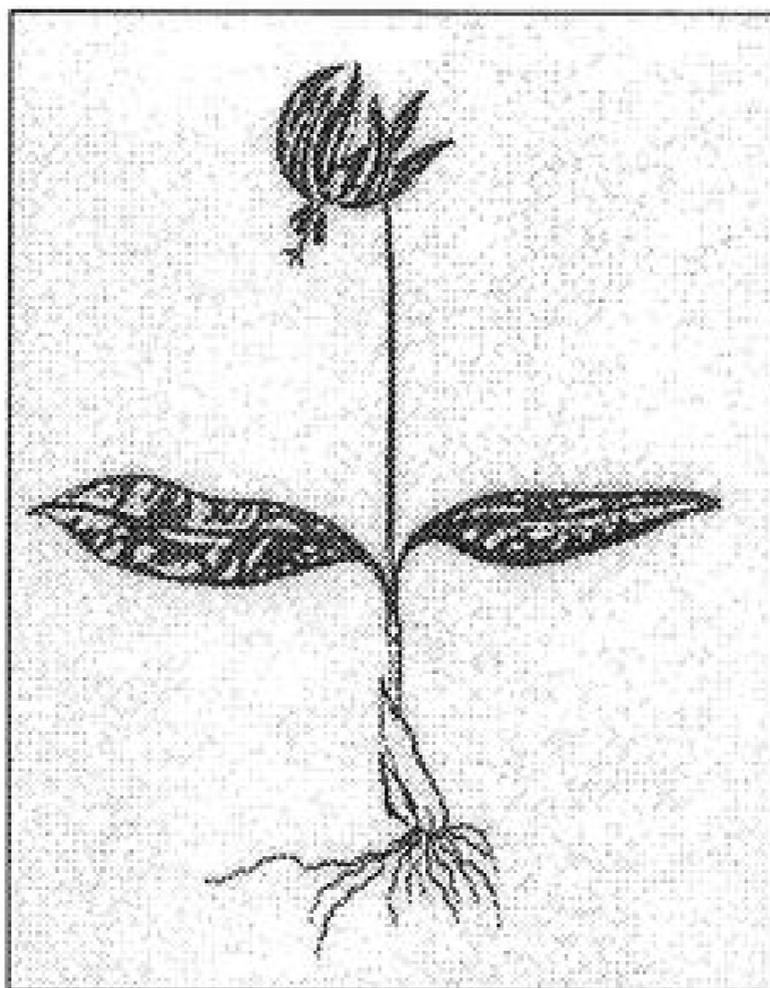


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Cyclamen repandum in North Africa

Although this interesting item will probably be reported more fully by The Cyclamen Society in its Journal *Cyclamen*, we will give a short account of it here for those who do not (yet!) belong to this splendid Society, and, for those who do, as a foretaste of things to come*.

Max Debussche and Pierre Quézel have published a paper in *Acta Botanica Gallica* 144: 23-33 (1997) about *Cyclamen repandum* in Algeria, which they say occurs very locally in 'a few populations whose conservation is at risk' in the Petite Kabylie region. It was a complete surprise to us that it occurs in North Africa at all, and a fact that seems to have been overlooked by recent monographs and other literature on the genus. The authors have carried out a statistical survey of these Algerian representatives of the species, which is otherwise southern European (France, Italy, eastwards through the Adriatic region to Greece and the Aegean Islands) and decided that they should be recognised as a variety of *C. repandum* subsp. *repandum*: var. *baborense* Debussche & Quézel. The plant has been noted before, and written up as *C. baborense* Battandier and *C. repandum* subsp. *atlanticum* Maire. It appears that the main differences lie in the sizes of the leaves and flowers of the new variety compared with those of other variants of *C. repandum* from Europe; var *baborense* has generally both larger leaves and flowers. The petals have an upper length limit of 32.8 mm for the Algerian plants, so it should be quite a showy plant. There are tables showing the sizes of leaves and flowers, giving the maximum, minimum and average values, comparing the Algerian plants with European ones in general and Corsican ones in particular; the figures are derived from herbarium specimens and live plants.

Cyclamen repandum var. *baborense* is reported as occurring in deciduous oak forests at 400-1800 metres altitude where it experiences rainfall of 800-2000 mm (about 30-80") annually. The Petite Kabylie region is to the east of the city of Alger and north-west of Constantine.

