



# Jim & Jenny Archibald

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NEWSLETTER & SEED LIST

DECEMBER, 2003

## ▶ ALLIUM

2003 seeds from an exciting range of species from Turkey, Iran and Central Asia

## ▶ EREMURUS

2003 seeds from many Central Asian species

## ▶ PAEONIA

2003 wild collections from the Caucasus

## ▶ CALOCHORTUS

2003 seed from an unrivalled range

## ▶ LILIUM

2003 seeds from European, Asiatic & American species

## ▶ ALSTROEMERIA

2003 cultivated seeds from many Chilean & Argentinian species

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Technophobes and those who have no access to or desire to use the internet must forgive us for concentrating on our web-site on the front-page of this paper list. We promise not to dwell on it again here and certainly not to become obsessed with the medium. Keith Lever, a self-declared technophobe, commented to us recently that he knew several good, hands-on gardeners who had now become internet gardeners more involved in communicating with others about the plants than growing the plants themselves. Do not expect us to join the ranks of cyber-gardeners.

We have just acquired more land adjacent to us in Wales and now have 1 hectare (about 2.5 acres) of moist, deciduous woodland and streamside offering more potential for the cultivation of an expanding range of species than our limited lifetimes will permit. The development and maintenance of our woodland garden will take preference over the development and maintenance of our web-site. We do not expect to be any more assiduous at replying to e-mails than we are in dealing with correspondence at present. Office-work, like our gardening, will continue to be dealt with in spasms of activity. Absences abroad also make us ill-suited to the expectations of those used to communicating by e-mail.

Nevertheless, the internet is the place where a very small, very specialized business like this must be. It gives us almost unlimited potential to convey information about the plants and ensures that gardeners becoming more specialized in their interests can learn of our existence. We have not advertised this business for almost 20 years. There are many dedicated gardeners, especially those abroad, who know little about us or the plants with which we are involved.

We have tried to make our web-site, like our business, as international as possible. Prices on the site are only in US\$ but there is a calculator to convert to £ sterling on the 'checkout page'. There is a handling charge of \$5 added to online orders. This goes towards covering us for extra expense and currency fluctuations. UK and US customers can make up an order online, print it out and mail it to us with a cheque in £ or \$. If you write out your order, using the prices in this list, as you have all done before, there is no handling charge.

We do not anticipate a great change or increase in our business but we can now offer you the opportunity to access much more information on the full range of seeds we try to make available annually. Whether we like it or not, more choice and more information are characteristic of life in western society in the 21<sup>st</sup> Century.

The full path to our web-site is <http://www.jjaseeds.com>

PDF downloads are at the bottom of the main page.

## 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. Credit card payments can be made only online through PayPal in US \$. A handling charge of \$5 is added to each order made online. 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. A few 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 only one report of any of the many orders sent from our last list failing to arrive in the USA, the same number as have disappeared en route to Canada, Belgium and England. 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 do 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 overstuffed 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.

- 101.001 : *ACANTHOLIMON ACEROSUM* Turkey, Denizli, Honaz Dağ. 2500m. Summit screes. (One of the most widespread prickly thrifts, distributed from W Turkey to NW Iran. Dense, compact mounds of spiny, glaucous rosettes with 10cm. tall, distichous spikes of pink flowers, whose papery white calyces persist to carry a single seed in each one.) . . . . . (15+) C
- 104.405 : *ACANTHOLIMON ULICINUM* Turkey, Burdur, SE of Altinyayla. 1500m. Serpentine. (One of the most western species. A densely pulvinate, spiny, grey mound with almost stemless, congested spikes of bright pink flowers.) . (10+) C
- 113.611 : *ACONITUM SEPTENTRIONALE* from WHITE FORM (*A. vulparia* group) \* No data. From the creamy white clone, grown as 'Ivory', of this subarctic species, distributed from Norway into Russia. Earliest of all monkshoods with stiff upright stems, under 1m. high, densely set with deflexed, narrow helmets, above darkest green, cut leaves.. . . . (20+) B
- 114.120 : *ACONITUM VULPARIA* (*A. lycoctonum* subsp. *vulparia*) \* No data. A summer-flowering, central European perennial with branching stems, 1m. high, carrying racemes of deep ivory helmets with curved spurs in summer. This is from Bob Brown's excellent clone 'Dark Eyes' with black stamens and stems and the deeply cut leaves even darker than usual. . . . . (20+) B
- 124.750 : *ALCEA PALLIDA* Turkey, Denizli. (A tall perennial hollyhock, distributed through the Balkans and W Turkey. Bristly, lobed leaves and woolly stems, 1.5m. or more tall, with many, white-centred, lilac flowers in late summer.) . . . . (15+) B
- 127.200 : *ALKANNA AUCHERIANA* Turkey, Icel, NNW of Mersin to Arslankoy. 500-1000m. Fissures on large limestone boulders and cliffs. (Grey rosettes & forget-me-not flowers, varying from pale blue to pink and white in this valley of the Cilician Taurus. Not impossible to grow & definitely best, in the UK, kept under glass throughout the year.) . . . . (10+) E
- 127.202 : *ALKANNA AUCHERIANA* Turkey, Icel, E of Gulnar. 800-1000m. Limestone fissures. (Silvery-grey pads & azure-blue flowers. The finest, bluest form from the Gulnar area. A few seeds of this classic alpine-house plant.) . . . . (10+) F

### Allium : 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' 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
- 130.600 : *ALLIUM ATROPURPUREUM* \* No data. A handsome, 50cm. high plant from SE Europe & Turkey. Linear basal leaves & many-flowered umbels of starry flowers in deep, rich, red-purple on stems of about 50cm. . . . . (15+) A
- 130.640 : *ALLIUM BARSCZEWSKII* \* Uzbekistan, Akbulak valley. Ex RKMP 82-95. According to Janis Ruksans, this is a particularly fine form of this 30cm. high Central Asian. Splendid, upward-facing, red-purple flowers. . . . . (15+) C
- 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
- 130.968 : *ALLIUM CAESIUM* \* Kazakhstan, Kurti. An ice-blue form of this Central Asian species. . . . . (15+) B
- 130.970 : *ALLIUM CAESIUM* \* No data. From an excellent, richly coloured, bulbil-free form of this Central Asian species, originally received from Tashkent Botanic Garden. About 30cm. high with umbels of many, violet-blue flowers . (15+) B
- 131.510 : *ALLIUM CASSIUM* \* Syria, above Bludan. Ex an R.& R. Wallis coll. (A attractive, dwarf species from S Turkey, Syria & Lebanon. Rounded umbels of campanulate, white flowers with pink midveins on 15cm. stems.) . . . . . (15+) B
- 131.278 : *ALLIUM CARDIOSTEMON* (Sect. *Melanocrommyum*) \* Turkey, Trabzon, S of Of. 1150m. (A robust Turkish form of an adaptable species from Turkey, N Iraq, Armenia & NW Iran. Dense many-flowered hemispherical umbels of darkest maroon-purple flowers on 60cm. stems, later in summer than most tall, ball-headed species.) . . . . . (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 only 10-20cm. tall, with rounded umbels of many, widely campanulate, pale-green flowers, tinted with rose.) . . . . . (10) 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.-

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- 131.590 : **ALLIUM COLCHICIFOLIUM** Turkey, Tunceli, NW of Tunceli to Ovacik. 1000m. Openings among deciduous scrub on steep slopes. (Related to *A. orientale* and *A. kharputense* with 2 broad basal leaves. Hemispherical umbels of widely campanulate white flowers, usually with purple midveins on the segments, carried on sturdy, 15cm. stems.) . . . . (20+) C
- 132.000 : **ALLIUM DARWASICUM** \* Tadjikistan, Varsob valley. (Dense umbels of white flowers. 50cm.) . . . . . (20+) C
- 132.001 : **ALLIUM DARWASICUM** \* Tajikistan, Peter I range, near Tovil-Dora. (Elegant umbels of upturned, narrowly cup-shaped white flowers on stems between 30cm. and 40cm. tall. Worthwhile and a good grower in cultivation.) . . . (15+) C
- 131.850 : **ALLIUM CUPULIFERUM** \* Tadjikistan, Hissar range. (A most distinct, arresting & very little known, 50cm. high species with dense umbels of large, purple, cup-shaped flowers carried 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 near Chopkar. Ex RSK 77-17 (A Janis Ruksans coll. from southern Kazakhstan of this attractive species. Dense, tight umbels of violet-pink, star-shaped flowers on 40cm. stems.) . . (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*.) . . . . . (10+) E
- 132.750 : **ALLIUM HIRTIFOLIUM** (Sect. *Melanocrommyum*) \* Iran, Lorestan, WNW of Dorud. 2000m. Seasonally moist gully. (A tall, ball-headed species. Over 1m. high with rounded umbels of starry, pale-purple flowers.) . . . . . (15+) D
- 132.760 : **ALLIUM HISSARICUM** \* Tadjikistan, N of Dushanbe, Harangon valley. (Related to and not dissimilar to *A. winklerianum* with cup-shaped violet-purple flowers but its distinctive, stiff, almost leathery perianth segments mean the flowers last in good condition for a very long time. A rare plant in cultivation. Intolerant of excess moisture.) . . . . . (20+) C
- 132.790 : **ALLIUM ILIENSE** subsp. **NURATENSE** Uzbekistan, Zhizakh, Nuratau, SW of Yangikishlak. Loose, slate stone-slide. (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 related and 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. Slow-growing but not difficult in limestone scree. . . . . (10) C
- 133.949 : **ALLIUM JESDIANUM** \* Iran, Yazd, Kuh-i-Barfkhane. (From the southern, type-locality collection of this showy species, more widely distributed far to the North in Central Asia. Rounded umbels, about 15cm. in diameter, packed with purplish violet flowers on stems rising to as much as 1m.) . . . . . (10+) D
- 132.951 : **ALLIUM JESDIANUM** \* Afghanistan, Bamian. Ex Hedge, Wendelbo & Ekberg 4865. (Maybe 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 collections will show 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
- 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 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. 20cm. . . . . (15+) B
- 133.030 : **ALLIUM KAZEROUNI** \* Iran, Zagros Mts., Zardeh Kuh massif. (Barely in cultivation and extremely local in nature, confined to the Bakhtiari country of the highest Zagros. From the same mountain as *Dionysia archibaldii*. This is, in effect, a reduced dwarfed version of its close relatives, such as the better-known *A. hollandicum* and *A. jesdianum*. Rounded umbels of violet-purple flowers on stems about 30cm. tall, rising above narrow, strap-shaped, glossy green leaves.) . . . . . (10) E
- 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.) . . . . . (20+) B
- 133.070 : **ALLIUM KOMAROWII** (Sect. *Melanocrommyum*) \* Tadjikistan, Seravschan, Antara-Sara valley. (A most distinct & striking species. The 2, narrowly elliptical leaves, in shape & colour recalling *A. karataviense*, remain in good condition through flowering. A 30cm. scape carries a dense hemispherical umbels of brilliant violet-purple flowers.) . . . . (10+) D

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

- 133.250 : **ALLIUM LORATUM** \* Pakistan, Quetta province. (Seldom collected and an extreme rarity in cultivation, this is a ball-headed species related to *A. elatum* (syn. *A. macleanii*) and *A. giganteum*) with pale lilac flowers.) . . . . . (10+) E
- 134.100 : **ALLIUM NARCISSIFLORUM** \* France, Hautes-Alpes, Pic de Gleize. 2000m. Unstable, limestone screes along S-facing side of summit-ridge. (In gardens, this name is still applied to *A. insubricum*, its close, equally local relative from N Italy. From "high up in the most awesome shelves of the limestone Alps of Piedmont," this is "the glory of its race" according to Farrer. Close clumps of foliage & 15cm. stems carrying umbels of erect, sugar-pink flowers.) . . . . . (8) D
- 134.200 : **ALLIUM NEVSKIANUM** (Sect. *Acanthoprason*) \* Tadjikistan, Varsob Gorge, near Chinoro. 1200m. Ex RM 82-72 (A splendid, dwarf endemic of Tadjikistan & N Afghanistan. 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 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 tall species to flower, up to 1m. high with dense umbels of many, cup-shaped, pale-yellow flowers with projecting yellow stamens. A delicate contrast to the purple usual in this group.) . . . . . (20+) C
- 134.680 : **ALLIUM OREOPHILOIDES** \* Tajikistan, Seravshan, Antara-Sara valley. (A beautiful, dwarf, high altitude species, barely in cultivation. On a similar pattern to the well-known *A. oreophilum* (*A. ostrowskyanum* of the bulb trade), though not closely related to it and altogether a more delicate, dainter affair. Thready leaves and 5cm. stems with cream-coloured flowers, suffused with pink and with a pink midrib to each perianth segment. This sets very little seed and is likely to remain a choice species for the specialist alpine-grower. Arnis Seisums tells us that it is "a beauty in a pot.") . . . . . (10) E
- 134.701 : **ALLIUM OREOPHILUM** (Sect. *Porphyroprason*) \* Uzbekistan, Tashkent, Kuramin range. Ex a J. Ruksans coll. (An exceptional, extremely dwarf form of this well-known species, widely distributed from NE Turkey to W Pakistan. Only about 6cm. high, with large, eye-catching flowers in very deep, rich purple. Quite recently introduced from the Kuramin mountains, along the border of Uzbekistan with the Fergana and Tajikistan, currently an inaccessible 'security zone'.) . . . . . (10) D
- 134.703 : **ALLIUM OREOPHILUM** (Sect. *Porphyroprason*) \* Tajikistan, upper Kusavli-sai valley. 3200m. Ex a J. Ruksans coll. (Another most distinct and outstanding, very dwarf, geographical variant. Umbels of rich red-purple flowers rise on short stems above 2-3 spirally curled, grey-green leaves which twist on the ground. Not so easy to grow as the trade form) . . . (10) D
- 135.900 : **ALLIUM PROTENSUM** (Sect. *Kaloprason*) \* Uzbekistan, Samarkand, Seravshan, S of Amankutan. 1800m. Loose talus. (Rather like a more compact (and much hardier) version of the 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
- 136.150 : **ALLIUM ROBUSTUM** Kazakhstan, Tarbagatai range. (From northern Central Asia near the border with China. Tight umbels of dark purple flowers on 50cm. stems. This flowers early and lasts in good condition for a long time.) . . (15+) C
- 136.180 : **ALLIUM ROSENBACHIANUM** (subsp. *rosenbachianum*) Tajikistan, Darwas range, Baldshuan. (This superlative species, as a whole, is local in S Tadjikistan & N Afghanistan. It is rare in cultivation, where its name has been much misapplied to *A. hollandicum* and several cultivars of the much more widespread *A. jesdianum*. Violet-purple flowers carried in large, well-balanced umbels, about 15cm. in diameter, on 70cm. tall stems. Spreading, glossy, green basal leaves.) . . . . . (15+) C
- 136.185 : **ALLIUM ROSENBACHIANUM** subsp. **KWAKENSE** \* Tadjikistan, Harangon range. (Distinguished by its broad, more erect leaves, barely tapering at the bases. 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.) . . . . . (20+) C
- 136.508 : **ALLIUM SARAWSCHANICUM** (Sect. *Melanocrommyum*) \* Tajikistan, Chinoro gorge. (Rounded umbels of darker violet-purple flowers, carried on deep purple pedicels, which vary in length giving a diffuse effect.) . . . . . (20+) D
- 137.038 : **ALLIUM SEWERZOWII** Kazakhstan, Boroldaitau, ENE of Chimkent. 950m. (A 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. (2003 seed from our 2000 reintroduction of this N Iranian endemic, collected by us 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. . . (10+) E

