000m. Seasonally moist gulley. (A tall , ball-headed species. Stems over 1m. high with rounded umbels of many, starry, pale-purple flowers.) . . . . . (15+) **D**

132.751 : ALLIUM HIRTIFOLIUM (Sect. *Melanocrommyum*) * Iran, Esfahan, SE of Khonsar. 2600m. Wet meadow. (15+) **D**

132.790 : ALLIUM ILIENSE subsp. NURATENSE Uzbekistan, Zhizakh, Nuratau, SW of Yangikishlak. Loose, slate stone-slide on open slope. (A few seeds of this very local ball-headed species, an edaphic endemic to the slates of the Nuratau.) . (10) **E**

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**

132.951 : ALLIUM JESDIANUM * Afghanistan, Bamian. Ex Hedge, Wendelbo & Ekberg 4865. (Perhaps the finest form of this widely distributed Central Asian species, at one time wrongly attributed to *A. rosenbachianum*. Enormous umbels of deep purple flowers with white anthers on stems over 1m. high. A spectacular & eye-catching plant for a well-drained site.) . . . (15+) **D**

133.007 : ALLIUM KARATAVIENSE (Sect. *Acanthoprason*) Kazakhstan, Karzhantau, SE of Chimkent, Burguluk. 1300m. Loose stone-slides on open slopes. (The best-known member of this outstanding section & a well-established garden-plant of proven worth. We hope our 2002 wild collections will provide material showing the much greater diversity of the species than appears in standard Dutch stock and produce clones with more richly coloured flowers & even more striking foliage. This coll. is from a range where bright red-purple flowered forms are reputed to occur & whence Janis Ruksans' 'Red Globe' came.) . (15+) **C**

A : $2.00 ; £1.50 ; €2.-	**C : $4.00 ; £2.50 ; €4.-**	**E : $7.00 ; £4.50 ; €7.-**
B : $3.00 ; £2.00 ; €3.-	**D : $5.00 ; £3.50 ; €5.-**	**F : $9.00 ; £6.00 ; €9.-**

133.008 : ALLIUM KARATAVIENSE from GIANT FORM As 133.007 : from a clone with football-sized heads. . . (15+) **D**

133.009 : ALLIUM KARATAVIENSE (Sect. *Acanthoprason*) Kazakhstan, Djambil, Karatau, WSW of Taras. 900m. Slate & shale talus. (From the range where Janis Ruksans collected 'Kara-Tau' : pink with purple-tinged seed-capsules.) . . . . . (15+) **C**

133.011 : ALLIUM KARATAVIENSE from WHITE FORM * No data. From the beautiful variant, 'Ivory Queen', of this splendid species, unrivalled in its broad basal foliage in grey with metallic purple tints. Large, rounded heads on 20cm. stems.(15+) **B**

133.059 : ALLIUM KHARPUTENSE (Sect. *Melanocrommyum*) * Iran, W Azerbayejan, Disaj to Agh Bolagh, near Sangar. Ex N. Stevens 1862. (A 40cm. high species from E Turkey, N Iraq & NW Iran, allied to *A. nigrum* & *A. orientale*. Dense, many flowered umbels of flowers with white segments reflexing around either green or black-maroon ovaries. Both forms here.) . . (20+) **B**

134.200 : ALLIUM NEVSKIANUM (Sect. *Acanthoprason*) * Tadjikistan, Varsob Gorge, near Chinoro. 1200m. Ex RM 82-72 (A splendid endemic of Tadjikistan & N Afghanistan, along the lines of *A. karataviense*. Large, round umbels of rich, dusky, pinkish-red flowers between two broad, blue-green leaves. Satisfactory outside so far with several growers in the UK.) . . . . . (15+) **D**

134.350 : ALLIUM NUTANS * No data. A very hardy species, carrying its bulbs on a short rhizome, from central Russia & Siberia. Spherical umbels, nodding before the cup-shaped, lilac-rose flowers open, in summer. About 50cm. high in flower. (15+) **B**

134.410 : ALLIUM OBLIQUUM * Russia, Siberia, Sajan range. (A fine, ball-headed species distributed through Central Asia into S Siberia. One of the last of the taller species to flower, up to 1m. high with dense, almost spherical, umbels of many, cup-shaped, pale-yellow flowers with projecting yellow stamens. A delicate contrast to the purple usual in this group.) . . . . . (20+) **C**

135.900 : ALLIUM PROTENSUM (Sect. *Kaloprason*) * Uzbekistan, Samarkand, Seravshan, S of Amankutan. 1800m. Loose talus. (Rather like a more compact (and very much hardier) version of the better-known E Mediterranean *A. schubertii*. Similar, very large heads of pink flowers on pedicels of varying lengths, the whole starburst exploding on a 30-40cm. stem.) . . . (15+) **D**

136.185 : ALLIUM ROSENBACHIANUM subsp. KWAKENSE * Tadjikistan, Harangon range. (This superlative species, as a whole, is local in Tadjikistan & N Afghanistan & rare in cultivation, where its name has been much misapplied to *A. hollandicum* and several cultivars of the much more widespread *A. jesdianum*. This subspecies is distinguished by its broad, more erect leaves, barely tapering at the bases. Spectacular with large round heads of wine-red flowers on 1m. tall stems.) . . . . . (15+) **D**

136.507 : ALLIUM SARAWSCHANICUM (Sect. *Melanocrommyum*) * Uzbekistan, Samarkand, Seravshan, Agalik . 1100m. (Stout, erect stems, about 80cm. in height, carry large, airy, globular umbels of green-centred, violet flowers on green pedicels. One of the finest tall, ball-headed species. Quite rare in the wild but spectacular in the garden and outstanding for cutting.) (20+) **C**

136.680 : ALLIUM SCABRIFLORUM (Sect. *Allium*) * Turkey, Karaman, SSE of Karaman. 1100m. Open steppe. (A neat, little bulbous plant of the central Anatolian steppe, related to the Palestinian *A. hierochuntinum*. Thready leaves and dense, firm, globose umbels of powder-blue flowers on wiry, 20cm. stems in summer. Very slow to increase vegetatively.) . . . . . (15+) **C**

136.805 : ALLIUM SCHUBERTII (Sect. *Kaloprason*) * No data. Starbursts of purple flowers. From Syria & Israel. . (15+) **C**

137.038 : ALLIUM SEWERZOWII Kazakhstan, Boroldaitau, ENE of Chimkent. 950m. (A somewhat more robust version of *A. fetisowii* with wider leaves and umbels of lilac-pink flowers on stems up to 1m. tall. Little-known in gardens.) . . . . (15+) **C**

137.050 : ALLIUM SHELKOVNIKOVII * Iran, Ardabil, W of Ardabil, Kuh-e-Sabalan. 2400m. Among steppe vegetation on tuffs of volcanic ash. (2002 seed from our 2000 reintroduction of this N Iranian endemic, collected by us (& no doubt others) in the 1960's but since lost. An excellent, dwarf member of Sect. *Acanthoprason* with a dense, rounded umbel of starry, lilac flowers on a fat, 5-10cm. stem between two broad, prostrate, grey leaves. Small & choice enough for an alpine-house pan.) . . . (10+) **E**

137.051 : ALLIUM SHELKOVNIKOVII * Iran, Kordestan, NW of Divandarreh. 2000m. Gravelly clay slopes. (A form a little closer to *A. akaka* (the two species may well merge) from an area where we collected it in the 1960's) . . . . . (10+) **E**

137.309 : ALLIUM SOSNOWSKYANUM (Sect. *Allium*) * Turkey, Artvin, above Demirkent. 1800m. In thorn-cushion association. Ex KPPS 93-30B. (From a Michael Kammerlander collection of this local, small species only recorded from Erzurum & Artvin provinces near the Georgian border in NE Turkey & virtually unknown in cultivation. Two narrow flattened leaves and spherical umbels of campanulate, white to pale pink flowers with dark central veins on each segment.) . . . . . (10+) **E**

139.620 : ALLIUM UMBILICATUM * Iran, Khorasan, Kopet Dag N of Quchan. 1750-2000m. Limestone slopes. . . (20+) **B**

139.621 : ALLIUM UMBILICATUM * Iran, Khorasan, Bojnurd, E of Tang Rah to Chesmeh Khan. 1200m. Steep, loose limestone slopes & among scrub. Ex N. Stevens 1957. (From two colls. by Norman of what we think is most likely to be this pretty little species with clumps of bulbs, grassy leaves & rounded umbels packed with lilac-pink flowers on 15cm. stems.) . . . . (20+) **B**

139.648 : ALLIUM VICTORIALIS (Sect. *Anguinum*) * No data. A distinct & very hardy montane species distributed from the European ranges up into N Asiatic Russia. 50cm. stems carrying rounded umbels of starry, palest yellow flowers. . . (20+) **A**

139.649 : ALLIUM VICTORIALIS * The above is from the European Alps. This is from the Carpathians.. . . . . (20+) **A**

139.705 : ALLIUM WINKLERIANUM * Kirghizstan, Fergana range. Ex an A. Seisums coll. (A very fine species near *A. cupuliferum* but with more compact umbels of large, cup-shaped, violet-purple flowers on the 50cm. stems) . . . . . (20+) **D**

A : $2.00 ; £1.50 ; € 2. -	**C : $4.00 ; £2.50 ; € 4. -**	**E : $7.00 ; £4.50 ; € 7. -**
B : $3.00 ; £2.00 ; € 3. -	**D : $5.00 ; £3.50 ; € 5. -**	**F : $9.00 ; £6.00 ; € 9. -**

Arum : hardy summer-dormant aroids

194.780 : ARUM APULUM * No data. A relative of *A. nigrum*, endemic to the hills of Puglia at 300-400m. near the southern heel of Italy. "Attractive but little-known" writes Peter Boyce. Erect green spathes with purple interiors. . . . . (10+) **D**

195.074 : ARUM CONCINNATUM (*A. nickelii*) * Greece, Crete, above Agios Nikolaos. Ex a P. Boyce coll. (A robust species with foliage, in this form splashed with white, as much as 1m. high in a well-grown plant. Huge, yellowish spathes, often just rimmed with a purple tint, almost 30cm. long. Needs a warm, sheltered site to thrive outside in the UK.) . . . . . (8) **D**

195.111 : ARUM CRETICUM * Greece, Karpathos. (Perhaps the most beautiful in the genus. Native to Crete & some adjacent islands, touching its toes on the Turkish mainland on the Marmaris peninsula, this is a plant of stony, scrub-covered, limestone slopes. Clumps of bright-green, hastate leaves overtopped by the 30cm high stalks carrying large, sweet-scented, wholly yellow spathes, reflexing, twisting & elegantly pointed, surrounding the curved spadix. From the outstanding coll. made by Mark Ogilvie-Grant on the island of Karpathos in the 1950's ("particularly reliable" writes Peter Boyce) : the F.C.C. form.) . . . . . (8) **E**

195.130 : ARUM CYRENAICUM * Libya, Cyrenaica. Ex a M. Koenen coll. (Glossy, rich-green, sagittate leaves & large spathes, pale-green outside & purplish rose inside with deep purple spadices. A plant of the scrub along the 'green belt' in NE Libya. Perhaps safest protected from frosts but never damaged here with minimal protection, planted out under polythene.) (10+) **C**

195.140 : ARUM CYRENAICUM * Greece, Crete. Ex a D. Drummond coll. (Only recently recognized as growing outside Libya & of very limited distribution on Crete. Differs a little (but not substantially) from the African plants.) . . . . . (10+) **C**

195.150 : ARUM DIOSCORIDIS (var. *dioscoridis*) * Turkey, Mersin, NNW of Mersin towards Arslankoy. 500m. Crevices in limestone pavement. (In this form the very large spathes are often entirely velvety black-purple. The species is a plant of lower altitudes which needs a warm, dry site in the UK or is better grown in the bulb-frame so it can have a summer rest.) . (10) **C**

195.310 : ARUM DIOSCORIDIS var. SYRIACUM * No data. Seldom-seen race from the Amanus range in S central Turkey & adjacent NW Syria. Pale-green spathes with small, scattered purple blotches surround the purple spadices. . . . . (8) **D**

195.509 : ARUM ELONGATUM (subsp. *elongatum*) * Russia, Krasnodar district, near Enem. ("An attractive species" writes Peter Boyce in his 'The Genus Arum'. Distributed around the Black Sea & hardy in the UK. Related to *A. orientale* with an elegant, elongated spathe, in this case stained with red-purple around a maroon spadix. Only about 20cm. high in flower.) . . . . (8) **D**

195.809 : ARUM IDAEUM Greece, Crete, Omalos plateau. M. Jope 2024. (Long confused with *A. creticum* & thought to be a montane form of it, this is a very distinct high altitude species endemic to the mountain-ranges of central Crete at altitudes up to1,750m., often growing along the melting snow-line. Although likely to be intolerant of year-round wet conditions this is a very hardy plant, seldom happy grown under glass. Deep green, sagittate leaves & 20cm, purple-stained stems carrying white, hooded spathes surrounding contrasting, deep purple spadix : altogether most striking in flower & little-known in cultivation.) (5) **E**

196.010 : ARUM ITALICUM subsp. ALBISPATHUM * No data. A handsome eastern race, which has been included under *A. orientale*, distributed round the NE corner of the Black Sea, from the Crimea through Georgia into NE Turkey. Unmarked dark-green, hastate leaves and particularly large, translucent white spathes with pale yellow spadices. . . . . (8) **C**

196.200 : ARUM KOROLKOWII * Turkmenistan, Kopet Dag, Arvaz valley. Moist soil among dense scrub. Ex a J. Ruksans coll. (A Central Asian species from among scrub on rocky hillsides between 1,100 and 2,500m. along the borders of NE Iran and Afghanistan. The spathe is described by Janis as "chamois green & brown", rising well above the leaves to 50cm..) . . (5) **E**

196.201 : ARUM KOROLKOWII Uzbekistan, Tashkent, Chatkal range, SE of Parkent. 1000m. Among scrub on stony slope. (We provisionally include our more northern Central Asian collections under *A. korolkowii* but suspect many such populations may be or be intermediate with *A. jacquemontii*. In his monograph, Peter Boyce is extremely vague about the distribution of these species. His maps show no *Arum* species for these areas. We cannot establish the identities until they flower.) . . . . . (5) **E**

196.202 : ARUM KOROLKOWII Uzbekistan, Tashkent, Chatkal range, above Beldersai. 1500m. Under *Juniperus*. . . . (5) **E**

196.203 : ARUM KOROLKOWII Kazakhstan, Karzhantau, SE of Chimkent, Burguluk. 1100m. Among boulders. . . . . (5) **E**

196.611 : ARUM ORIENTALE (subsp. *orientale*) * No data. From Herman Fuch's stock of this fine species. Extremely large, erect, boat-shaped, dark purple-brown spathes with dull purple spadices and deep-green, floppy leaves. The species as a whole, widely distributed in E Europe & around the N of the Black Sea, is accordingly variable. It is seldom seen in cultivation in any form though most are excellent garden-plants in the UK, being native to similar habitats to *A. maculatum* in cold climates.). (8) **E**

196.860 : ARUM PALAESTINUM * No data. A magnificent species from Syria, Lebanon & Israel but unsuited to the cold, wet climate outdoors in most of the UK. No trouble here with unheated protection, forming large clumps of rich-green, sagittate leaves with huge, 50cm. high spathes, solid, velvety darkest maroon-purple inside & reflexing back around the erect, stout, black-purple spadices. Sweet-scented & more or less like a large, maroon-black version of *A. creticum*. . . . . (5) **E**

A :	**$2.00** ;	**£1.50** ;	**€ 2. -**	**C :**	**$4.00** ;	**£2.50** ;	**€ 4. -**	**E :**	**$7.00** ;	**£4.50** ;	**€ 7. -**
B :	**$3.00** ;	**£2.00** ;	**€ 3. -**	**D :**	**$5.00** ;	**£3.50** ;	**€ 5. -**	**F :**	**$9.00** ;	**£6.00** ;	**€ 9. -**

196.910 : ARUM PICTUM * No data. Native to the Balearic Islands, Corsica & Sardinia, this is the only member of the genus to flower in autumn. Short-stemmed, velvety, dark purple spathes with black-purple spadices appear with the superb, dark, lustrous-green, pale-veined foliage. Dwarf enough for a pot but successful outdoors in several parts of the UK. . . . . (10) **D**

197.000 : ARUM PURPUREOSPATHUM * Greece, Crete, Samaria gorge. Below 100m. Ex P. Boyce 51. (From the type collection of this very local species, described in 1987 : "one of the most attractive members of the genus yet found" comments Peter Boyce. Very large, uniformly rich purple spathe with a black-purple spadix. Reasonably hardy : young plants need protection.) (8) **E**

197.104 : ARUM RUPICOLA (var. *rupicola*) (*A. conophalloides*) * Turkey, Kahramanmaras, SSE of Goksun. 1550m. NE-facing limestone slope. (Elegant, purple-tinged, grey-green spathes on tall stems surround massive, cylindrical, purplish-brown spadices. Withstands extremely low winter-temperatures but best protected from excess moisture in the UK by a bulb-frame.) . . (5) **D**

204.700 : ASPHODELINE BREVICAULIS (subsp. *brevicaulis*) * Turkey, Adana, Nurdag Gecidi, above Hasanbeyli. 1150m. Among *Quercus* on shale. (Clumps of grassy, blue-green leaves with 60cm. tall, branching stems bearing a very long succession of widely-spaced, starry, soft-yellow flowers, apricot-orange in bud & on the reverse. Hot, dry site in the UK.) . . . . . (10+) **D**

224.270 : ATHAMANTA TURBITH subsp. HAYNALDII * No data. From the limestone of Albania & adjacent areas, this delightful perennial for a hot, dry site was highly regarded by Wilhelm Schacht. We grew 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.(30+) **C**

331.950 : CORYDALIS NOBILIS * No data. A sturdy, long-lived, tap-rooted perennial about 50cm. high and rated by Liden & Zetterlund in their monograph as "probably the most conspicuous & eye-catching species in the genus." Dense heads of yellow, black-tipped flowers rise above the lush, deeply divided, glaucous foliage in late spring. By late summer the whole plant is dormant. An extremely hardy Siberian plant, distributed from the Altai to the Tien Shan & naturalized in Sweden, this is suited to severe continental climates. Seldom seen in UK gardens but perfectly growable. Dried seed normally stores well but it needs a significant cold period to germinate satisfactorily. Seedlings will not progress beyond the cotyledon stage in their first season.. (20+) **C**

338.510 : CREPIS INCANA * No data. A composite with class, easily grown & perennial in sunny limestone scree, this endemic from limestone crevices on the mountains of southern Greece between 1050 and 2400m. has never set a good seed (only lots of fluff) with us in over 30 years. Simon Bond worked hard to acquire different clones & develop a fertile strain. Compact mounds of greyish green leaves covered with a succession of gentle-pink dandelion-flowers on 20cm. stems all summer. . . . (10+) **C**

372.010 : CYNARA CARDUNCULUS * One of the most striking and statuesque perennials growable in UK gardens. Great upright clumps of deeply slashed, grey foliage ; stout, branching, stems rise to 2m. or more, carrying big, royal-blue thistle-flowers opening from broad, spiny bracts. A Mediterranean species, which seldom sets much good seed in the UK : this is from Tim Ingram in Kent, where the summers are hotter than with us in Wales. Grow it in full sun in a good, deep, well-drained soil. . . . . (10) **C**

375.210 : CYTISUS BATTANDIERI * No data. A remarkable paragon in this genus, quite narrowly endemic to the Middle Atlas Mts. of Morocco at about 1800m., so perfectly temperature-hardy in the UK but it does need sun & good drainage. We have seen it forming neat, erect shrubs about 4m. high among the sparse cedars on the volcanic plug of the Djebel Hebri but it is usually of looser growth in the wetter UK, where it is often grown against a wall. Silky, silver-sheened trifoliolate leaves & young shoots with long, upright cylindrical racemes packed with pineapple-scented yellow flowers in early summer. . . . . (10) **C**

Delphinium semibarbatum : yellow larkspur of the steppes

392.300 : DELPHINIUM SEMIBARBATUM (*D. zalil*) Uzbekistan, Aktau, S of Langar.800m. In steppe-vegetation on open slopes. (A tuberous-rooted perennial, distributed both in steppe & seasonally moist habitats from Afghanistan up across Central Asia into the Tien Shan. This dwarf steppe-form was only about 30cm. high (it may not remain so dwarf in gardens, of course) with leaves cut into thready divisions & branching stems carrying a succession of beautiful, spurred, soft-yellow flowers.) . . . . . (50+) **E**

392.310 : DELPHINIUM SEMIBARBATUM (*D. zalil*) * No data. This is seed from more typical forms, about 1m. tall, sent by Norman Stevens (Cambridge, UK) & Janis Ruksans (Latvia). Absolutely temperature-hardy, we have seen this doing very well as a border-plant in Colorado but it resents both summer & winter wetness in the milder UK, where, if you cannot provide it with a really hot, dry, well-drained site it will be best in the bulb-frame. Unique with its branching yellow spires. . . . . (50+) **C**

407.300 : DIGITALIS DUBIA * Spain, Mallorca. Ex a P.& P. Watt coll. (A choice, dwarf species, endemic to the limestones of the Balearics. Neat, flat rosettes of narrow, downy, grey-green leaves send up many erect, 30cm. stems with spaced, down-turned foxgloves in pale sugar-pink with speckled white palates. Small & dainty enough for the shaded alpine-house.) . . . . (50+) **C**

424.127 : DRACUNCULUS VULGARIS (var. *creticus*) * No data. From the Cretan form of this spectacular aroid, up to 1m. high, with pedately divided foliage & huge, fleshy, brown-purple spathes on maroon-spotted stems. This island race usually has the large divided leaves spectacularly marked with oblique silver slashes. Usually possible in the open garden in the S of the UK in a hot, dry site or against a S-facing wall but safest in a bulb-frame in colder areas. . . . . (10) **D**

432.300 : ECHIUM RUSSICUM * No data. A striking plant, more than 1m. high, from the dry grasslands of E central Europe, N into Russia. Spike-like inflorescences of many rusty-red flowers with the stamens exserted on long, red filaments. A bristly, short-lived perennial, evocatively illustrated, growing in *Stipa*-steppe, in Rix & Phillips 'Perennials' Vol. 1., p. 170. . . . . (20+) **B**

A :	**$2.00** ;	**£1.50** ;	**€ 2. -**	**C :**	**$4.00** ;	**£2.50** ;	**€ 4. -**	**E :**	**$7.00** ;	**£4.50** ;	**€ 7. -**
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Eremurus : the giant asphodels of Central Asia

The giant asphodels, a magnificent genus of hardy plants spread from the Lebanon & Turkey through to the W Himalaya but centered on Central Asia, where they provided one of the highlights of our 2002 visit We have been able to supplement our own cultivated & wild seed with seeds from wild collections made by Janis Ruksans & Arnis Seisums grown in Latvia, where they thrive. They are not the easiest of perennials to manage in UK gardens. These are steppe-plants, adapted to a dry climate of extreme cold in winter, usually with snow-cover, and considerable heat in summer. While tolerant of very low temperatures when dormant their new growth is vulnerable if their noses emerge too early, so spring growth may need some protection both from late frosts and slugs. While best suited to gardens in the drier, more continental climates of central Europe or the Rocky Mountain states of the USA, they can be very successfully grown in a well-drained, sunny situation in the UK, especially in the drier east. Several species provide well-established displays at the RBG, Edinburgh, in Scotland. We grow them well for seed under polythene to keep off the Welsh rain but they are totally temperature-hardy. Their massive, fleshy, octopus-like roots need time to establish but most will flower in 3-4 years from seed.