*For those interested in hearing more about The Cyclamen Society, the contact address for the Honorary Secretary is: P.J.M.Moore, Tile Barn House, Standen Street, Iden Green, Benenden, Kent TN17 4LB, and for the Membership Secretary: Dr D.V.Bent, Little Pilgrims, 2 Pilgrims Way East, Otford, Sevenoaks, Kent TN14 5QN.

A new Gloriosa from Zambia and the future of Littonia

Scanning through recent literature I was somewhat surprised to find that a long-term friend and colleague, the monocot specialist Inger Nordal of the University of Oslo, has described a new species of *Gloriosa*. It has been suggested that all the many variations on the gloriosa theme, often with different names, do in fact belong to one species, *G. superba* (for a list of some of these variants see BN 13:10). However, it appears that Inger and her co-author M.G. Bingham of Zambia have found something which is markedly different and they have described it as *G. sessiliflora*. The choice of specific epithet gives an immediate clue to one of its main characteristics, that of sessile flowers which, because they are carried stalkless in the leaf axils, are held in a suberect position; in all other gloriosas they are on fairly long stalks and are more or less pendent with reflexed perianth segments. In the case of *G. sessiliflora* the segments do not reflex but remain in a spreading/suberect position. A further difference lies in the style; in *G. superba* it turns abruptly just above the ovary and sticks out at right angles to the axis of the flower, but in the new species it is almost straight. Otherwise, the plant is similar in habit to some of the other *Gloriosa* variants, having leafy stems with tendrils at the tips of lance-shaped leaves. The flowers of *G. sessiliflora* are described as reddish with yellowish-orange bases to the segments, which are slightly undulate at the margins.

The new species is known from only one population in Zambia on the Buluzi Plain where migratory butterflies are common and it is suggested that the peculiarities of the flower structure may be an adaptation to butterfly pollination; on the other hand, those of *G. superba* are most likely to be sunbird-pollinated, but it is admitted that studies into this are required.

Another suggestion is that this species bridges the gap between the related genera *Gloriosa* and *Littonia* [see BN 11:1,5]. Certainly it seems to have some characteristics of both. Most notable are the non-reflexed perianth segments and the almost straight style, features which are suggestive of *Littonia*; however, the red-coloured, broad, undulate perianth segments are more suggestive of *Gloriosa*. The authors give a hint that, in view of this apparently intermediate position of the new species, the two genera may eventually have to be merged into one [*Littonia* would be 'sunk' into *Gloriosa* because of date priority] but that more information is needed before a decision can be made. For example, information about the fruiting characteristics of the new species is needed.

The full paper - "Description of a new species, *Gloriosa sessiliflora* (Colchicaceae), with notes on the relationship between *Gloriosa* and *Littonia*" by I. Nordal and M.G. Bingham is in *Kew Bulletin* 53: 479-482 (1998).