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- 137.309 : *ALLIUM SOSNOWSKYANUM* (Sect. *Allium*) \* Turkey, Artvin, above Demirkent. 1800m. In thorn-cushion association. Ex KPPS 93-30B. (From a Michael Kammerlander coll. 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
- 138.900 : *ALLIUM STIPITATUM* Tadjikistan, Varzob. (An imposing Central Asian, summer-flowering bulb. Ribbed stems of a 1m. or more high carry almost spherical umbels of starry, purple flowers with tapering, twisted segments.) . . . . (20+) C
- 139.000 : *ALLIUM SUBVILLOSUM* \* No data. A W Mediterranean plant from maritime sands & grasslands, about 50cm. high, with many-flowered, hemispherical umbels of cup-shaped, pure-white flowers. Bulb-frame in the UK. . . . . (20+) B
- 139.150 : *ALLIUM TAENIOPETALUM* Tajikistan, Mogoltau range. (A most attractive species and one that is rare in cultivation. Comparatively large, star-shaped, violet-purple flowers carried in loose, airy, globose umbels, about 10cm. in diameter on stems up to 50cm. in height. It should be possible outside in the UK in a well-drained, sunny site.) . . . . . (15+) E
- 139.600 : *ALLIUM TSCHINGANICUM* Uzbekistan, Tashkent, Chimgan. (From a type-locality collection of this rare and local species. Tight, dense umbels, about 7cm. in diameter, of violet-purple flowers, on stems up to 1m. tall.) . . . . . (15+) D
- 139.621 : *ALLIUM UMBILICATUM* \* Iran, Khorasan, Bojnurd, E of Tang Rah to Chesmeh Khan. 1200m. Steep, loose limestone slopes. 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 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

## 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
- 195.111 : *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 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. 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
- 195.509 : *ARUM ELONGATUM* (subsp. *elongatum*) \* Russia, Krasnodar district, near Enem. ("An attractive species" writes Peter Boyce. 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 distinct high altitude species endemic to the ranges of central Crete at altitudes up to 1,750m., often growing along the melting snow-line. 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
- 196.200 : *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 above the leaves to 50cm..) . . . . (8) 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 vague about this area.) . . . . . (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. Seldom seen in cultivation in any form though most are excellent garden-plants in the UK, native to similar habitats to *A. maculatum* in cold climates.) . . (8) D

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

- 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
- 196.910 : ARUM PICTUM \* No data. Native to the Balearic Islands, Corsica & Sardinia & 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 PURPUREOSPETHUM \* 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.) . . . . . (8) D
- 204.700 : ASPHODELINE BREVICAILIS (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, starchy, 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 limestones of Albania & adjacent areas, this delightful perennial was highly regarded by Wilhelm Schacht. We found it permanent, choice & slow-growing in Dorset. A filigree of bright-green foliage cut into linear threads with delicate white umbels on 30cm. stems. . . . . (30+) C
- 245.050 : BUPLEURUM BENOISTII \* Morocco. Ex Gothenburg expedition to the Atlas. A small clump-forming perennial with narrow, glaucous, evergreen leaves and stems, about 30cm. high, with sprays of little, *Astrantia*-like, yellow umbels, which deepen to orange shades as they age. An excellent, intriguing new plant, hardy with Tim Ingram (Kent, UK) . . . (15+) D
- 245.090 : BUPLEURUM FRUTICOSUM \* No data. A shrubby, Mediterranean species, the only woody member of this genus in *Umbelliferae* much grown in the UK, where it is just on the borderline of hardiness. About 2m. high, it can be fine on chalky soils & in maritime areas with its umbels of acid-yellow flowers against the leathery, blue-green foliage. . . . . (20+) B
- 245.180 : BUPLEURUM SALICIFOLIUM \* No data. Endemic to cliffs at up to 1000m. in the western Canary Islands, this must be considered tender in most of the UK. An attractive small shrub with narrow, linear, grey-blue leaves and umbels of green-yellow flowers. Originally from stock grown at the Chelsea Physic Garden, UK. . . . . (20+) C
- 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. A very 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 stores well but it needs a 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 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, with big, royal-blue thistle-flowers opening from broad, spiny bracts. A Mediterranean species, which seldom sets much good seed in the UK. . . . . (10) C
- 375.210 : CYTISUS BATTANDIERI \* No data. A remarkable paragon in this genus, 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 upright cylindrical racemes packed with pineapple-scented yellow flowers in early summer. . . . . (10) C
- 392.300 : DELPHINIUM SEMIBARBATUM (*D. zaili*) \* Uzbekistan, Aktau, S of Langar. 800m. In steppe-vegetation on open slopes. (A tuberous-rooted perennial, distributed 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. zaili*) \* Uzbekistan, Baisun-tau, Pulkhakim. (This is seed from a more typical form, about 1m. tall, sent by 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 hot, dry, well-drained site, it will be best in the bulb-frame. Unique with its branching yellow spires.) . . . . . (50+) C

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## Digitalis : hunt the foxgloves here

- 407.210 : DIGITALIS DAVISIANA** \* A slender, SW Turkish perennial, about 50cm. high, distributed from Mugla to Antalya, in limestone screes. Related to *D. grandiflora*, with pale yellow, orange-veined foxgloves. . . . . (50+) B
- 407.300 : DIGITALIS DUBIA** \* Spain, Mallorca. Ex a P.& P. Watt coll. (A choice, dwarf species, endemic to the limestones of the Balearics. Neat rosettes of narrow, downy, grey-green leaves. 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
- 407.403 : DIGITALIS FERRUGINEA** (subsp. *ferruginea*) Turkey, Denizli, Kizilcaboluk. 1100m. (A stout perennial or biennial with long, dense racemes of yellowish, orange-brown-netted flowers with projecting lips, on 1.5m. stems.) . . . . . (50+) B
- 408.300 : DIGITALIS LAMARCKII** \* Turkey, Gumushane, Vauk Dagi, Guvercinlik. 1800m. Open, stony slopes. (An outstanding perennial endemic to NE Turkey & perfectly distinct from *D. lanata*. Clumps of narrow, dark-green leaves & 50cm. stems of large, soft-brown, baggy flowers with huge, prominent, white lips. Well-drained site in full sun.) . . . . . (50+) B
- 409.002 : DIGITALIS LUTEA** \* France, Alpes-Maritimes, Col de la Couillole. 1600m. Open limestone slopes. (Elegant spires of small, narrowly bell-shaped flowers in a cool shade of palest yellow. Reasonably perennial. Sows itself.) . . . . . (50+) A
- 409.402 : DIGITALIS OBSCURA** \* Spain, Soria, Puerto del Pinar. 1100m. Among limestone debris on open slopes. (A shrubby perennial with narrow, shiny foliage & amber foxgloves, yellow marked with rust-red inside. This population was only 20-30cm. high in the wild but is taller in cultivation. A most distinct Spanish endemic for a dry, sunny situation.) . . . . . (50+) B
- 409.610 : DIGITALIS PARVIFLORA** \* No data. A leafy, 60cm. perennial from N Spain. In Section *Tubiflorae*, like *D. lutea* & *D. viridiflora*, with long, dense, woolly racemes of tubular, red-brown, purple-veined flowers. . . . . (50+) A
- 410.000 : DIGITALIS THAPSI** \* Spain, Avila, Sierra de Gredos, Puerto del Pico. 1300m. Loose, granite grit on steep slopes. (Another Iberian endemic, quite close to *D. purpurea* but a good perennial in a sunny, well-drained place or lime-free scree-bed. Leaves & stems all covered in yellowish indumentum & with many, large, downy, sugar-pink flowers.) . . . . . (50+) B
- 432.300 : ECHIMUM 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 exerted on long, red filaments. A bristly, short-lived perennial, evocatively illustrated, growing in *Stipa*-steppe, in Rix & Phillips 'Perennials' Vol. 1., p. 17(20+) B

## 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. We have been able to supplement our own cultivated & 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 dwarfiest 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. We have never seen it 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.) . . . . . (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. 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.) . . . . . (10+) E

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- 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. . . . . (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
- 444.084 : EREMURUS ROBUSTUS \* Uzbekistan, Tashkent, Chimgan. (As imposing as related *E. himalaicus* but 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. One of the best for 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.) . . . . . (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 Dzhahalabad. (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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## 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

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- 458.510 : ERYNGIUM ALPINUM \* No data. Very local in its distribution through the limestone ranges of S Europe, E from SE France. Distinct in its cylindrical, dome-shaped, blue heads surrounded by a great ruff of finely cut, feathery, steely-blue bracts, which are softly, not sharply, spiny. Toothed, cordate basal leaves. Good, well-drained soil in sun. . . . . (15+) B
- 459.010 : ERYNGIUM AMETHYSTINUM \* No data. A fine SE European species with lobed, leathery basal foliage & branching stems carrying lots of small, metallic-blue heads surrounded by spiny, lanceolate bracts. . . . . (20+) A
- 460.011 : ERYNGIUM BOURGATII (subsp. *bourgatii*) \* No data. From the form of this splendid, 40cm. high, hardy perennial grown by Graham Stuart Thomas. Much-cut, spiny basal foliage & rounded, blue heads, encircled by dissected, spiny bracts. "Superb" comments Tim Ingram. The subspecies is distributed from the Pyrenees through Spain. . . . . (20+) B
- 462.209 : ERYNGIUM SPINALBA \* France, Vaucluse, Le Mont Ventoux. 1800m. Limestone scree & stony areas. (A superlative species, local on the limestones of the SW Alps. This originates from our 1984 coll. It has proved a neat, "low-growing plant, silvery all over, like a dwarf silver *E. alpinum*." The flowers are an unusual, pale blue-green and the whole plant is seldom more than 30cm. high. Give it as much sun & sharp drainage as possible. . . . . (15+) B
- 475.500 : EUPHORBIA CHARACIAS (subsp. *characias*) \* Spain, Granada, Sierra Nevada, Puerto de la Ragua. 1900m. Open stony shale slopes. (From a collection we made in 1990 & which has proved a surprising success in our cool, wet garden. The black-eyed western type-race is distinct from the more familiar eastern, yellow-eyed *E. characias* subsp. *wulfenii* (which is not a satisfactory with us) not only in its red-black, short-horned glands but in its much more compact habit. It rarely exceeds 80cm., whereas the latter can tower to 2m. Plants from this Spanish population have proved very hardy, tolerant of our wet acid clay, remained compact with outstanding blue-green foliage and carried striking, yellow-green, flowering columns, which rival the best '*wulfenii*' in girth, if not in height. From our experience, we can recommend this unreservedly.) . . . . . (20+) B