443.809 : EREMURUS ALTAICUS * Kazakhstan. No further data. (A comparatively dwarf species with quite slender, erect stems about 1m, tall carrying racemes of pale yellow flowers with projecting yellow anthers carried on dark brown filaments. Fairly close to *E. spectabilis* & the most northern species, extending along the Chinese border to the Altai.) . . . . . (10+) **C**

444.029 : EREMURUS CRISTATUS * Kirghizstan, near Bishkek. (One of the dwarfest species in the genus. Seldom more than 60cm. tall with stubby spires. Each segment of the bell-shaped, chocolate-brown flowers has a broad white margin & the colourful, orange anthers are thrust out widely on long, dark filaments. Not a plant we have ever seen grown in the UK.) . . . . (10+) **C**

444.043 : EREMURUS FUSCUS * Uzbekistan, Kusalvli-sai. 2000m. (The 1m. high racemes of pale yellow flowers with projecting anthers turn brown as they mature. Close to *E. altaicus*, whose flowers do not turn brown & which occurs to the NE) (10+) **C**

444.060 : EREMURUS HIMALAICUS * No data. A truly magnificent NW Himalayan species with 2.5m. spires solidly packed with starry white flowers : it touches the roof of our 3m. high polytunnel, where we grow these. The earliest to flower in UK gardens, where it is usually one of the more reliable ones, as it appreciates more moisture than most when in growth. . . . . (10+) **C**

444.075 : EREMURUS LACTIFLORUS Kazakhstan, Karzhantau, SE of Chimkent, Burguluk. 1300m. Stable stone-runs on open slopes. (A beautiful species quite widespread in SE Kazakhstan & the adjacent Central Asian republics though local & restricted in its habitats. Rosettes of broad, blue-green leaves & stems about 1m. tall carry racemes of large, spaced-out, milk-white flowers opening widely from yellow buds & followed by large, inflated seed-capsules. Described as "extremely handsome" by Charles Grey, who records it as in cultivation in the UK in the 1930's but it seems to have been lost long ago.) . . . . . (10+) **E**

444.067 : EREMURUS OLGAE * No data. Distributed from W Iran into Afghanistan & Central Asia, this is perhaps our favourite species : the more so since we saw it in full flower in late June, 2002, growing by the thousand on the steppes of SE Uzbekistan. By far the latest to flower in cultivation also with 2m high, tapering, cylindrical racemes of soft-pink flowers, carried on long, dark, wiry pedicels in summer. Essentially a steppe-species, it does very well with us, protected from rain in our polytunnel but it less likely to tolerate excess moisture than many when dormant. Superlative when well-grown. . . . . (10+) **C**

444.080 : EREMURUS REGELII Uzbekistan, Tashkent, Chatkal range, SE of Parkent. 1000m. Open, stony slopes. (Narrow, 2m. high spires packed with mahogany-brown flowers, followed by distinctive wrinkled seed-capsules.) . . . . . (10+) **C**

444.083 : EREMURUS REGELII * Uzbekistan, Tashkent, Chimgan. (Cultivated seed from Janis Ruksans.) . . . . . (10+) **C**

444.085 : EREMURUS ROBUSTUS * No data. As imposing as the related *E. himalaicus* but much later flowering with racemes of soft-pink flowers towering to 2.5m. A local plant of rich, mesic, montane habitats in the wild, where it grows on damp slopes & even, in the Seravshan, along streams with roses & willows. Not surprisingly one of the best outside in the UK. . (10+) **C**

444.102 : EREMURUS SPECTABILIS * Turkey, Gumushane, Kop Dag. 1300m. Ex a N. Stephens coll. (Spires of green-white flowers with exserted orange-brown anthers. 1.5m. In spite of its name, not so spectacular as some but fascinating.) (10+) **C**

444.090 : EREMURUS SOGDIANUS Uzbekistan, Aktau, above Langar.1500m.. Open, stony slope. (Possibly this 1.5m tall species with airy racemes of white flowers carried on long pedicels, elongating further in fruit. Identification of our wild-collections is a little tentative : we are still getting to know this complex genus, where wild populations are sometimes hybrids.) . (10+) **D**

444.150 : EREMURUS STENOPHYLLUS (subsp. *stenophyllus*) (*E. bungei*) * No data. Cylindrical racemes of brilliant yellow flowers, about 1m. high. A showy species from N Iran through southern Central Asia to W Pakistan. The main influence on the hybrids grown for cutting & one of the easiest to grow in the UK, in spite of its dry, steppe habitats in nature. . . . . (10+) **B**

444.409 : EREMURUS ZENAIDAE * Uzbekistan, near Dzhalalabad. (Seed from Janis Ruksans of this local species, described by Vvedensky in Uzbekistan in 1952 but we have not been able to access the original description yet.) . . . . . (10+) **D**

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Eremurus : unidentified collections from Uzbekistan & Kazakhstan

17520 : EREMURUS SP. Uzbekistan, Tashkent, Chatkal range, NW of Angren, Mazardjan. Open, gravelly slopes . . . (10+) **D**

17554 : EREMURUS SP. Uzbekistan, Zhizakh, Nuratau, SW of Yangikishlak. Loose, slate stone-slide on open slope. . (10+) **D**

17645 : EREMURUS SP. Kazakhstan, Almatinskaya, ENE of Kordai. 1900m.. Among grasses on gentle slopes. . . . . (10+) **D**

SPECIAL 2003 COLLECTION OF EREMURUS SEEDS

Five packets of seed from five different species to include : *E. himalaicus, E. olgae, E. robustus* and *E. stenophyllus*

at a list price of at least £12.50 or $20 or €20,

For only £10 or $15 or €15

After almost two decades, we have strived to list seed at the best possible time for sowing in the northern hemisphere but have still to achieve this. Seed is not always received from other growers in time for us to include it in the most appropriate list. We really need to issue four lists each year (and indeed are reaching the stage where we have enough worthwhile material to do so) : January (for some alpine-plants, some herbaceous plants and E Asian species), March (for more herbaceous material and fresh southern hemisphere collections), July (for hellebores, cyclamen, Mediterranean and SW Asian 'bulbs') and October (for peonies, some lilies & most Central Asian and North American species). We are still running three months away from perfection. The following important seeds were received too late for inclusion in our last list. We could refrigerate them for inclusion in our summer 2003 list (and will do so with any surplus) but as this is the ideal time for sowing these in the southern hemisphere we give everyone the chance to acquire them now.

Fritillaria : some seldom offered species

490.509 : FRITILLARIA ALBURYANA * Turkey. Ex Leep & Pasche 72-47. (Hand-pollinated seed of the famous, intractable 'pink frit.' from stock established in Germany for the past 30 years. Big, lightly tesselated, pink cup-shaped flowers. Needs very cold winters to do well : truly dedicated UK growers overwinter their pots in the bottom of a refrigerator.) . . . . . (10+) **F**

491.809 : FRITILLARIA AUREA * No data. From an extremely fine dwarf, large-flowered formed originally from the skilled German grower, Josef Mayr. Big, broadly bloated, bright citron-yellow bells, with ghostly browner chequering. Usually opens almost at ground-level & the stem gradually elongates to about 15cm. in height. A Turkish endemic from the high mountains near Bolkar Dag NE into Sivas & Malatya. A plant of alpine-steppe, usually on limestone, between 1800 and 3000m.) . . (10) **F**

492.500 : FRITILLARIA CARICA subsp. SERPENTICOLA * Turkey, Antalya, above Altinyayla. 1750m. Stony, serpentine slopes. Ex E. Pasche & M. Koenen 85-23. (From a type-locality coll. of this rather difficult narrow serpentine-endemic, thought by some to deserve specific status. Little yellow conical bells on 10cm. stems with a few broad, glaucous leaves.) . . . . (10) **F**

492.850 : FRITILLARIA CHLORORHABDOTA * Iran, Kordestan, SW of Negel (between Sanandaj & Marivan). 1350m. *Quercus* scrub on shale. (Collected in 2000 under our field-number 16897, this has proved to be this elegant, very recently described species, allied to *F. assyriaca* & endemic to Iran. About 20cm. in height with striped yellow & brown flowers. It was attributed to "*F. canaliculata*" in the 1960's but stock introduced then is not still in general cultivation.) . . . . . (10+) **F**

500.000 : FRITILLARIA MINIMA * Turkey, Van, Artos Dag. 2000m. Steep limestone scree on open NE-facing slope. (From bulbs grown in Germany from our 1986 wild seed coll. Not impossible to cultivate but unsuited to our mild Welsh winters. We have given up on it & passed our stock to a good Scottish grower. Like other high-alpine, snow-melt species, it is also difficult to flower well. Dainty, yellow bells, the twin of the N American *F. pudica*. Native only to Artos Dag & the adjacent mountains.)(10) **F**

500.109 : FRITILLARIA MINUTA * Turkey, Van. 2900m. Ex Mertens & Pasche 85-126 (Charming, little brick-red species endemic to the Kurdish mountains. Easier to flower than sympatric *F. minima* but seldom sets seed in cultivation.) . (10+) **E**

502.450 : FRITILLARIA REUTERI * Iran, NW of Esfahan. (Extremely local in the Bakhtiari country of the central Zagros range but numerous in a few, seasonally moist, stony meadows at 2500-3000m. Wide mahogany bells, broadly bordered with yellow, not unlike *F. michailovskyi* but taller & more delicate, both in habit & constitution. Not easy & scarce in cultivation, though several growers have found it takes well to life outside in N Europe. It certainly prefers not being too dried-out in summer.) . (10) **F**

504.660 : FRITILLARIA WALUJEWII * No data. A handsome Central Asian species, little known in cultivation. Very large, very broad, shouldered bells, dimly chequered with maroon and greenish-grey, pendant on 20cm. stems, below whorls of narrow, attenuate leaves. According to Martyn Rix, this is locally distributed from the Pamir Alai, N through the E Tien Shan to the Dzungarian Ala Tau, often growing among *Juniperus* scrub in peaty soil over limestone. . . . . (10+) **F**

A :	**$2.00**	**;**	**£1.50**	**;**	**€ 2. -**	**C :**	**$4.00**	**;**	**£2.50**	**;**	**€ 4. -**	**E :**	**$7.00**	**;**	**£4.50**	**;**	**€ 7. -**
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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 successful with some. This seed is from Dinah Batterham who grows it well outside in Dorset, UK.) ..... (20+) **D**

519.201 : GENTIANA OLIVIERI Iran, Kordestan, SW of Negel (between Sanandaj & Marivan). 1350m. Openings among *Quercus* scrub on shale. (A beautiful, spring-flowering species with clustered heads of white-throated, sapphire-blue flowers on erect 20cm. stems from neat rosettes of strap-shaped leaves. Dormant in summer and needs bulb-frame treatment in the UK.) .. (50+) **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 & 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**

534.300 : GLAUCIUM FIMBRILLIGERUM Kazakhstan, Djambil, Karatau, WSW of Taras. 900m. Loose gravelly slopes. (A horned poppy from the Central Asian steppe. Branching 30cm. stems with a multitude of soft-yellow flowers.) .... (20+) **B**

Iris : bearded ones from the Middle East

583.400 : IRIS ALBERTII (Sect. *Iris*) Kazakhstan, Tien Shan, S of Almaty, Almatinska river valley. 850m. Very steep, stony slopes & rock-ledges. (A Kazakh endemic from the NE extremity of the distribution of this section. Branched, 50cm. stems with several lavender to purple, white-bearded flowers overtop the comparatively short, broad, grey-green leaves.) ..... (8) **D**

589.609 : IRIS IBERICA subsp. ELEGANTISSIMA (Sect. *Oncocyclus*) * Turkey, Erzurum, between Kirekli pass & Tortum. 2200m. Montane steppe. Ex KKPS 93-44 (Received too late for inclusion in our last list. Maybe the most spectacular of the dwarf Irano-Turanian steppe irises : huge flowers with upright creamy standards & vertical, concave falls, so densely veined & stippled with darkest maroon as to appear almost black. Enjoys cold winters & needs specialist *Oncocyclus* conditions.) ..... (5) **F**

590.100 : IRIS JUNONIA (Sect. *Iris*)* Turkey, Antalya, Gidengelmez Dag, S of Madenli. 1900m. 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**

597.800 : IRIS SINTENISII (subsp. *sintenisii*) (Ser. *Spuriae*) * Greece, above Konitsa. Balkan & NW Turkish species, about 30cm. high & an excellent garden-plant. Grassy leaves & rich violet-blue flowers, rather like large versions of *I. reticulata*. (10+) **B**

597.971 : IRIS SONGARICA (Ser. *Tenuifoliae*) Uzbekistan, Aktau, S of Langar. 800m. In steppe-vegetation on open slopes. (A characteristic species of the dry steppes of Central Asia but difficult to grow in the damp climate of NW Europe. Broad tusssocks of grassy leaves with many 60cm stems each bearing numerous grey-lavender flowers over a long period.) ..... (10+) **C**

599.610 : IRIS SUBBIFLORA (Sect. *Iris*) * No data. Bearded iris, about 30cm. high, from Portugal. Upright leaves and flowers in a silky, imperial violet. Said to be satisfactory outside in the UK but we give it a warm summer-rest under glass here. (8) **B**

599.806 : IRIS TAOCHIA from PURPLE FORM (Sect. *Iris*) * Turkey, Erzurum, N of Tortum. 1600m. Steep, open, stony slopes. (A choice, compact, local iris from igneous slopes in a small area NE of Erzurum. Prominent, broad foliage & branched stems reaching about 30cm. with flowers in dusky shades of both yellow & purple with yellow-haired beards. From a vigorous, floriferous form. Although seed is hand-pollinated, these clones grow together & may produce a range of colours.) ... (5) **D**

599.807 : IRIS TAOCHIA from YELLOW FORM (Sect. *Iris*) * Data as above. Large flowers in smoky, pale-yellow. . (8) **D**

599.905 : IRIS TIMOFEJEWII (Sect. *Iris*) * Russia, Dagestan. (A dwarf bearded iris, endemic to the Caspian republic of Dagestan & very little-known in cultivation. It needs some care in the UK but it appreciates quite a lot of water during and after flowering. About 10cm. high in flower with narrow, curved, pale-green foliage and red-purple flowers with white beards on long perianth-tubes. Our stock is that brought back in the 1960's by Eliot Hodgkin from the (then) Leningrad Botanic Garden.) .... (8) **E**

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. . (8) **B**

600.411 : IRIS UNGUICULARIS subsp. CARICA (var. *angustifolia*) (Ser. *Unguiculares*) * Greece, Fokida, Oros Parnassos above Gravia. 1000m. Open, stony slope. (Narrower leaved eastern race of the classic winter-flowering iris.. Deep violet.) . (10) **C**

604.050 : IXIOLIRION TATARICUM (subsp. *tataricum*) * No data. A striking member of the *Amaryllidaceae* native from S Turkey to Central Asia. Big rich violet-blue trumpets open on wiry, 30cm. stems. Needs a hot, dry site to flower well. ..... (8) **B**

605.002 : JANKAEA HELDREICHII Greece, Pieria, Oros Olimbos, north side. 1300-1400m. Limestone fissures in shady ravine. (The famous endemic of Mt. Olympus with rock-hugging, grey-velvet rosettes and crystalline lavender flowers. The greatest challenge & the most beautiful of European chasmophytes : it can be grown successfully from the dust-like seeds, as Harry Jans has demonstrated. See our comments under its close relative *Ramonda* for a few suggestions on seed-raising.) ..... (50+) **F**

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633.950 : LILIUM LEDEBOURII * Iran, Gilan, Talish. 1700-1900m. Openings in degraded *Fagus* forest. Ex an A. Ala coll. (A superlative & very local species, known from one site in the Caspian forest of Iran & one or two in neighbouring Azerbaijan. Now well-established & proving accommodating in several British gardens from Anne Ala's coll. in the 1970's. Stems about 1m. high with up to 15, white flowers, banded with yellow-green & lightly speckled with purple, with deep orange anthers.). (10+) **E**

634.020 : LILIUM MARTAGON var. DAUGAVENSE Latvia, Daugava river valley. (From an isolated population (or maybe a naturalized escape) in this Baltic republic, where it grows in part-shade on calcareous soils. Flowers varying from mid-purple-pink to very pale pink are always heavily spotted with deep purple. Reportedly an outstanding form of this 2m. high, widespread Euro-Siberian species with its heads of turkscap flowers above whorled, dark leaves, usually easily grown in the UK.) . . . (20+) **C**

634.040 : LILIUM MARTAGON * No data. From a wide range of forms in pale pink to maroon and white. . . . . (20+) **A**

634.401 : LILIUM POMPONIUM * France, Alpes-Maritimes, Montagne de Maurel, NE of La Mure. 1000m. Among scrub in steep-sided limestone gulley. (Perhaps the most restricted & local of the European lilies in the wild. Its purplish stems set with many, twisting, linear leaves rise only to about 50cm. and can carry up to 10 scarlet flowers. For a well-drained, sunny site.)(10+) **D**

634.810 : LILIUM PYRENAICUM * UK, Wales, below Ffostrasol. 200m. Mixed deciduous woodland on acid soil. (May or may not be native, though the distribution fits other Pyreneans, but certainly now wild. Dwarfer than populations we have seen in the Pyrenees, at about 60cm., with bright yellow, brown-spotted, turkscap flowers above close-packed, narrow leaves.) . (10+) **C**

635.220 : LILIUM SZOVITSIANUM * No data. UK grown seed. Usually one of the best garden-plants in the genus. Doubtfully consistently separable from *L. monadelphum* & others in this intergrading group of beautiful, fragrant, pale yellow Transcaucasian lilies, which are mainly distinguished by the dimensions & proportions of their flowers. All are beautiful. . . . . (10+) **C**

672.500 : MEGACARPAEA ORBICULATA Kazakhstan, Karzhantau, SE of Chimkent, Burguluk. 1100m. Among boulders in gorge. (The only member of this small genus in *Cruciferae*, which we have ever seen cultivated is the 2m. tall Himalayan *M. polyandra*. This reaches only about 70cm. but has a similar amazing display of round, flat, coin-like, single-seeded capsules with wide, papery wings. Otherwise, it is a deep-rooted more or less summer-dormant perennial rather like a *Crambe* &, if this collection is typical, frequents similar sites : stony areas near streams, where it is probably flooded after snow-melt.) . . . . . (5) **E**

713.410 : OMPHALODES LUCILIAE * No data. A most beautiful limestone chasmophyte, widespread very locally on high-alpine cliffs from Greece through Turkey to Iraq & Iran. Most, if not all, UK-cultivated material seems to belong to *O. l.* subsp. *scopulorum* from Greece & SW Anatolia, with its blue-grey foliage exquisitely offsetting the milky-blue flowers. . . (10+) **C**

Paeonia : wild seed from Ukraine, Georgia & Russia

Even if sown promptly, these may not show leaf-growth until spring, 2004. 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. Most species are very local in nature, occurring in isolated colonies. It can be a lot of trouble to arrange to collect seed from them. Our thanks to Will McLewin for his painstaking efforts to continue collaboration with the botanists in the republics of the former USSR, who have made several of these collections. It is not at all easy. Our efforts to establish parent stocks in cultivation from this wild-collected material will, we hope, ensure seed supplies in future years.

745.850 : PAEONIA ANOMALA * Russia, Siberia. (From a tall, 1m. high form, originally from a wild Siberian coll. of this fine, very hardy 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.) . . . . . (6) **C**

745.950 : PAEONIA BIEBERSTEINIANA (*P. tenuifolia* complex) Russia, Stavropol, Beketovaya. (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 others in this geographically disjunct complex in its greyish, hairy foliage. Like the Georgian populations, it seems to be a very local plant : collected in the type-locality.).. (6) **F**

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 a little protection in the UK. About 30cm. high with beautiful, smooth, grey-green foliage, crimson beneath, & big, rosy flowers, up to 10cm. across in spring. Our parent stock-plants are always a breathtaking sight when in flower. . . . . (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. . . . . (6) **F**

746.500 : PAEONIA DAURICA (*P. triternata*) (*P. mascula* complex) Ukraine, Krim (Crimea). (Near *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 'real thing'. The valid name is an unfortunate mispelling of "*P. taurica*".) . . (6) **D**

A : $2.00	**£1.50**	**€ 2. -**	**C : $4.00**	**£2.50**	**€ 4. -**	**E : $7.00**	**£4.50**	**€ 7. -**
B : $3.00	**£2.00**	**€ 3. -**	**D : $5.00**	**£3.50**	**€ 5. -**	**F : $9.00**	**£6.00**	**€ 9. -**

746.640 : PAEONIA LITHOPHILA (*P. tenuifolia* complex) Ukraine, Krim (Crimea). (The Crimean race, which probably covers 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**

746.750 : PAEONIA MASCULA (subsp. *mascula*) * No data. A widespread & variable species, occurring sporadically through southern Europe. Hairless foliage, cut into very few segments & magnificent large, rosy-red flowers. ..... (6) **C**

747.002 : PAEONIA MASCULA subsp. RUSSI * Italy, Sardinia. Ex J.Persson 92-1 (A beautiful subspecies. Distinctive, smooth, red-backed foliage, which is usually just expanding as the glorious pink, bowl-shaped flowers open. At 20-45cm. high, the dwarfest race of the *P. mascula* group. Like other Mediterranean island species, it needs a sheltered site outside in the UK.) ... (6) **E**

747.110 : PAEONIA MLOKOSEWITSCHII * No data. A restricted Georgian endemic & a "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. Open-pollinated English-grown seed. Such seed occasionally produces hybrids with red or pink-flowered species giving pink-flushed creams or apricot-tinged flowers . (6) **C**

747.111 : PAEONIA MLOKOSEWITSCHII * No data. Hand-pollinated, German-grown seed from Hermann Fuchs. .. (6) **D**

747.112 : PAEONIA MLOKOSEWITSCHII from SELECTED FORM * No data. From an outstanding, rich-yellow form with dark stems. Selected and hand-pollinated by Hermann Fuchs in Germany : likely to yield outstanding seedlings. ..... (6) **E**

747.150 : PAEONIA OFFICINALIS (subsp. *officinalis*) Croatia, Istria. We are told this is a very fine pink form of this variable South European species. We have tentatively placed this under the type race until we can see the foliage & flowers. .. (6) **D**

747.160 : PAEONIA OFFICINALIS (subsp. *officinalis*) * Italy, Trentino-Alto Adige, Monte Baldo. From a fine pink selection of this variable S European species, originally made in the wild. Seedlings will vary but should all be worthwhile. ..... (6) **D**

747.210 : PAEONIA OFFICINALIS subsp. BANATICA * No data. This eastern race, mainly from Romania but extending into E Hungary & E Serbia, is sufficiently distinct to be recognized at subspecific level in 'Flora Europaea', keyed out on the much less divided foliage. Deep red, bowl-shaped flowers hold the multitude of stamens with red filaments. ..... (6) **D**

747.720 : PAEONIA PEREGRINA from ROMANIAN FORM (*P. romanica*) * No data. We have not seen this form from the eastern end of the species distribution but it is unlikely to differ substantially from other races of this magnificent plant, which does not vary greatly over its wide range, from Italy through the Balkans. One of the most distinct & spectacular in the genus with large, glossy flowers in eye-burning scarlet over deeply cut, shiny, bright-green foliage. Usually trouble-free in UK gardens. . (6) **E**

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 know little of the variation of these Caucasian populations : Russian 'splitting' may be justified.) (6) **E**

747.852 : PAEONIA STEVENIANA (*P. wittmanniana* complex) From selected forms of a high altitude race with reddish stems & leaves coll. above 2000m. in the Caucasus of SE Georgia. We now have seedlings of all these but no flowers as yet . (6) **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 an 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**

754.210 : PARADISEA LUSITANICA * No data. From the wet, mountain meadows & marshes of N Portugal & W central Spain, this is a much more robust version of the graceful inhabitant of alpine meadows, *P. liliastrum*. Stout stems can exceed 1m. in height & carry denser racemes of up to 25 white, campanulate flowers. An open site in decent soil will suit it in the UK. .. (15+) **C**

758.001 : PELARGONIUM ENDLICHERIANUM * Turkey, Erzincan, E of Refahiye. 1500m. Igneous scree. (An extraordinary, disjunct relict stranded in Turkey, thousands of miles from its nearest relatives in Sect. *Jenkinsonia*, in the Cape. Local but widespread from Mugla in the SW to the Coruh valley on the Georgian border. Butterfly-like flowers with two large, upper petals are usually magenta. This is from a bright-pink form with crimson veins. Spectacular in the bulb-frame, creating a brilliant patch of colour from mid-summer. Absolutely temperature-hardy & possible outside in the UK in a very sunny, dry site.) ... (5) **C**

796.910 : PTILOSTEMON AFER (*Cirsium afrum*) * The quintessence of 'thistleness'. A 1m. tall biennial from the Balkan limestones with cobwebby white stems, deeply cut spiny leaves & well-armed capitula of purple flowers. ..... (15+) **A**

A :	**$2.00**	**£1.50**	**€ 2. -**	**C :**	**$4.00**	**£2.50**	**€ 4. -**	**E :**	**$7.00**	**£4.50**	**€ 7. -**
B :	**$3.00**	**£2.00**	**€ 3. -**	**D :**	**$5.00**	**£3.50**	**€ 5. -**	**F :**	**$9.00**	**£6.00**	**€ 9. -**

Pulsatilla : a profusion of pasque flowers

800.550 : PULSATILLA ALPINA subsp. APIIFOLIA * No data. The lovely, sulphur-yellow species of acid, peaty meadows in the Pyrenees & Alps. Finely cut foliage & large flowers open low down but by the time it is in seed, stems may be 60cm. or more. Takes time to establish & build up the long-lived clumps from seed. Be patient and leave it undisturbed. ..... (15+) **B**

800.710 : PULSATILLA HALLERI subsp. SLAVICA * No data. Basal leaves much woollier & less finely cut than *P. vulgaris*. The Carpathian race of this eastern species with its widely isolated populations. Pale to rich violet flowers. ..... (15+) **B**