Some little-known Chinese lilies

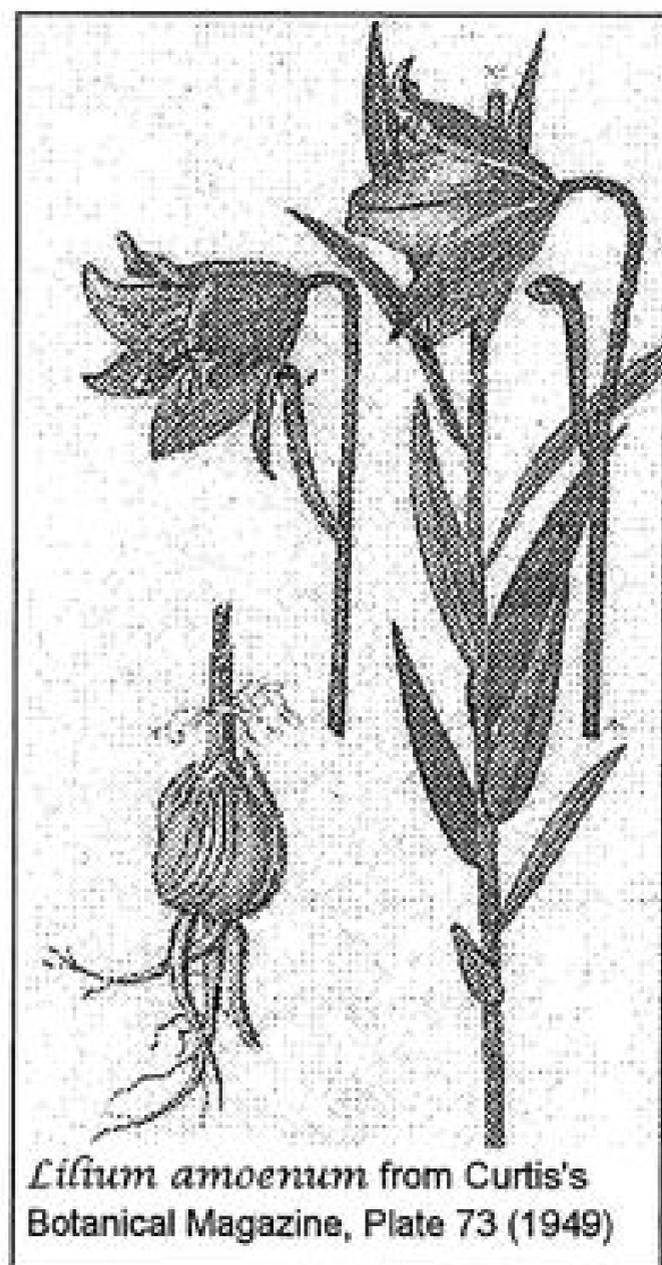
In response to a recent query from Mary Randall about a Chinese lily, some delving into literature and herbarium specimens proved to be quite interesting. This forms a natural follow-on from the comments made in the last BN about a small, pink-flowered species of *Lilium* seen last year in China by Phillip Cribb [see BN 22:19].

Mary's question involves the poorly-known *Lilium sempervivoideum*, a species described in 1915 by Hector Léveillé from Yunnan, based on a dried specimen collected in 1911 or 1912 by E. E. Maire. The rather curious name was given because of the small, many-scaled bulb which, when squashed and dried, was thought to look somewhat like the rosette of leaves of a *Sempervivum*!

It is a small lily up to 45 cm in height with many (up to 20-40) short, narrow leaves only 1-2 mm wide. The one or two flowers are pendent and bell-shaped, white, spotted red or brown inside, and are about 4 cm long. It is reported to inhabit rocky meadows at 2550-2600 metres.

Earlier than this, at the end of the nineteenth century, Augustine Henry collected specimens of a lily (Henry 10743) in Yunnan province at Mengzi (Mengtze). This plant, although similar in stature and with nodding bell-shaped flowers, had fewer (up to 9-15), broader (up to 8 mm) leaves and the flowers were pink or rose-coloured. The dried specimens of this were seen in 1920 by Ernest Henry Wilson who decided that they represented an undescribed species, and proposed to call it *L. amoenum*; the Kew specimens of this do in fact bear the label: "*L. amoenum* Wilson. Det. E.H.Wilson". However, soon after, Wilson saw the type specimen of *L. sempervivoideum* in the Edinburgh Herbarium and decided that his new species, *L. amoenum*, was the same. As a result, in his publication, *The Lilies of Eastern Asia*, he merged the two and used the already existing name *L. sempervivoideum*.

Obviously detailed field studies are needed in order to come up with the definitive answer as to whether they are the variants of one species, but for the moment it seems best to regard these two as separate: one white-flowered with many narrow leaves (*L. sempervivoideum*) and the other pink with broader leaves (*L. amoenum*). Certainly Robert Sealy thought that they were worthy of separate status when he wrote up *L. amoenum* for Curtis's



Lilium amoenum from Curtis's Botanical Magazine, Plate 73 (1949)

Botanical Magazine in 1949. The *Botanical Magazine* illustration (shown above) was drawn from bulbs collected by George Forrest, or rather by one of his Chinese collectors, and cultivated at Bodnant. Sealy writes: "The two sorts of plants [i.e. *L. sempervivoideum* and *L. amoenum*] are so dissimilar in general appearance that they certainly cannot be left under one and the same name-----I have therefore restored Wilson's name *L. amoenum* to the rose-flowered plant." Wilson had never actually described the plant in the formal botanical sense so it was Sealy who validated the name *amoenum*, which means 'beautiful' or 'pleasing'.