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- 475.620 : **EUPHORBIA CHARACIAS** subsp. **WULFENII** \* No data. Seed from a fine, strong form of this splendid, shrubby perennial, mainly distributed on the limestones down the Adriatic coast. Striking, cylindrical heads of greenish yellow rise above the evergreen, blue-grey foliage in spring. Usually reliable in a well-drained, sunny site in most UK gardens. . . . (15+) B
- 477.505 : **EUPHORBIA DENTICULATA** (Sect. *Myrsiniteae*) Turkey, Tunceli, NW of Tunceli to Ovacik. 950-1000m. Openings among deciduous *Quercus* scrub on steep slopes. (An arresting relative of *E. myrsinites* with prostrate stems clad with broad blue-grey leaves, often tinged with purple. Terminal heads of flowers with large crimson glands. The yellow-green raylet leaves, like those of *E. rigida*, are sometimes suffused with orange. Not so easy to grow as *E. myrsinites* in the UK.) . . . . (10) E
- 480.509 : **EUPHORBIA NICAENSIS** (subsp. *nicaensis*) (Sect. *Paralias*) France, Aude, between Maury & Quembus. 300m. Limestone. M. Tucker coll. (Blue-grey stem leaves and yellow-green raylet leaves. A fine, 50cm. tall species from southern Europe. This seed is from compact, red-stemmed plants growing on the hot limestones of the Corbieres.) . . . . (15+) C
- 481.504 : **EUPHORBIA RIGIDA** (Sect. *Myrsiniteae*) Turkey, Icel, NE of Gulnar. 800m. Limestone slopes. (Much esteemed species with erect, sculptured stems of spirally arranged, pointed, fleshy leaves, about 30cm. high. In spring, its flat acid-yellow heads stand out against the blue-grey evergreen foliage. In this area of Turkey it often has the raylet leaves flushed with orange and pink in bud and again later, as they mature. Usually perfectly hardy in a hot, dry site in the UK.) . . . . (10+) C
- 485.110 : **FERULA COMMUNIS** subsp. **GLAUCA** \* No data. A distinct variant of the giant fennel of the Mediterranean area with greyish leaves, silvery glaucous beneath. One of the most spectacular members of the *Umbelliferae*, towering to 2m. or more high with its huge, yellowish umbels on stout stems rising above the great mounds of finely-cut foliage. . . (10+) B
- 485.510 : **FERULA TINGITANA** \* No data. The giant fennel of SE Spain & NW Africa. Close to *F. communis* but less robust in habit & the lobes of the the dissected basal foliage are much shorter & with revolute margins, rather than thread-like. Giant yellow umbels above finely-cut glossy, almost varnished, leaves. Impressive in a hot, dry site. . . . (10+) B
- 515.650 : **GENTIANA ASCLEPIADEA** \* No data. The elegant willow gentian, one of the loveliest of autumn-flowering, herbaceous plants. Slow from seed but gradually builds up clumps of 60cm. stems carrying clusters of rich-blue trumpets in the axils of the pointed, lanceolate leaves from late summer until the frosts. A species of moist woodland in the mountains of central Europe, E along N Turkey to the Caucasus and well-suited to semi-shade in UK gardens.) . . . . (50+) A
- 515.653 : **GENTIANA ASCLEPIADEA** from **PINK FORM** \* Croatia, near Plitvice. (From 'Pink Cascade', selected in the wild by Robin & Sue White in 1987. A substantial number of seedlings should flower pink.) . . . . (50+) B
- 515.654 : **GENTIANA ASCLEPIADEA** from **DEEP VIOLET FORM** \* Striking variant from Hermann Fuchs. . . (50+) B
- 517.620 : **GENTIANA DINARICA** \* No data. A classic "*G. acaulis*" in the limestone race from central Italy & the Balkans. From a splendid form, which originated as either a collection or selection by the unacknowledged Scottish king of these European alpine, trumpet species, Jimmy Stitt. Generously reliable with its rich-blue flowers on glossy-leaved pads. . . . (20+) B
- 518.40v : **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. A friend grows it well outside in Dorset, UK.) . . . . (20+) D
- 519.201 : **GENTIANA OLIVIERI** Iran, Kordestan, SW of Negel. 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 or in the alpine-house.) . . . (50+) C
- 525.459 : **GERANIUM COLLINUM** \* Uzbekistan. A Central Asian form of this bushy perennial, distributed in moist meadows from SE Europe to Siberia & the NW Himalaya. Deeply divided foliage & red-veined, pink flowers in summer. . (10+) C
- 525.750 : **GERANIUM IBERICUM** Georgia, Bakuriani area, Tskhra-tskharo pass. 2300m. Alpine meadows. (About 50cm. high with much-divided, hairy leaves, cut into many deep lobes. A multitude of purple-veined, violet-blue flowers in summer. Seldom seen in cultivation. Its name is often misapplied to *G. x magnificum*, its sterile hybrid with *G. platypetalum*.) . . (10+) B
- 525.900 : **GERANIUM LIBANI** \* Syria, Nusairi range, above Slunfeh. 1200m. Among deciduous *Quercus* scrub. Ex R. & R. Willis 96-17 (A most distinct, very early-flowering plant, which goes dormant in summer. In Subsect. *Mediterranea*, the *G. platypetalum* group, and rather like this : 40cm. high with large violet-blue flowers. Hardy in W Wales.) . . . . (10+) D
- 526.800 : **GERANIUM PLATYPETALUM** \* Georgia. No further data. Ex a R. Lancaster coll. (From a clone collected by Roy Lancaster & named 'Georgia Blue' but seems quite typical of this species. Darkly veined, rich violet-blue flowers in midsummer on plants of about 30cm. Rounded, hairy, lobed leaves, much less cut than the allied *G. ibericum*.) . . . . (10+) B
- 526.801 : **GERANIUM PLATYPETALUM** \* Turkey. No further data. (From stock received as *G. ibericum* but it is definitely *G. platypetalum*. Though the two both grow in the mountain-meadows of NE Turkey and the Caucasus, their hybrid is sterile. They are perfectly distinct in foliage alone. This is an especially compact form. Excellent & long-flowering.) . . (10+) B

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

- 526.920 : GERANIUM PRATENSE f. ALBIFLORUM \* No data. From a 1m. high, white-flowered form of our native meadow cranesbill, a species which extends E to the Himalayas. Fine in the wild-garden with its deeply cut foliage. . . . (10+) A
- 526.925 : GERANIUM PRATENSE from PINK FORMS . . . . . (10+) A
- 526.926 : GERANIUM PRATENSE from PALE BLUE FORMS . . . . . (10+) A
- 527.000 : GERANIUM PSILOSTEMON \* Turkey, Artvin, Genya Dag. 1700m. Wet meadow in *Picea* woodland. (Our favourite among the larger ones with its luminous, magenta flowers, darkly veined & with glossy black centres. About 1m. high with cut basal leaves, which emerge from shiny, crimson sheaths in spring & colour to orange & scarlet in autumn.) . . . (10+) B
- 527.005 : GERANIUM PSILOSTEMON \* Georgia, Bakuriani area, Tskhra-tskharo pass. 2300m. Meadows. (Taller than our Turkish form & with larger flowers. Jenny calls this the "the good form". Jim thinks the Turkish one better.) . . . (10+) B
- 527.410 : GERANIUM RENARDII \* No data. Beautiful low mounds of lobed, wrinkled, grey-green velvet leaves & dense, 20cm. high clusters of flowers with notched white petals feathered with violet. An unmistakable Caucasian endemic for a sunny, well-drained site. Not a satisfactory plant in our wet, acid soil, we suspect it needs lime as well as sun. . . . . (10+) B
- 528.220 : GERANIUM SANGUINEUM \* No data. From Max Frei's selected clone 'Elspeith'. A long-flowering, reliable species, widespread through Europe to the Caucasus, usually in dryish, limestone habitats but does not resent our wet, acid soil. Bushy growth of much-branched stems, clad in deeply cut leaves, with a profusion on bright magenta-pink flowers. . . . (10+) A
- 528.221 : GERANIUM SANGUINEUM from WHITE FORM \* From the garden cv. 'Album', quite a tall, loose-growing clone with pure-white flowers over a long period. This grew better on our alkaline soil in Dorset than here in Wales. . . (10+) B
- 528.300 : GERANIUM SANGUINEUM var. STRIATUM (*G. sanguineum lancastriense*) \* A compact form of this local race native to Walney Island off the Cumbrian coast of England. Blush-pink flowers diffusely veined with red-purple. (10+) C
- 528.500 : GERANIUM SYLVATICUM \* Greece, Drama, Falakro. 2200m. Moist meadow. (From a fine form of this widespread European species. Good rose-pink flowers with large white centres on erect, leafy plants, about 1m. high.) . . . . (10+) B
- 528.520 : GERANIUM SYLVATICUM \* No data. From Amy Doncaster's dwarf, blue selection. Rich lavender-blue flowers with tidy white centres on plants of about 60cm. These two may have crossed.. . . . (10+) C
- 531.949 : GLADIOLUS aff. ANTAKIENSIS \* Turkey, Hakkari, Beyez Dag. 1800-2000m. Ex a N. Stevens coll. (Probably a new species but the E Turkish gladioli are a taxonomic mess. A complete review of the genus there is needed. A distinct, dwarf plant, only about 20cm. high, with 3-5 flowers, occasionally white but mainly soft-pink, darkening with age.) . . . . . (8) E
- 532.001 : GLADIOLUS ATROVIOLACEUS Turkey, Malatya, N of Akcadag. 1600m. Steppe vegetation on open slopes. (The splendid, 60cm. high species which stains the green fields of the high Zagros valleys with its dusky violet-purple flowers in spring. Seldom seen in gardens but extremely hardy & suited to a well-drained site in full sun in the UK.) . . . . . (15+) C
- 532.360 : GLADIOLUS IMBRICATUS Lithuania. Wet meadow. (A hardy species from eastern Europe through Russia to the Ukraine. Dense, one-sided spikes with up to 12, purple flowers on 80cm. stems. Like the somewhat more southern *G. palustris*, a species of seasonally wet habitats in cold climates. It should be well suited to British gardens.) . . . . . (15+) B
- 532.601 : GLADIOLUS KOTSCHYANUS \* Turkey, Van, NNW of Baskale. 2800m. Along seasonal, snow-melt stream. (A soft-lilac, 30cm., alpine-meadow form of this species of spring-wet, grassland habitats in cold E Anatolia.) . . . . . (15+) B
- 532.602 : GLADIOLUS KOTSCHYANUS \* Turkey, Erzurum, Kop Dag. 2400m. Among *Salix* in wet-flush. (A good deep-crimson montane form, originally collected as a dwarf variant but it now reaches 40cm. in cultivation.) . . . . . (15+) B
- 532.620 : GLADIOLUS KOTSCHYANUS from WHITE FORMS \* Turkey, Van, W of Yukari Narlica. 2200m. Stony alluvium. (From a few creamy whites which occurred among many pale lavenders. Seedlings may not be white.) . . . . . (10+) D
- 532.810 : GLADIOLUS PALUSTRIS \* No data. An attractive plant very seldom seen in UK gardens, though it is utterly hardy and well-adapted to the climate. Distributed in moist meadows, here and there though central & E Europe, from SE France to the Ukraine. About 30cm. high with a loose, secund spike of up to 6 purplish red flowers in early summer. . . . . (15+) B
- 534.300 : GLAUCIUM FIMBRILLIGERUM Kazakhstan, Djambil, Karatau, WSW of Taras. 900m. Loose gravelly slopes. (A horned poppy from Central Asian steppes. Branching 30cm. stems with a multitude of soft-yellow flowers.) . . . . (20+) B
- 534.901 : GLAUCIUM LEIOCARPUM Turkey, Burdur, N of Altıyayla. 1000m. (A biennial or short-lived perennial, the inland version of coastal *G. flavum*. About 30cm. tall with lots of orange-yellow poppies with darker centres.) . . . . . (20+) B
- 582.510 : INULA MAGNIFICA \* No data. A splendid 2m. high Caucasian, which needs moist, rich soil. "Superb and dignified" with "heads of brown buds opening to large, vivid deep-yellow daisies" writes Graham Stuart Thomas. . . . . (20+) B

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## Iris : dwarf and tall bearded ones

- 583.400 : IRIS ALBERTII** (Sect. *Iris*) Kazakhstan, Tien Shan, S of Almaty, Almatinska river valley. 850m. 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) E
- 590.100 : IRIS JUNONIA** (Sect. *Iris*)\* Turkey, Antalya, Gidengelmez Dag, S of Madenli. 1900m. Limestone cliff. (A bearded iris from high altitudes in the Taurus. Here, in the W of its distribution it inclines towards the W Turkish *I. purpureo-bracteata*, in its somewhat inflated, purple-tinged bracts. Pale yellow, tinged with purple in this form. 30-40 cm. high.) . . . . (8) C
- 590.210 : IRIS KERNERIANA** (Ser. *Spuriae*)\* No data. An elegant N Turkish endemic. Clumps of very narrow leaves, above which rise creamy-yellow flowers on stiff, slender, 30cm. stems. Reliable in a sunny, well-drained site.) . . . . . (10+) C
- 591.120 : IRIS MESOPOTAMICA** (Sect. *Iris*) Syria, Jebel Nusairia, NW of Misyaf. Deciduous oak-scrub. Ex R.& R. Wallis 96-27. (A very tall, robust bearded *Iris* with branched stems reaching 1.2m. or more above large clumps of pale grey-green leaves. Pale lavender, yellow-bearded flowers. A southern plant likely to be vulnerable outside in the UK.) . . . . . (8) D
- 595.405 : IRIS REICHENBACHII from PURPLE FORM** (Sect. *Iris*) Greece, Kavala, Pangeo, Akrovouni. 480m. Maquis on limestone. Ex R.& R. Wallis 01-24 (The dwarf bearded iris of the central Balkan mountains. Not easily separable from *I. suaveolens* but distinct from *I. pumila* and *I. attica*. About 20cm. tall with 1-3 dusky violet-purple flowers.) . . . . (10) C
- 595.406 : IRIS REICHENBACHII from YELLOW FORM** (Sect. *Iris*) Greece, Kavala, Pangeo, Akrovouni. 480m. Maquis on limestone pavement. Ex R.& R. Wallis 01-24 (A yellow-flowered form from the same locality.) . . . . . (8) C
- 595.420 : IRIS REICHENBACHII** (Sect. *Iris*) \* No data. Seeds from both purple and yellow flowered clones. . . . . (10) B
- 597.800 : IRIS SINTENISII** (subsp. *sintenisi*) (Ser. *Spuriae*) \* Greece, above Konitsa. (A Balkan & NW Turkish species, about 30cm. high & an excellent garden-plant. Grassy leaves & rich violet-blue flowers.) . . . . . (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, difficult to grow in the damp climate of NW Europe. Broad tussocks 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 it has a summer-rest under glass here. . . . (8) B
- 599.806 : IRIS TAOCHIA from PURPLE FORM** (Sect. *Iris*) \* Turkey, Erzurum, N of Tortum. 1600m. Open, stony slopes. (A choice, compact, local iris from igneous slopes in a small area NE of Erzurum. 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. Flowers in smoky, pale-yellow. . . . (8) D
- 599.905 : IRIS TIMOFEJEWII** (Sect. *Iris*) \* Russia, Dagestan. (A dwarf bearded iris, endemic to the republic of Dagestan & 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 in a hot, dry site in the UK. . . . . (8) B
- 617.610 : LASERPITIUM SILER** \* No data. An attractive umbellifer native to the mountains of southern Europe. About 1m. tall with deeply divided, somewhat leathery, blue-green foliage and large umbels of white flowers. . . . . (10) B
- 619.860 : LATHYRUS VERNUS from PINK & WHITE FORM** \* From the form with bicoloured, pink & white flowers, called 'Al'bo-roseus', which comes quite evenly from seed. This compact, early-flowering perennial, about 30cm. high, is too little grown. An adaptable delight with other early spring flowers. Tidy clumps of foliage later in the season. . . . . (10+) A
- 633.202 : LILIUM CHALCEDONICUM** \* Greece, Viotia, Oros Elikonas. 1500m. Margin of *Quercus* & *Abies* woodland. (Stunning, scarlet lily, about 1m. high with up to 15 flowers in mid-summer. Good drainage & sun.) . . . . . (10+) D
- 633.950 : LILIUM LEDEBOURII** \* Iran, Gilan, Talish. 1700-1900m. Openings in degraded *Fagus* forest. Ex an A. Ala coll. (A superlative 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. (An isolated population (maybe a naturalized escape) in this Baltic republic, where it grows in part-shade on calcareous soils. Flowers vary from mid-purple-pink to very pale pink, 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