800.800 : PULSATILLA HALLERI subsp. TAURICA Ukraine, Krim. (Wild seed of the Crimean race, which opens its, usually dark violet, flowers on very short, 5cm. stems. Foliage much more finely cut & even woollier than the type-race.) .. (15+) **C**

801.009 : PULSATILLA MONTANA * No data. A handsome thing opening bells of intense black-violet with a cone of golden anthers on 15cm. stems. Distributed in steppe & dry meadow habitats from SW Switzerland across SE Europe to E Romania, this is a characteristic species of the plant-rich meadows on the exposed limestone-karsts of Slovenia. ..... (15+) **C**

802.800 : PULSATILLA SUKACZEWII * (*P. tenuiloba* var. *sukaczewii*) No data. A 15cm. tall, hairy, E Siberian endemic, originally described from stony slopes in the Lake Baikal area. An eastern member of the widespread *P. albana* group with very finely cut foliage & drooping, creamy bells tinged with pale lilac externally. ..... (15+) **C**

802.050 :PULSATILLA VULGARIS from ENGLISH FORM * No data but from garden stock reputedly derived from the race established on the downs of SE England. Dwarf & distinct with rather small, deep purple flowers. ..... (15+) **C**

808.000 : RAMONDA MYCONI Spain, Catalunya, Sierra de Montserrat. 900m. Cracks in part-shaded, conglomerate rocks. P.& P.Watt coll. (A few seeds of the 'true' *R. myconi* from its isolated type-locality : a little different to the Pyrenean plants, which grow quite a distance away & were originally separated botanically as *R. pyrenaica*. A chance for the specialist.) .. (50+) **E**

808.020 : RAMONDA MYCONI * No data. From several forms of the beautiful Pyrenean 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 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.) . (100+) **D**

820.450 : RHEUM MAXIMOWICZII Uzbekistan, Tashkent, Chatkal range, NW of Angren, Mazardjan. Open, gravelly slopes. (A handsome Central Asian rhubarb with hairy, red-tinged foliage, a little like a larger version of *R. ribes*. These species are plants of dry, stony slopes and go dormant in late summer : try them in a well-drained site in full sun in the UK.) ..... (6) **C**

820.501 : RHEUM RIBES Iran, Kordestan, WNW of Sanandaj. 2100m. Loose talus on steep slopes. (A splendid summer-dormant rhubarb. Illustrated in flower in Rix & Phillips 'Perennials' but it is really at its best when the bristly, reddish foliage unfolds in spring or when the erect, branched 50cm. stems are set with shiny, scarlet seeds.) ..... (6) **C**

923.310 : SOLDANELLA VILLOSA * No data. A rare plant in the wild, confined to a few sites in the W Pyrenees, but the easiest of the genus to grow well. Mats of rounded, evergreen leaves with little, deep violet, pendant, fringed lampshade-flowers on 20cm. stems, covered in dense, red velvet, as they unfurl. A plant of damp, shady places : loves our moist woodland. ..... (50+) **C**

950.603 : THALICTRUM ORIENTALE * Greece, Messinia, near Kardamili. 20-50m. Dense shade in leafsoil. (The small, very restricted population of this dainty, 30cm. high shade-lover with delicately cut foliage in the S Peloponnese is far removed from the better-known S Turkish plants & is always white-flowered. This & the next are the only two species in Europe with showy, petaloid perianth-segments, like some of the SE Asian ones. Both are summer-dormant perennials.) ..... (10+) **D**

950.700 : THALICTRUM TUBEROSUM * Spain, Huesca, W of Anzanigo. 600m. Steep, stony, limestone banks (This coll. has proved to be taller & more spectacular than other examples of this Pyrenean endemic we have seen. Planted out under glass here, it is about 40cm. high with airy panicles of big, ivory flowers over a very long period. Ideal for the bulb-frame.) ... (10+) **D**

979.040 : VERATRUM ALBUM * No data. This magnificent & variable species ranges from western Europe to Siberia in moist, montane grassland. It grows extremely slowly but seems immortal, forming great clumps of striking, pleated leaves, the most distinct & arresting foliage in the garden, above which the flower-spikes of green-white stars rise to around 2m. ... (20+) **C**

979.060 : VERATRUM ALBUM * Spain, eastern Pyrenees. (From the most imposing Pyrenean race (var. *parviflorum*) with 2m. to 2.5m. high branching spires massed with a multitude of small, starry, yellow-green flowers.) ..... (20+) **C**

979.250 : VERATRUM NIGRUM * No data. "One of the rarest & most striking of garden plants" comments Graham Stuart Thomas. Just as spectacular & desirable as *V. album*, with equally fine, pleated foliage but the starry flowers are maroon-black. Distributed from central & SE Europe into Russia. These both need a moist, rich soil & perhaps a little shade to prevent scorch. (20+) **C**

A :	**$2.00** ;	**£1.50** ;	**€ 2. -**	**C :**	**$4.00** ;	**£2.50** ;	**€ 4. -**	**E :**	**$7.00** ;	**£4.50** ;	**€ 7. -**
B :	**$3.00** ;	**£2.00** ;	**€ 3. -**	**D :**	**$5.00** ;	**£3.50** ;	**€ 5. -**	**F :**	**$9.00** ;	**£6.00** ;	**€ 9. -**

Much of the following seed is from cultivated (*) material raised from wild seed-collections. Some of our own 2001 wild-collected seed is included : this has been stored appropriately and should give satisfactory germination. We have some fine 2002 collections by others, notably John Andrews, Greg Greger and Mike & Polly Stone. We have held back a few high temperature germinating N American species for our next list. We must draw attention to the publication of Jane McGary's excellent 'Bulbs of North America' by Timber Press & the North American Rock Garden Society during 2001 :

Bulbs of North America : Allium to Zigadenus

This book fills a great need & is an indispensible reference companion to the North American sections of our lists. With a range of fourteen contributors, it is not surprising that the quality and value of their contributions are a little uneven. Some contributors have great knowledge of the plants either botanically or in the wild but appear to have little or no experience of them in cultivation ; others, growers of proven excellence, appear to be somewhat lacking in much 'in-depth' knowledge of their subjects in their natural habitats. There is also inevitably a certain amount of the usual 'received wisdom' culled from standard sources. All in all, however, this is a book that no bulb-enthusiast can be without and one which will be almost certain to remain by far the finest work of reference on its subject for a very long time indeed.

1.005.004 : ACHLYS CALIFORNICA Cal., Humboldt Co., N of Weitchpec. 950m. Edge of coniferous forest. (We have never seen this genus in *Berberidaceae* grown in the UK. A rhizomatous, herbaceous perennial about 40cm. high. Dense spikes of flowers composed only of creamy stamens & large pale-green leaves, each with 3 fan-shaped leaflets, on long, 25cm.) ..... (8) **C**

1.011.010 : ACTAEA ALBA (*A. pachypoda*) * No data. From eastern woodlands : surely the finest of fruiting herbaceous plants. Small, fluffy racemes of white flowers, followed,, by striking white, 'doll's eye' fruits on thickened red pedicels.) .. (10+) **B**

1.011.151 : ACTAEA RUBRA subsp. ARGUTA Cal., Plumas Co., Homer Lake. 1980m. (The western race of this N American perennial. Stubby white racemes followed by shiny, deep red berries. A plant of deep, moist soils in woodland.) ... (15+) **B**

1.011.190 : ACTAEA RUBRA f. NEGLECTA * Distinct white-fruited form, quite different to *A. alba* ..... (15+) **B**

1.025.200 : AGASTACHE URTICIFOLIA Cal., Plumas Co., Homer Lake. 1830m. Moist, N-facing slope. G. Greger coll. (An erect, woodland perennial with whorls of sessile, rose-purple flowers on stems about 1m. high clad in lanceolate leaves.) . (50+) **B**

Allium : striking, dwarf western onions

1.031.210 : ALLIUM GOODDINGII * No data. "A lovely plant" : a rhizomatous, moisture-loving native of a few sites in Arizona & New Mexico with glaucous-grey foliage and 50cm. stems carrying umbels of glossy deep purple or pink flowers. . (15+) **C**

1.032.251 : ALLIUM OBTUSUM var. CONSPICUUM Cal., Plumas Co., Keddie Ridge. 1460m. SW-facing slope. G. Greger coll. (A very choice, very local plant from the granitic grits of the northern Sierra Nevada. Dense heads of up to 60, pale pink flowers with purple midveins on stems of 15cm. or less above 1 or 2 channelled leaves, lying flat on the ground..) . (15+) **C**

1.032.500 : ALLIUM PENINSULARE * No data. Widespread, lower altitude Coast Range plant from a Wayne Roderick coll. Good heads of rich red-purple flowers on stems of about 30cm. Quite easy in a bulb-frame in the UK. ..... (15+) **B**

1.030.601 : ALLIUM CRISPUM * Cal., Monterey Co. Ex a J. & G. Robinett coll. (Large, dense umbels of deepest pink to maroon flowers with flaring segments, the three inner ones with crisped,white edges, on 10-15 cm. stems. Endemic to heavy serpentine-derived soils in the central coast-ranges : "one of the most striking" according to Jim Robinett.) ..... (15+) **C**

1.032.601 : ALLIUM PLATYCAULE * Cal., Modoc Co., Warner Mts., Cedar Pass. 1600m. Steep, loose, gravelly slopes. ("The most beautiful California species" according to Jim Robinett. Dense, round umbels of deep rose flowers with much-exserted, dark anthers appear on short flat stems between two thick, glaucous, falcate leaves. A spectacular, cold-climate, 'tumble- weed' species, resembling the SW Asian Sect. *Acanthoprason*, flowering very early, just after the snow has melted.) ..... (15+) **C**

1.032.602 : ALLIUM PLATYCAULE Cal., Plumas Co., Greenville Saddle road. 1460m. W-facing slope. ..... (15+) **C**

1.033.004 : ALLIUM SISKIYOUENSE * Oregon, Jackson Co., Siskiyou Mts. 1220m. Vernally wet, rocky serpentine slopes. (Umbels of bright rose-pink pink flowers sit, almost stemless, between two flat falcate leaves. A desirable local endemic of the ranges along the California-state line, close to *A. falcifolium* but narrower leaved & somewhat larger.) ..... (15+) **D**

1.033.603 : ALLIUM VALIDUM Cal., Plumas Co., W of Canyon Dam. 1370m. G. Greger coll. (A big wet-grower, up to 75cm. or more high, with dense, pale-pink umbels in summer. Should be no trouble outside in the UK.) ..... (15+) **B**

1.048.210 : AMSONIA TABERNAEMONTANA var. SALICIFOLIA * No data. Widespread but local in woodland of SE North America, E to Kansas & S into Texas & Georgia. Cymes of starry, pale-blue flowers with darker blue tubes. 1m. ... (10+) **B**

A : $2.00 ; £1.50 ; € 2. -	**C : $4.00 ; £2.50 ; € 4. -**	**E : $7.00 ; £4.50 ; € 7. -**
B : $3.00 ; £2.00 ; € 3. -	**D : $5.00 ; £3.50 ; € 5. -**	**F : $9.00 ; £6.00 ; € 9. -**

1.060.000 : AQUILEGIA BARNEBYI * Colorado, Rio Blanco Co., above Piceance Creek NW of Rio Blanco. 1980m. Steep-sided gulley in loose fragmented shale. (Endemic to the oil-shale barrens of the Uinta Basin & discovered by Ripley & Barneby in 1948. Glaucous leaves & sticky, 30cm. stems of pink & cream flowers. Surprisingly easy to grow under glass with us.) . (20+) **D**

1.060.120 : AQUILEGIA CANADENSIS from DWARF FORM * No data. A delightful, little, compact, 20cm. version of the elegant scarlet & yellow eastern version of *A. formosa*. Easily grown in a moist, gritty soil in part-shade. ..... (30+) **B**

1.060.310 : AQUILEGIA CHRYSANTHA * No data but the true species from Mike & Polly Stone. From moist sites in the mountains of the southern states, mainly New Mexico & Arizona, into N Mexico. Tufted clumps of dissected, glaucous foliage & stems of about 50cm. with several long-spurred flowers with spreading sepals, wholly in clear golden-yellow. ... (20+) **B**

1.060.819 : AQUILEGIA FORMOSA Cal., Plumas Co., Eisenhimer Ridge. 2130m. G. Greger coll. (The most widespread western columbine. A plant of moist habitats with many nodding, spurred scarlet flowers dancing on branched 60cm. stems.) (20+) **B**

1.061.350 : AQUILEGIA aff. MICRANTHA * Colorado, Montrose Co., Dolores River Canyon NW of Uravan. 1700m. Sandstone detritus on steep, shaded slope. (From a beautiful colony we found in 1989. Perhaps the result of hybridization between *A. micrantha* and *A. elegantula*. Soft, creamy yellows with long spurs tinged with apricot on 30-50cm. glandular stems)(20+) **C**

1.061.800 : AQUILEGIA SCOPULORUM Utah, Garfield Co., above Butch Cassidy Draw. 2600m. Loose limestone talus on steep slopes. (Exquisite bluish foliage and flowers with very long spurs, wholly in a deep gentian-blue. A taller form , 20-30cm. here, easier to grow & more suitable for a sunny site in a raised bed or the rock-garden than the next two tiny variants.) . (15+) **D**

1.061.850 : AQUILEGIA SCOPULORUM Nevada, White Pine Co., Snake Range. 3440m. Exposed limestone talus up to the summits. J. Andrews coll. (The much-reduced forms which delight the alpine-plant enthusiast occur near the summits of a few of the highest limestones of the Great Basin. One we grew many years ago from a Carl Worth coll. remained compact in cultivation with imbricate, blue-grey foliage. Extremely long-spurred flowers, entirely in rich-blue, on stems of only a few cm..) (10+) **E**

1.061.851 : AQUILEGIA SCOPULORUM Nevada, White Pine Co., Mt. Moriah Table. 3475m. Limestone. ..... (10+) **E**

1.068.000 : ARCTOMECON CALIFORNICA Nevada, Clark Co., SE of Valley of Fire. 500m. Exposed ridgetops on eroded clay & gravel hills. (An extraordinary Nevadan poppy enthused over by Dwight Ripley in 1942 : "bluish leaves, clothed in long pale hairs" and 25cm. "smooth stems, almost leafless, each branching into a corymb of fabulous gold poppies." Strictly for the sunniest, best ventilated alpine-house in cold, wet climates : may be ungrowable but worth every effort.) ..... (20+) **D**

1.069.000 : ARCTOSTAPHYLOS NEVADENSIS Cal., Plumas Co., NW of Greenville. 1830m. G. Greger coll. (A mat-forming shrub in this diverse ericaceous genus, the manzanitas. Glossy bright-green leaves & racemes of white flowers.) ... (20+) **B**

1.075.301 : ARGEMONE MUNITA subsp. ARGENTEA Cal., Inyo Co., White Mts. 2000m. Stony, gravelly banks. (A Prickly Poppy best sown direct in a hot, dry site. Masses of diaphanous, white *Romneya*-flowers. 60cm.) ..... (20+) **A**

1.076.710 : ARISAEMA TRIPHYLLUM subsp. STEWARDSONII * Canada. No further data. One of two species in this largely E Asian genus, which grow in eastern North America & one of the hardiest & most satisfactory in European gardens. Light green, tripartite leaves and green spathes, striped with purple in the throat, above the strongly fluted spathe tube. ..... (10+) **C**

1.084.201 : ASARUM HARTWEGII Cal., Plumas Co., E of Greenville, along Lights Creek. 1280m. G. Greger coll. (A weird, shade-loving member of the *Aristolochiaceae*, forming low clumps from a deep rhizome. Cordate leaves, marbled with white along the veins, below which lurk the flowers surrounded by large, brown-purple calyces with 3 long-attenuate lobes.). .. (15+) **C**

1.102.100 : ASTRAGALUS COCCINEUS (Sect. *Argophylli*) Cal., Inyo Co., White Mts., Toll House Springs. 1980m. Loose, stony, clay slope. (An incredible species, unsurpassed in the brilliance of its elongated, glowing scarlet flowers against the low tufts of woolly white foliage. Amazing, horned, white-velvet pods. It has been grown, flowered and exhibited in the UK.) . (10+) **D**

1.105.750 : ASTRAGALUS MEGACARPUS Utah, Garfield Co., Red Canyon. 2600m. Limestone. M.& P.Stone coll. (One of the most striking & distinct species. Clumps of leafy, 5cm. high stems carry ascending pinkish purple flowers followed by incredible, inflated, mottled bladdery pods, declined on the ground around the base.) ..... (10+) **C**

1.108.650 : ASTRAGALUS PURSHII var. TINCTUS (Sect. *Argophylli*) Cal., Kern Co., E of Mt. Pinos. 2530m. Open granite-gravel slope. (The Western race with clustered, vivid purple-pink flowers on mats of downy, grey, dissected leaves, followed by the marvellous pods, densely clothed in white wool, characteristic of this outstanding section of the genus.) ..... (10+) **C**

1.106.700 : ASTRAGALUS MUSINIENSIS (Sect. *Argophylli*) Utah, Emery Co., E of Moore. 2100m. Heavy, stony clay on eroded shale hills. (Tiny tufts of grey, trifoliate leaves produce racemes of pink and purple flowers on short, 3cm., stems, followed by the exquisite, inflated, papery, pink-velvet pods. A most distinct endemic of the Canyonlands area of central Utah.) (10+) **D**

1.115.450 : BALSAMORRHIZA MACROLEPIS var. PLATYLEPIS Cal., Plumas Co., Lone Rock Valley. 1680m. G. Greger coll. (Imposing yellow daisies on 60cm. stems from stout, fleshy, long-lived perennial rootstocks. The leaves, pinnately divided into lobes, are grey with fine hairs in this race from the drier slopes of NE California & adjacent Nevada.) ..... (15+) **C**

1.130.150 : BLOOMERIA CROCEA var. AUREA Cal., San Luis Obispo Co. 170m. Among grass on heavy clay slope. (The central Coast Range race of this seldom-seen *Brodiaea*-relative. Umbels of delicate, golden stars on 30cm. stems..) . (20+) **B**

A : $2.00 ; £1.50 ; € 2.-	**C : $4.00 ; £2.50 ; € 4.-**	**E : $7.00 ; £4.50 ; € 7.-**
B : $3.00 ; £2.00 ; € 3.-	**D : $5.00 ; £3.50 ; € 5.-**	**F : $9.00 ; £6.00 ; € 9.-**

Calochortus : a diversity of cats' ears & mariposas

The scope and diversity of this amazing genus is still little appreciated by the skilled growers of Eurasian bulbs, who have developed in recent decades. Frank Callahan's contribution on these in 'Bulbs of North America' will long remain unchallenged as the most authoritative account of the genus for gardeners. The following listing covers most of the more northern species. We now grow an extensive range from wild-collected seed. Species from the cold, dry climates of the Great Basin and further east are proving the most difficult to maintain. We suspect these may be best left unwatered until mid-winter. The western species need watering earlier, along with most Mediterranean bulbs. We are convinced that most need little further water after the first flowers open. The quality of the dormant bulbs will be much better.

1.150.001 : CALOCHORTUS ALBUS * Cal., Tuolumne Co., NE of Columbia, Italian Bar. 750m. Steep scrub-covered slopes. (The Sierran foothill race of this Fairy Lantern with pendant, globular, pearly-white flowers on 20cm. stems.) . . . . . (20+) **B**

1.150.002 : CALOCHORTUS ALBUS * Cal., San Luis Obispo Co., W of Paso Robles. 550m. Steep banks in deciduous woodland. (Very variable here from ruby to opalescent pinks and whites. This population grades into the York Mt. reds.) . . . . (20+) **B**

1.150.006 : CALOCHORTUS ALBUS Cal., Butte Co., Jarbo Gap. 550m. SW-facing slope. G. Greger coll. . . . . (20+) **B**

1.150.100 : CALOCHORTUS ALBUS var. RUBELLUS * Cal., San Luis Obispo Co., W of Templeton. 400m. Steep, shaded banks. (From a famous population with translucent, ruby-pink lanterns. Awarded a PC in the UK in 1995.) . . . . . (20+) **C**

1.150.501 : CALOCHORTUS AMABILIS * Cal., Lake Co., Walker Ridge. 600m. Among scrub on serpentine slope. (Branching, 20-30cm. stems with nodding flowers in clear, deep yellow with widespreading outer and incurved inner segments.) (20+) **B**

1.151.000 : CALOCHORTUS AMOENUS * Cal., Tulare Co., NE of Springville. 1100m. Among scrub on granite slopes. (Like the preceding, in Subsect. *Pulchelli* but with purple-rose nodding flowers. Limited to the W foothills of Sierras.) . . . (20+) **B**

1.151.500 : CALOCHORTUS ARGILLOSUS * Cal., San Luis Obispo Co., NE of San Luis Obispo. 180m. Among grasses in heavy clay on open slope. (The Reservoir Canyon population originally listed under "*C. simulans*". Extremely 'growable', setting seed well. A rather dwarf, white Mariposa, more or less flushed lilac, with variable dark basal stains & markings.) (20+) **C**

1.152.000 : CALOCHORTUS AUREUS * Arizona, Coconino Co., WSW of Kayenta. 1980m. Among *Artemisia*. (Southern race of *C. nuttallii*, from N Arizona & NW New Mexico. Rich soft-yellow 'tulips' with maroon-purple crescents.) . . . . . (20+) **D**

1.153.000 : CALOCHORTUS BRUNEAUNIS Cal., Inyo Co., White Mts., Westgard Pass. 2230m. Openings among *Artemisia*. (Near the more eastern *C. nuttallii* but distinct in its green-striped segments. Pure white with clean purple spots.) . (20+) **C**

1.154.001 : CALOCHORTUS CATALINAE Cal., Ventura Co., below Triunfo Pass. 625m. J. Andrews coll. (Erect, white flowers edged with lavender & with dark basal blotches. Becoming rare in the wild but fortunately, not too difficult to grow.)(20+) **C**

1.155.003 : CALOCHORTUS CLAVATUS (subsp. *clavatus*) * Cal., San Luis Obispo Co., La Cuesta Ridge. 665m. (A big Mariposa, local on coastal serpentines. Huge yellow bowls, red-brown lined & hairy inside on zig-zag 30cm. stems.) (20+) **C**

1.156.002 : CALOCHORTUS CONCOLOR Cal., Riverside Co.2300m. Sandy soil in chaparral. J. Andrews coll. (The Goldenbowl Mariposa from the far south. Huge, bright-yellow 'tulips' marked inside with dark red, up to 7 on 20-40cm. stems.) . (15+) **C**

1.155.509 : CALOCHORTUS COERULEUS Cal., Plumas Co., W of Quincy. 1370m. W-facing slope. G. Greger coll. (A beautiful, tiny species from cold inland areas of N California : a few cm. high, with hairy, pale lilac-blue flowers. Misunderstood by Ownbey, it was also very poorly treated by Ness in ' Jepson'. It seems allied to the pale-seeded taxa of the Coast Ranges (some assigned to *C. elegans*) and the distant, isolated *C. westonii*. For careful cultivation, kept cool in summer.) . . . . . (20+) **D**

1.157.000 : CALOCHORTUS DUNNII Cal., San Diego Co., Inspiration Point. 1430m. Open slopes. J. Andrews coll. (Local endemic of gabbro-clays here & in Mexico. A little white, red-brown-marked Mariposa for the skilled specialist.) . . (15+) **F**

1.158.000 : CALOCHORTUS EURYCARPUS * Idaho, Butte Co., W of Craters of the Moon. 1520m. Stony ridge. (Wiry, 30-50cm. stems carry elegant, bowl-shaped flowers in white or lilac-pink, blotched with maroon and striped with green.) . . . . (20+) **B**

1.158.500 : CALOCHORTUS EXCAVATUS * Cal., Inyo Co., Owens Valley S of Bishop. 1350m. Among scrub in clay. (In Subsect. *Nuttaliani* with up to six, widely bell-shaped flowers in pale lavender to white, dark purple at the base.) . . (20+) **D**

1.159.000 : CALOCHORTUS FLEXUOSUS Cal., Inyo Co., Amargosa Range, Daylight Pass. 1315m. Along dry gullies. (Sinuous stems twist and spiral. Up to 6 erect, white, lilac-tinged flowers, purple-spotted & yellow-banded inside.) . . . . . (20+) **D**

1.163.001 : CALOCHORTUS HOWELLII * Oregon, Josephine Co., Eight Dollar Mt. SW of Selma. 500m. Among *Arctostaphylos*. (Beautiful, erect, white flowers, covered with hairs and darkening centrally to smokey brown. 30-50cm tall) . . . . . (15+) **D**

A : $2.00	**; £1.50**	**; € 2. -**	**C : $4.00**	**; £2.50**	**; € 4. -**	**E : $7.00**	**; £4.50**	**; € 7. -**
B : $3.00	**; £2.00**	**; € 3. -**	**D : $5.00**	**; £3.50**	**; € 5. -**	**F : $9.00**	**; £6.00**	**; € 9. -**