In looking into this matter, it appears that Mary Randall's plant, which she describes as cream-flowered (but 3' tall with scattered leaves), might be *L. sempervivoideum*. As to Phillip Cribb's little pink lily referred to in BN22 as *L. bakerianum* var. *rubrum*, could this be *L. amoenum*, or are this and *L. bakerianum* var. *rubrum* the same anyway? If other lily enthusiasts have grown any of the species of this group and can add any further information I would be grateful since there are clearly some unresolved problems of identification.

And what are Lilium ninae and L. saccatum?

Whenever a question arrives, the snowball syndrome takes effect. As a result of Mary Randall's lily query (see above), and a similar one from Alisdair Aird about a white turkscap-type lily from Tibet, we began to delve into which *Lilium* species were recorded for Tibet (Xizang) and came up with two species we had not encountered before.

The first of these, *L. ninae*, was described by D.L. Vriehsz in a paper on the 'Far-eastern stenophyllous [i.e. narrow-leaved] lily species' in the *Botanical Journal of the URSS* 53: 1466-1475. In this paper, Vriehsz also describes some new groups of species under the status of 'Series'. His Series *Cernua* has the following characters: Flowers white or 'lilacinae' (dull violet), often spotted, always fragrant; anthers more than 1 cm long; bulb white or yellow. The five species making up this Series are *L. cernuum*, *L. lankongense*, *L. duchartrei*, *L. wardii* and *L. ninae*. If anyone is wondering where *L. taliense* has gone, it is regarded as a synonym of *L. lankongense*. The key to these five distinguishes *L. cernuum* and *L. ninae* from the others on the basis of the leaves which in these two are said to be clustered together in the central region of the stem and tending to be suberect, almost lying alongside the stem; in the other three the leaves stand out from the stem and are scattered more evenly along its length. The difference between *L. cernuum* and *L. ninae* is in flower colour - pinkish in *L. cernuum* and white, with or without purple spots, in *L. ninae*. For interest, the other three species, which are rather better-known names in cultivation, are separated out in the key by having, in the case of *L. duchartrei*, a rather more umbel-like head of flowers (carried in a raceme

in the other species), while *L. lankongense* and *L. wardii* are distinguished on the colour of the bulbs and shape of the leaves: white bulb and linear-lanceolate leaves in the former, a spotted bulb and lanceolate leaves in the latter. But to return to *L. ninae*: The full description shows this to have a yellow or brown bulb, a stem up to a metre in height, often purplish in the lower part and covered with dense, short white hairs. The many narrow (3-6 mm wide), green leaves are 5-12 cm long and aggregated in the central region of the stem and are 'appressed' (lying alongside the stem). The flowers are white or purple spotted and 'large', with lanceolate perianth segments 5-7 cm long and strongly reflexed, thus giving the 'turkscap' shape. The nectary is said to be fimbriate (fringed with hairs) or hairless, and the pollen is yellow. The type specimen was collected by Potanin in Tibet, but the distribution as a whole is given as Sichuan, Sikan (?Sinkiang = Xinjiang) and Chinese Tien Shan - suggesting that it is very widespread, although it could be very localised within this huge area. There is a photograph of this dried specimen which shows, in addition to the written information, that it is stem-rooting and has four flowers in the case of this particular individual.

The other lily which has escaped our attention until now is *L. saccatum*. This does not appear in any of our reference books on the genus, mainly because it was described as recently as 1987. In the *Flora Xizangica* Volume 5 (1987), there is an account of the species recognised for Tibet. These are: *L. lophophorum*, *L. nanum* and *L. nanum* var. *brevistylum*, *L. saccatum*, *L. nepalense*, *L. wardii*, *L. taliense*, *L. duchartrei*, *L. lancifolium* (*tigrinum*), *L. (Nomocharis) saluenensis* and *L. paradoxum*; in this particular treatment it appears that *Nomocharis* is merged with *Lilium*.

The one name here which is unfamiliar to us is *L. saccatum*, described by S.Y. Liang. This is said to be related to *L. souliei* but having the perianth segments saccate (i.e. provided with a pouch) at the base, in having 12-20 leaves and a bulb which is ovate and 2.5 cm long, 2 cm wide, although the significance of the last feature is lost on me since I have never handled bulbs of *L. souliei* either. The implication seems to be that *L. saccatum* has a more broadly egg-shaped bulb, that of *L. souliei* being narrower in appearance, much longer than wide. According to descriptions *L. souliei* has only 5-8 leaves per stem. Presumably the new species has flowers of a deep purple-red colour, similar to those of *L. souliei*; if markedly different this fact would surely have been mentioned in the diagnosis. The type specimen of *L. saccatum* was gathered at Miling Xian, in grass among bushes at 3900 m on 30 July 1974.