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- 634.401 : **LILIUM POMPONIU**M \* France, Alpes-Maritimes, Montagne de Maurel, NE of La Mure. 1000m. Among scrub in steep-sided limestone gully. (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 carry up to 10 scarlet flowers. As Woodcock & Stearn remark, "no-one who has suddenly come across this jewel in the Maritime Alps, flaunting it brilliant little sealing-wax-red turkschap blooms, with minute black spots, like fairy lamps, is ever likely to forget that moment." Good drainage & sun.) . . . . . (10+) D
- 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.) . . . . . (10+) C
- 667.210 : **MANDRAGORA OFFICINARUM** \* No data. A weird member of the Solanaceae wrapped in myths and fables. Greenish flowers followed by large, rounded fruits nestle in the basal rosette of big, wrinkled leaves. The parent of this seed grew happily outside at the base of a S-facing wall in our Dorset nursery & was moved by Mike Tucker in 1983.. . . (5) C
- 673.005 : **MELITTIS MELISSOPHYLLUM** (subsp. *melissophyllum*) \* No data. A handsome, shade-loving, hardy perennial member of the *Labiatae*, surprisingly neglected by British gardeners, though it is a very local British native. About 60cm. high with wrinkled, toothed leaves & verticillasters of fragrant, long-tubed white flowers with pale-purple lips. . . . . (10+) B
- 681.510 : **MOLOPOSPERMUM PELOPONNESIACUM** (*Molopospermum cicutarium*) \* No data. A magnificent perennial, distributed sporadically from the Pyrenees through the southern Alps down to Greece. Slow-growing but eventually makes imposing clumps of smooth, deeply incised leaves. Robust, 2m. stems with head-high umbels of creamy flowers. A monotypic genus in *Umbelliferae* deserving of a prominent, well-drained site, where it can develop undisturbed. . . . . (10) C
- 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. Blue-grey foliage exquisitely offsets the milky-blue flowers. . . . . (10+) C
- 741.500 : **OSTROWSKIA MAGNIFICA** \* Tajikistan, Hissar range, Karatag valley. ("Unique among perennials it is worthy of any care to make it a success" wrote William Robinson in 1883. "An unbelievable plant until seen" commented Graham Stuart Thomas in 1973. Unfortunately few of us have had the chance to see it. We were one of the few nurseries ever to list it regularly in the 1970's. Our original source was seed from Tashkent Botanic Garden. This seed is from a recent wild collection. A monotypic genus in Campanulaceae, locally endemic to Central Asia, best described as a giant *Platycodon*, growing between 50cm. and 1m. tall, with stems whorled with glaucous leaves carrying enormous, floppy bells in chalk-white, tinged and veined with lilac-blue, in early summer. Its growth-cycle is that of *Eremurus* and it retires to a fat tuber after flowering. It is a long-lived perennial & slow to build-up from seed but we grew it successfully in Dorset in a raised bed against a South-facing wall. A good, rich, deep but well-drained soil in a warm sunny site are the essentials in the UK.) . . . . . (20+) E

## Paeonia : wild seed from Ukraine, Georgia & Russia

Even if sown promptly, these may not show leaf-growth until spring, 2005. 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 troubled 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 are already yielding some seeds for our lists and will, we hope, ensure seed supplies in future years.

- 745.85v : **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. (Much dissected leaves but less finely cut than *P. lithophila* & bright red flowers. Distinct from others in this disjunct complex in its greyish, hairy foliage. Like the Georgian populations, it seems to be a very local plant. A few seeds 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 dwarfiest 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

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- 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 a misspelling of "*P. taurica*".) . . . . . (6) D
- 746.620 : PAEONIA LAGODECHIANA Georgia, Kakheti, Lagodekhi, near Shirati. (The wild pink *P. mlokosewitschii*, an obscure plant, conceivably of hybrid origin but equally *P. mlokosewitschii* may occur in two colour forms. One of the only two known localities for *P. mlokosewitschii* is also the type-locality and the only site for *P. lagodechiana*.) . . . . . (6) F
- 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. We grew this as "*P. tenuifolia*" in our Dorset nursery years ago from seed received from what was then the Nikita Botanic Garden in Yalta.) . . . . . (6) E
- 746.707 : PAEONIA MASCULA (subsp. *mascula*) Greece, Samos, Ambelos. (A few wild-collected seeds.) . . . . . (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 (Beautiful, 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 Paenies" according to Farrer. 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. . . . . (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 some fine seedlings. . . . . (6) E
- 747.150 : PAEONIA OFFICINALIS (subsp. *officinalis*) Croatia, Istria. We are told this is a 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
- 747.210 : 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 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.) . . . . . (6) E
- 747.900 : PAEONIA TENUIFOLIA Georgia, Igoeti area. Steppe. (This type-race should have rich-green, glabrous foliage, less finely cut than *P. lithophila*, & crimson flowers. From an isolated colony at the SE extremity of the distribution of this group. Described by the Georgian botanist as 'scarce', which probably means that there is only a handful of plants.) . . . . . (6) F
- 747.961 : PAEONIA TOMENTOSA Azerbaijan. (A very little-known species. Plants from seed collected in the Iranian Talysh range, which runs from SE Azerbaijan on into Iran, in the 1960's (as *P. wittmanniana*) were compact with white flowers & most distinct. We saw yellow-flowered ones in another Iranian Talysh locality recently. This seed is from up towards Armenia, in the main body of the Caucasus, in NE Azerbaijan. Our own seedlings are as yet unflowered.) . . . . . (6) F
- 752.605 : PAPAVER SPICATUM (var. *spicatum*) (*P. heldreichii*) \* No data. An aristocratic endemic of the SW Turkish limestones and a long-lived perennial. Clumps of grey-white, hairy foliage send up 1m. high racemes of delicate, soft-apricot flowers from silvery buds. Unlike many poppies it is not always generous in producing seed in cultivation . . . . . (20+) D
- 754.210 : PARADISEA LUSITANICA \* No data. From the wet, mountain meadows 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 suits it in the UK. . . . . (15+) C

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

- 758.001 : PELARGONIUM ENDLICHERIANUM** \* Turkey, Erzincan, E of Refahiye. 1500m. Igneous scree. (An extraordinary, disjunct relict stranded in Turkey, thousands of miles from its relatives in Sect. *Jenkinsonia*, in the Cape. Butterfly-like flowers with two large, upper petals. This is from a bright-pink form with crimson veins. Spectacular in the bulb-frame. A brilliant patch of colour from mid-summer. Temperature-hardy & possible outside in the UK in a very sunny, dry site.) . . . . . (5) C
- 764.800 : PHELYPAEA COCCINEA** \* Iran, Kordestan, ESE of Sanandaj. Steep, rocky slopes with diverse steppe-vegetation. (The ultimate parasite: the whole visible plant, mainly composed of a low cluster of huge, black-throated 'gloxinia'-like flowers on short fleshy stems is intense scarlet. This species is parasitic only on *Centaurea*, so if you do not have a host, forget it. This is cultivated seed from Norman Stevens, who grew it on *C. macrocephala*, so it can be done.) . . . . . (100+) D
- 784.121 : POTENTILLA NITIDA** \* No data. From the selection 'Rubra' with rich, deep pink flowers, exquisitely studding tight pads of silvered foliage. Endemic to the limestones of the E Alps & one of the loveliest European alpiners. . . . . (20+) B
- 786.500 : PRIMULA ELATIOR** subsp. **PALLASII** (Sect. *Primula*) \* Turkey, Artvin, Genya Dag above Artvin. 1700m. Open summit meadows & woodland margins. (The most eastern race of this widespread species, the oxlip. Generous with its umbels of drooping, pale-yellow flowers on 15cm stems, above smooth, toothed leaves in early spring.) . . . . . (20+) B
- 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
- 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 when 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
- 802.800 : PULSATILLA SUKACZEVII** \* (*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
- 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. Considered to be best grown in the alpine-house in shade though this seed is from plants, growing happily 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
- 809.500 : RANUNCULUS ABNORMIS** \* Spain, Avila, Sierra de Gredos, NE of PicoAlmanzor. 1800m. Among rocks in melt-water gulleys. (A beautiful, tuberous-rooted species, which goes dormant as the ground dries. Branching, 10cm. stems with varnished, lemon-gold buttercups, each with up to 10 'petals', from tufts of grassy foliage. Choice & delicate but not difficult with some care. It fits in well with alpine-house 'bulbs', though it may resent dehydration in summer.) . . . . . (20+) 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 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
- 844.300 : SALVIA DAGHESTANICA** \* Russia, North Ossetia, Dzavgiss. 1000m. Ex H. Zetterlund 82-49 (The Caucasian representative in this disjunct species-group, including Turkish *S. hypargeia* & Moroccan *S. phlomoides*. Much dwarfer than these: only 10-15cm. high in flower with rich lavender-blue whorls from rosettes of superlative, white-felted foliage. Successful in Kent but strongly resents the damp atmosphere of our Welsh winters. An outstanding new plant.) . . . . . (15+) D
- 856.109 : SAXIFRAGA ARETIODES** France, Hautes-Pyrenees, Cirque de Troumouse. 2200m. Cracks in limestone boulders. P.& P. Watt coll. (A kabschia saxifrage, endemic to the Pyrenees and Cordillera Cantabrica, forming extremely tight, hard cushions of grey-green needle-leaves with bright yellow flowers on glandular stems.) . . . . . (50+) C
- 857.000 : SAXIFRAGA CALLOSA** subsp. **CATALAUNICA** Spain, Catalunya, Sierra de Montserrat. 1000m. Cracks in conglomerate rocks. P.& P. Watt coll. (A very interesting silver saxifrage, a geographical disjunction, long thought to be endemic to Montserrat but now also known from "hills near Marseilles", still a long way from its relatives in the Alpes-Maritimes and the Apennines. Panicles of numerous white flowers on reddish stems from grey rosettes.) . . . . . (50+) B

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- 861.401 : *SAXIFRAGA KOTSCHYI* Turkey, Nigde, SW of Ciftehan, Bolkar Daglari. 1700m. Conglomerate cliff. (A yellow kabschia forming very tight, prickly cushions. This is a widespread but extremely local plant in Turkey and N Iran, occurring in isolated habitats. This collection might well be from Kotschy's 1859 type locality "in Tauro Cilicico.") . . . . . (50+) 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. Likes damp, shady places. . . . . (50+) C
- 940.900 : *TANACETUM HARADJANII* (*Chrysanthemum haradjanii*) \* Turkey, Adana, NNW of Saimbeyli. 1100m. Fissures on sandstone cliffs. (The true plant, virtually unknown in cultivation and rare in the wild, recorded from only two localities in the northern Amanus range, whose name was misapplied by Davis in the 1950's to *Tanacetum densum* subsp. *amani*. We introduced the genuine plant in 1986 and sowed some 15 year-old seed a couple of years ago to give us our present stock. A woody based perennial, about 20cm. tall, with superb, silvery white, tomentose, much cut foliage.) . . . . . (about 20+) C
- 941.400 : *TANACETUM PRAETERITUM* \* Turkey, Antalya, Bey Dag. 2000m. Limestone slopes. Ex a P.& P.Watt coll. (A woody, 20cm. tall, high-altitude, SW Turkish endemic, originally introduced by Peter Davis, but never so widespread in gardens as more eastern *T. densum* (long grown under the misapplied name *Chrysanthemum haradjanii*). The two are superficially similar, though the intricately cut leaves are harder & more silver in *T. praeteritum*, but immediately distinct in flower as this has white ligules, whereas *T. densum* has none. Hardy in full sun with good drainage in a scree-bed.) . . . . . (about 20+) C
- 950.360 : *THALICTRUM FLAVUM* subsp. *GLAUCUM* (*T. speciosissimum*) \* No data. A tall species for good, moisture-retentive soil. Fluffy, soft-yellow flowers on 2m. stems open over a long period in summer. . . . . (15+) B
- 950.510 : *THALICTRUM LUCIDUM* \* No data. A hardy, robust species, over 1m. high, from wet meadows in E Europe & W Russia. Narrow, shiny green leaflets & long-branched inflorescences of slightly greenish yellow flowers. . . . . (30+) B
- 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 limestone banks (This coll. has proved to be taller & more spectacular than other examples of this Pyrenean endemic we have seen. Planted out under glass, it is about 40cm. high with airy panicles of big, ivory flowers over a very long period. Ideal for the bulb-frame.) . . . . . (10+) D
- 951.050 : *THAPSIA MAXIMA* \* No data. "A remarkably dramatic umbel" endemic to southern central Spain and south-eastern Portugal. Seed from Tim Ingram who writes : "Large rosettes of broad-lobed pinnate leaves, glossy and deeply veined, very attractive in their own right. Like the fennels it takes several years to reach flowering size. The flowers are yellow and held in a large, almost football-sized head at about 1m. to 1.5m." The warm UK summer of 2003 resulted in the first seed-set here for some time. Closely related to *T. villosa* and mainly distinguished from it by being hairless. . . . . (10) C
- 979.040 : *VERATRUM ALBUM* \* No data. A magnificent, variable species ranging from W 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
- 979.250 : *VERATRUM NIGRUM* \* No data. "One of the rarest & most striking of garden plants" comments Graham Stuart Thomas. Just as spectacular 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.. . . . . (20+) C
- 980.050 : *VERBASCUM DUMULOSUM* \* Turkey, Antalya, Gullukdagi. 900-1000m. Crevices in ruins. (Only known from the ancient walls of Termessos, where it has been all but eliminated by herbicides. The finest, dwarf, saxatile member of the genus. Outstanding as an alpine-house & dry-stone wall plant. Woody based mounds of grey-felt rosettes cover themselves with stubby 15cm. spikes of bright yellow flowers. From our 1984 coll. : quite variable in size & shape of the leaves) . . . . . (50+) C

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## Received too late for inclusion in our August list of bulb seeds

- 340.410 : *CROCUS AUTRANII* \* No data. Rich violet flowers with a large white centre and with a trifid, orange style. Plenty water in early spring, keep moist and cool in summer but drier in winter though never dried out at any time. . . . . (5) F
- 493.600 : *FRITILLARIA CRASSIFOLIA* subsp. *POLUNINII* \* Iran, Kordestan, pass between Daraki & Nowsud (S of Marivan). 2500-2600m. Ex P. Wendelbo 78-01. (Smaller and reputedly easier to grow than the Iraqi form.) . . . . . (6) F
- 503.308 : *FRITILLARIA STRAUSSII* \* Turkey, Hakkari, NNW of Semdinli. Ex O. Sonderhausen 936. . . . . (6) F
- 503.309 : *FRITILLARIA STRAUSSII* \* Iran, Kermanshah, Ilam to Eslamabad. Ex G. Bakhshi Khaniki 051. . . . . (6) F