1.163.500 : CALOCHORTUS INVENUSTUS Cal., Ventura Co., Mt. Pinos. 2680m. Alpine steppe, in granite grit. (Only 15cm. high here, with 1-2, erect, lavender flowers, basally stained deep purple. A montane species in Subsect. *Nuttaliani*.) (20+) **B**

1.164.000 : CALOCHORTUS KENNEDYI Cal., Inyo Co., SW of Gilbert Summit. 1620m. Open stony slope with sparse *Artemisia*. (Incomparable & quite unrivalled in the brilliance of its colour : here tending to luminous orange. In California, a plant of high, cold steppe. Intolerant of superfluous water at any time but several of us have flowered it from seed in the UK.) . (20+) **B**

1.164.200 : CALOCHORTUS KENNEDYI var. MUNZII Cal., Inyo Co., Panamint Range. 2130m. Gravelly soil. (The high altitude race from over 1850m. in the Clark, Providence & Panamint Mts. : intense yellow with black-purple basal markings.) (20+) **D**

1.164.506 : CALOCHORTUS LEICHTLINII Cal., Plumas Co., N of Greenville. 1100m. G. Greger coll. (A cold-climate mariposa from the high Sierra Nevada. Maroon-blotched white flowers, sometimes tinged pink or smoky-blue.) . . . . . (20+) **C**

1.166.000 : CALOCHORTUS LUTEUS * Cal., Lake Co., N of Clear Lake. 410m. Among grasses on open slope. (Clear yellow, tinged green basally and with extremely variable brown internal markings. One of the most easily grown Mariposas.) (20+) **B**

1.166.005 : CALOCHORTUS LUTEUS Cal., San Luis Obispo Co., Arroyo de los Chinos. 10m. J. Andrews coll. (A very dwarf, floriferous form of this splendid yellow Mariposa, from the exposed Californian coast, windswept by Pacific gales.) (20+) **D**

1.166.100 : CALOCHORTUS LUTEUS X SUPERBUS * Cal., Lake Co., Walker Ridge. 600m. Open grassy area, in heavy clay. (Some fine ivories, creams and soft yellows to deep yellow, very variably marked inside.) . . . . . (20+) **B**

1.167.005 : CALOCHORTUS MACROCARPUS Canada, British Columbia, N Okanagan Valley. 625m. C. Bailey coll. (In a section on its own. About 50cm. high with large, elegant, purple flowers with median green stripes on the segments.) (20+) **C**

1.168.000 : CALOCHORTUS MONOPHYLLUS * Cal., Tuolumne Co. 750m. N-facing clay bank. (The only yellow in Subsect. *Eleganti*. A plant of coniferous woods in the N Sierra Nevada & S Cascades. A little 'sweetie', a few cm. high.) . . . . (15+) **D**

1.169.503 : CALOCHORTUS NUDUS * Cal., Trinity Co., W of Mt. Eddy. 2080m. Wet mountain-meadow. Ex a J. Andrews coll. (A 15cm. high alpine species with soft, blue-purple flowers. Fits in well with the others under glass here.) . . . . . (15+) **D**

1.170.500 : CALOCHORTUS OBISPOENSIS * Cal., San Luis Obispo Co., NE of San Luis Obispo. 150m. Fissures on loose, serpentine cliffs. (In Sect. *Cyclobothra*, Subsect. *Weediani* but unlike anything else in the genus. Many small flowers on stiff, branching, 30cm. stems : hairy tufted, purple-tipped yellow segments, like a piece of miniature, feather millinery.) (15+) **D**

1.171.000 : CALOCHORTUS PALMERI * Cal., Los Angeles Co., San Gabriel Mts., Bandido Camp. 1770m. Open slopes with *Artemisia* & sparse *Pinus*. (A dainty Mariposa from the ranges E of Los Angeles. Pink with occasional whites.) . . . (15+) **D**

1.171.101 : CALOCHORTUS PALMERI var. MUNZII Cal., Riverside Co. 1300m. Sandy clay in open woodland. J. Andrews coll. (Lacks the stem-bulbils of the type. Little-known and very local with bright lavender-pink flowers.) . . . . . (15+) **E**

1.171.500 : CALOCHORTUS PANAMINTENSIS Cal., Inyo Co., Panamint Mts. 2300m. Openings among *Pinus* & *Juniperus*. (An isolated endemic in Subsect. *Nuttaliani*, stranded on the top of this desert range. Immaculate, white flowers.) . (15+) **E**

1.171.510 : CALOCHORTUS aff. PANAMINTENSIS Cal., Kern Co., W of Walker Pass. 1650m. Open stony areas among *Artemisia*. (Unspotted, white, green-striped flowers key-out as *C. panamintensis* but a few are flushed rose.) . . . . . (15+) **E**

1.173.200 : CALOCHORTUS PERSISTENS * Cal., Siskiyou Co., W of Yreka. 1750m. Loose serpentine talus. (A few cultivated seeds from our 1992 coll. of this remarkable species, unlike any other : tulip-like in its big, broad, fleshy, basal leaf & two large, bowl-shaped flowers on a 10cm. stem. Bright-pink with yellow hairs. A superb plant for the alpine-bulb specialist.) . (10) **F**

1.173.501 : CALOCHORTUS PLUMMERAE Cal., Ventura Co., Triunfo Pass. 680m. J. Andrews coll. (Superlative, large, late-flowerer in Subsect. *Weediani*. Great lavender-pink bowls, densely golden hairy inside, on branching 60cm. stems.) (20+) **C**

1.174.500 : CALOCHORTUS PULCHELLUS * Cal., Contra Costa Co., Mt. Diablo NE of Danville. 520m. Steep, wooded slopes. (A charming, 20cm., bright lemon-yellow Fairy Lantern, only known from Mt. Diablo. Distinct from *C. amabilis* in its greener leaves and larger, spherical flowers but just as easy to grow in the bulb-frame or alpine-house in the UK.) . . . . . (15+) **C**

1.175.800 : CALOCHORTUS SIMULANS Cal., San Luis Obispo Co., La Panza Summit. 600m. J. Andrews coll. (The true plant. Confused by us with *C. argillosus* (both described by Hoover in 1944) ,which grows on heavy clays. This inhabits granitic, sands. Flowers are superficially similar to *C. catalinae* with dark nectaries but can vary to pale yellow edged with rose.) . (15+) **D**

1.176.000 : CALOCHORTUS SPLENDENS * Cal., Ventura Co., Lockwood Valley. Openings among *Artemisia* in sandy clay. (Beautiful Mariposa, easily grown in our experience. Soft lavender with white, wispy hairs and dark anthers.) . . . (20+) **B**

1.176.001 : CALOCHORTUS SPLENDENS * Cal., Lake Co., Walker Ridge. 600m. Openings in scrub over serpentine. (From near the northern limit for this species, in a form marked basally with deep purple. 30-50cm. high.) . . . . . (20+) **B**

1.176.500 : CALOCHORTUS STRIATUS Cal., Los Angeles Co., N of Lancaster. 760m. Open sites among alkaline desert scrub. (A distinct Mariposa endemic to a few alkaline seeps in the Mojave. Many, pale-lavender flowers veined with maroon-purple, just like the petals of *Geranium* 'Ballerina'. Probably difficult but growing on here slowly but well so far.) . . . . . (20+) **D**

A :	**$2.00**	**;**	**£1.50**	**;**	**€ 2.-**	**C :**	**$4.00**	**;**	**£2.50**	**;**	**€ 4.-**	**E :**	**$7.00**	**;**	**£4.50**	**;**	**€ 7.-**
B :	**$3.00**	**;**	**£2.00**	**;**	**€ 3.-**	**D :**	**$5.00**	**;**	**£3.50**	**;**	**€ 5.-**	**F :**	**$9.00**	**;**	**£6.00**	**;**	**€ 9.-**

1.177.007 : CALOCHORTUS SUPERBUS Cal., Butte Co., Jarbo Gap. 550m. G. Greger coll.(A classic Mariposa, distinct from *C. venustus* in its linear, inverted V-shaped gland. Usually white with purple-brown blotches & basal markings but the ground colour can vary to pinks, lilacs, lavenders and purples. Easy to grow with us and sets seed well.) . . . . . (20+) **B**

1.177.500 : CALOCHORTUS SYNTROPHUS * Cal., Shasta Co., N of Montgomery Creek. 580m. Among sparse *Quercus* on open clay slope. (A small, isolated population given status as a species by Frank Callahan in 1993. The superficial impression to us was of a splendid version of *C. leichtlinii*. Seeds are different to both this & *C. superbus*. Whatever its ancient affinities, it seems distinct with large, solid-white flowers, yellow & hairy at the base & with neat chestnut-brown blotches. 60cm.) . . (10+) **F**

1.177.800 : CALOCHORTUS TIBURONENSIS * Cal., Marin Co., Tiburon , Ring Mt. 140m. Rocky serpentine hillside. Ex a J. Andrews coll. (Unlike any other, this extraordinary species is known only from this single urban, locality above San Fransico Bay. Currently placed in Subsect. *Weediani* but with features of Sect. *Calochortus*, it should really be in a section on its own. About 20cm. tall with up to 8, erect bells, extremely hairy inside & with ciliate margins to the pale greenish yellow segments, densely peppered with purplish brown. It will not appreciate very low winter or very high summer temperatures.) . . . . . (20+) **E**

1.178.002 : CALOCHORTUS TOLMIEI * Oregon, Josephine Co., Eight Dollar Mt. SW of Selma. 450m. Open S-facing slope, among volcanic detritus. (A little, hairy Cat's Ear, most widespread in the genus & impressively robust here. 20cm.) (20+) **B**

1.179.001 : CALOCHORTUS UMPQUAENSIS * Oregon, Douglas Co. S of Tiller. 460m. Open, rocky, serpentine slope in coniferous forest zone. (A beautiful and very local serpentine-endemic, described in 1989. Extremely hairy flowers, creamy white with a large maroon-black centre. About 20cm. high, very striking and not too difficult so far in the UK.) . . . . . (15+) **E**

1.179.500 : CALOCHORTUS UNIFLORUS * Cal., Lake Co., NE of Middletown. 290m. Open meadow in heavy clay. (A dwarf, lilac flowered member of Subsect. *Nudi*, easy in Europe, where it fits in well with Mediterranean bulbs. 15cm.) . . . (15+) **B**

1.179.501 : CALOCHORTUS UNIFLORUS * Oregon, Josephine Co., SW of O'Brien. 550m. Wet depressions among conifers. (May be possible outside in the UK. Flowers later than the above : lilac with purple markings above the nectaries.) . (15+) **B**

1.180.507 : CALOCHORTUS VENUSTUS * Cal., Fresno Co., Stump Springs Road (Sierra Nevada NE of Fresno), 1740m. Sparsely wooded slope in sandy, granitic soil. From a J. & G. Robinett coll. (This population exceeds imagination in shades of pink, purple, red and orange in every combination with complex blotches and basal markings.. A truly wonderful species.) . . . . . (15+) **D**

1.180.550 : CALOCHORTUS VENUSTUS * Cal., Kern Co., Cuddy Valley. 1840m. Openings among *Pinus*. (A very restricted & unique colony in a series of subtle red shades, like crimson & scarlet velvet, faded to varying degrees. Superlative.) (15+) **D**

1.181.500 : CALOCHORTUS VESTAE Cal., Mendocino Co., SW of Covelo. 390m. Among grasses on heavy clay slope. (Double crescent nectaries & a different chromosome number distinguish this from *C. superbus* & *C. venustus*. Spectacular, solid-white flowers with big brown-purple blotches in yellow zones & purple-pencilled bases. A splendid northern mariposa.) . (20+) **B**

.182.005 : CALOCHORTUS WEEDII (var. *weedii*) Cal., San Diego Co., Inspiration Point.1430m. J. Andrews coll. (In Subsect. *Weediani*. Up to 6, erect, yellow bowls, brown-tinted & intricately marked, filled with long, yellow hairs. 60cm.) . . (15+) **C**

1.182.200 : CALOCHORTUS WEEDII var. VESTUS Cal., Monterey Co., Lottie Potrero Camp. 700m. Serpentine. J. Andrews coll. (Odd, northern disjunct race. Squarish bowls in creamy, brownish or purplish shades with dark hairs.) . . . . . (15+) **E**

1.182.500 : CALOCHORTUS WESTONII Cal., Kern Co., S of Alta Sierra. 2050m. Coniferous woodland. (A little subalpine Cat's Ear stranded on top of the Greenhorn Mts. About 15cm. with hairy, lilac-tinged bells. Enjoys cool UK summers.) . . (15+) **E**

Calochortus : start to find your way here

CALOCHORTUS : COLLECTION No. 1 : FAIRY LANTERNS & CAT'S EARS

Eight members of Section *Calochortus*. If you grow Mediterranean bulbs, you can grow these : *C. albus*, *C. albus rubellus*, *C. amabilis*, *C. amoenus*, *C. nudus*, *C. pulchellus*, *C. tolmiei*, *C. uniflorus*List value at least $20.00 or £17. : for only $15.00 or £10.

CALOCHORTUS : COLLECTION No. 2 : MARIPOSAS

Eight members of Section *Mariposa*. Some of the 'classic' later-flowering species : *C. argillosus*, *C. clavatus*, *C. luteus* , *C. splendens*, *C. superbus*, *C. venustus* in two variants, & *C. vestae*. . . . . List value at least $20.00 or £17. : for only $15.00 or £10.

CALOCHORTUS : COLLECTION No. 3 : INTERMOUNTAIN SPECIES

For the serious enthusiast : some of the most difficult to grow : *C. aureus*, *C. bruneaunis* , *C. eurycarpus*, *C. excavatus*, *C. flexuosus*, *C. invenustus*, *C. kennedyi*, *C. kennedyi munzii* and *C. nuttallii* . . . . List value at least $37.00 or £25. : for only $20.00 or £15.00

A : $2.00 ; £1.50 ; € 2. -	**C : $4.00 ; £2.50 ; € 4. -**	**E : $7.00 ; £4.50 ; € 7. -**
B : $3.00 ; £2.00 ; € 3. -	**D : $5.00 ; £3.50 ; € 5. -**	**F : $9.00 ; £6.00 ; € 9. -**

1.191.104 : CAMASSIA QUAMASH Cal., Plumas Co., Long Valley. 1680m. G. Greger coll. (Imposing racemes packed with starry, blue-violet flowers on 40-80cm. stems. Its meadow-habitats are often flooded after snow-melt but dry-out later.) . . . (20+) **A**

1.210.250 : CEANOTHUS CUNEATUS (var. *cuneatus*) Cal., Plumas Co., SE of Greenville. 1100m. (A hardy, evergreen shrub varying from prostrate to erect, reaching about 2m. Panicles of tiny flowers from white to pale-blue or lavender.) . . (20+) **B**

1.211.050 : CEANOTHUS INTEGERRIMUS var. CALIFORNICUS Cal., Plumas Co., Indian Falls. 1220m. (A variable, deciduous shrub, about 3m. high. "One of the most elegant" writes Bean, "producing its long, graceful panicles in great profusion" in mid-summer. Colour can grade from white through to blue or occasionally pink.) . . . . . (20+) **B**

1.211.330 : CEANOTHUS LEMMONII Cal., Plumas Co., E of Quincy. 1160m. (An evergreen shrub, less than 1m. tall, with dull-green leaves, densely hairy below, & dense racemes of pale-blue flowers.) . . . . . (20+) **B**

1.213.005 : CEANOTHUS PROSTRATUS Cal., Lassen Co., N of Westwood. 1580m. (A prostrate, evergreen shrub, forming wide mats, usually in open pine-forest. With its little, toothed holly-leaves & clusters of flowers in pale to deep blue, it has been described as "one of the most showy & desirable of alpine shrubs". Temperature-hardy but needs a hot, dry site.) . . (20+) **B**

1.213.950 : CEANOTHUS VELUTINUS (var. *velutinus*) Cal., Plumas Co., Babcock Peak. 1680m. (The cold-climate type-race of this 1.5m. shrub. Rounded, very glossy, evergreen leaves with silky undersides & panicles of white flowers.) . . . . . (20+) **B**

1.220.110 : CHELONE GLABRA * This & the next are reliable summer-flowering perennials. A 2m. high, *Penstemon* relative with a long succession of white flowers, native to E North America, from Newfoundland to Alabama, in wet woodland. . (50+) **B**

1.220.310 : CHELONE OBLIQUA * Stiff spikes of deep lilac-pink flowers. From the SE USA : Tennessee to Florida. (30+) **B**

1.230.509 : CLEMATIS HIRSUTISSIMA Montana, Lewis & Clark Range. M.& P. Stone coll. (Herbaceous, with thick-textured, urn-shaped, nodding flowers, downy outside & blue-purple within, on erect stems of 30cm. or more. The species ranges from Canada SE to Colorado & its sprawling relative, *C. scottii*, is sometimes grown in UK gardens.) . . . . . (15+) **C**

1.300.900 : DELPHINIUM DEPAUPERATUM * Cal., Sierra Co., SE of Sierraville. 1870m. Gravelly areas among sparse *Pinus*. (A pretty, summer-dormant species with flights of rich purple flowers on branching 20cm. stems in spring.) . . . . . (20+) **C**

1.302.500 : DELPHINIUM LUTEUM * Cal., Sonoma Co., SW of Bodega. Ex a W. Roderick coll. (A species hovering on the verge of extinction, known from two small populations on seasonally wet cliffs NW of San Francisco. Branching stems, of about 30 -50cm., packed with large, waxy, shining, clear-yellow flowers in early summer. Dormant in late summer.) . . . . . (20+) **D**

1.302.709 : DELPHINIUM NUDICAULE Cal., Plumas Co., near Greenville. 1100m. Gravelly, S-facing clay slope. G. Greger coll. (A very hardy, perennial, high altitude inland form, about 30cm. high of this eye-catching, scarlet-orange species.) . (20+) **B**

1.302.750 : DELPHINIUM NUDICAULE * Cal., Mendocino Co., Etsel Ridge ESE of Covelo. 1980m. Among rocks. (Tall race from the serpentines of the N Coast Ranges. Up to 1m. high with long-spurred, scarlet flowers on long pedicels.) . . (20+) **D**

1.304.300 : DELPHINIUM TROLLIIFOLIUM * Cal., Humboldt Co., SSW of Willow Creek. 1070m. Steep, moist, part-shaded banks. (A magnificent wet-grower. About 2m. high with laciniately lobed leaves & spires of rich-blue flowers.) . . . (20+) **C**

1.304.500 : DELPHINIUM VARIEGATUM (subsp. *variegatum*) * Cal., Mendocino Co., SW of Covelo. 390m. Heavy clay on open, grassy slope. (A spectacular summer-dormant species, 50cm. high with racemes of flowers in rich royal-blue.)(20+) **C**

Dicentra : North American bleeding-hearts

1.305.909 : DICENTRA CANADENSIS Michigan. R.& R.Wallis coll. (A delightful summer-dormant woodlander from S Canada & the adjacent USA. Smooth, dissected foliage & racemes of white, yellow-tipped flowers. Quite like better-known *D. cucullaria* but differing in the spurs on the outer petals, as well as in the rhizomatous rootstock with rounded tubers.) . . . . . (15+) **D**

1.306.300 : DICENTRA FORMOSA subsp. OREGANA * Oregon, Josephine Co., E of Takilma. 900m. Loose serpentine talus on steep slope. (Merged under *D. formosa* in current floras, but most distinct in its 'pure' form, a narrow endemic of serpentine scree in this area. Dwarfer (15-20cm.) with much cut blue-grey leaves and shallowly cordate cream, rose-tipped flowers.) (20+) **C**

1.306.350 : DICENTRA NEVADENSIS Cal., Tuolumne Co., Pilot Ridge (Sierra Nevada E of Oakdale). 1340m. Outcrops in conifer-oak forest. J. Andrews coll. (A very narrow Sierra Nevadan endemic. It has been included under *D. formosa*.) . . . . (20+) **C**

1.308.300 : DICHELOSTEMMA IDA-MAIA * Cal., Humboldt Co., NNE of Orleans. 180m. Stony slope at woodland margin. (Pendant, tubular flowers in pure glowing red with greenish-cream segments surrounding white staminodes. 1m.) . (20+) **C**

1.308.409 : DICHELOSTEMMA MULTIFLORUM Cal., Plumas Co., near Greenville. 1100m. G. Greger coll. (Dense, rounded umbels of pinkish to bluish purple flowers on 60cm. stems above clumps of glaucous leaves. Easily grown.) . . . . . (20+) **B**

1.308.502 : DICHELOSTEMMA VOLUBILE Cal., Butte Co., near Durham. 150m. (While *D. ida-maia* can twine, this is a real climber with contorted stems to 2m. twisting among scrub. Umbel-like heads of bright pink flowers with cream staminodes. Increases little vegetatively so growing from seed is the way to enjoy this fascinating & beautiful plant.) . . . . . (20+) **C**

A :	**$2.00**	**;**	**£1.50**	**;**	**€ 2. -**	**C :**	**$4.00**	**;**	**£2.50**	**;**	**€ 4. -**	**E :**	**$7.00**	**;**	**£4.50**	**;**	**€ 7. -**
B :	**$3.00**	**;**	**£2.00**	**;**	**€ 3. -**	**D :**	**$5.00**	**;**	**£3.50**	**;**	**€ 5. -**	**F :**	**$9.00**	**;**	**£6.00**	**;**	**€ 9. -**

1.311.000 : DODECATHEON HENDERSONII Cal., Plumas Co., S of Greenville. 1370m. Among conifers on steep, stony slope. (Characteristic species of northern woodlands. Summer-dormant. Magenta to deep lavender.) ..... (20+) **B**

1.313.659 : ECHINACEA PALLIDA * Arkansas, Benton Co. Ex an S. Marak coll. (The coneflower of the SE Great Plains. Longer, narrower leaves than *E. purpurea*. Big palest pink heads with drooping rays carried on 1m. stems in late summer.) . (10+) **B**

1.315.450 : EPILOBIUM RIGIDUM Oregon, Josephine Co., SW of O'Brien. 700m. Open areas on serpentine. (The finest in the genus & choicest of the trio centred on *E. obcordatum*. Confined to a few sites on the serpentines along the California-Oregon line, this tiny, woody-based perennial carries very large, rich-pink flowers over neat, fleshy, blue-green leaves.) ..... (5) **E**

Erythronium : almost a complete range of the westerners

We list here an unprecedented range of seed from the western members of this fashionable genus. Most grow in well-drained habitats usually in light shade. When areas are hot & dry in summer, the corms are likely to be growing deeply among stones, where soil-temperature & moisture remain constant. Their preference for serpentine areas is marked : singularly inhospitable, infertile soils, deficient in nitrogen, phosphorous & calcium, with high concentrations of magnesium. We suggest caution in attempting these in pure peat : a mix of half granite chippings and half sphagnum peat or leafsoil might be more appropriate. Species from warmer, drier summer habitats might be best in well-drained sites in full sun in cool, wet climates. These may need a summer-rest. All seem remarkably temperature-hardy and many grow surprisingly well in the open garden in wetter climates. Seed of most of the species from California & Oregon will come up easily after a sufficient cool period. Early experience with *E. klamathense, E. pusaterii, E. pluriflorum & E. purpurascens* showed them to be extremely difficult to germinate. (The following comments may also apply to various races of *E. grandiflorum, E. idahoense, E. nudopetalum*, etc. & other cold-climate taxa, like *E. taylori* & *E. citrinum* var. *roderickii*.) They appeared to require a very long cold period or repeated freezing. What would appear to be required is a period of about 6 months at a temperature around 0 C or 32 F. We have, however, since received several reports from growers who have germinated such species successfully by conventional treatment outdooors in the UK. Life is never simple.