White *Fritillaria persica*

The new, very rare and expensive white form of this very variable fritillary received a PC (Preliminary Commendation) from the Royal Horticultural Society earlier this year, subject to the provision of a cultivar name. We hear that the name *F. persica* 'Ivory Bells' has now been provided for this interesting variant.

Fascinating Arisaemas

Thinking back thirty years ago to my early days in the plant world, arisaemas were very little known; the white *A. candidissimum*, the small yellow *A. flavum* and the tall green *A. consanguineum* were about the only ones seen with any frequency; now this is one of the 'in' genera, with many species listed in The Plant Finder and many more around in private collections and botanic gardens.

At a recent RHS Show in London there was a splendid exhibit of them from Jacques Amand*, and causing quite a stir among the visitors. Overheard remarks varied from 'evil', 'sinister' and 'they give me the creeps' to 'fascinating' and 'can't get enough of them'. 'Beautiful' did not seem to enter into the vocabulary of the onlookers! Curiously, unlike many aroids the arisaemas do not stink, otherwise the comments might have been even more interesting.

The exhibit had a fine array of the familiar ones but also included some of those seldom seen, for example *A. saxatile*, with a slender white spathe and long green spadix trailing almost to the ground. One which I coveted was the amazing *A. fargesii* with chunky, chocolate-and-white striped spathes, hooded over in cobra-like fashion - most definitely one of the sinister variety!

*J.Amand, The Nurseries, Clamp Hill, Stanmore, Middlesex HA7 3JS

Request

Liz Kerr writes to say that she is becoming increasingly interested in South American bulbs but has had some difficulty in finding sources of supply. If anyone has addresses of seed suppliers in South America or has spare seeds of anything unusual, please get in touch with Liz Kerr, 5 Forrest Street, South Geelong, VIC 3220, Australia.

Mariposa changes hands

After nine years of editing *Mariposa*, The Calochortus Society's newsletter, Hugh Macdonald and Karin Stokkink are handing over to Jim Robinett and Georgie March.

The latest *Mariposa* to be received (Vol. 9, no. 4) contains the usual mix of botany and horticulture; the former includes part 3 of a report by Tom Patterson on the classification of *Calochortus*, based on DNA studies for a Ph.D. at the University of Wisconsin. There are notes on germination of seeds and some observations on the cultivation of *Calochortus*, especially of the tantalizing *C.kennedyi*. Plus a page of colour showing red variants of *C. venustus*.

Mariposa is published quarterly and comes with membership of The Calochortus Society. Membership renewals are now due [\$8 in the U.S., \$10 overseas] and should be sent to the new address: Robinett, P.O.Box 1306, Sebastopol, Ca 95473.