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Species from North America : Seeds from Jim & Jenny Archibald

- 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 thick 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 woodland plant of deep, moist soils.) . . . (15+) B
- 1.011.190 : **ACTAEA RUBRA** f. **NEGLECTA** \* Distinct white-fruited form, quite different to *A. alba* . . . . . (15+) B
- 1.030.580 : **ALLIUM CRENULATUM** \* No data. A dwarf, alpine species, rated by Mark McDonough as "a delightful small plant" to grow in a pot or a trough. Distributed locally in gravelly soils at high altitudes from British Columbia S into Oregon. 2 narrow, prostrate leaves and an umbel of white or pink flowers on a very short, sturdy, winged stem. . . . . (20+) C
- 1.031.210 : **ALLIUM GOODDINGII** \* No data. "A lovely plant" : a rhizomatous, moisture-loving native of a few sites in Arizona & New Mexico. Glaucous-grey foliage and 50cm. stems with 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, local plant from the granite 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
- 1.032.601 : **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 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. Vernal wet, rocky serpentine slopes. (Umbels of bright rose-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. Cymes of starry, pale-blue flowers with darker blue tubes. 1m. . . . (10+) B
- 1.060.000 : **AQUILEGIA BARNEYI** \* Colorado, Rio Blanco Co., above Piceance Creek NW of Rio Blanco. 1980m. Gully in loose fragmented shale. (Endemic to the oil-shale barrens of the Uinta Basin & discovered by Ripley & Barney in 1948. Glaucous leaves & sticky, 30cm. stems of pink & cream flowers. Quite easy to grow under glass.) . . . . . (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. Many nodding, spurred scarlet flowers dance on branched 60cm. stems.) . . (20+) B
- 1.061.350 : **AQUILEGIA** aff. **MICRANTHA** \* Colorado, Montrose Co., 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. 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 than the 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 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
- 1.075.301 : **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

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- 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, 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. (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

## 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.

- 1.150.002 : **CALOCHORTUS ALBUS** \* Cal., San Luis Obispo Co., W of Paso Robles. 550m. Steep banks in deciduous woodland. (A very variable population : from ruby to opalescent pinks and whites.) . . . . . (20+) B
- 1.150.006 : **CALOCHORTUS ALBUS** Cal., Butte Co., Jarbo Gap. 550m. SW-facing slope. G. Greger coll. (The Sierran foothill race of this Fairy Lantern with pendant, globular, pearly-white flowers on 20cm. stems.) . . . . . (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 yellow. 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 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. 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
- 1.153.000 : **CALOCHORTUS BRUNEAUNIS** \* Cal., Inyo Co., White Mts., Westgard Pass. 2230m. Openings among *Artemisia*. (Near the 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. (White flowers edged with lavender & with dark basal blotches. Becoming rare in the wild but 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 30cm. stems.) . . . . (20+) 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 & by Ness in 'Jepson'. 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 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 maroon and striped 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 lavender to white, dark purple at the base.) . . . . (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 & centrally smokey brown. 30-50cm tall) . . . (15+) D
- 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.) . . . . . (20+) B
- 1.164.000 : **CALOCHORTUS KENNEDYI** Cal., Inyo Co., SW of Gilbert Summit. 1620m. Open stony slope. (Incomparable & unrivalled in the brilliance of its colour : here tending to luminous orange. A plant of high, cold steppe.) . . . . (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 desert ranges. Intense yellow with black-purple basal markings.) . . . . . (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.-

Species from North America : Seeds from Jim & Jenny Archibald

- 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. 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 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
- 1.167.095 : CALOCHORTUS MACROCARPUS \* Canada, British Columbia, N Okanagan Valley. 625m. Ex a C. Bailey coll. (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 tiny feather millinery.) . . . (15+) D
- 1.171.000 : CALOCHORTUS PALMERI \* Cal., Los Angeles Co., San Gabriel Mts., Bandido Camp. 1770m. Open slopes with 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
- 1.171.510 : 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
- 1.173.531 : 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 60cm. stems.) . . . . . (20+) C
- 1.174.500 : CALOCHORTUS PULCHELLUS \* Cal., Contra Costa Co., Mt. Diablo NE of Danville. 520m. 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. Quite 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 similar to *C. catalinae* with dark nectaries but can vary to yellow edged with rose.) . . . . . (15+) D
- 1.176.000 : CALOCHORTUS SPLENDENS \* Cal., Ventura Co., Lockwood Valley. Among *Artemisia* in sandy clay. (A 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
- 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
- 1.177.800 : 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 Francisco 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 low winter or high summer temperatures.) . . . . . (20+) E
- 1.178.002 : CALOCHORTUS TOLMIEI \* Oregon, Josephine Co., 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

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.-

- 1.179.001 : **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.) . . . . . (15+) B
- 1.179.501 : **CALOCHORTUS UNIFLORUS** \* Oregon, Josephine Co., SW of O'Brien. 550m. Wet depressions among conifers. (Northern form flowering 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. Ex 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.) . . . . . (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.) . . . . . (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.) . . . . . (20+) B
- 1.182.005 : **CALOCHORTUS WEEDII** (var. *weedii*) Cal., San Diego Co., Inspiration Point. 1430m. J. Andrews coll. (In Subsect. *Weediani*. 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. tall with hairy, lilac-tinged bells.) . . . . . (15+) E

## Calochortus : start to find your way here

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

Eight members of Section *Calochortus*. These fit in with Mediterranean bulbs : *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 : *C. aureus*, *C. bruneauensis*, *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

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 beautiful & distinct species only known from two small populations on seasonally wet cliffs NW of San Francisco. Branching stems, 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, inland form, about 30cm. high of this eye-catching, scarlet-orange species.) . . . . (20+) B

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

1.311.000 : **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

1.315.450 : **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 on the California-Oregon line, this tiny, woody-based perennial carries very large, rich-pink flowers over neat, blue-green leaves.) . . . . . (5) E

A : \$2.00 ; £1.50 ; € 2.-	C : \$4.00 ; £2.50 ; € 4.-	E : \$7.00 ; £4.50 ; € 7.-
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## Erythronium : a wide range of the westerners

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 of around 0 C or 32 F. We have, however, since received several reports from growers who have germinated such species successfully by conventional treatment, placing seed-containers outdoors 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. (Beautifully mottled leaves. Creamy white flowers with yellow throats.) . . . . . (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. Only from the Coast Ranges on the California-Oregon line.) . . (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. (More or less *E. californicum* with purple filaments. Nearest recorded populations of *E. citrinum*, *E. hendersonii* & *E. californicum*, all about 35km. distant, may be responsible.) . . . . (15+) D
- 1.351.000 : ERYTHRONIUM GRANDIFLORUM (var. *grandiflorum*) \* Utah, Cache Co. 2400m. . . . . (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 cultivated palouse country on the Idaho line.) . . . . . (15+) E
- 1.351.201 : ERYTHRONIUM HELENAE \* Cal., Lake Co., SE of Middletown, Butt's Canyon. 450m. Among *Arctostaphylos* chapparral on serpentine slope. Ex a J. Andrews coll. (A beautiful, very local species only known from around Mt. St. Helena, in Napa, Lake & Sonoma Cos. With mottled leaves, it is quite near *E. californicum* but has yellow anthers.) . . . . (15+) D
- 1.351.301 : ERYTHRONIUM HENDERSONII Oregon, Jackson Co., Siskiyou Mts., 1030m. Openings among 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
- 1.351.500 : ERYTHRONIUM HOWELLII \* Oregon, Josephine Co., E of Takilma. 670m. Among conifers on turfy, stony slopes. (Nearest to *E. citrinum* but with no basal appendages. White flowers turn pink as they age. Mottled leaves.) . . . . (15+) C
- 1.351.700 : ERYTHRONIUM KLAMATHENSE \* Cal. Siskiyou Co., SW of Castle Lake. 1750m. Among scrub & grasses on steep slopes. (Yellow-centred, milk-white flowers with creamy anthers. Plain bright-green leaves.) . . . . . (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.) . . . . . (15+) C
- 1.352.100 : ERYTHRONIUM MULTISCAPOIDEUM (*E. "cliftonii"*) \* Cal., Butte Co., S of Pulga. 640m. Steep, open, serpentine scree. (More or less a giant form (in the wild) 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 in the UK.) . . . . . (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 to the SE of its 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. (Plain green leaves & 30cm. stems carrying 10 or more nodding, yellow flowers, maturing to bronze or pinkish. High on Chiquito Ridge, it flowers as late as July. It seems to need prolonged cold to germinate but many growers have told us of their success and plants have been raised from John's earlier coll.) . . . . . (15+) E

- 1.352.892 : *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.) . . (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. Like a large *E. purpurascens* with well developed appendages on the segments & a larger yellow centre. 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. 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 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). Locally numerous but so far only known from the type-locality. Bicoloured flowers, white at the tips and yellow at the bases.) . . . . . (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. Hardy & easy in European gardens.) . . . . . (15+) C

## Fritillaria : specialists of serpentine, granite and clay

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 a well-drained, lime-free, low nutrient mix

and, in the UK, give them their first winter watering quite late. In general these are more difficult to grow than the Eurasian species. Excess nitrogen should be avoided, especially for serpentine species : please note our comments about the chemical characteristics of this under *Erythronium*.

- 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*. 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*.) . . . . . (15+) D
- 1.370.500 : *FRITILLARIA BIFLORA* \* Cal., San Luis Obispo Co., above San Simeon Bay. 10m. Coastal grassland. (About 20cm. high with darkest, brown-purple, green-striped bells. Maybe best grown frost-free & cool in summer.) . . . (15+) C
- 1.370.650 : *FRITILLARIA EASTWOODIAE* (*F. phaeantha*) \* Cal., Shasta Co., S of Shingletown. 1000m. Openings in mixed woodland. (A dubious 'species', apparently a stable, recent hybrid between *F. recurva* & *F. micrantha*.) . . (20+) C
- 1.370.800 : *FRITILLARIA GLAUCA* \* Cal., Humboldt Co., SSW of Willow Creek. 1580m. Unstable, serpentine talus on steep, N-facing slope. (Thick, glaucous leaves & nodding bells in yellow through to red-browns in this site.) . . . . . (10+) D
- 1.370.802 : *FRITILLARIA GLAUCA* \* Cal., Mendocino Co., Mendocino Pass. 1500m. Serpentine. (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 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. (Shallow bowls are basically lime-yellow but thickly peppered with purple-brown dots.) . . . . . (15+) E
- 1.371.600 : *FRITILLARIA PLURIFLORA* Cal., Lake Co., Walker Ridge. 600m. Open, grassland in heavy clay. (One of the most beautiful, 10-30cm. tall with up to 7, conical bells in a rich unmarked pink. A classic adobe-clay plant from soil that is wet & glutinous in spring but dries like concrete later. A challenge but has been flowered well in the UK.) . . . . (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. 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 below the wide, waxy, nodding bells on 10cm. stems, "the shiniest, most delectable fritillaria flowers," brown veined & tinted on a green-white ground.) . . . . . (20+) C

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Species from North America : Seeds from Jim & Jenny Archibald

- 1.371.919 : FRITILLARIA RECURVA Cal., Plumas Co., near Belden. 670m. G. Greger coll. (One of the the most striking in the entire genus. Incomparable & unique with pendant, orange-scarlet trumpets on stems up to 50cm. high, whorled with narrow leaves. We do not find this species a problem if it is not kept too hot & dry in summer.) . . . . . (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 a Wayne Roderick coll. (Only known from one or two sites 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. (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 coli. (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
- 1.422.109 : HESPEROCHIRON PUMILUS Cal., Plumas Co., Bellas Flat. 1370m. G. Greger coll. (These are both delightful pan-plants for the alpine-house, where they can spend most of the year sleeping under the bench.) . . . . . (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. Virtually, a yellow version of *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. (Victor Cohen described this population, as "rich golden-yellow & orange" to "pale apricot or light creamy buff." Lime-free scree.) . . . . . (15+) C
- 1.461.007 : IRIS MACROSIPHON \* Cal., Lake Co., NW slope of Mt. St. Helena. 700m. Grassy opening among *Pinus* & *Arctostaphylos* on serpentine. (A delightful species from the foothills to the North of the Central Valley. As dwarf as *I. innominata* and as variable in colour. The beautifully marked, long-tubed flowers in our parent plants are all in shades of lavender-blue to purple. Tuffets of very narrow, grassy, grey-green leaves send up 20cm. stems.) . . . . . (15+) C
- 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. Will vary in blue & purple tones.) . . . . . (15+) D
- 1.495.099 : 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
- 1.496.100 : LEWISIA CANTELOVII Cal., Plumas Co., above N Fork Feather River at Belden. 710m. Among moss on shaded serpentine cliff. (Only known from a few cliffs around here. Many-flowered panicles of small, pale-pink flowers.) (20+) E
- 1.497.000 : LEWISIA OPPOSITIFOLIA \* Oregon, Josephine Co., Waldo Hill. 600m. Among serpentine detritus along gully. (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 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 population entirely composed of sumptuous whites, which we found in 1989. Grows well with us.) . . . (20+) D
- 1.497.230 : LEWISIA REDIVIVA Cal., Napa Co., The Palisades. 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 in summit area. (A high altitude race, worth at least subspecific rank. Exquisite rounded, pearl-white flowers with bronze sepals.) . . . . . (20+) D

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## Lilium : temperamental western beauties

- 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 northern Coast Ranges. 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. (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
- 1.499.100 : **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 seems to intergrade with *L. parvum*. Up to 25 fragrant, uniformly yellow, pendant, wide bells with dull-red anthers on 1m. stems.) . . . . . (15+) D
- 1.499.202 : **LILIUM KELLOGGII** Cal., Del Norte Co., Little Jones Creek. 500m. Among scrub. (A difficult dry-grower from around the California-Oregon line. 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, 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 tips.) . . . . . (20+) C
- 1.499.702 : **LILIUM PARDALINUM** Cal., Humboldt Co., SSW of Willow Creek. 1580m. Wet gully 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. J. Andrews coll. (Like no other in its 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 SW California & S Arizona.) . . (20+) 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 up to 2m. carrying 20 or more upward-facing, fragrant, trumpets opening white with minute purple dots, suffusing 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 splendid, 2m. high population here.) (15+) C
- 1.501.002 : **LILIUM WASHINGTONIANUM** (subsp. *washingtonianum*) Cal., Plumas Co., N of Greenville. 1220m. G. Greger coll. (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. 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 *L. fulgens* & its hybrids. Spires of lipped, brilliant scarlet flowers reach 1m. . . . . (100+) B
- 1.855.001 : **SILENE CALIFORNICA** Cal., Trinity Co., S of Hayfork. 750m. Openings among conifers. (The more northern & hardier of the two dwarf, red-flowered Californian *Silene* spp. Deeply cut petals in eye-burning scarlet.) . . . . . (15+) C
- 1.855.400 : **SILENE HOOKERI** \* Oregon, Josephine Co., E of Takilma. 850m. Openings among conifers. (We have our cultivated stock thriving 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

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Trillium : a modest selection of 2003 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. Most seed is from Hermann Fuchs, the German specialist in woodland plants, and was collected in late August or September, 2003.