1.350.200 : ERYTHRONIUM CALIFORNICUM * Cal., Humboldt Co., SSW of Willow Creek. 1580m. Stony serpentine areas in openings among conifers. (The lovely species of the N Californian Coast Ranges distributed S from here almost to the Bay area. A plant of foothill woodland & pine forest. Beautifully mottled leaves. Creamy white flowers with yellow throats.) . (15+) **C**

1.350.204 : ERYTHRONIUM CALIFORNICUM * Cal., Humboldt Co., N of Weitchpec, SE of Fish Lake. 400m. .. (15+) **C**

1.350.400 : ERYTHRONIUM CITRINUM * Oregon, Josephine Co., SW of Selma. 550m. Among sparse conifers. (Mottled leaves & white to cream flowers with lemon bases. Restricted to the Coast Ranges on the California-Oregon line.) ..... (15+) **C**

1.350.401 : ERYTHRONIUM CITRINUM * Cal., Del Norte Co., ENE of Gasquet. 450m. Coniferous woodland. ... (15+) **C**

1.350.500 : ERYTHRONIUM CITRINUM var. RODERICKII * Cal., Trinity Co., Scott Mts., between Tangle Blue Creek & Bear Creek. 1250m. Openings in coniferous forest. (Round the mountain from the type locality, where it is shy-flowering. Listed in 1989 as a form of *E. californicum* with purple filaments (11018). Nearest recorded populations of *E. citrinum, E. hendersonii* & *E. californicum* are all about 35km. distant. This may have something to do with all or any of them. It is not recognized as a valid taxon in "Jepson" but the name covers quite a large population and is definitely worth retaining by gardeners.) .... (15+) **D**

1.350.600 : ERYTHRONIUM ELEGANS * Oregon, Tillamook Co., Mt. Hebo. (Local relative of *E. revolutum*. Few.) . (10) **F**

1.351.000 : ERYTHRONIUM GRANDIFLORUM (var. *grandiflorum*) * Utah, Cache Co., above Tony Grove Lake. 2400m. Open slopes with *Artemisia*. (Montane, snow-melt plant with a northern & eastern distribution. Outstanding bright yellow flowers and plain green leaves. Here with red-brown anthers : so far S, it usually has yellow-anthers (subsp. *chrysandrum*)). .. (15+) **C**

1.351.100 : ERYTHRONIUM GRANDIFLORUM var. CANDIDUM * Washington, Whitman Co., Steptoe Butte. 1020m. N-facing slope with sparse *Pinus*. (From the 1906 type-locality of this white-flowered plant. May or may not be the same as *E. idahoense*. Isolated here on a quartzite butte rising above intensively cultivated palouse country on the Idaho line.) . (15+) **E**

1.351.101 : ERYTHRONIUM GRANDIFLORUM var. CANDIDUM * Wash., Whitman Co., Kamiak Butte. 1020m. (15+) **E**

1.351.201 : ERYTHRONIUM HELENAE Cal., Lake Co., SE of Middletown, Butt's Canyon. 450m. Among *Arctostaphylos* chapparal on serpentine slope. J. Andrews coll. (A beautiful, very local species only known from around Mt. St. Helena, in Napa, Lake & Sonoma Cos., quite a densely populated and cultivated area, where few colonies are accessible. With mottled leaves, it is quite near *E. californicum* but has yellow anthers and a definite capacity to increase vegetatively. This has settled down well from our 1989 coll. in this site with pot-cultivation under glass & seems to enjoy a drier summer rest than others.) . (15+) **D**

1.351.202 : ERYTHRONIUM HELENAE Cal., Napa Co., Aetna Springs. 300m. Chapparal on serpentine. ..... (15+) **D**

A : $2.00	**; £1.50**	**; € 2. -**	**C : $4.00**	**; £2.50**	**; € 4. -**	**E : $7.00**	**; £4.50**	**; € 7. -**
B : $3.00	**; £2.00**	**; € 3. -**	**D : $5.00**	**; £3.50**	**; € 5. -**	**F : $9.00**	**; £6.00**	**; € 9. -**

1.351.301 : ERYTHRONIUM HENDERSONII Oregon, Jackson Co., Siskiyou Mts., 1030m. Openings among *Quercus* scrub. (Limited to the Oregon-California borders, a superlative, robust species with dark-mottled leaves. Lavender-pink flowers with dark anthers & a purple base, surrounded by a white or yellow zone. Quite easy in a well-drained site in the UK.) ..... (15+) **C**

1.352.302 : ERYTHRONIUM HENDERSONII * Oregon, Jackson Co., Jacksonville. 500m. Among *Quercus* scrub. . (15+) **C**

1.352.303 : ERYTHRONIUM HENDERSONII * Oregon, Josephine Co., SE of Murphy. 350m. Beneath *Quercus*. . . (15+) **C**

1.351.500 : ERYTHRONIUM HOWELLII Oregon, Josephine Co., E of Takilma. 670m. Among conifers on open, turfy, stony slopes. (Nearest to *E. citrinum* but with no basal appendages. White flowers turn pink as they age. Mottled leaves.) (15+) **C**

1.351.501 : ERYTHRONIUM HOWELLII Oregon, Josephine Co., above Waldo. 650m Among *Arctostaphylos* scrub & in shade of deciduous *Quercus*. (A type locality coll. from where the Illinois valley meets the Klamath Ranges.) ..... (15+) **C**

1.351.700 : ERYTHRONIUM KLAMATHENSE Cal. Siskiyou Co., SW of Castle Lake. 1750m. Among scrub & grasses on steep, stony slopes. (High altitude species, rarely extending below 1500m., & closest to *E. purpurascens*. Yellow-centred, milk-white flowers with creamy anthers. Plain bright-green leaves. A local, mountain-plant, mainly of S central Oregon) .... (15+) **D**

1.351.702 : ERYTHRONIUM KLAMATHENSE Oregon, Jackson Co., Siskiyou Mts. 1550m. Open serpentine slope. (15+) **D**

1.352.000 : ERYTHRONIUM MULTISCAPOIDEUM * Cal., Butte Co., N of Magalia. 600m. Under *Cupressus* on serpentine. G. Greger coll. (Mottled leaves White flowers with pale, greenish yellow centres & white anthers. No close affinities and the only species with stoloniferous corms. These are much dwarfer plants (in the wild) than the next. Best dryish in summer.) (15+) **C**

1.352.100 : ERYTHRONIUM MULTISCAPOIDEUM (*E. "cliftonii"*) Cal., Butte Co., S of Pulga. 640m. Steep, open, serpentine scree. G. Greger coll. (More or less a giant form (in the wild) of the species only known from this one site. Never described botanically but grown in the UK as *E. "cliftonii"*. Adaptable and reputedly accommodating in the open garden.) ... (15+) **D**

1.352.400 : ERYTHRONIUM OREGONUM subsp. LEUCANDRUM Oregon, Douglas Co., S of Tiller. 460m. Among *Pinus* on steep serpentine slopes. (Race with white anthers, of more limited distribution towards the SE of the range. The white flowers, often maturing to pink, have markings in orange, dark-red or brown around the yellow bases. Superlative.) ..... (15+) **C**

1.352.700 : ERYTHRONIUM PLURIFLORUM Cal., Madera Co., Shuteye Peak (Sierra Nevada E of Merced). 2310m. NW-facing granite ledges. J. Andrews coll. (Described in 1990, though the first coll. was made in 1907 & misidentified by Applegate & others as *E. purpurascens*. It is allied to this with plain green leaves but the 30cm. stems carry up to 10 (exceptionally to 20) nodding, bright yellow flowers, maturing to bronze or pinkish. Isolated high on Chiquito Ridge between Shuteye & Little Shuteye Peaks, it flowers as late as July. It seems to need prolonged cold to germinate but many growers have written telling us of their successes and it was listed in the trade as young plants raised from John's original coll. for the first time in 1999.) . (15+) **E**

1.352.802 : ERYTHRONIUM PURPURASCENS Cal., Plumas Co., N of Greenville. 1100 m. G. Greger coll. (Plain green leaves & yellow-centred white flowers, purple-tinged with age. The most widespread of this trio, most numerous around the upper drainage of the Feather River, reaching to almost 2500m. A collection made more or less in the type-locality, at a comparatively low altitude for the species, where colonies are more sparse but may be more growable.) ..... (15+) **D**

1.353.000 : ERYTHRONIUM PUSATERII Cal., Tulare Co., Jordan Peak (Sierra Nevada ENE of Porterville). 2774m. Granite rock-falls. J. Andrews coll. (Again described in 1990 : the Purpus coll. of 1895 was placed under *E. purpurascens* & Pusateri's later colls. in *E. grandiflorum*. Like a large *E. purpurascens* with well developed appendages on the segments & a larger yellow centre. The most southern of the westerners, confined to a small area at the sources of the Tule & Kaweah Rivers.) ..... (15+) **E**

1.353.105 : ERYTHRONIUM REVOLUTUM Cal., Del Norte Co., near Gasquet. c.400m. (From one of the few Californian colonies of this splendid species, which extends N to Canada. The more southern colonies near Ukiah appear to have been largely eliminated & we are told are less attractive forms. Mottled leaves and sumptuous rose-pink flowers.) ..... (15+) **C**

1.353.120 : ERYTHRONIUM REVOLUTUM * No data. From the vigorous stock in Peter Chappell's Hampshire garden at 'Spinners'. These will be in varying shades of pink & may show some hybrid influence. A species of the wet Pacific NW with beautiful, brown-marbled, lush, green foliage. If you are not a specialist & just want some good, hardy garden-plants for the moist, mild climate of the UK, where this will usually sow itself in shady conditions, this is what you should have. ..... (15+) **B**

1.353.250 : ERYTHRONIUM TAYLORI Cal., Tuolumne Co., Pilot Ridge (Sierra Nevada E of Oakdale). 1340m. Steep, NE-facing metamorphic rock outcrops in conifer-oak forest. (Most recently described (in 1997) among the new species from the Sierra Nevada. Locally numerous but so far only known from the type-locality, it can have up to 8, nodding, fragrant, bicoloured flowers, white at the tips and yellow at the bases, on stems of about 30cm. Distinguished from bicoloured *E. purpurascens* by its larger flowers with appendages at the bases of the inner segments and from *E. pusaterii* by its white anthers. A lower altitude plant than the latter, it apparently shares with the plain yellow *E. tuolumnense*, a capacity to increase vegetatively, forming clumps. A modest coll. has been made in the hope that we can see this extremely local species firmly established in cultivation.) ..... (15+) **E**

1.353.300 : ERYTHRONIUM TUOLUMNENSE * Cal., Tuolumne Co., NE of Columbia. 750m. Steep slopes in deciduous woodland. (Plain green leaves & up to 5, bright-yellow flowers. A low altitude relic, amazingly hardy & easy in European gardens. It is also of limited distribution in the wild, though much more locally abundant than was once thought.) ..... (15+) **C**

A :	**$2.00**	**;**	**£1.50**	**;**	**€ 2. -**	**C :**	**$4.00**	**;**	**£2.50**	**;**	**€ 4. -**	**E :**	**$7.00**	**;**	**£4.50**	**;**	**€ 7. -**
B :	**$3.00**	**;**	**£2.00**	**;**	**€ 3. -**	**D :**	**$5.00**	**;**	**£3.50**	**;**	**€ 5. -**	**F :**	**$9.00**	**;**	**£6.00**	**;**	**€ 9. -**

Fritillaria : specialists of serpentine, granite and adobe clay

Names here mostly follow the account in Jepson, which is itself derivative from work done by Roger MacFarlane, whose names are largely in use in the UK. Individual populations of species like *F. affinis* (*F. lanceolata*) and *F. biflora* can look more distinct than many Mediterranean populations given specific status. For gardeners, the account by David King in 'Bulbs of North America' is by far the most useful, readily accessible reference available. Some still pose problems but successful cultivation of these plants is much more widespread now than in the past. Use well-drained, lime-free, low nutrient composts and, in the UK, give them their first winter watering quite late. Excess nitrogen should be avoided, especially for serpentine species : please note our comments about the chemical characteristics of this under *Erythronium*.

1.370.003 : FRITILLARIA AFFINIS * Cal., Lake Co., Butts Canyon. 350m. Among *Arctostaphylos* on serpentine. (Nodding bells mottled in brown-purple & pale yellow. Up to 30cm. here. Usually one of the easier species in cultivation.). . . . . (15+) **B**

1.370.051 : FRITILLARIA AFFINIS * Cal., Del Norte Co., ENE of Gasquet. 400-450m. Steep, rocky slopes in coniferous woodland. (N Coast range form : often single-flowered & usually yellowish green with just a few brown lines) . . . . (15+) **C**

1.370.301 : FRITILLARIA AGRESTIS * Cal., Alameda Co., ESE of Livermore. 450m. Among grass on clay slopes. (An adobe-clay plant, the valley-grassland version of *F. biflora*. Once widespread in the Central Valley but now very localised as most of its habitat has been destroyed by agriculture & development. Green-cream bells, purple-brown inside. Up to 50 cm.) (15+) **C**

1.370.403 : FRITILLARIA ATROPURPUREA Cal., Plumas Co., N of Greenville. 1100m. G. Greger coll. (Creamy bells mottled in purple-brown on stems of about 20cm. More or less an alpine or steppe version of *F. affinis*, distributed in an interior parallel arc E to S. Dakota : here temperatures can go down to -20°F. Narrower-leaved than *F. affinis* with more open bells.) (15+) **D**

1.370.404 : FRITILLARIA ATROPURPUREA Cal., Modoc Co., Warner Mts., Cedar Pass. 1930m. Among scrub. . . (15+) **D**

1.370.500 : FRITILLARIA BIFLORA * Cal., San Luis Obispo Co., above San Simeon Bay. 10m. Coastal grassland in sandy clay. (In fine form here, 20-30cm. high with darkest, brown-purple, green-striped bells. Always a coastal plant extending S to around the Mexican border. Maybe best grown frost-free but the coast is cool in summer so do not bake it when dormant.) . (15+) **C**

1.370.650 : FRITILLARIA EASTWOODIAE (*F. phaeanthera*) * Cal., Shasta Co., S of Shingletown. 1000m. Openings in mixed woodland. (A dubious 'species', apparently a stable, recent hybrid between *F. recurva* & *F. micrantha*. Dr. Martinelli describes the elegant bells here as from red or apricot to brown-orange edged with yellow and orange with yellow inside.) . . . (20+) **C**

1.370.800 : FRITILLARIA GLAUCA * Cal., Humboldt Co., SSW of Willow Creek. 1580m. Unstable, serpentine talus on steep, N-facing slope. (Very dwarf, serpentine-endemic of the NW Coast Ranges, not unlike the Turkish scree-forms of *F. crassifolia*. Thick, glaucous leaves & nodding bells in yellow through to red-browns in this site. Not difficult to grow with us.) . (10+) **D**

1.370.802 : FRITILLARIA GLAUCA * Cal., Mendocino Co., Mendocino Pass. 1500m. Serpentine. (Selected yellow) (10+) **D**

1.371.100 : FRITILLARIA LILIACEA * Cal., Marin Co., NW of Nicasio. 15m. Among scrub on low, grassy, coastal hills. (A beautiful species with a very limited distribution in the coastal mist-belt, N & S of San Francisco. Perhaps best kept almost frost-free in winter & cool in summer. Pendant, creamy white bells on 30cm. stems. Seldom sets seed in the UK.) . . . . . (10+) **D**

1.371.500 : FRITILLARIA PINETORUM Cal., Kern Co., Mt. Pinos. 2650m. In granite grit, among scrub at margin of *Pinus* woods. (Absolutely distinct here : it resembles *F. falcata* in its wide-open, flat, thick-textured, upward-tilted flowers and fleshy, glaucous foliage but the latter is narrow & chanelled. Its shallow bowls are basically lime-yellow but thickly peppered with purple-brown dots, densest towards the margin where there is a narrow, clear picotee-edge. Brilliant orange anthers.) . . . . . (15+) **E**

1.371.600 : FRITILLARIA PLURIFLORA Cal., Lake Co., Walker Ridge. 600m. Open, grassland in heavy clay. (One of the most distinct & beautiful in the genus, 10-30cm. tall with up to 7, conical bells in a rich, pure unmarked pink. A classic adobe-clay plant from soil that is wet & glutinous in spring but dries like concrete later. A challenge but it has been grown well.) . . . (15+) **D**

1.371.700 : FRITILLARIA PUDICA * Idaho, Butte Co., NE of Carey. 1520m. E & SE-facing slopes of stony ridge. (Unlike any other N American. Nodding, clear-yellow bells, sometimes maturing to orange-red shades, on 20cm. stems. Usually a plant of montane steppe, N into Canada & SE to Colorado. Can be grown well but not always easy : likes a cold winter.) . . . (20+) **C**

1.371.800 : FRITILLARIA PURDYI * Cal., Trinity Co., S of Bear Creek Trailhead. 960m. Open, serpentine slope. (Local on N Coast Ranges (here at its NE limit). Leaves crowd on the ground. Wide, waxy, nodding bells on 10cm. stems, described by Sylvia Martinelli as "the shiniest, most delectable fritillaria flowers," brown veined & tinted on a green-white ground.) . . . (20+) **C**

1.371.906 : FRITILLARIA RECURVA * Cal., Trinity Co., N of Junction City. 500m. Serpentine (One of the the most strikiing in the genus : incomparable & unique with pendant, orange-scarlet trumpets on stems up to 50cm. high, whorled with narrow leaves. We do not find this a problem if it is not kept too hot & dry in summer : our own hand-pollinated seed.) . . . (15+) **D**

A :	**$2.00**	**£1.50**	**€ 2. -**	**C :**	**$4.00**	**£2.50**	**€ 4. -**	**E :**	**$7.00**	**£4.50**	**€ 7. -**
B :	**$3.00**	**£2.00**	**€ 3. -**	**D :**	**$5.00**	**£3.50**	**€ 5. -**	**F :**	**$9.00**	**£6.00**	**€ 9. -**

1.371.907 : FRITILLARIA RECURVA Oregon, Jackson Co., Siskiyou Mts. 1030m. Among deciduous *Quercus* .... (15+) **D**

1.371.908 : FRITILLARIA RECURVA Cal., Trinity Co., SSW of Scott Mt. summit. 1600m. Serpentine slope. ..... (15+) **D**

1.371.919 : FRITILLARIA RECURVA Cal., Plumas Co., near Belden. 670m. G. Greger coll. ..... (15+) **D**

1.372.050 : FRITILLARIA RODERICKII (possibly *F. grayana*, lost under *F. biflora* in "Jepson") * Cal., Mendocino Co. Among grass in open woodland on clay. From an original Wayne Roderick coll. (Known from one or two vanishing sites away up on the NW Pacific coast. Obtuse segments in brown tipped with white. Dwarf & one of the easiest for UK growers.) ..... (15+) **C**

1.372.100 : FRITILLARIA STRIATA Cal., Kern Co., Greenhorn Mts., NE of Bakersfield. 760m. (Pendant bells with recurved tips. Described by Alan Galloway, the discoverer, as "white to creamy with purplish dotted striae" - appearing pink - and "with the most delicious fragrance". An adobe-clay species : extremely difficult but definitely not impossible.) ..... (15+) **F**

1.404.001 : HASTINGSIA ALBA Cal., Trinity Co., Scott Mountain summit. 1650m. Open, wet meadow in coniferous forest. (Narrow basal leaves & spires of densely packed, yellow-white flowers on stems of 60cm. A plant of seeps & wet meadows) (10+) **C**

1.422.009 : HESPEROCHIRON CALIFORNICUS Cal., Plumas Co., Dry Flat. 1680m. Open, seasonally wet flat. G. Greger coll. (A beautiful, little, summer-dormant member of the *Hydrophyllaceae*, about 5cm. high with tiny, narrowly spoon-shaped, hairy leaves and bell to funnel-shaped flowers, usually in white, tinged with lavender and veined with purple.) ..... (30+) **C**

1.460.000 : IRIS BRACTEATA Oregon, Josephine Co., Waldo Hill. 650m. Stony, serpentine areas, among scrub. (From Howell's 1884 type-locality. Broad, leathery leaves & large, showy flowers, always in pale yellow, veined maroon or brown.) (15+) **C**

1.460.202 : IRIS DOUGLASIANA Cal., Sonoma Co., Irish Hill. 150m. grassy slopes with coastal exposure. (Tough & vigorous, although a low-altitude, coastal plant. Rich purples here. Easy with no particular soil preferences in gardens.) ..... (15+) **B**

1.460.600 : IRIS HARTWEGII subsp. COLUMBIANA * Cal., Tuolumne Co., NE of Columbia. 650m. Stony slope. (Only known from around the type-locality here. Virtually, a yellow version of splendid *I. munzii*, which grows 225km. to the S.) (15+) **C**

1.460.701 : IRIS HARTWEGII subsp. PINETORUM Cal., Plumas Co., near Greenville, 1100m. Openings in coniferous forest. G. Greger coll. (A Plumas Co. endemic, the only taxon on the E slope of the Sierra Nevada. Usually much dwarfer than the long-stemmed type-race, it often opens two of its creamy yellow flowers simultaneously. Very cold here.) ..... (15+) **C**

1.460.800 : IRIS INNOMINATA * Oregon, Curry Co., N of Agness. 400m. Steep, stony slopes, facing E & SE, in coniferous zone. (Victor Cohen described this population in 1965, as "rich golden-yellow & orange" to "pale apricot or light creamy buff." Galen Burrell visiting here in 1993 told us these are "a beautiful orchid color" with a few creamy ones. Most of this seed is from cream & peach-colours with rose-veins but seedlings will vary. Fully hardy in the UK : grow in lime-free scree.) ..... (15+) **C**

1.461.105 : IRIS MISSOURIENSIS Cal., Alpine Co., S of Carson Pass. 2700m. Among grasses in moist meadow. (The only *Iris* listed here not from Series *Californicae* : in *Longipetalae*. Pale-blue to lavender-blue on stems 50cm. or more high.) (15+) **C**

1.461.701 : IRIS TENUISSIMA subsp. PURDYIFORMIS Cal., Butte Co., Butte Meadows. 1220m. G. Greger coll. (A very local and somewhat obscure, pale yellow race from the shade of yellow pine woodland in the northern Sierra Nevada.) .. (10+) **E**

1.461.801 : IRIS THOMPSONII Oregon, Josephine Co., SW of Selma. 550m. Stony openings among *Arctostaphylos* on serpentine. (You could call this *I. innominata* 'Dwarf Purple Form'. One of the smallest in this series : characteristic *I. innominata* grassy tuffets of narrow leathery leaves & short stems. Not seen in flower but others here vary in blues & purple tones.) ... (15+) **D**

1.495.009 : LEUCOCRINUM MONTANUM Cal., Plumas Co., Dry Flat. 1680m. Seasonally moist open areas among *Artemisia*. G. Greger coll. (A very beautiful, dwarf, summer-dormant member of the *Liliaceae*, in a genus on its own. Tufts of linear leaves from deep, fleshy, roots. Big, starry, fragrant, white flowers rise up from the centre on long tubes. A challenge.) ... (10+) **E**

1.496.801 : LEWISIA LEANA * Cal., Shasta Co., Castle Crags, SW of Castle Lake. 1700m. Gravelly areas between serpentine outcrops. (Rosettes of succulent, linear leaves ; many-flowered 15cm. panicles of bright magenta-pink flowers.) ... (20+) **D**

1.497.000 : LEWISIA OPPOSITIFOLIA * Oregon, Josephine Co., Waldo Hill. 600m. Among serpentine detritus along gulley. (Narrow, blunt, succulent leaves : 15cm. umbels of up to 6, rounded, white flowers with red-fringed sepals.) ..... (20+) **D**

1.497.200 : LEWISIA REDIVIVA * Wyoming, Albany Co., E of Centennial. 2700m. In granite grit of open, stony 'flats'. (Huge, diaphanous, water-lily flowers, appear successively on the shortest of stems. Generally of a richer pink than many.) (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 of sumptuous whites, which we found in 1989 : rather similar to the Californian plants separated as var. *minor*.) (20+) **D**

1.497.231 : LEWISIA REDIVIVA Cal., Napa Co., N of Calistoga. 840m. J. Andrews coll. (Especially large pink.) ... (20+) **D**

1.497.301 : LEWISIA REDIVIVA var. MINOR * Cal., Kern Co., Mt. Pinos. 2680m. In granite grit on open slopes in summit area. (A high altitude race, worth at least subspecific rank. Exquisite with rounded, pearl-white flowers and bronze sepals.) (20+) **D**

1.497.401 : LEWISIA STEBBINSII * California, Mendocino Co., ESE of Covelo, Hell's Half Acre. 1600m. Open, gravelly slope. (Short, radiating, ground-hugging stems, each carrying up to 5, upward-facing, rose-pink flowers.) ..... (20+) **E**

A : $2.00 ; £1.50 ; € 2. -			**C : $4.00 ; £2.50 ; € 4. -**			**E : $7.00 ; £4.50 ; € 7. -**		
B : $3.00 ; £2.00 ; € 3. -			**D : $5.00 ; £3.50 ; € 5. -**			**F : $9.00 ; £6.00 ; € 9. -**		

Lilium : a fine range of the western species

1.498.100 : LILIUM BOLANDERI Cal., Humboldt Co. 1200-1500m. In chaparral on serpentine. (Maybe the most beautiful & the most difficult. Endemic to dry, serpentine localities on the Coast Ranges on the California-Oregon line. Stems whorled with thick, blue-grey leaves carry nodding, funnel-shaped flowers in soft crimson, glaucous outside & purple-dotted inside.) . . . (10) **E**

1.498.409 : LILIUM CANADENSE Canada, Quebec, N of Quebec City. F. Cabot coll. (From the most northern population of the most widespread N American, distributed from Quebec down to Alabama. Stems of about 1.5m., whorled with lanceolate leaves carry umbels up to 20, large, nodding, flaring bells in yellow to orange-yellow, speckled inside with black-purple.) . (20+) **C**

1.498.501 : LILIUM COLUMBIANUM Cal., Del Norte Co. 350 m. Redwood forest. (The spectacular lily of the redwood glades, extending N from here up into Canada. Up to 30 or so golden orange turkscap flowers, speckled with maroon on stems as much as 2m. high. Segmented bulb-scales but not a plant of really wet sites, often out in the open on N slopes.) . . . . . (15+) **C**

1.498.901 : LILIUM HUMBOLDTII (subsp. *humboldtii*) Cal., Nevada Co., Dutch Flat. 990m. Woodland on granitic clay. J. Andrews coll. (Dry-grower from the N Sierra Nevada. Recurved, maroon-speckled flowers in orange-yellow. 2m.) . . . (8) **F**

1.499.100 : LILIUM KELLEYANUM Cal., Tulare Co., Middle North Fork Tulare River, E side of Moses Mt. 2070m. In wet meadows & along streams & gulleys in gravelly, granitic soils. 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 appears to intergrade with *L. parvum*. Up to 25 fragrant, uniformly yellow, pendant, wide bells with dull-red anthers on 1m. high stems.) . . . . . (15+) **D**

1.499.202 : LILIUM KELLOGGII Cal., Del Norte Co., Little Jones Creek. 500m. Among scrub. (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 on the edges. Narrow, grey, crinkled leaves. Usually under 1m.) . (15+) **E**

1.499.401 : LILIUM MARITIMUM Cal., Sonoma Co., Salt Point. 80m. Openings in coastal woodland. J. Andrews coll. (A very uncommon, little lily, reputed always to grow within the sound of the Pacific : mild in winter & cool in summer. Brilliant red, funnel-shaped, slightly nodding flowers, spotted basally, 1-13 flowers on stems from 25cm. to 1m. or more.) . . . . . (15+) **F**

1.499.701 : LILIUM PARDALINUM Cal., Plumas Co., W of Canyon Dam. 1370m. Among *Salix* & grasses in wet meadow. G. Greger coll. (Most widespread wet-grower, very variable but distinct in its long filaments & capacity to form clonal rhizomatous mats. Red-orange turkscap flowers with maroon spots, margined with yellow near the recurving segment-tips.) . . . . (20+) **C**

1.499.702 : LILIUM PARDALINUM Cal.,Humboldt Co., SSW of Willow Creek. 1580m. Wet gulley at woodland margin. (From a magnificent small colony at the edge of *L. columbianum* territory : possibility of some introgression here.) . . . . . (20+) **C**

1.499.901 : LILIUM PARRYI Cal., Los Angeles Co., San Gabriel Mts., Kratka Ridge, Buckhorn Camp. 1980m. Wet meadow slopes on granitic gravel. J. Andrews coll. (Except for *L. humboldtii ocellatum*, the most southern species : like no other in its strongly fragrant, bright yellow, trumpet-shaped flowers, with a few tiny, sparse maroon dots, held horizontally or slightly nodding up to 30 on stems of about 2m. A local plant of wet sites 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 an S. Walker coll.. . . . . (10+) **D**

1.500.050 : LILIUM aff. PARVUM Cal., Nevada Co., Sierra Nevada, Monument Ridge. 2010m. Wet sites on granite. J. Andrews coll. (Seems a consistent local race : much wider flowers, not campanulate & opening out flat, in yellow to clear orange-yellow, fragrant & sometimes with a few crimson spots. John's plant may well deserve recognition as a distinct taxon.) . . . . (20+) **E**

1.500.401 : LILIUM RUBESCENS Cal., Humboldt Co. 1000m. Among scrub at edge of coniferous forest. (Beautiful Coast Range endemic, closest to *L. washingtonianum*. A dry-grower with stems of up to 2m. carrying 20 or more upward-facing, extremely fragrant, trumpets opening white with minute purple dots, which suffuse over the surface until it is wine-coloured.) (15+) **D**

1.500.900 : LILIUM VOLLMERI Oregon, Josephine Co. 500m. Along wet ditch. (A wet-grower in the *L. pardalinum* group. Near *L. shastense* but distinguished by its purple anthers with red pollen. A really splendid, 2m. high population here.) . . (15+) **C**

1.501.002 : LILIUM WASHINGTONIANUM (subsp. *washingtonianum*) Cal., Plumas Co., N of Greenville. 1220m. G. Greger coll. (Marvellously fragrant, great 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**

1.501.101 : LILIUM WASHINGTONIANUM subsp. PURPURASCENS Cal., Humboldt Co. SSW of Willow Creek. 1580m. Among *Arctostaphylos* scrub on steep, E-facing side of ridge. (The type-race is restricted to N California but this extends to Mt. Hood in Oregon. The bulb-scales are different and the flowers are slightly smaller, flushing to pink-purple with age.)(15+) **D**

1.505.210 : LOBELIA CARDINALIS No data. Canadian seed of this utterly & indestructibly hardy species, sadly confused by UK gardeners with the tender Mexican *L. fulgens* & its hybrids. Spires of lipped, brilliant scarlet flowers reach 1m. . . (100+) **B**

A :	**$2.00** ;	**£1.50** ;	**€ 2. -**	**C :**	**$4.00** ;	**£2.50** ;	**€ 4. -**	**E :**	**$7.00** ;	**£4.50** ;	**€ 7. -**
B :	**$3.00** ;	**£2.00** ;	**€ 3. -**	**D :**	**$5.00** ;	**£3.50** ;	**€ 5. -**	**F :**	**$9.00** ;	**£6.00** ;	**€ 9. -**

Phlox : two relicts isolated by the last glaciation

1.743.500 : PHLOX ADSURGENS Oregon, Josephine Co., E of Takilma. 900m. Shaded, gravelly banks. ("One of the most beautiful members of the genus" comments Edgar Wherry. Mats of glossy, leathery leaves. 20cm, high inflorescences of up to 12, very large, soft-pink flowers. Separated by the width of the N American continent from the violet-flowered, eastern woodlander, *P. stolonifera*, its closest relative and the only other species in Subsection *Stoloniferae*. For acid humus in light shade.) . . . . . (10) **D**

1.744.609 : PHLOX BUCKLEYI * West Virginia. No further data. (A stoloniferous woodlander spreading into colonies of narrow-leaved rosettes, which send up erect 20cm. stems carrying downy inflorescences of up to 25, bright purple to pink flowers in early summer. Endemic to open woodland on the shales of a small area of the Appalachians, its closest relative & the only other member of Subsection *Cluteanae*, *P. cluteana* grows in an even smaller area along the Utah-Arizona line.) . . . . . (10) **D**

1.745.009 : PHLOX CAROLINA * Alabama. No further data. (From a southern collection of this highly variable species from the open woodlands of the SE States. It can reach 1m. in height with cymes of up to 60 purple flowers.) . . . . . (10) **C**

1.751.101 : PHLOX STANSBURYI (*P. longifolia* var. *stansburyi*) Cal., Inyo Co., White Mts. 2500m. Among *Juniperus* in fragmented shale. (Stems of about 15cm. with narrow, linear leaves carry large, long-tubed, pink to white flowers.) . (10) **C**

1.760.200 : POLEMONIUM CARNEUM * Oregon, Jackson Co., Siskiyou Mts., S of Ashland. 1400m. Ex a P. Gustafson coll. (A handsome, taller species, up to 50cm. high, with clusters of rather flat, bell-shaped flowers in apricot-pink.) . . . . . (20+) **B**

1.760.660 : POLEMONIUM PAUCIFLORUM * No data. From streamsides in the mountains of S Arizona & New Mexico up to 3000m. Clusters of pendant, long-tubed flowers in soft yellow, flushed with pink. Quite easy & hardy in the UK . . . . (20+) **B**

1.760. 950 : POLEMONIUM VISCOSUM Nevada, White Pine Co., Snake Range, Mt. Moriah Table. 3475m. J. Andrews coll. (Tufts of sticky, dissected basal leaves. Dense heads of flowers in a famously intense violet-blue. 15cm.) . . . . . (20+) **D**

1.766.950 : POTENTILLA THURBERI * New Mexico. No further data. (A most distinct and intriguing herbaceous species from moist, montane habitats in southern New Mexico & Arizona into northern Mexico. Many erect stems with pinnate, toothed foliage can reach about 70cm. to carry lots of deep, dusky red, dark-eyed flowers over a very long period in late summer.) . (20+) **C**

Primula : survivors of the Great Basin

1.768.100 : PRIMULA DOMENSIS Utah, Millard Co., House Range, Notch Peak. 2450m. Ledges on limestone cliffs. (Recently discovered & described, the largest flowered of the *P. cusickiana* group with rose to lavender flowers. Certainly difficult but possible under *Dionysia*-conditions in the UK : remember that like its relatives it tends to summer dormancy.) . . . . (20+) **E**

1.768.400 : PRIMULA NEVADENSIS Nevada, White Pine Co., Snake Range. 3440m. Limestone fell-field. (Endemic to the summit of this Great Basin Range but now being cultivated from John's 1991 coll. Large, violet-purple, yellow-eyed flowers on short stems. It can make quite large clumps in this site. Probably nearer the Rocky Mt. *P. angustifolia* than to *P. cusickiana*. For careful cultivation by the alpine-plant specialist. Possibly kept cool & best plunged outside in summer in the UK.) . . . . . (20+) **E**

1.768.459 : PRIMULA PARRYI Nevada, White Pine Co., Snake Range, Mt. Moriah Table. 3500m. J. Andrews coll.(A large, magnificent plant, mainly based on the Rockies & usually with its feet in snow-melt streams or seeps. Robust rosettes send up stout, 50cm. stems carrying large, rich red-purple flowers. Though widespread in the Rockies, seldom seen in cultivation) (30+) **B**

1.768.550 : PRIMULA RUSBYI * New Mexico, Sierra Co., Black Range. 2680-2800m. Moist, rocky openings in spruce & fir forest. M.& P.Stone 02-043. (A superb coll. by Mike & Polly from the top of the Black Range, W of Truth or Consequences, not far N of the Mexican border in SW New Mexico. The most southern of the relict N American primroses & close to the more northern *P. ellisiae*, which has sometimes masqueraded for it in cultivation. When we grew them both in the alpine-house, we found this the more difficult : its habitats in SW New Mexico & SE Arizona are more affected by the summer rainfall of the Mexican weather system so it may tend less to summer dormancy than its relatives. Though Mike tells us this is vigorous population, it is usually a dwarfer, more slender plant with deep rose-red to wine coloured flowered emerging from mealy-white calyces.) . . (20+) **E**

1.768.650 : PRIMULA SUFFRUTESCENS Cal., Alpine Co., above Winnemucca Lake. 2750m. Granite talus. (A superlative, high altitude endemic of the Sierra Nevada. In Section *Cuneifolia* & unlike any other N American species. Shrubby mats of toothed leathery leaves in neat rosettes with generous heads of bright rose to red-purple flowers. Cool scree-bed in the UK) (20+) **D**

1.770.001 : PRUNUS ANDERSONII Cal., Lassen Co., near Milford. 1340m. G. Greger coll. (The desert peach : can reach 2m. but usually much dwarfer with a stiff, spiny habit. Deep-pink to red flowers followed by orange-red, downy fruits.) . . . . . (5) **C**

1.775.106 : PULSATILLA OCCIDENTALIS (*Anemone occidentalis*) Montana, Bitterroot Ra. M.& P.Stone coll. (The western pasque flower : creamy white, downy, cups, usually purple tinged externally, open on 10cm. stems in spring from close clumps of hairy foliage, cut into linear lobes. Beautiful but not so growable as the European ones : treat as *P. vernalis*.) . . . (15+) **C**

1.775.207 : PULSATILLA PATENS (*Anemone patens*) Montana, Lewis & Clark Range. M.& P. Stone coll. (Distributed down the interior ranges from Alaska to Colorado, with disjunctions in Illinois & Texas, & accordingly variable. Clumps of finely cut, silky, hairy, greyish leaves with large, blue to purple flowers, hairy outside, open on stems of about 10cm.) . . . . . (15+) **C**

A :	**$2.00** ;	**£1.50** ;	**€ 2. -**	**C :**	**$4.00** ;	**£2.50** ;	**€ 4. -**	**E :**	**$7.00** ;	**£4.50** ;	**€ 7. -**
B :	**$3.00** ;	**£2.00** ;	**€ 3. -**	**D :**	**$5.00** ;	**£3.50** ;	**€ 5. -**	**F :**	**$9.00** ;	**£6.00** ;	**€ 9. -**

1.855.001 : SILENE CALIFORNICA Cal., Trinity Co., S of Hayfork. 750m. Openings among conifers. (The more northern & hardier of the two red-flowered Californian *Silene* spp. Flowers with deeply cut petals in eye-burning scarlet on prostrate stems. Smaller-flowered than *S. hookeri* subsp. *bolanderi* (from the same area) but very striking nonetheless.) ..... (15+) **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. Among conifers. (A very local plant, limited to this area. Large, pure-white flowers with the petal blades deeply cut into linear segments.) ..... (10+) **D**

Trillium : a wide selection of 2002 seed

Unfortunately cultivated *Trillium* seed is just not ready in time to include it in our earlier summer list. We are, however, increasingly inclined to subscribe to Kath Dryden's counsel of "sow it, put it outside and wait." Bob & Rannveig Wallis tell us they have also generally been successful using a similar simple method. Feed-back from those who have used various refrigeration & warming techniques has been mixed. Melvyn Jope on the other hand tells us he has never failed to germinate any *Trillium* seed he has had from us, dried or otherwise, by sowing on to composted bark (easily obtained in the UK at any rate) and placing the pots outside. It may take time but has proved a reliable method for the patient grower. 'Trilliums' by Fred & Roberta Case is the unchallenged reference work. All seed was collected in late August or September, 2002.

1.919.520 : TRILLIUM ALBIDUM * No data. Distributed through NW California & SW Oregon. (Described by Case as "one of the showiest of the western sessile trilliums". Big flowers with upright creamy white petals on 50cm. stems.) ..... (20+) **C**

1.919.820 : TRILLIUM CERNUUM var. MACRANTHUM No. data. The larger more robust race of the eastern nodding trillium with recurving white petals, considered to grow in the Midwest, to the S & W of its distribution ..... (15+) **C**

1.919.830 : TRILLIUM CERNUUM X ERECTUM * No data. As the *T. erectum* parent is the red form, expect "all possible combinations of form, structure and color", varying from white to violet but with an emphasis on reds & pinks. ... (15+) **C**

1.920.119 : TRILLIUM CUNEATUM * No data. from a selected deep purple form of one of the largest & most vigorous of the sessile eastern species, distributed from Kentucky & N Carolina, SW to Mississippi. ..... (15+) **C**

1.920.120 : TRILLIUM CUNEATUM * No data. Mottled leaves & green, purple-tinged sepals surround the upright petals in a wide range of shades of maroon, yellow, green or brown. ..... (15+) **C**

1.920.520 : TRILLIUM ERECTUM * No data. Elegant, outward-facing or declined flowers with pointed segments in stems about 30cm. high. Seed from a wide range of colour forms, some of which may have resulted from natural hybridization. Parents vary from white to violet, bicoloured forms, white & green forms, pinks and the typical dark velvety red. ..... (15+) **C**

1.920.521: TRILLIUM ERECTUM var. ALBUM * No data. White flowers with dark maroon ovaries ..... (10+) **C**

1.920.535 : TRILLIUM ERECTUM from YELLOW FORM * No data. The most frequent variant in soft-yellow. .. (10+) **C**

1.920.620 : TRILLIUM FLEXIPES * No data. The white flowered species of the E central lowlands, S of the Great Lakes. Outward-facing, creamy white flowers on stems 30cm. or more tall. Horticulturally "an outstanding species" writes Case. ... (15+) **C**

1.920.920 : TRILLIUM GRANDIFLORUM No data. From a variety of forms of this superlative & spectacular species, distributed in deciduous woodland from S Canada southward to Georgia. Great white or occasionally pink flowers. ..... (20+) **C**

1.921.010 : TRILLIUM KURABAYASHII No data. German-grown seed received under this name. This taxon is merged under the more southern *T. angustipetalum* (syn. *T. chloropetalum* var. *angustipetalum*) in the most recent Californian flora (1993). It may be the same as the plant as we grow as a red form of *T. chloropetalum*. Distinguishing garden material is not easy. (20+) **C**

1.921.320 : TRILLIUM LUTEUM * No data. An eastern sessile species from deciduous forest, often over limestone, on the hills of N Carolina, Georgia & Tennessee. Mottled leaves surround the greenish-yellow to lemon-yellow flower. ..... (15+) **D**

1.921.620 : TRILLIUM OVATUM (var. *ovatum*) No data. The variable western cousin of *T. grandiflorum*, flowering earlier than this in cultivation. The large white flowers, on stems of about 30cm. in this case, usually mature to pink shades. ... (15+) **D**

1.922.420 : TRILLUM RUGELII * No data. From the wooded mountains of the Carolinas, Tennessee, Georgia & Alabama. Up to 40cm. tall with nodding flowers, usually with white petals and deep purple anthers surrounding the reddish ovary . (15+) **D**

1.922.519 : TRILLIUM SESSILE * West Virginia. Widespread through eastern USA from the Great Lake S to Alabama & from Ohio E to the Atlantic. Rarely more than 25cm.tall with mottled leaves & spicily scented flowers, usually maroon. . (15+) **D**

A :	**$2.00** ;	**£1.50** ;	**€ 2. -**	**C :**	**$4.00** ;	**£2.50** ;	**€ 4. -**	**E :**	**$7.00** ;	**£4.50** ;	**€ 7. -**
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1.922.620 : TRILLIUM SIMILE * No data. "A grand species" comments Case "with huge. showy, textured creamy-white flowers set off by the purple-black ovary." Of very limited distribution whereTennessee, N Georgia & N Carolina meet. . . . (15+) **D**

1.922.820 : TRILLIUM SULCATUM * No data. A "robust and splendid plant" according to Case. Of limited distribution, along the Cumberland Plateau. One of the largest leaved pedicellate species. Rich maroon-red flowers on 70cm. stems. . . (15+) **D**

1.922.820 : TRILLIUM SULCATUM from YELLOW FORM * From a superb butter-yellow clone. . . . . (10+) **D**

1.923.120 : TRILLIUM VASEYI * No data. Mainly a plant of wooded slopes in the western Carolinas, progressing south into the neighbouring states. Flowers with thick-textured, crimson petals, with impressed veins, on stems about 50cm. high. (20+) **C**

1.923.121 : TRILLIUM VASEYI from GREY-BACKED FORM * No data. Silver-grey reverse to maroon petals. . (15+) **C**

Triteleia : neglected Californian Cinderellas

1.925.119 : TRITELEIA BRIDGESII Cal., Butte Co., SE of Chico. 150m. G. Greger coll. (A spectacular N Californian species in this neglected genus of late-flowering corms. Wide umbels of translucent, purple-blue flowers on 50cm. stems.) . . . (20+) **B**

1.925.120 : TRITELEIA BRIDGESII from 'ROBINETT SELECTIONS' * These have 12cm. wide umbels of starry flowers, 2cm. across, in pink, rose & lavender, with lighter centres & a glassy appearance. Selected in N Californian locations. . . (20+) **C**

1.926.300 : TRITELEIA HENDERSONII Oregon, Douglas Co., above Callahan Creek. 460m. Among *Pinus* on serpentine. (A SW Oregon endemic, superficially not unlike *T. crocea*. Yellow flowers with a central inky-blue stripe on each segment.)(15+) **D**

1.926.409 : TRITELEIA HYACINTHINA Cal., Butte Co., Butte Meadows. 1220m. G. Greger coll. (A big, handsome *Brodiaea*, up to 60cm. high with umbels of many, bowl-shaped, white flowers, sometimes flushed with purple externally.) . . . (20+) **A**

1.926.700 : TRITELEIA IXIOIDES subsp. SCABRA * Cal., Fresno Co. 1740m. Steep granite slope. Ex a J. & G. Robinett coll. (Light yellow flowers striped grey on the reverse on 25cm. stems, carried in wide umbels, over 15cm. across.) . . . . . (20+) **B**

1.926.815 : TRITELEIA LAXA from 'DEXTER' * No data. From a very compact form, the best for pots, recently named by Bob & Rannveig Wallis after it received an award. Originally sent by Wayne Roderick as *T. laxa* 'Congesta'. . . . . (20+) **C**

1.926.820 : TRITELEIA LAXA from 'GIANT LAVENDER' * Cal., Tulare Co. 600m. (Robinett selection from the southern Sierra Nevada. The lavender flowers are very large in umbels up to 35cm. wide on stems up to 75cm. high.) . . . . . (20+) **C**

1.926.850 : TRITELEIA LAXA from 'HUMBOLDT STAR' * Originally selected in Humboldt Co. at 700m. on an open, grassy, S-facing clay bank. Densely packed, 20cm. wide umbels of 50 plus very dark purple flowers. Up to 40cm. high.) . . . (20+) **C**

1.926.860 : TRITELEIA LAXA var. NIMEA * Cal., Marin Co., SSW of Tomales. 15m. Fissures & ledges on W-facing coastal cliffs. (A local race from the Marin Co. coast with large heads of luminous, deep violet-blue flowers on long stipes.) (20+) **C**

1.975.001 : VERATRUM CALIFORNICUM (var. *californicum*) Cal., Plumas Co., Horton Ridge. 2010m. Moist, SW-facing slope. (Magnificent herbaceous perennial. Huge, pleated, bright-green leaves. Dense panicles of white stars. 1.5m.) . . . . . (15+) **C**

1.981.150 : VIOLA BAKERI Cal., Plumas Co., near Greenville. 1100m. G. Greger coll. (A dwarf, more or less summer-dormant, tap-rooted perennial from coniferous forests of N California up to Washington. Tufts of entire, lanceolate basal leaves and bright yellow flowers, often backed with purple and veined with brown on the lower three petals. Probably difficult.) . . . . . (10+) **D**

1.981.205 : VIOLA BECKWITHII Cal., Plumas Co., N of Lake Davis. 1830m. G. Greger coll. (A summer-dormant species from the N rim of the Great Basin. A lovely thing with greyish leaves palmately cut into linear segments & two-toned flowers : the 2 upper petals deep red-purple ; the 3 lower ones pale lilac, yellow at the base. We have grown this successfully.) . . . (10+) **E**

1.981.370 : VIOLA DOUGLASII Cal., Plumas Co., N of Greenville. 1100m. G. Greger coll. (Erect stems 10cm. high with dissected, bipinnate leaves. Dark-veined, golden violets, with the upper two petals, usually stained brown-purple on the backs.) (10+) **D**

1.981.500 : VIOLA HALLII Cal., Humboldt Co., SSW of Willow Creek. 1420m. Stony turf in opening of coniferous woodland over serpentine. (Very close to *V. beckwithii* but the cut leaves are more glabrous & the flowers usually less elongated & more rounded. They have darker, velvety purple upper petals & cream lower ones. From a cooler habitat than *V. beckwithii*.) . . . . . (10+) **E**

1.981.606 : VIOLA LOBATA (subsp. *lobata*) Cal. Plumas Co., above Round Valley Lake. 1370m. Sandy soil under *Pinus*. (A plant of dry, usually coniferous, woodland, widespread S from S Oregon into N Mexico. Palmately lobed, glaucous leaves rise to about 8cm. from running rhizomes, overtopped by the deep yellow flowers, purple-brown outside & veined with purple on the lower petals. Possibly very difficult but there has not been much, if any, chance to try this in cultivation.) . . . . . (10+) **E**

1.990.109 : XEROPHYLLUM TENAX Cal., Plumas Co., near Greenville. 1100m. (The beargrass of dry, open, mountain slopes from British Columbia to California, E to Montana. Spectacular, 1-1.5m tall racemes of hundreds of small, white flowers from evergreen, grassy clumps. We grew this successfully in Dorset & it used to flower well in scree at Edinburgh.) . . . . (20+) **C**

1.998.209 : ZIGADENUS ELEGANS Nevada, White Pine Co., Mt. Moriah Table. 3410m. J. Andrews coll. (A handsome liliaceous bulb with stems of large, greenish white to cream flowers from rosettes of rather broad, basal leaves. Good in UK.) . (20+) **B**

A :	**$2.00** ;	**£1.50** ;	**€ 2.-**	**C :**	**$4.00** ;	**£2.50** ;	**€ 4.-**	**E :**	**$7.00** ;	**£4.50** ;	**€ 7.-**
B :	**$3.00** ;	**£2.00** ;	**€ 3.-**	**D :**	**$5.00** ;	**£3.50** ;	**€ 5.-**	**F :**	**$9.00** ;	**£6.00** ;	**€ 9.-**

Alstroemeria : an unrivalled range of UK grown seeds

With its main centre in Chile (a lesser secondary centre is in Brazil), this spectacular genus includes species which grow, literally, from the Pacific seaside to elevations of over 3000m. in the Andes, from the Atacama desert to the temperate rain-forests of the S & on to the steppes of Patagonia. Seed is reputedly difficult to germinate. Ideally it should be given a warm period followed by a cool period for germination. We have always found germination occurs at a reasonably even temperature between 5 & 10°C (40-50°F). Soaking seed in warm water for 24 hours before sowing, then placing the container at the bottom of a domestic refigerator should give the even 5°C required, though we have always found conventional sowing quite satisfactory. Seed we sowed last November took 4-5 weeks to germinate in our mild autumnal climate. The names follow those in the meticulously researched 'Die Gattung *Alstroemeria* in Chile' by E. Bayer (1987).