- 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. . . (15+) C
- 1.919.830 : TRILLIUM CERNUUM X ERECTUM \* No data. As the *T. erectum* parent is red, expect "all possible combinations of form, structure and color", varying from white to violet but with an emphasis on reds & pinks. . . . . (15+) C
- 1.920.120 : 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
- 1.920.920 : 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 pink-flushed flowers. . . (15+) C
- 1.920.950 : TRILLIUM GRANDIFLORUM f. ROSEUM \* From the exquisite pink form of this magnificent species with large, full-petalled flowers on 30cm. stems. These open pale pink and deepen as they age. This variation is apparently not infrequent in the Blue Ridge Mts. of Virginia but we have no idea how reliably it reproduces from seed. . . . . (15+) E
- 1.921.010 : TRILLIUM KURABAYASHII No data. 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. . . . . (15+) C
- 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
- 1.923.120 : TRILLIUM VASEYI \* No data. Mainly a plant of woodlands in the western Carolinas, South into the neighbouring states. Flowers with thick-textured, crimson petals, with impressed veins, on stems about 50cm. high. . . . . (20+) 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 genus of late-flowering corms. Wide umbels of translucent, purple-blue flowers on 50cm. stems.) . . . . . (20+) B
- 1.925.300 : TRITELEIA CROCEA (var. *crocea*) \* Cal., Siskiyou Co., W of Yreka. 1750m. Loose serpentine talus. (A little-known local species from northernmost California. About 20cm. high with bright yellow flowers in summer.) . . . (15+) D
- 1.926.300 : TRITELEIA HENDERSONII Oregon, Douglas Co., above Callahan Creek. 460m. Serpentine. (A SW Oregon endemic, superficially like *T. crocea*. Paler yellow flowers with a central inky-blue stripe on each segment.) . . . (15+) D
- 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 from Humboldt Co. at 700m. on an open, grassy, S-facing clay bank. Densely packed, 20cm. wide umbels of 50 plus dark purple flowers. Up to 40cm. high.) . . . . . (20+) C
- 1.926.860 : TRITELEIA LAXA var. NIMEA \* Cal., Marin Co., SSW of Tomales. 15m. 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
- 1.975.209 : VERATRUM VIRIDE \* Alaska, near Valdez. (A fine species, mainly native to Alaska & the Atlantic states of the USA. Closest to *V. californicum* but with deep green instead of greenish white flowers carried in immense, 1.5m. high panicles with drooping branches, rather than the erect ones of *V. californicum*. Stately & slow-growing with superlative, large, pleated, bright-green leaves. Both species are among the finest, long-lived hardy plants for a site with rich, moist soil.) . . (15+) C

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## 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 refrigerator 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. If grown in containers, annual repotting is recommended as these are greedy plants. 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. 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 : variable in rich, egg-yolk yellow shades) . . . . . (15+) B
- 2.026.700 : ALSTROEMERIA DILUTA** (subsp. *diluta*) \* Chile, VII, Talca, near San Rafael. 300m. Ex an A. Brinck coll. (A little species, 10-25cm. high, described in 1986 & limited to a small area between Talca & Curico. White to pink segments with attenuated, darker tips, the upper, inner ones heavily marked with dull red streaks, which sometimes fuse.) . . . . (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, banded bright yellow.) . . . . (10+) B
- 2.027.000 : ALSTROEMERIA GARAVENTAE** \* Chile, V, Cerro Vizcacha. Ex a J. Watson coll. (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 N of the above type-locality one. Heavily speckled on every segment not just on 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 cultivation in the alpine-house. Green-tipped, pastel pink flowers, blotched with gold & lightly speckled. . . . (10+) D
- 2.027.200 : ALSTROEMERIA HOOKERI subsp. CUMMINGIANA** \* Chile, Reg. Metro., Angostura de Paine (between Santiago & Rancagua). Ex an A. Brinck coll. (A slightly taller plant with differently proportioned, pink flowers. The upper, inner segments are only very sparsely speckled with red-brown. The most southern site for this subspecies.) . . . . (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. (A spectacular local race, about 1m. high, always with a pink ground-colour.) . . . . (10+) C
- 2.028.109 : ALSTROEMERIA MAGENTA** \* Chile, Region V, Coquimbo, Ovalle, Fray Jorge. 500m. Ex Beckett, Cheese & Watson 4683. (A spectacular species nearest to *A. pulchra* and *A. magnifica* but distinct in having all the inner segments, not just the upper 2, of the lilac flowers heavily streaked with maroon-red. We have maintained this stock from John's 1972 coll. but never before had enough seed to list. Historically, this may have been grown as "*A. violacea*".) . . . . . (10+) E
- 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 upper segments with dark red.) . . (10+) C
- 2.028.500 : ALSTROEMERIA PALLIDA** \* Chile, Reg. Metro., Lagunillas, ENE of San Jose de Maipo. 2200m. Open, stony slopes. (Few alpine plants can rival the spectacle of this in flower. Remaining 20cm. high with us under glass, 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. Try it outside in sunny scree in the UK.) . . . . . (10+) C
- 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 short. stems. Very dwarf & hardy.) . . (10+) D
- 2.028.710 : ALSTROEMERIA PAUPERCULA** \* Chile, II, Antofagasta, Quebrada de Taltal. 200-500m. Among coastal scrub. 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 cliffs along the north Chilean coast. Very large, beautiful, pure white flowers. . . . (10+) D

Species from South America : Seeds from Jim & Jenny Archibald

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- 2.029.100 : **ALSTROEMERIA PRESLIANA** subsp. **AUSTRALIS** \* Chile, IX, Malleco, Cordillera de Nahuelbuta. 1200m. Openings in woodland, often in shade. (One of the most southern, distinct from the type-race in its striking, red-brown anthers, more elongated upper segments, heavily streaked with crimson, & intense, deep-pink ground-colour.) . . . . . (10+) C
- 2.029.410 : **ALSTROEMERIA PULCHRA** (subsp. *pulchra*) \* Chile, V, Valparaiso, Con Con. 115m. In heavy, red soil on W-facing banks. Ex Beckett, Cheese & Watson 4762 (White or pale lilac, streaked with crimson.) . . . . . (10+) C
- 2.440.000 : **HERBERTIA LAHUE** (subsp. *lahue*) \* Argentina, Buenos Aires Prov. Ex an A. Castillo coll. (Hardy in our 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 membranous bracts. Needs a sheltered site in the UK. . . . . (20+) C
- 2.659.000 : **NOTHOSCORDUM OSTENII** \* Uruguay. Ex a J.A. Castillo coll. (A choice, little 'sweetie', very scarce and local in nature. 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
- 2.780.800 : **RHODOPHIALA ELWESII** \* Argentina, Neuquen, Lacar, E of Lago Lolog. 1100m. Open areas, among 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. 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
- 2.840.190 : **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 50cm. stems carry successions of 'upside-down', butterfly-like flowers. This is 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
- 2.940.010 : **TECOPHILAEA CYANOCROCUS** \* No data. The famous blue Chilean crocus, one of the most spectacular 'bulbs'. 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 white centre. . . . . (10) D
- 2.940.012 : **TECOPHILAEA CYANOCROCUS 'VIOLACEA'** 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
- 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. (A lovely, fragile, tuberous-rooted climber. Best kept frost-free when growing in winter & dry when dormant in summer. Flat-faced flowers in soft violet-blues with white centres.) . . . . . (5) D
- 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, a coloniser of deep, mobile scree, can be trouble-free & vigorous when settled in UK gardens. It is not at all easy to establish in the first place : try sowing it direct to avoid disturbance, as we did in our polytunnel, where it provides a spectacular display in early summer.) . . . . . (5) D

Species from Southern Africa : Seeds from Jim & Jenny Archibald

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- 3.105.510 : **CYRTANTHUS BREVIFLORUS** Lesotho. No further data. (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. Arching stems carry pendant, yellow, tubular flowers. Seed just harvested should give good germination.) . . . . . (10+) D
- 3.595.100 : **NERINE BOWDENII** \* Lesotho/Orange Free State, Drakensberg, Mont aux Sources. 3000m. Gravelly ledges on cliffs. (Distinct from other *N. bowdenii* we have grown : possibly the form to which the name *N.b. wellsii* has been applied. 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

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- 4.005.510 : ACONITUM HEMSLEYANUM** \* No data. A fine Chinese perennial with herbaceous stems twining to 3m. or more. Densely clad in deeply cut, rich-green foliage & massed with long racemes of spurred, violet helmet-shaped flowers in autumn. Splendid in a draughty, NE-facing corner here & more impressive than other climbers grown as *A. volubile*. . . . (20+) **B**
- 4.023.000 : ALLIUM PRATTII** var. **LATIFOLIATUM** \* China, Sichuan, Emei Shan. 2600m. Cliff ledges. Ex E. Needham 981 (Provisionally identified by Jill Cowley at Kew as this or perhaps *A. ovalifolium*. 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**
- 4.045.007 : ANEMONE RIVULARIS** \* China, Yunnan. Ex ACE 1698 (A lovely, 60cm. high meadow-plant, widespread from Kashmir to Yunnan. Long-stalked, white cup-shaped flowers, heavily tinged with purplish-blue outside.) . . . . . (15+) **B**
- 4.111.720 : ASTILBE RIVULARIS** var. **MYRIANTHA** \* China, Yunnan. Ex I.T. Stokes 163 (The splendid SW Chinese race of this imposing Himalayan perennial for a moist site. Large, beautifully textured, deeply veined, burnished bronze-green foliage alone. Immense branching heads of tiny creamy flowers on 2m. stems very, very late in the season.) . . . . . (100+) **D**
- 4.055.000 : ANISODUS LURIDUS** (*Scopolia lurida*, *S. stramonifolia*) \* No data. An intriguing, eastern relative of the European genus *Scopolia*, in *Solanaceae* and previously listed by us as *S. stramonifolia*. Distributed from Kashmir to SW China between 2700m. & 4300m., this is taller than the E European *S. carniolica*, reaching about 1m. in height. It often has downy, white undersides to the large leaves. The drooping, wide bells are much larger than those of *S. carniolica* in pastel-shades of pale apple-green tinged with brownish purple. Hardy & trouble-free in rich, well-drained soil in semi-shade. . . . . (15+) **D**
- 4.060.109 : AQUILEGIA ADOXIOIDES** (*Semiaquilegia adoxioides*) \* China, Qinghai. Ex SBQE 1157. (A dainty delight from the mountains of N Japan, S Korea & N China. Flights of spurless maroon flowers on 30cm. stems.) . . . . . (20+) **B**
- 4.060.510 : AQUILEGIA FRAGRANS** \* No data. A fine W Himalayan species, distributed from N Pakistan to Uttar Pradesh in subalpine scrub up to 2600m. Big, creamy columbines, sometimes tinged greeny blue, on 50cm. stems. . . . . (20+) **B**
- 4.063.009 : AQUILEGIA VIRIDIFLORA** \* China, Qinghai. Ex an SBQE coll. (Fascinating, sombre species with conical, spurred black-maroon flowers held in grey-green sepals on branching 30cm. stems. Some sun & good drainage.) . . . . . (20+) **C**
- 4.080.500 : ARISAEMA AMURENSE** \* No data. Appears to be the genuine species, an extremely hardy NE Asian plant, originally grown from seed received from the former USSR. Impressively large, deeply veined foliage with broad leaflets of irregular size. Green spathes, striped with a paler shade, with elongated deflexed tips. Red autumnal fruits. . . . . (10) **C**
- 4.081.111 : ARISAEMA CANDIDISSIMUM** \* No data. A superlative species from SW China, prerequisite for all who appreciate hardy plants of distinction, not just for "lovers of the curious". Appears very late in spring with large spathes, peaked & ribbed arabesques, exquisitely sculptured in jade and rose-tinted alabaster. Not difficult if moist & well-fed in humus-rich soil in light shade. In UK gardens since the Forrest introduction from Yunnan early last century. . . . . (6) **E**
- 4081300 : ARISAEMA CILIATUM** var. **LIUBAENSE** \* China, Sichuan. 3600m. Ex C. Theune 369. (Recently described as a r-w var. after some years of oscillating between *A. ciliatum* & (improbably) *A. consanguineum*. An elegant, hardy plant with parasols of many narrow leaflets and attenuated, hooded spathes striped in chestnut-brown and white.) . . . . . (10) **D**
- 4.081.859 : ARISAEMA DILATATUM** \* China, Yunnan. 2800m. (A shiny, bright-green spadix curves in a S-shaped arabesque out of the glossy, translucent spathe striped with white & rich plummy brown. Large-leaved, arresting & distinct.) . . . . . (8) **F**
- 4.082.100 : ARISAEMA ELEPHAS** \* China, Yunnan, Cangshan. 3200m. Ex E. Needham 1024. (Ron McBeath writes "one of my favourites...striking & handsome...reasonably easy to cultivate at Edinburgh." Mike Tucker (Somerset, UK) also finds it vigorous & hardy, though it appears early. Large, trifoliate, rugose leaves, often flushed purple & margined with red. Elongated black-purple spadices snake out from hooded spathes striped with purple & translucent white lines. 40cm.) . . . . . (10) **E**
- 4.082.501 : ARISAEMA GRIFFITHII** \* Nepal, Modi Khola valley towards Annapurna sanctuary. 2600m. Ex E. Needham 389. (A striking thing from the forests of central Nepal into Bhutan. Very large, broad spathes, curving over on themselves and with big, broad side-flaps, all netted with greeny white on a dark purple ground. The purple spadix-appendage narrows to a tail and extrudes. Two large, trifoliate leaves rise above this. Hardy when established in rich soil in shade in the UK.) . . . . (10) **D**
- 4.083.305 : ARISAEMA JACQUEMONTII** \* Pakistan, Hazara, Kaghan valley, above Shogran Forest Resthouse. 2050-2670m. Ex SEP 263. (The most western & the hardest Himalayan species, distributed between 2800-4000m., among the subalpine scrub of drier areas from Afghanistan to Bhutan & SE Tibet. Leaves with 6 tapering leaflets and elegant, elongated spathes, striped longitudinally in green & white, with their extended, tortuous tips rising up well above the foliage.) . . . . . (10) **D**
- 4.096.610 : ARISAEMA SERRATUM** (subsp. *serratum*) Russia, Primorskiy Krai. (A form from the Russian Far East of this variable species distributed through Japan & adjacent NE Asia. About 80cm. high, with 2 leaves, each with about 10 leaflets, and green spathes, longitudinally striped with white, around a stout spadix. Very hardy & a good garden plant.) . . (10) **D**