2.026.400 : ALSTROEMERIA AUREA * Chile, VIII, Nuble, SW of Termas de Chillan. 1500m. Open banks in *Nothofagus* woods. (From an outstanding population : its coppery reds & orange-scarlets approach *A. ligtu* subsp. *simsii*,) . . . . . (10+) **C**

2.026.410: ALSTROEMERIA AUREA * Chile, IX, Cautin, W of Vilcun. 200m. Among scrub at woodland margins. (The more widespread brilliant yellow race from higher altitudes & into the colder, wetter South. An excellent, hardy garden-plant in our cool, wet climate & no doubt elsewhere in the UK. From wild seedlings : quite variable in rich, egg-yolk yellow shades) . (15+) **B**

2.026.900 : ALSTROEMERIA EXSERENS * Chile, Reg. Metro., La Parva to Valle Nevado. 2800-3100m. Loose, stony slopes. (A high altitude species with about the largest flowers in the genus on the dwarfest of plants. Rich pink, darker tips.) (10+) **E**

2.026.950 : ALSTROEMERIA aff. EXSERENS * Chile, VI, Cachapoal, NE of Coya. Ex an A. Brinck coll. (as *A. exserens*) (Much taller, about 60cm., than the alpine type-race. Big heads of rose-pink flowers, neatly banded bright yellow.) . . . . . (10+) **B**

2.027.000 : ALSTROEMERIA GARAVENTAE * Chile, V, Cerro Vizcacha. Ex a J. Watson coll. (Local & obscure. Large flowers speckled on the inner segments with broken lines of crimson dots on a salmon-pink ground, ageing to ruby shades.) . (10) **D**

2.027.010 : ALSTROEMERIA aff. GARAVENTAE * Chile, V, Quillota, Cerro La Campana. Ex an A. Brinck coll. (From a coll. made a little to the N of the above type-locality one. Heavily speckled on every segment (not just the inner ones)) . . . (10) **D**

2.027.110 : ALSTROEMERIA HOOKERI (subsp. *hookeri*) * No data. A beautiful dwarf species, 15-20cm high, & one of the best for pot-cultivation in the alpine-house. Green-tipped, pastel pink flowers, blotched with gold & lightly speckled. . . . (10+) **D**

2.027.800 : ALSTROEMERIA LIGTU subsp. INCARNATA * Chile, VII, Cerro de los Cipreses (Rio Teno valley E of Curico). 1500m. Ex an A. Brinck coll. (About 1m. high, always with a pink ground-colour. "Gorgeous...sumptuous...!".) . . (10+) **C**

2.028.300 : ALSTROEMERIA MAGNIFICA subsp. MAXIMA * Chile, IV, Choapa, Pichidangui. Ex an A. Brinck coll. (Indeed magnificent with very large, flat, lilac flowers heavily marked on the two upper segments with dark red.) . . . . . (10+) **C**

2.028.500 : ALSTROEMERIA PALLIDA * Chile, Reg. Metro., Lagunillas, ENE of San Jose de Maipo. 2200m. Steep, open, stony slopes. (Few alpine plants can rival the spectacle of this in flower. Remaining 20cm. or less high with us under glass here, its umbels of large flowers in palest pink to white have the upper, inner segments blotched with gold & streaked with crimson. Limited to the ranges S & W of Aconcagua between 1500m. & 2800m., it should be tried outside in sunny scree in the UK.) (10+) **C**

2.028.609 : ALSTROEMERIA PATAGONICA * Argentina, Santa Cruz, Guer Aike. 30-50m. Among low scrub on steep, SW-facing banks of consolidated sand. Ex S. Pern & J. Watson 6226 (Orange-yellow. Taller & more slender than the next.)(8) **D**

2.028.610 : ALSTROEMERIA PATAGONICA * Chile, XII, Magallanes, near Punta Arenas. Ex an O. Magen coll. (Broader, twisted, blue-grey foliage & little, upward-facing, orange-yellow flowers on stems under 10cm. high. Utterly hardy.) . (8) **D**

2.028.710 : ALSTROEMERIA PAUPERCULA * Chile, II, Antofagasta, Quebrada de Taltal. 200-500m. Among coastal scrub & in bare stone-runs. Ex A. Flores & J. Watson 7313. (A plant of the Pacific coastal fog-belt. About 30cm. high with lilac flowers, sparsely streaked with deep violet. Distinct, broad, thick-textured, matt grey-green leaves with very undulate margins.)(10) **E**

2.028.811 : ALSTROEMERIA PELEGRINA from WHITE FORMS * No data. *A. pelegrina* is the type species for the genus & long-cultivated. A plant of rocks & cliffs along the north Chilean coast. Very large, beautiful, pure white flowers. . . (10+) **D**

2.029.100 : ALSTROEMERIA PRESLIANA subsp. AUSTRALIS * Chile, IX, Malleco, Cordillera de Nahuelbuta, W of Vegas Blancas. 1200m. Openings in woodland, often in shade. (One of the most southern, distinct from the type-race in its striking, red-brown anthers, more elongated upper segments, heavily streaked with crimson, & intense, deep-pink ground-colour. In autumn, it forms swathes of pink in the *Araucaria* cloud-forest at 1400m. but tends to flower about mid-summer in the UK.) (10+) **C**

2.029.410 : ALSTROEMERIA PULCHRA (subsp. *pulchra*) * Chile, V, Valparaiso, Con Con. 115m. In heavy, red soil on W-facing banks in cultivated, littoral area. Ex Beckett, Cheese & Watson 4762 (White or pale lilac, streaked with crimson.) . (10+) **C**

A : $2.00 ; £1.50 ; € 2. -	**C : $4.00 ; £2.50 ; € 4. -**	**E : $7.00 ; £4.50 ; € 7. -**
B : $3.00 ; £2.00 ; € 3. -	**D : $5.00 ; £3.50 ; € 5. -**	**F : $9.00 ; £6.00 ; € 9. -**

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. Raised from our 1993 coll., we have this well-established outside against a N-facing wall, where it is cut to the ground each winter & does not flower until very late in the season. The capsules did not open to reveal the brilliant orange seeds until midwinter and were collected on the first day of January, 2003. Seed usually germinates rather slowly & irregularly. This name appears to cover a disconcerting range of plants. This climbs to 2-3m. with heads of about 30 tubular flowers, speckled inside, with scarlet outer segments & orange inner ones.) ..... (6) **D**

2.182.000 : CALCEOLARIA FOTHERGILLII Falkland Is., W of Green Patch on E-facing cliff above Berkley Sound. 10m. Well-drained, shallow peat over shale. Ex a R. Reid coll. (Mats of foliage, densely covered with down ; erect stems of about 8cm. carry a single large, pouched flower, usually yellow streaked with red inside & with a broad, reddish band outside. Seed from plants raised by alpine-grower John Dixon, who comments that the plants have a distinctly shrubby habit.) ..... (30+) **F**

2.440.000 : HERBERTIA LAHUE (subsp. *lahue*) * Argentina, Buenos Aires Prov. Ex an A. Castillo coll. (Hardy with us in an unheated greenhouse. A delightful little corm in *Iridaceae* with a long succession of violet flowers on 10cm. stems.) (20+) **B**

2.530.010 : LIBERTIA CAERULESCENS * No data. A Chilean with clumps of stiff, linear leaves, about 30cm. tall, & stems packed with stemless umbels of pale-blue flowers with membraneous bracts. Needs a sheltered site in the UK. ..... (20+) **C**

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. The classiest of the pink Andean daisies with a summer-long succession of broad-rayed heads in what Bean describes as a"beautiful silky pink.") ..... (10+) **D**

2.629.200 : MUTISIA SPINOSA (*M. retusa*) * Argentina, Neuquen, Lacar, E of Lago Lolog. 1100m. Among scrub in gravelly soil. (Can climb to 6m., though usually much less. Coarsely toothed, leathery, evergreen leaves & profuse, large pink flower heads. This & *M. oligodon* are possibly the best for UK gardens, though we have found this the more difficult. Superior flowers to those of *M. illicifolia*, which often now masquerades as this, as well as the preceding, in the UK.). ..... (10+) **D**

2.659.000 : NOTHOSCORDUM OSTENII * Uruguay. No further data. Ex a J.A. Castillo coll. (This is a choice, little 'sweetie' , very scarce and local in nature. Alberto Castillo sent Brian Mathew a few wild-collected seeds in 1987. Brian gained a P.C. for the species in April, 1992. Delicate, thready leaves and wiry stems, about 10cm. high, with umbels of rich chrome-yellow, freesia-scented flowers, opening wide and striped green on the outside. Temperature-hardy here & only increases by seed.) (20+) **E**

2.729.005 : PASITHEA COERULEA * Chile, Bio Bio, Antuco, La Cantera. 300m. In sandy soil among grasses & scrub in broken shade of pine plantation. Ex A. Flores & J. Watson 8706. (A tuberous-rooted member of the *Liliaceae*. Basal tufts of foliage with 60-80cm. stems carrying pyramidal inflorescences of many, rich, pure-blue stars with clustered yellow anthers. Described by G.S. Thomas as "a splendid *Anthericum liliago* with flowers of *Agapanthus*-blue", this is seldom-seen in cultivation.) .... (10) **D**

2.780.800 : RHODOPHIALA ELWESII * Argentina, Neuquen, Lacar, E of Lago Lolog. 1100m. Open areas, among grasses & scrub, in sandy soil. (From near San Martin, where Elwes stayed in February, 1902, & presumably made the type coll. Very beautiful with large, upward-facing, soft-yellow flowers with wine-coloured throats on 30cm. stems. The name has been misapplied to colls., probably yellow *R. advena*, from Chile. As far as we know, *R. elwesii* grows only in Argentina. It should be one of the most growable, planted out in a bulb-frame or a raised bed. Seed from bulbs we raised from our 1994 seed coll.) ... (10+) **D**

2.781.500 : RHODOPHIALA PRATENSIS * Chile, IX, Malleco, Cordillera de Nahuelbuta. 1200m. Openings among scrub. (Elegant, pale scarlet-flowered species, about 20cm. high. Prof. Grau, who is working on this genus, suggests this may be the "often wrongly interpreted *R. pratensis*." No problem to grow in our unheated bulb-house, flowering in summer.) ..... (10+) **D**

2.840.100 : SCHIZANTHUS GRAHAMII * Argentina, Mendoza, Malargue, Valle de las Lenas. 2200m. Loose, stony soils on steep slopes & along gulleys. (Much-cut, rich-green, glandular foliage & branching stems to about 50cm., carrying successions of 'upside-down', butterfly-like flowers, here in the most violent colour-form : shocking pink & luminous orange. An amazingly improbable & spectacular alpine, an opportunistic colonist of disturbed slopes, revelling on the trashed ski-runs in summer. It provides a spectacular display, almost 1m. high, over about 3 months in our netting-sided polytunnel each year.) .. (20+) **D**

2.871.451 : SISYRINCHIUM FILIFOLIUM (*Olsynium filifolium*) * Falkland Islands, E of Stanley, Whalebone Bay. 5m. Shallow peat over clay. Ex a R. Reid coll. (A fine endemic of the Falkland Is., rare in cultivation & separated at specific level from the variable mainland races. A dainty plant up to about 30cm. tall, usually less, with rather stiff, linear leaves, & up to 8 white flowers, veined with purple & nodding on thready pedicels. Not difficult in the UK in a trough or raised scree-bed.) ..... (20+) **D**

2.940.010 : TECOPHILAEA CYANOCROCUS * No data. The famous blue Chilean crocus, supposedly extinct in the wild but well established in cultivation. Its crocus-like flowers in spring have no equal in the purity & intensity of their gentian-blue We grow this successfully in our unheated greenhouse with standard 'bulb' treatment but would never try it outdoors in the UK (10) **E**

2.940.011 : TECOPHILAEA CYANOCROCUS 'LEICHTLINII' Exquisite paler blue form with a large white centre. (10) **D**

2.940.012 : TECOPHILAEA CYANOCROCUS 'VIOLACEA' Hand-pollinated from the dusky, violet-blue form .... (10) **E**

2.968.500 : TRISTAGMA NIVALE * Argentina, Neuquen, Cerro Chapelco. 1680m. Exposed, stony slopes. (Distinctively curled, fleshy leaves coil on the scree. Purple-black to green, tubular flowers, with reflexed lobes, on 15cm. stems.) ..... (10+) **D**

A : $2.00 ; £1.50 ; € 2.-	**C : $4.00 ; £2.50 ; € 4.-**	**E : $7.00 ; £4.50 ; € 7.-**
B : $3.00 ; £2.00 ; € 3.-	**D : $5.00 ; £3.50 ; € 5.-**	**F : $9.00 ; £6.00 ; € 9.-**

Tropaeolum : a diverse genus climbing into fashion

2.970.200 : TROPAEOLUM AZUREUM * Chile, Reg. Metro., Chacabuco near Polpaico. 500m. Hot, dry hillslopes, scrambling through low bushes. Ex S. Pern & J. Watson 6055 & subsequent Watson colls. in the same area. (A lovely, 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) **D**

2.970.305 : TROPAEOLUM BRACHYCERAS * Chile, V, Los Molles. 15m. Among boulders in coastal scrub. Ex A. Flores & J. Watson 8626. (A pretty climber from the coastal mist-belt. Delicate stems scramble to about 1m., clad in small, whirlygig leaves & carry a multitude of tiny 'nasturtium' flowers in bright yellow with short, green spurs. Maybe safest frost-free.) . . . . (5) **D**

2.970.510 : TROPAEOLUM CILIATUM * No data. A cousin of *T. speciosum* from further N on the Chilean coast. A similar, hardy, rhizomatous, summer-growing climber but with smaller, apricot-yellow flowers, purple-veined on the upper petals. It can be an aggressive thug in a cool, moist garden such as ours. So, take care! Definitely not to be attempted in New Zealand.. . . (5) **B**

2.971.200 : TROPAEOLUM POLYPHYLLUM * Argentina, Mendoza, Puente de Inca. 2720m. Steep, loose, clay slopes. (Flowers vary here from the usual bright yellow to pale creams & orange-red tints, all along the 1m. long trails of deeply cut, blue-grey leaves. Growing to about 3300m. around Aconcagua, this high-alpine , often a coloniser of deep, mobile screes, can be trouble-free & embarrassingly vigorous when settled in UK gardens. It is not at all easy to establish in the first place, however : try sowing it direct to avoid disturbance, as we did in our polytunnel, where it provides a spectacular display in early summer.) . . . . (5) **D**

2.971.400 : TROPAEOLUM SESSILIFOLIUM * Chile, Reg. Metro., Lagunillas. 2200m. Steep, open rocky slopes. (Well established from our 1991 & 1994 colls. & not difficult in a scree-bed or the bulb-frame. One of the dwarfest in the genus with erect or flopping, 20-30cm., branching stems with tiny, lobed leaves & white or pale lavender flowers with orange-yellow centres. It has been suggested recently that this name is incorrect but we are not wholly convinced & retain it for the present.) . (5) **D**

2.971.610 : TROPAEOLUM SPECIOSUM No data. Summer-growing climber from wet S Central Chile down into Chiloe. Loves cool, moist British gardens, forming curtains of dainty, light-green foliage sheeted with scarlet flowers in late summer & autumn, when the steely blue fruits appear. Glorious in Scotland, the West & Ireland but not so easy in hot, dry gardens. . . . . (5) **B**

2.971.810 : TROPAEOLUM TRICOLOR No data. A summer-dormant, tuberous-rooted climber with fascinating, complex flowers in scarlet, black, yellow & green over a long period in spring & early summer. It grows up to middle altitudes in Chile but the winter growth is too vulnerable for cultivation outside here though others grow it well in sheltered spots in the UK. No trouble in a cold greenhouse, where it gives a long, arresting display in spring & early summer . . . . . (8) **C**

Some summer-growers of southern Africa

Though it is simple in theory to appreciate the opposite rainfall patterns of southern Africa, it is not quite so simple to understand the plants which grow in the two very different climates. There are both summer-growers & winter-growers in the same genus : think of *Gladiolus*. We list only a few summer-growers for immediate sowing here & hope to include a greater range in the next list. A generalisation on South African species for UK gardeners might be that the montane, summer-growers are the ones you may be able to grow successfully outside in our cool temperate climate. Cool, moist summers & cold, dry winters sum up the Drakensberg climate.

3.105.510 : CYRTANTHUS BREVIFLORUS Lesotho. No further data. (From the stock introduced by Helen Milford & utterly 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 at almost 3000m., growing about 1m. high. Arching stems carry pendant, yellow, tubular flowers. Seed just harvested should give good germination.) . . . (10+) **D**

3.106.150 : CYRTANTHUS FALCATUS * KwaZulu-Natal, Drakensberg, Loteni. Vertical cliff faces. (Broad, leathery leaves and umbels of pendulous, tubular, green to orange-yellow, red-margined flowers on 30cm. stems. Fresh, British-grown seed of this spectacular, saxatile species, almost certainly temperature-hardy in the UK, if kept dry when dormant in winter.) . . (10+) **D**

3.143.500 : DIERAMA PAUCIFLORUM * E Cape, Drakensberg, ESE of Ben Macdhui. 2750m. Among grasses in moist, peaty soil. (An outstanding garden-plant in the UK. Tolerant of winter-wetness (it sometimes grows in standing water with sphagnum in the wild) & untouched by severe frosts. Dwarfer than *D. dracomontanum* with many, wiry, 40cm. stems from dense grassy tussocks, with wide-open, sometimes upward-facing, bright purple-pink flowers amid rust-brown bracts.) . . . . . (20+) **C**

A : $2.00 ; £1.50 ; € 2. -	**C : $4.00 ; £2.50 ; € 4. -**	**E : $7.00 ; £4.50 ; € 7. -**
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3.243.300 : GERANIUM MAGNIFLORUM * E Cape, Witteberge, SE of Lady Grey. 1500m. Among long grass in marshy area. (A very fine, green-leaved, pink flowered species, about 30cm. high, which Panayoti Kelaidis & Jim collected in 1996. "Superb" and "indestructibly hardy" at Denver. The highest growing S African in this genus, recorded up to 3200m.) . . . . . (10+) **D**

3.243.460 : GERANIUM ROBUSTUM * No data. Most British-grown stock probably originates from S.& S. Hannay 14 collected in the E Cape. We are told we have a particularly fine, compact form, which makes mounds about 50cm. high and 1m. or more across. Branching, stiff, sticky stems set with deeply cut soft-green leaves carry masses of flowers in a pleasing pinkish purple over a long period in summer. Excellent, trouble-free and hardy here over many winters in a sunny, well-drained bed. . . (10+) **B**

3.261.000 : GLADIOLUS FLANAGANII * KwaZulu-Natal, Drakensberg, S of Sani Pass. 2850m. Fissures on S & SE-facing, basalt cliffs. (From our 1996 coll. : The 'Suicide Gladiolus', an alpine chasmophyte, almost always out of reach on inaccessible cliff-faces at the highest altitudes in the Lesotho & Natal Drakensberg, up to 3300m. Rounded, thick-textured, scarlet flowers with neat, narrow, white guide-lines on the lower segments. It is a priority for us to establish this species in cultivation.) . . . . . (10+) **F**

3.276.502 : GLADIOLUS SAUNDERSII Eastern Cape. No further data. (A startlingly spectacular species distributed from the Witteberge & Cape Drakensberg N through Lesotho up to 2900m. but absent from almost all of the Natal Drakensberg. It has been confused with the very local chasmophyte, *G. flanaganii*. Both have brilliant scarlet flowers marked with white on the lower segments but flower shape, habit & habitat are different. Almost certainly hardy in a well-drained site in the UK.) . (10+) **C**

3.461.509 : KNIPHOFIA CAULESCENS * No data. Our own seed, just harvested, of this splendid species of greatgarden worth in the UK. Our original stock was raised over 30 years ago from a coll. made in Lesotho by Louise Koffler. It grows up to 3000m. in the high mountains of the E Cape up through the Drakensberg of Lesotho & KwaZulu Natal, usually in rocky, seepage areas or on wet cliffs. Fine blue-grey foliage & dense inflorescences of pale greenish yellow to cream flowers from coral to flame buds. Its caulescent habit tends to be more developed in cultivation, where it forms expanding *Yucca*-like clumps.). . . . . (20+) **C**

3.545.201 : MELIANTHUS MAJOR W Cape, near Hermanus. 100m. (One of the most spectacular foliage-plants growable in British gardens. In mild areas, this is a 2-3m. high shrub ; in colder gardens, it will generally survive being cut to the ground by frost annually, making over 1m. of growth each summer. Huge, deeply cut & serrated, grey leaves. Deep crimson flowers.)(10+) **B**

3.545.709 : MELIANTHUS VILLOSUS KwaZulu-Natal, Drakensberg, Cathedral Peak.. (A shrubby species, up to 2m. high, from streamsides and forest margins up to 2000m. in Natal & Lesotho. Arresting, grey, hairy, pinnate leaves overtopped by stems of purplish-black flowers followed by inflated, pale-green fruits. Unlike the preceding, a plant from the summer rainfall area which should, theoretically, be hardier in the UK : if cut to the ground in the winter, it will usually regenerate.) . . . . . (10+) **C**

Nerine bowdenii : from the top of the Drakensberg

3.595.100 : NERINE BOWDENII * Lesotho/Orange Free State, Drakensberg, Mont aux Sources. 3000m. Gravelly ledges & pockets on & below cliffs. (In 1996, we brought back a few seeds from exposed cliffs at one of the highest localities we visited on the Lesotho border. The species only grows southwards from here, descending to below 1800m. & extending to the Amathole Mts. near King Williamstown, the type locality where Cornish Bowden found it in 1903. The Mont aux Sources plants are distinct from other *N. bowdenii* we have grown : possibly the form to which the name *N.b. wellsii* has been applied, a name ignored by Hilliard & Burtt. They flower well over a month earlier &are a paler pink. Very successful here in an open border but other stock of *N. bowdenii* has failed here even against a S-facing wall : the most cold-tolerant *Nerine* in existence. Large, fleshy *Nerine* seeds germinate & make bulbs without moisture. We have kept these cool but they will be active on despatch.) . . . . . (5) **E**

3.704.150 : ROMULEA MACOWANII var. ALTICOLA (*R. longituba* var. *alticola*) * Lesotho, no further data. (Ex the H. Milford type-collection, long grown & totally hardy outdoors in UK gardens. Long-tubed flowers (the longest in the genus) in yellow, shading to orange-yellow inside & tinged with brown or purple externally. Known only from this & one other coll.) (15+) **B**

3.772.509 : SENECIO POLYODON var. SUBGLABER * Lesotho. Ex a P. Kelaidis coll. (An excellent little daisy, about 30cm. tall, with branching stems carrying lots of small heads with bright purple rays. The Irish plantsman, Carl Dacus, rates this highly & has been distributing it to his friends much to their delight. Like many Drakensberg plants this will keep flowering through late summer until frosted. A plant of marshland and seasonally wet seeps, it should tolerate climates with wet winters.) . (30+) **D**

3.790.400 : STREPTOCARPUS GARDENII * KwaZulu-Natal, Drakensberg, SW of Njesuthi valley. 1400m. In moss on boulders in deep shade. (UK seed grown by Alan King from our 1996 coll. A beautiful, little plant with rosettes of narrowly ovate leaves & pale violet flowers, with pale-green tubes & purple-lined lobes, on 10cm. stems. Suited to the alpine-house treatment given to the hardy European & SE Asian *Gesneriaceae*. Moist & shaded in summer, cool & dryish in winter.) . . . . . (50+) **D**

3.953.609 : WATSONIA PILLANSII (*W. beatricis, W. socium, etc.*) Eastern Cape. (The only *Watsonia* generally cultivated in the UK & of proven reliability. Distributed, usually in moist grassland, from the S Cape through Natal into the Drakensberg, at low to middle elevations. Spikes of 30 or so, bright orange-red, long-tubed flowers on 50-120cm. stems in late summer.) (15+) **B**

3.955.200 : WATSONIA WILMANIAE * W Cape, Groot Swartberge, S of Prince Albert. 1500m. Along stream. (A tall wet-grower endemic to the Swartberg & Kamanassie ranges. According to Goldblatt, the Swartberg populations range from deep red to orange, pink & cream. UK grown seed from our 1996 coll. : so far seems just as hardy & suited to the UK as *W. pillansii*.) . (15+) **D**