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4.099.097 : **ARISAEMA TORTUOSUM** \* Nepal, Khumbu Himal. 1800-3000m. Cloud-forest floor and open stony places. Ex C. Chadwell 3211. (One of the tallest in the genus, up to 1m. high or more, though this coll. has been 50-70cm tall. Stout, brown-mottled stems with 2 or 3, large, pedate leaves carry green spathes above the foliage. An extraordinary, tapering,, S-shaped spadix-appendage, usually purple in this form, snakes outwards then upwards. Distributed through the Himalayan woodlands from the Punjab E into SW China, this coll. from the shoulder of Everest seems reliably hardy in the UK.) . . . . . (10) C

4.099.829 : **ARISAEMA WILSONII** \* China, Yunnan. 2000m. (Close to *A. elephas* & sometimes considered synonymous but kept separate in recent publications : the central leaf-blade is much larger & the spadix is differently shaped.) . . . . (10) E

## Codonopsis : the climbing campanulas

4.221.100 : **CODONOPSIS FORRESTII** \* China, Yunnan, Dali, Tsang Shan, Huadianba. 2900m. Ex CLD1409. (Quite narrowly distributed in Dali & Lijiang, SW Yunnan, between 1500 & 3600m. This is an extremely fine, climbing species allied to *C. convolvulacea* and the latest to flower in this group with a succession of large, clear-blue flowers continuing well into late autumn. These lack the crimson, central ring of *C. grey-wilsonii* but are at least as large and last longer.) . . . . . (20+) C

4.221.210 : **CODONOPSIS GREY-WILSONII** (*C. nepalensis* Grey-Wilson non Hara, most *C. convolvulacea* & *C. forrestii* of gardens) No data. Widespread & maybe endemic in Nepal, this is superficially similar to *C. convolvulacea* but more vigorous, twining to over 3m., and with a striking crimson-ringed centre to the wideopen, lavender-blue flowers. . . . . (20+) C

4.221.211 : **CODONOPSIS GREY-WILSONII** from WHITE FORM (*C. convolvulacea* 'Alba', *C. nepalensis* 'Himal Snow') From the superlative white form, selected from seedlings of a 1954 Stainton, Sykes & Williams coll. in Nepal (possibly SSW 7765). Currently, advisedly, labelled 'Himal Snow' in the UK. A beautiful plant whatever its name. . . . . (20+) D

4.221.420 : **CODONOPSIS LANCEOLATA** \* No data. A hardy climber (especially distinct in its winged seeds, unlike any other we know) from N China through E Russia & Korea to Japan. Variable in its largish green bells with purple markings & growing about 2.5m. high. Don Elick sent us seed from Japan some years ago & described it as reaching 5m., often in alluvial soil along streams, where "wide open bells reminiscent of a richly coloured *Fritillaria graeca* dangle in profusion." . . . . . (20+) C

4.221.850 : **CODONOPSIS OBTUSA** \* Afghanistan, Panjshir Valley. 2400m. Beside stream. Ex P. Furse 8643. (We acquired this long ago identified as *C. obtusa* & no other positive, alternative determination has been suggested. Near *C. clematidea* but the big, ice-blue bells lack the internal markings and shade into glossy yellow-green instead. Hardy & reliable.) . (20+) C

4.222.301 : **CODONOPSIS ROTUNDIFOLIA** \* Pakistan, Hazara, Kaghan Valley. Scrub. 2000-3000m. Ex C. Chadwell 2015. (A tuberous-rooted "rambling, herbaceous climber" twining to about 3m with large, broad bells, green or purple outside, "greenish yellow mottled with red-purple on the inside." A plant of montane scrub recorded up to 3800m.) . . . . . (20+) B

4.222.510 : **CODONOPSIS TANGSHEN** \* No data. Another vigorous climber reaching 3m. Big pale-green bells intricately marked with purple & often chequered inside. Native to SW China, in Sichuan & Hubei, up to 2500m. . . . . (20+) B

4.222.750 : **CODONOPSIS TUBULOSA** \* China, Yunnan, Dali. 2400m. Ex Compton, D'Arcy & Rix 2025. (Given to us by Harry Hay (Surrey, UK), who told us the large, bright green flowers are much admired by visitors.) . . . . . (20+) D

4.222.805 : **CODONOPSIS VINCIFLORA** \* No data. A less vigorous member of the *C. convolvulacea* group from the E Himalaya & SW China with smaller, thinner, toothed leaves & saucer-shaped, lilac-blue flowers. Twines delicately to no more than 1m. Seedlings are best left to tangle the first season : sort out the dormant tubers & replant in winter. . . . . (20+) B

4.250.610 : **DAPHNE GIRALDII** \* No data. A beautiful, deciduous shrub, about 60cm. high, from W China, in Shaanxi & Gansu. Terminal clusters of fragrant, rich yellow flowers in late spring. Can thrive on soils from limy clay to acid sand but can also be rather temperamental. When we were in Dorset we never grew it well & W Wales is too wet for it . . . . . (8) C

4.251.010 : **DAPHNE TANGUTICA** \* No data. A fine, dwarf, evergreen shrub from W China, under 1m. high, with clusters of fragrant flowers, rose-purple outside & lilac-tinged white inside. Almost always a good grower in UK gardens. . . . . (8) B

4.265.310 : **DELPHINIUM BRUNONIANUM** \* No data. From the form established in British gardens & close to *D. cashmerianum*. About 30cm. high with downy black-eyed flowers of dusky purple with stubby spurs. . . . . (20+) B

4.266.100 : **DELPHINIUM DELAVAYI** \* China, Yunnan, Lijiang, Yulong Shan. 2900m. Ex CLD 895. (Branching stems about 60cm. high carry a succession of long-spurred, deep blue-violet flowers from late summer into autumn.) . . . . . (20+) B

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

4.351.510 : **EUONYMUS OXYPHYLLUS** (*E. yezoensis*) \* No data. A handsome 2-3m. shrub from Japan & Korea. Dusky red-purple autumn foliage & profuse bright carmine fruits, opening to show the seeds clad in brilliant orange arils. . . (10+) C

- 4.351.610 : *EUONYMUS PHELLOMANUS* \* No data. A deciduous shrub, 2-3m. high, native to China in Gansu & Shensi, most plants in cultivation are probably derived from the Reginald Farrer collection made early last century. Square-shaped stems with conspicuous corky wings and angular, rosy-red, four-lobed fruits opening to show the seeds with rich-red arils. . . (10+) C
- 4.390.108 : *FRITILLARIA CAMTSCHATCENSIS* \* Russia, Sakhalin, near Tomari. (A tall, vigorous, markedly stoloniferous form from the southern part of this island between the Russian mainland & Japan. Up to 6, virtually black flowers on stems which can reach 60cm. in height. This grows well outside with us in our gravelly peat-bed.) . . . . . (15+) D
- 4.390.110 : *FRITILLARIA CAMTSCHATCENSIS* \* No data. A marvellous plant. Stems of 30cm. or more, whorled with rich-green leaves, carry nodding, thick-textured bells in darkest brown-purple. Distributed from Japan through Sakhalin & Kamchatka into Alaska & Canada. Utterly hardy & quite easy outside in the UK in a cool situation. . . . . (20+) C
- 4.430.510 : *GERANIUM CLARKEI* from PURPLE FORMS \* No data. A beautiful relative of *G. pratense* from the mountain meadows of Kashmir between 2000 & 4000m. Mats of creeping rhizomes send up deeply cut leaves and 50cm. stems with large, veined flowers, blue-purple in these forms, usually grown in the UK as 'Kashmir Purple', in summer. . . . . (10+) B
- 4.430.511 : *GERANIUM CLARKEI* from WHITE FORM \* India, Kashmir, Gadsar Valley. (This pale phase, basically white, pencilled with pink veins & grown as 'Kashmir White', seems to be the geographical race dominant in this area. A lovely plant & not quite so vigorous as the blue-purple. These colour forms may have crossed and seedlings may vary.) . . . . (10+) B
- 4.430.512 : *GERANIUM CLARKEI* from PINK FORM \* From 'Kashmir Pink', which occurred in cultivation on Robin & Sue White's Hampshire nursery. The parent has large, clear-pink flowers but seedlings may vary.. . . . . (10+) B
- 4.430.920 : *GERANIUM ERIOSTEMON* \* China, Quinghai. Ex SBQE. (A NE Asian species, distributed through W China, Korea & Japan. Nodding, muted violet flowers with flat or reflexing petals & downy, lobed soft-green leaves.) . . (10+) C
- 4.432.109 : *GERANIUM SOBOLIFERUM* \* Russia, near Vladivostok. Ex a M. Wickenden coll. (A fine pink-flowered race of this species from Ussuri, Manchuria & the mountains of central Japan. Branching stems about 40cm. high carry a many of small magenta-pink flowers over a long season. The deeply cut, ferny foliage is orange-tinted in spring & autumn.) . . (10+) C
- 4.431.150 : *GERANIUM KISHTVARIENSE* \* India, Kashmir, Gulmarg above Srinagar. Ex R.Lancaster 159. (A distinct woodland plant 50cm. tall, spreading by slender underground stolons. Wrinkled, cut, fresh-green foliage & rich crimson-purple flowers, marked centrally with white, in late summer. A fine colour but not so easy to establish & maintain in our experience, though we have at last induced it to grow well in a bed of rich soil in the shade of our moist woodland.) . . . . . (10+) D
- 4.432.590 : *GERANIUM WALLICHIANUM* \* India, Garhwal Himal. Ex an Udai Pradhan coll. (A vigorous, wide-spreading form of this variable species, which dies back annually to a stout, compact rootstock. Bright pink flowers with distinct white centres produced from midsummer until the first severe frosts on trailing stems 60cm. or more long.) . . . . . (10+) C
- 4.432.501 : *GERANIUM WALLICHIANUM* \* Nepal, Trisuli Valley, near Syrabru. 2450m. Ex an E. Needham coll. (Rich pink flowers almost identical to the Garhwal coll. but much more compact with us than this or the following. Elizabeth Strangman, however, finds it "stronger growing & longer flowering than 'Buxton's Variety'". Fine autumn leaf-colours . . . . (10+) C
- 4.478.205 : *INCARVILLEA EMODI* (Subgen. *Amphicomae*) \* Pakistan, Rawalpindi, Margalla Hills. Crevices of limestone rocks. Ex an A. Paterson coll. (A woody based saxatile perennial from the drier western Himalayan regions, E from the Afghan border through Nepal. Pinnate basal foliage & spectacular one-sided clusters of brilliant pink, yellow-throated trumpets. A beautiful photograph of this, taken by Andrew Paterson in the site of his original 1987 seed coll., is in Phillips & Rix 'Perennials' Vol. 1. p. 178. Not difficult under alpine-house conditions with Alan King (Northants. UK).) . . . . . (20+) D
- 4.478.603 : *INCARVILLEA MAIREI* (var. *mairei*) (Subgenus *Pteroscleris*) \* China, Yunnan, Da Xue Shan. 4015m. Ex ACE 1602. (A fine species, about 30cm. high, usually successful in a well-drained, sunny site in the open garden in the UK. Deeply veined leaves in dark, glossy green & up to 4, large, deep-pink, white-throated flowers on each stem.) . . . . . (10+) C
- 4.478.850 : *INCARVILLEA SINENSIS* var. *PRZEWALSKII* (Subgenus *Incarvillea*) \* China, Gansu, S of Lanzhou. 1700m. (Quite unlike the familiar *incarvilleas* in subgenus *Pterocleris*. A woody-based perennial, about 30cm. high, with erect, loose racemes of long-tubed, yellow bells. Farrer saw it here : "...on the hottest & driest & barest exposures...") . . . . . (15+) D
- 4.478.951 : *INCARVILLEA ZHONGDIANENSIS* (Subgenus *Pteroscleris*) \* China, Yunnan, Diqing, S of Zhongdian. 3215m. Dry grassy banks on eroded hillsides. Ex ACE 1600. (A spectacular species described in 1998. Possibly allied to *I. mairei* but with numerous, smooth, thin-textured leaves and forming clumps with many 20cm. flower-stems, each carrying about 3 huge bright magenta-crimson trumpets with white flares around their yellow throats. Well-drained site in the UK.)) . . (15+) D
- 4.480.200 : *IRIS BULLEYANA* (Ser. *Sibiricae*) China, Yunnan, SE of Zhongdian, Bi Ta Hai. 3400m. Semi-open positions from stream-edges to dry hillsides. Ex T. Smyth 96-209. (About 50cm. tall with rich violet-blue flowers, with the falls intricately streaked and dotted with violet on a white ground. Easily grown in a moist site in the UK.) . . . . . (10+) 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