A :	**$2.00** ;	**£1.50** ;	**€ 2. -**	**C :**	**$4.00** ;	**£2.50** ;	**€ 4. -**	**E :**	**$7.00** ;	**£4.50** ;	**€ 7. -**
B :	**$3.00** ;	**£2.00** ;	**€ 3. -**	**D :**	**$5.00** ;	**£3.50** ;	**€ 5. -**	**F :**	**$9.00** ;	**£6.00** ;	**€ 9. -**

4.023.000 : ALLIUM PRATTII var. LATIFOLIATUM * China, Sichuan, Emei Shan. 2600m. Cliff ledges. Ex E. Needhan 981 (Provisionally identified by Jill Cowley at Kew as this or perhaps *A. ovalifolium* : the names may be conspecific. It forms clumps of bulbs with reticulate tunics, their necks above the ground, like orchid pseudo-bulbs. These send up, big, broad, shiny-green, aspidistra-like leaves. In midsummer, rounded umbels of purple-pink flowers rise above them on 20cm. stems.) . . . (10+) **D**

4.145.210 : BRIGGSIA MUSCICOLA* No data. The easiest to grow & best-established member of this cliff-dwelling, SW Chinese genus of *Gesneriaceae*. Flat rosettes of brilliant green, velvet leaves with tubular, pale-yellow flowers clustered on 10cm. stems. Temperature hardy in the UK but needs careful cultivation in high humidity & almost complete shade in the alpine-house: does well below the bench. Treat seed as you would its relatives, *Jankaea* & *Ramonda*, or as for *Rhododendron*. . . . . (50+) **E**

4.159.510 : CALOSCORDUM NERINIFLORUM * No data. An attractive central Asian bulb, in a monotypic genus, related to *Allium*, spread from the Pamirs through S Russia & N China. Stems of about 20cm. bear umbels of up to 20, bright-pink flowers over a long period in late summer. Not at all difficult, though it resents wet conditions, especially in winter. . . . . (15+) **B**

4.264.010 : DEINANTHE CAERULEA * No data. A herbaceous relative of *Hydrangea*, about 30cm. high, one of the choicest of hardy plants. In late summer, downward-facing flowers with waxy, cup-shaped, lavender-blue petals around the cluster of violet stamens, overtop the bristly, soft-green foliage. From wet, shady cliffs in Hubei, W China, it has been maintained for almost 100 years from Wilson's collection. Needs shade and shelter from cold or drying winds in a moist, humus-rich compost. (50+) **E**

4.265.310 : DELPHINIUM BRUNONIANUM * No data. Variable & widespread in nature above 4000m. from the Pamirs through the Himalaya to SE Tibet. This is from the form established in British gardens & close to *D. cashmerianum*. About 30cm. high with rounded, lobed foliage and chubby, downy black-eyed flowers of dusky purple with stubby spurs. . . . . (20+) **B**

4.266.100 : DELPHINIUM DELAVAYI * China, Yunnan, Lijiang, Yulong Shan, between Bai Shui and Hei Shui. 2900m. Ex CLD 895. (Clumps of deeply divided basal leaves and branching stems about 60cm. high carrying a succession of long-spurred, deep blue-violet, white-eyed flowers from late summer into autumn. So far, seems a good, reliable garden plant.) . . . . . (20+) **C**

4.266.409 : DELPHINIUM GRANDIFLORUM * China, Yunnan, Bei Ma Shan to Dequn. 3400m. Rocky areas. Ex ACE 1324. (Proving an excellent perennial in the UK with stems about 1m. high carrying large, brilliant blue flowers.) . . . . . (20+) **C**

4.267.810 : DELPHINIUM TATSIENENSE * No data. Recorded up to 4000m. in S Sichuan & a delight in a raised bed, scree or other well-drained, sunny site with flights of azure-blue butterfly-flowers on branching, 30cm stems in summer. . . . (20+) **B**

4.390.110 : FRITILLARIA CAMTSCHATCENSIS * No data. A marvellous plant with stems of 30cm. or more, whorled with rich-green leaves, carrying nodding, thick-textured bells in darkest brown-purple. Distributed from Japan in a N Pacific arc through Sakhalin & Kamchatka into Alaska & Canada. Utterly hardy & quite easy outside in the UK in a cool situation. . . . (20+) **C**

4.480.750 : IRIS DELAVAYI (Ser. *Sibiricae*) * China, Yunnan. Ex an Ivor Stokes coll. (A tall, handsome plant from damp sites in Sichuan & neighbouring Yunnan. Clumps of erect sword-leaves about 1m. high, overtopped by the stout 1.5m. stems carrying several, large violet-purple flowers with white, dagger-like signals on the broad blades of the falls.) . . . . . (20+) **B**

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**

Lilium & Nomocharis : some exquisite Asiatic species

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, horizontally held flowers in waxy white, banded with gold & spotted with crimson, on stems of 1m. or more in late summer. A species of hill-slopes at quite low altitudes & likely to thrive best in good, loose, sandy loam in a warm, sunny site in the UK : definitely not in a cool, wet, peaty place.) . . . . . (15+) **D**

4.516.825 : LILIUM CONCOLOR var. PULCHELLUM (*L. buschianum*) * Russia, Ussuri. (Quite a robust form of this slender, lime-tolerant, sun-loving species, widely distributed in NE Asia. This is the most northern race from the Russian Far East & Korea, about 50cm. high with many linear leaves carry up to 10 erect flowers in glossy orange-scarlet speckled with purple.)(10+) **E**

4.517.209 : LILIUM DAVIDII * China, Yunnan. 1500m. (A beautiful, graceful, *Martagon*-type species about 1.5m. high with up to 20, nodding flowers in orange-red with raised black spots, opening in late summer from woolly buds & held out on stiff, horizontal pedicels. A very hardy species said to enjoy full sun and to be comparatively lime-tolerant.) . . . . . (15+) **D**

4.517.610 : LILIUM DUCHARTREI * A 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**

A :	**$2.00** ;	**£1.50** ;	**€ 2. -**	**C :**	**$4.00** ;	**£2.50** ;	**€ 4. -**	**E :**	**$7.00** ;	**£4.50** ;	**€ 7. -**
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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 appears to be derived from seed collected by W. Price in 1912 near "Arisan" on "Mount Morrison". It flowers quickly from seed, if sown in gentle warmth in winter.) . . . . . (20+) **B**

4.519.509 : LILIUM LANKONGENSE * China, Yunnan. 2700m. (Endemic to N Yunnan & close to white *L. duchartrei*, under which it has been included. Stems 1m. to 1.5m. high with scattered, dark green leaves bear a raceme of about 12, scented, pendulous, *L.martagon*-type flowers in rose-pink, speckled with purple. For moist, humus-rich soil in semi-shade.) . (15+) **E**

4.520.010 : LILIUM MACKLINIAE * India, Manipur, Sirhoi near Ukhrul. 2300-2450m. Steep, grassy slopes. (All the cultivated stock stems from the collections made by Frank Kingdon-Ward on this one mountain in 1946 & 1948. An exquisite species in the group approaching *Nomocharis* with nodding, white, bowl-shaped flowers, flushed with rose-pink outside.) . . . . . (20+) **C**

4.520.409 : LILIUM NANUM India, Almora, Nanda Devi region. 3000m. Alpine meadow just above tree-line of *Abies* forest. J. Shipton coll. (Collected in fruit, there is a possibility that these may be the allied pale lemon-yellow *L. oxypetalum* which also extends to this area of the Himalayas, just W of Nepal. Should do well outside in the cooler areas of the UK.) . . . . . (20+) **D**

4.520.410 : LILIUM NANUM * No data. From an established form, probably originating in N India, of this charming dwarf species, about 30cm. high. First described as a *Fritillaria*, it has oscillated between *Nomocharis* & *Lilium*. The species is distributed from the Garhwal Himalaya to NW Yunnan at altitudes between 2700m. & 5000 m. Lilac to purplish, drooping, bells. . . (20+) **C**

4.520.415 : LILIUM NANUM from SIKKIMESE FORM * Sikkim : no further data. Ex an AGSES coll. 30cm. . . . . (15+) **D**

4.520.420 : LILIUM NANUM from BHUTANESE FORM * Bhutan.. A distinct race with a striking mahogany stem. (15+) **E**

4.520.810 : LILIUM OXYPETALUM var. INSIGNE * No data. The dusky pink form of this dwarf, usually yellow, species from the NW Himalaya, between 3000m. & 4000m. About 20 cm. high with a single, nodding, campanulate flower. . . . . (20+) **D**

4.520.910 : LILIUM PHILIPPINENSE * No data. Elegant, 1m., grassy-leaved stems & very long-tubed, horizontal, pure-white, scented trumpets, sometimes tinged green or brown outside. From the mountains of Luzon in the N Philippines.. . . (20+) **C**

4.521.539 : LILIUM PRIMULINUM var. OCHRACEUM * China, Yunnan. 2300m. (From material recently received from China. A striking representative of a group of very confusing, very variable lilies distributed through N Burma, Thailand & adjacent SW China. This race from NW Yunnan is possibly the hardiest. Stems of about 1.2m. carry up to about 12 pendulous flowers with strongly reflexed segments, astonishingly coloured with bright greenish yellow tips contrasting with the dark, brownish purple throats. A marvellous thing, which we have not yet attempted outdoors but which is doing well with protection.) . . . (15+) **E**

4.521.909 : LILIUM SARGENTIAE * China, Yunnan. 1300m. (A magnificent, trumpet lily with stout, purplish, 1.5m. stems carrying about 12, large, very fragrant flowers, pure-white shading to yellow in their throats inside & rose-purple suffused with green & brown tints outside. For a sheltered, part-shaded site in a rich, lime-free soil with its head in the sunshine.) (15+) **D**

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. Hanging out of the cliffs "like a giant *Tricyrtis*...stems 6ft. or longer with up to 20, light-pink flowers on very long pedicels." A truly sumptuous plant, growing successfully in the UK, in rich, peaty soil, both under glass & outside, with gloriously scented, crimson-speckled flowers in late summer. In 2002, a stock-plant here, grown under glass, had about 50 flowers on an arching stem almost 3m. long.) (15+) **E**

4.518.050 : LILIUM SPECIOSUM var. GLORIOSOIDES * No data. One of the most significant re-introductions among the Chinese material exported to western gardeners in recent years. It is not certain that we have had the mainland Chinese race in cultivation in the West since the Maries introduction of 1878. Plants grown under this name in the 1930's are more likely to have originated in Taiwan & were probably more deserving of varietal status under Japanese *L. speciosum* than this most distinct, disjunct mainland race, which fully deserves specific rank : even the seeds are very different to the preceding. Baker, describing it in 1880, commented on the the "much reflexed, crisped perianth segments reminding one of *Gloriosa superba*" & Wilson thought it "the loveliest of the coloured forms of *L. speciosum*" : "a very lovely variety, well distinguished by its much reflexed, waved, perianth-segments with scarlet rather than crimson spots and papillae." Wilson describes it growing in central China on exposed sandstone cliffs & among low scrub. Arching stems about 1m. tall carry smaller but more richly coloured flowers than Japanese *L. speciosum* very late, in early autumn : which makes seed like this a challenge to produce. . . . . (15+) **E**

4.576.007 : NOMOCHARIS APERTA * China, Yunnan. Ex CLD 229 (This can reach about 1m. in height but is usually half of that. Up to 6, wideopen, saucer-shaped flowers in pink, speckled with crimson & with deep purple nectary-blotches. One of the easiest in this small genus barely separable from *Lilium*. They are all best suited to climates with cool, wet summers.)(15+) **D**

4.576.009 : NOMOCHARIS APERTA * China, Yunnan, near Tianchi Lake. 3315m. Among scrub. Ex ACE 2271. . . (15+) **D**

4.576.100 : NOMOCHARIS MAIREI * China, Yunnan. Ex CLD 1490. (A glorious endemic of SW Sichuan & N Yunnan at 3000m- 4000m. Up to 7, almost flat, drooping flowers with white segments, the inner 3 of which have fringed margins, are evenly spotted with crimson & have crested, purple-red nectary glands. All these need humus-rich soil in a cool, moist site.)(15+) **D**

4.576.510 : NOTHOLIRION BULBULIFERUM (*N. hyacinthinum*) * No data. Another beautiful lily-relative, up to 1m. high with racemes of horizontal, lilac trumpets, tipped with green. Distributed in alpine meadows from Nepal into W China. . (20+) **C**

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4.579.808 : PAEONIA DELAVAYI from SELECTED YELLOW * China, Yunnan, Dali, Cangshan. Ex SBEC 794. (From a particularly fine clone selected from seedlings raised from a wild coll. of this shrubby species, currently considered to include Chinese *P. lutea* & *P. potaninii*, as a variable intergrading species. The clones we have differ in their beautifully cut & tinted foliage (worth growing for this alone) as well in the colour of the cup-shaped flowers : coppery & crimson-tinted yellows. All are about 1-1.5m. high with stiff, upright woody stems and have not suckered widely from the base yet. Seed is from a plant with very fine, large, full-petalled, soft-yellow flowers, just tinted with copper in the bud, but they will be likely to vary.) ..... (5) **E**

4.580.520 : PAEONIA LACTIFLORA No data. The wild species from Siberia, Mongolia & NW China is virtually unknown in gardens, where its influence is manifest only in the multitude of herbaceous hybrid clones. Dark-green leaves, divided into lanceolate lobes & 60cm. stems carrying two or more large white or pale pink flowers with golden stamens. ..... (6) **D**

4.580.710 : PAEONIA LUDLOWII (*P. lutea* var. *ludlowii*) * No data. The Ludlow & Sherriff 1936 introduction accorded full specific status. Limited to a small part of SE Tibet. A wide, 2-2.5m. tall shrub with bold foliage & bright yellow cups. (5) **B**

4.581.050 : PAEONIA OBOVATA var. WILLMOTTIAE * No data. Outstandingly beautiful even in such an aristocratic genus. Rounded, lobed foliage, greyish with coppery tints, forms a perfect background for the translucent, ivory-white cups holding the golden stamens around the crimson carpels. A native of W Hubei & E Sichuan, perfectly growable in the UK ..... (6) **E**

4.581.600 : PAEONIA VEITCHII var. WOODWARDII * No data. Wide, dense clumps of shiny green, deeply cut foliage & slightly drooping, rosy-red, bowl-shaped flowers. From around 3000m. in W China, in Gansu & NW Sichuan & an excellent, reliable grower in UK gardens. This ill-defined variety is said to be distinguished by the longer hairs on the leaf-veins. (8) **C**

4.581.609 : PAEONIA VEITCHII var. WOODWARDII from PINK FORM * No data. Pale, soft rose-pink flowers.. . (6) **D**

4.581.610 : PAEONIA VEITCHII from WHITE FORM * Rarely seen with pure-white flowers against cut, bright-green foliage. Our experience indicates that a reasonable proportion will come white from seed with the balance in a very pale pink. (6) **E**

4.586.010 : PARIS POLYPHYLLA * No data. Classiest of woodlanders, very, very slowly forming clumps of erect, 1m. stems, ruffed with pointed leaves & topped with prominent, lanceolate green sepals & thready, yellow petals, surrounding the violet-tinged ovary, which matures to burst open, displaying clustered, brilliant orange seeds. Treat seed as for other *Trilliaceae*. ..... (10+) **D**

4.593.009 : PLEUROSPERMUM BENTHAMII * No data. Ex a B.& S Wynn-Jones coll. An E Himalayan, perennial umbellifer, distributed from Nepal to SW China at 3500m. to 4300m. Toothed, pinnate foliage. Big inflorescences of white flowers surrounded by large, lobed, pale bracts on stout, 1.5m. stems. "Very striking both in foliage and flower" comments Tim Ingram. (20+) **C**

4.594.020 : PODOPHYLLUM HEXANDRUM (*P. emodi*) * No data. Pink or white, cup-shaped flowers top the mottled parasols of the expanding leaves in spring to be followed by big, squashy, scarlet fruits, dangling below in autumn. ..... (8) **B**

4.616.009 : PRIMULA FLORINDAE (Sect. *Sikkimensis*) * Tibet. Ex K. Rushforth 3579. (Possibly the first coll since the 1924 Kingdon Ward introduction. Narrowly endemic to the Tsangpo basin of SE Tibet. Largest in its genus with huge umbels of up to 80 fragrant, sulphur-yellow bells hanging on mealy stalks atop a stem up to 1.5m. high. in summer. Rich, wet soil.) (50+) **B**

4.616.500 : PRIMULA FORRESTII (Sect. *Bullatae*) * A famous, woody-based plant of the Lichiang limestones : dry habitats except when deluged by the monsoons of late summer. Umbels of yellow, orange-eyed flowers on 15cm. stems from rosettes of long-stalked, wrinkled, light-green leaves. Needs alpine-house cultivation with careful watering in the UK. ..... (20+) **D**

4.617.410 : PRIMULA HELODOXA (Sect. *Proliferae*) (*P. prolifera* complex) * No data. 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+) **A**

4.619.710 : PRIMULA JAPONICA 'MILLER'S CRIMSON' (Sect. *Proliferae*) * A fine rich-red strain of this species from mountain streamsides in Japan. Robust clumps of red-ribbed, light-green leaves & 60cm. candelabra of large, deep red flowers. The species is a self-fertile, tetraploid homostyle and seedlings from the colour forms will come evenly and 'true' . . (50+) **A**

4.619.719 : PRIMULA JAPONICA from PINK FORM (Sect. *Proliferae*) * A very beautiful colour form with shell-pink flowers, each with a red zone surrounding the yellow eye. This species does particularly well in our wet, acid woodland. . . . (50+) **A**

4.619.720 : PRIMULA JAPONICA from WHITE FORMS (Sect. *Proliferae*) * From pure-white 'Fuji', which we think is slightly better than old 'Postford White' but we grow them both & can send 'Postford White' seed if you ask for it. ..... (50+) **A**

4.624.010 : PRIMULA MOLLIS (Sect. *Cortusoides*) * No data. A most distinct species, scattered around the headwaters of the Brahmaputra & Irrawaddy, from Bhutan to Yunnan, at altitudes up to 3300m. Downy, pale-green, rounded leaves, like opening umbrellas, on woolly stalks & 30cm. candelabra of little rosy crimson flowers. For a cool, moist, sheltered site. .... (50+) **B**

4.629.810 : PRIMULA PULVERULENTA (Sect. *Proliferae*) * From wet sites above 2000m. in W Sichuan. The earliest candelabra primula with whorls of flat, crimson flowers with darker eyes on contrasting white, mealy stems up to 1m. tall. .... (50+) **A**

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4.644.110 : PRIMULA WILSONII var. ANISODORA (Sect. *Proliferae*) * No data. From among deciduous scrub in moist sites around 3,500m. in Sichuan and N Yunnan. Evergreen rosettes of smooth, aromatic leaves. Willowy, stems rise to 50cm. or more, whorled with deep velvety-crimson to purple-black bell-shaped flowers ringed centrally with neat pale-yellow 'eyes' (50+) **B**

4.698.910 : RHEUM ACUMINATUM * Ex a Ron McBeath coll. A splendid species from the exposed, alpine meadows of the eastern Himalaya, above 3000m.. "Superbly worthy of cultivation for both foliage and flower" comments Dan Hinkley. Deeply veined, heart-shaped leaves, soft crimson beneath, carried on bright red stems with 1m. high, panicles of rosy flowers followed by glistening scarlet fruits. With us, an excellent garden-plant, whose foliage remains in fine condition all summer. (15+) **C**

Roscoea : orchid-like cousins of the gingers

4.830.010 : ROSCOEA ALPINA * No data. A variable Himalayan species, distributed from Kashmir to Bhutan up to 4300m. Quite distinct in its very long-tubed flowers with rounded dorsal petals. Usually quite dwarf at about 15cm. in height. . . . (20+) **D**

4.830.110 : ROSCOEA AURICULATA * No data. A robust E Himalayan species with broad, bright-green, auriculate leaves sheathing the 50cm. high stems which carry the rich purple flowers, with large, deflexed lips, emerging from among pale-green bracts, over a long period in late summer. Native to Sikkim & adjacent Nepal & Tibet, between 2000m & 4000m., this was long confused with *R. purpurea* but the two are perfectly distinct. Thrives here in rich, moist soil in semi-shade. . . . . (20+) **C**

4.830.551 : ROSCOEA CAUTLEOIDES from YELLOW FORM * No data. A very variable Chinese endemic from Yunnan & adjacent Sichuan, between 2000m. and 3400m. From an early-flowering, rather elegant, upright form, which came to us from Ron McBeath : a long succession of soft-yellow flowers, starting with us in May & growing up to 50cm. in height . . . . . (20+) **C**

4.831.120 : ROSCOEA PURPUREA * No data. A Himalayan species, distributed in N India from Himachal Pradesh to Assam, as well as in Nepal & Bhutan, usually growing in grassland or along forest margins between 1500m. & 3000m. It lacks the strongly auriculate leaves of *R. auriculata*, as well as having longer, narrower segments to the flowers, which do not have a deflexed lip and are usually paler lilac, though white, purple-marked variants frequently occur. Flowers in late summer. . . . . (20+) **C**

4.831.312 : ROSCOEA SCILLIFOLIA from PINK FORM * No data. A variable little species, quite narrowly endemic to Yunnan, mainly in the Lijiang area, in moist mountain-pastures between 2700m. & 3400m. Only about 20cm. in height with small strawberry-pink flowers appearing among wide, bright-green bracts. Worth growing in a pan in the alpine-house. . . (20+) **D**

4.831.313 : ROSCOEA SCILLIFOLIA from PURPLE FORM * No data. Usually a little taller & earlier flowering with longer, narrower leaves and deepest violet-purple flowers with yellow anther appendages (white ones in the pink form). . . . (20+) **D**

4.859.010 : SCOPOLIA STRAMONIFOLIA * No data. The Himalayan representative of this intriguing, small genus in *Solanaceae*. Distributed from Kashmir to SW China between 2700m. & 4300m., this is taller than the E European *S. carniolica*, reaching 1-2m. in height, & often has downy, white undersides to the large leaves but the drooping, wide bells in lurid shades of yellow-green to brownish purple are similar. Very hardy & trouble-free in a good, rich, well-drained soil in semi-shade. . . . . (15+) **D**

Garden hybrids & selections : Seeds from Jim & Jenny Archibald

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6.027.900 : ALSTROEMERIA LIGTU HYBRIDS Thriving in British gardens from Cornwall to Aberdeen : even here in our cold, wet garden. Every shade from pink to orange, flame & biscuit. By all accounts, derived from *A. ligtu* subsp. *simsii* (coll. by Clarence Elliott in 1927 as *A. haemantha*) & *A. ligtu* subsp. *incarnata* (coll. by Harold Comber in 1926 as *A.l. angustifolia*). The Comber plant was more likely to be *A. presliana*, explaining the dwarf, deep pinks which sometimes appear. . . . . (20+) **A**

6.747.860 : PAEONIA from GANSU MUDAN * From a Chinese nursery growing local tree-peonies in the far western province of Gansu, where most of the collecting by Farrer & Rock took place. The name 'Gansu Mudan' means simply Gansu (Kansu) tree-peony. The basis of their stock has been *P. rockii* (*P. suffruticosa* 'Rock's variety' elevated to dubious specific status). The Rock collection, it must be remembered, was from a cultivated plant in the first place, gathered in 1925 by Joseph Rock from plants growing at the Choni lamasery in Gansu at 2600m., where it had first been seen by Farrer. We are confident the seed will produce huge flowers "refulgent as pure snow and fragrant as heavenly roses with a heart of gold", as described by Farrer, & we hope we can offer assurance of "each stainless petal flamed at the base with a clean and definite feathered blotch of maroon". . . (5) **E**

6.900.000 : SCHIZOSTYLIS COCCINEA from RED FORMS These beautiful S African members of the *Iridaceae* (now placed by Goldblatt in *Hesperantha*) were outstanding in 2002, flowering from September almost until Christmas with a succession of cup-shaped flowers from clumps of iris-leaves. Seed from a several named red clones (but pinks may appear). . . . . (30+) **C**

6.900.001 : SCHIZOSTYLIS COCCINEA from PINK FORMS From named pinks, including our own 'Sunrise . . . (30+) **C**

Thanks for your help and support in 2002. Our best wishes to all of you for 2003.

A :	**$2.00** ;	**£1.50** ;	**€ 2.-**	**C :**	**$4.00** ;	**£2.50** ;	**€ 4.-**	**E :**	**$7.00** ;	**£4.50** ;	**€ 7.-**
B :	**$3.00** ;	**£2.00** ;	**€ 3.-**	**D :**	**$5.00** ;	**£3.50** ;	**€ 5.-**	**F :**	**$9.00** ;	**£6.00** ;	**€ 9.-**