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## Lilium : 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
- 4.516.230 : **LILIUM BAKERIANUM** var. **AUREUM** \* China, Yunnan, 2700m. (A marvellous little high altitude lily from NW Yunnan and adjacent SW Sichuan. The 1-3, wide trumpets, carried on 60cm. stems clad with scattered, linear leaves, in this form are brownish yellow peppered with purple-red spots, which become denser towards the centre of the flower. George Forrest, who probably introduced this to cultivation (it flowered at the RBG Edinburgh in 1923 and was subsequently lost) described it as "of a rich golden-yellow throughout, minutely speckled purple on the interior from the base to the tips of the segments." This might be better placed with *L. bakerianum* var. *delavayi* in a separate species, for which the valid name *L. delavayi* would be available. Probably not easy to maintain in cultivation. We have found *L. delavayi* greatly resents excess moisture at any time but particularly when dormant in winter, when it would be under snow.) . . . . . (10+) F
- 4.516.825 : **LILIUM CONCOLOR** var. **PULCHELLUM** (*L. buschianum*) \* Russia, Ussuri. (Quite a robust form of this slender, lime-tolerant, sun-loving species from 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, allied to *L. taliense* & *L. lankongense*. Brownish, 1.5m. stems with up to 12, pendant, scented, white flowers, with recurving segments spotted with deep purple & reddening with age. Most cultivated stock appears to derive from the 1915 Farrer coll. in S Gansu, where he wrote that 'its cold bone-white turkscaps have a glacial beauty.' Moist but well-drained, humus-rich soil in light shade. . . . . (20+) D
- 4.518.110 : **LILIUM FORMOSANUM** var. **PRICEI** \* Taiwan. 2600m. (A dwarf, alpine ecotype of this species with big, scented, white trumpets, purple-tinted outside. Almost all cultivated stock appears to be derived from seed collected by W. Price in 1912 near on "Mount Morrison". It flowers quickly from seed sown in gentle warmth in winter.) . . . . . (20+) B
- 4.518.269 : **LILIUM HENRYI** \* Native to montane slopes between 700m. and 1000m. in Guizhou, Hubei and Jiangxi in S central China, this has been in cultivation in the UK for over 100 years. Stems about 2m. high with 10 to 20 flowers, large, nodding and soft-orange in colour, with a few sparse black spots and distinctive, fimbriate projections along the nectaries. A limestone plant, it is reputed to be one of the most adaptable species, best in part-shade in humus-rich (not peaty) loam. . . . . (15+) D
- 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 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
- 4.519.620 : **LILIUM LEICHTLINII** var. **MAXIMOWICZII** \* No data. Very 'classy', pendant, orange-red, turkscap flowers, profusely and evenly spotted with brown-purple, on 2m. stems in late summer. A handsome, stoloniferous plant from montane N Japan & Korea, more accommodating, in rich soil in light shade, than the yellow type-race. . . . . (15+) D
- 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
- 4.520.410 : **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*. Distributed from the Garhwal Himalaya to NW Yunnan between 2700m. & 5000 m. Lilac to purplish, drooping, bells. . . . . (20+) C
- 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 one 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
- 4.521.608 : **LILIUM PUMILUM** (*L. tenuifolium*) \* Russia, Magadan. (A brilliant, little, early-flowering species from NE Asia. This Russian form is about 1m. tall with linear, alternate leaves and about 12 bright scarlet, pendant, turkscap flowers, mostly without any spots at all. It needs a well-drained site in sun in the UK and is usually easily grown from seed.) . . . (15+) D

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E : \$7.00 ; £4.50 ; €7.-  
 F : \$9.00 ; £6.00 ; €9.-

- 4.522.009 : *LILIUM SEMPERVIVOIDEUM* \* China, Yunnan. 2700m. (A little-known *Nomocharis*-like species endemic to Yunnan & Sichuan on grassy slopes at about 2500m. altitude. One or two nodding, cup-shaped, white flowers, sparsely speckled inside with red-purple on 20-30cm. stems clad in narrow, linear leaves. Close to *L. mackliniae*, narrow-leaved *L. pinifolium* & the rose-pink *L. amoenum*, with which it has been confused. The latter two species have been included under *L. sempervivoideum* but all are kept separate in the latest account of the genus in the 'Flora of China. ) . . . . . (10+) F
- 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 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 2003, 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. It is not certain that we have had this mainland Chinese race in cultivation in the West since the Maries introduction of 1878. 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." 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
- 4.522.409 : *LILIUM TALIENSE* \* China, Yunnan. (A distinct and beautiful early-flowering turkscape lily, about 1.5m tall, with racemes of up to 12 nodding flowers. These are quite small but exquisitely coloured. Yellow buds open to ivory flowers, rapidly fading to white, discretely peppered with maroon. The long green nectary along each tepal becomes purple as the flower ages. A plant of openings in woodland and grassy slopes between 2600m and 3600m. in Sichuan and Yunnan.) . . . . (15+) E
- 4.524.000 : *LINDELOFIA LONGIFLORA* \* A rhizomatous, W Himalayan member of the *Boraginaceae* spread from Pakistan to Nepal in open meadows up to 3600m. Clumps of narrow leaves & erect, 60cm. stems with deepest blue flowers from blue-purple buds in summer. "Crozier's of large deep-sapphire anchusa-flowers uncurling all the summer" wrote Farrer. . (5) C
- 4.562.600 : *MERTENSIA PTEROCARPA* var. *YEZOENSIS* (*M. rivularis* var. *japonica*, *M. sibirica* complex) \* No data. A beautiful plant from alpine-levels in Hokkaido, the northernmost island of Japan. Clumps of pointed, cordate leaves in bluish, greyish green offset the soft turquoise-blue flowers, which open on 20cm. stems over a long period in summer. . . (10+) C
- 4.550.312 : *MECONOPSIS BETONICIFOLIA* from 'HENSOL VIOLET' \* A lovely selection with flowers of pale, lucent, violet like purple glass. It comes fairly evenly from seed if the stock is kept segregated, which ours is. . . . . (50+) C
- 4.574.100 : *NEPETA CLARKEI* \* No data. A W Himalayan species from wet habitats in high, dry areas of N Pakistan into Kashmir. Accommodating in cultivation here with many, erect, 1m. stems whorled with blue flowers. . . . . (20+) B
- 4.574.450 : *NEPETA STEWARTIANA* \* China, Yunnan, S of Zhongdian. 3215m. Ex ACE 1611. (This has settled down well with us. An excellent garden-plant with whorls of long-tubed, violet-blue flowers on leafy, 60cm. stems.) . . . . (20+) B
- 4.576.007 : *NOMOCHARIS APERTA* \* China, Yunnan. Ex CLD 229 (This can reach about 1m. in height but is usually half of that. 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*, all best suited to climates with cool, wet summers.) . . . (15+) D
- 4.576.009 : *NOMOCHARIS APERTA* \* China, Yunnan, near Tianchi Lake. 3315m. 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. 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. From alpine meadows in Nepal to W China. . . . . (20+) C
- 4.579.808 : *PAEONIA DELAVAYI* from SELECTED YELLOW \* China, Yunnan, Dali, Cangshan. Ex SBEC 794. (From a 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, tinted with copper in the bud, but they will be likely to vary.) . . . . . (5) E
- 4.580.502 : *PAEONIA LACTIFLORA* (*P. albiflora*) Russia, Chitinsky district. 900m. (A wild collection from a corner of E Siberia lying along the northern borders of Mongolia & NE China. This beautiful species is virtually unknown in gardens, where its influence is manifest only in the multitude of herbaceous hybrid clones. Dark-green leaves, usually crimson-tinted, divided into lanceolate lobes & 70cm. stems carrying two or more huge white flowers with golden stamens.) . . . . . (6) D
- 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

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- 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. An ill-defined variety 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. . . . . (6) D
- 4.581.610 : PAEONIA VEITCHII from WHITE FORM \* Rarely seen with pure-white flowers against cut, bright-green foliage. In our experience, a reasonable proportion will come white from seed with the balance in a very pale pink. . . . . (6) E
- 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. 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 1.5m stem. 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 its allies, like Bhutanese *P. smithiana*, in gardens. 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*) \* 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 well in our wet, acid woodland. . . . (50+) A
- 4.619.720 : PRIMULA JAPONICA from WHITE FORMS (Sect. *Proliferae*) \* From pure-white 'Fuji' and the older form 'Postford White'. We can see little difference between these. Both outstanding in damp shade. . . . . (50+) A
- 4.628.610 : PRIMULA POISSONII (Sect. *Proliferae*) \* No data. A long-lived, neat candelabra primula, close to *P. wilsonii*, from NW Yunnan and SW Sichuan, where it grows in the black, acid earth of wet meadows. Tidy rosettes of smooth, evergreen leaves with 40cm. stems carrying whorls of golden-eyed flowers, described by John Richards as "velvety plum-purple". We should describe it as luminous carmine-purple. "An attractive plant which should be more frequently grown." . . . (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 white, mealy stems up to 1m. tall. . . (50+) A
- 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 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 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, 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
- 4.830.010 : ROSCOEA ALPINA \* No data. A variable Himalayan species, distributed from Kashmir to Bhutan up to 4300m. Quite distinct in its 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 \* China, Yunnan. Ex CLD 772. (A variable Chinese endemic from Yunnan & adjacent Sichuan, between 2000m. and 3400m. This is an early-flowering, rather elegant, upright form, growing up to 50cm. in height, with a long succession of soft-yellow flowers, starting with us in May.) . . . . . (20+) C
- 4.830.810 : ROSCOEA HUMEANA \* No data. From a variety of habitats in Yunnan & Sichuan between 2900m. and 3800m., this flowers in early summer as the broad leaves develop with big, hooded flowers. In this form these are purplish pink but like others, it can vary to yellow and white. A good, robust garden-plant which is best with a little shade. . . . . (20+) C

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- 4.831.120 : **ROSCOEIA 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, without a deflexed lip. Flowers in late summer are usually paler lilac, though white, purple-marked variants frequently occur. . . . . (20+) C
- 4.831.312 : **ROSCOEIA SCILLIFOLIA** from **PINK FORM** \* No data. A variable little species, narrowly endemic to Yunnan, mainly in the Lijiang area, in moist mountain-pastures between 2700m. & 3400m. 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 : **ROSCOEIA SCILLIFOLIA** from **PURPLE FORM** \* No data. Usually a little taller & earlier flowering with longer, narrower leaves and deep violet-purple flowers with yellow anther appendages (white ones in the pink form). . . . (20+) D
- 4.831.410 : **ROSCOEIA TIBETICA** \* No data. This starts to flower as a compact rosette with the purple-red flowers appearing on long tubes from the axils of the broad leaves, completely encircling the stem, which gradually elongates. . . . (10+) E
- 4.876.050 : **STROBILANTHES ATTENUATA** \* Nepal. No further data. (Violet, hooded flowers over a long period in late summer & autumn. This woody based perennial in *Acanthaceae* with low, spreading growth, about 50cm. high has proved hardy in an open site with us. Possibly best in good, moist soil, in semi-shade if in hotter gardens than ours.) . . . . . (10) C
- 4.878.210 : **THALICTRUM DELAVAYI** (*T. dipterocarpum* of gardens) \* No data. An elegant, airy perennial from SW China. Maidenhair fern foliage & wiry, 2m. stems divided into a multitude of branches to carry a myriad clear lavender-purple flowers, the petal-like sepals surrounding the bunch of hanging stamens. Cool site in good, humus-rich soil. . . . . (20+) A
- 4.878.215 : **THALICTRUM DELAVAYI** var. **DECORUM** \* China, Yunnan. (A fine local race, limited to a small area around 3000m. in NW Yunnan. Individual flowers are about twice the diameter with broadly ovate sepals.) . . . . . (15+) C
- 4.878.805 : **THALICTRUM ROCHEBRUNIANUM** \* South Korea, Kansong, N of Hangey. 370m. Ex M. Holmberg & U. Strindberg 92-167. (A handsome, tall, erect species, reaching over 2m., and producing its lilac-purple flowers with petaloid sepals over a long period. Earlier flowering than *T. delavayi* and with less finely cut, maidenhair foliage.) . . . . (20+) B
- 4.888.170 : **TRILLIUM SMALLII** \* No data. A somewhat ill-defined species from low altitude, deciduous woodland on Hokkaido in N Japan & adjacent S Sakhalin in the Russian Far East. Thought to be of hybrid origin, possibly between white *T. camschatcense* & red-brown *T. apetalon*. It is placed under the latter species by Ohwi in the 'Flora of Japan'. . (15+) E

Garden hybrids & selections : Seeds from Jim & Jenny Archibald

- 6.027.900 : **ALSTROEMERIA LIGTU HYBRIDS** Thriving in British gardens from Cornwall to Aberdeen : even here in our 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 may have been *A. presliana*, explaining the dwarf, deep pinks which sometimes appear. . . . . (20+) A
- 6.720.001 : **MECONOPSIS X SHELDONII** The beautiful hybrid, *Meconopsis grandis* x *M. betonicifolia*, is usually sterile. This is from the fertile 'Lingholm' strain. Outstanding, perennials about 1m. tall with intense-blue poppies. . . . . (50+) B
- 6.730.000 : **NOMOCHARIS X FINLAYORUM** The hybrid between N Burmese *N. farreri* & W Chinese *N. pardanthina*. Stems up to 1m. tall with whorled leaves can carry up to 20 flowers, which can be nodding, horizontal or erect, in white or pink with deep purple centres & very variably spotted with crimson. Superb plants for areas with cool, moist summers. . . . (15+) E
- 6.747.811 : **PAEONIA** from **TBLISI HYBRIDS** Seed from a bed of mixed hybrids in the Tblisi Botanic Garden, where cultivated Caucasian species, yellow *P. mlokosewitschii* & *P. wittmanniana*, have crossed with pink *P. caucasica*. Will McLewin, who has seen these in flower in Georgia, describes some of them as "superb" (underlined three times). These are often extremely beautiful plants in soft, apricot-tinted creams & pinks. Such hybrids have occurred in cultivation : ivory, crimson-veined 'Fedora' & the old French *P. wittmanniana* hybrids 'Claire de Lune', 'Mai Fleuri' & 'Avant Garde'. . . . . (6) D
- 6.747.860 : **PAEONIA** from **GANSU MUDAN** Chinese *P. rockii* (*P. suffruticosa* 'Rock's variety' now elevated to somewhat dubious specific status) hybrids and selections. Pink or white with maroon basal blotches. A few seeds. . . . . (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 again outstanding in 2003, flowering from September until now 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 2003. Best wishes to all of you for 2004.

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