Bulbs on coins

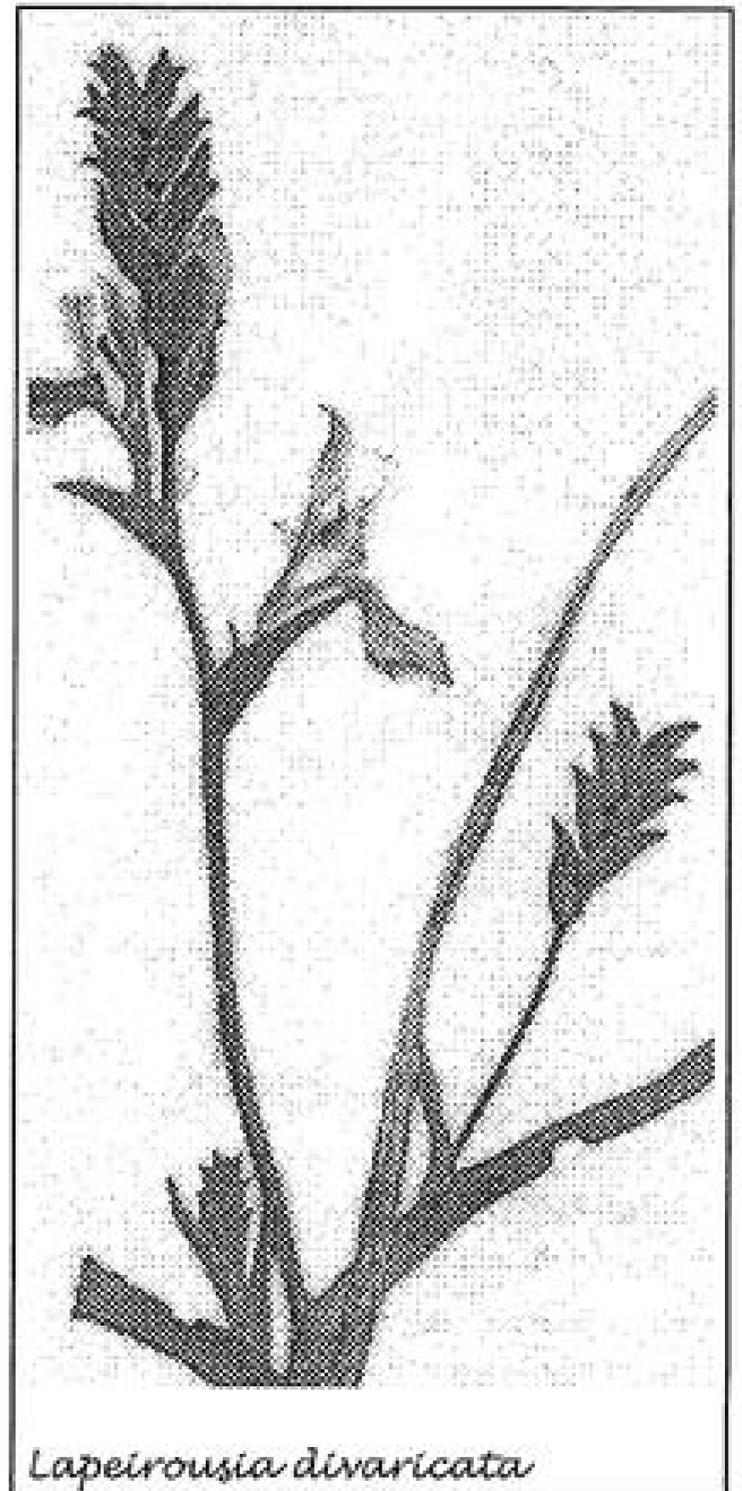
Thanks to Ronald Frank for acquiring for us two Hungarian flower coins, showing *Iris hungarica* (*I.aphylla*) and *Colchicum hungaricum*. Both are really very convincing representations - the low branching of the stem in the former, six stamens and with leaves visible at flowering time in the latter - but it does help to know the country of origin!

Trouble with Lapeirousias and Anomathecas (sorry, Freesias!)

A perplexed Jack Elliott contacted us recently over the matter of *Anomatheca* (previously *Lapeirousia* and now *Freesia*!) *laxa* (previously *cruenta*!) [see BN 12:10 for details of this and the synonymy]. Jack comments were not about the name of the genus or species but about one of its variants, the white form with a red eye. It appears that this is going around in cultivation as 'Joan Evans', 'Albamaculata' [see BN 13:17] or just 'Red Spot'; exactly which is correct I am not sure at present. The problem is that the same plant has also cropped up in seed lists under the name of *Lapeirousia divaricata*. [N.B. For communication's sake I am using *Anomatheca laxa* rather than *Freesia laxa* for the moment, as in the *European Garden Flora* and *The Plant Finder*].

The answer is that they are not, the latter being a true *Lapeirousia*, so this is probably just a simple case of mistaken identity. The confusion has no doubt arisen because *L. divaricata* also has white or creamy flowers with a red centre, but there the similarity ends. *Anomathecas* have ovoid corms with soft, fairly fibrous coats, while those of *lapeirousias* are helmet-shaped with a flattish bottom and hard, shell-like tunics. The leaves are thin and soft-textured in *Anomatheca*, but frequently rather tough and wiry in *Lapeirousia* and the inflorescence is usually simple in the former, often branched in the latter. In the case of *L. divaricata* the stems appear flattened because of two wide wings running along their length, whereas in *A. laxa* they are thin and rounded in cross-section. The flowers are also very different, those of *A. laxa* being long-tubed (2-3 cm) and almost regular in shape while those of *L. divaricata* are short-tubed and very irregularly shaped. I have included a photocopy of a dried specimen of *L. divaricata* here since I do not have a photo or drawing of it. Although this is of poor quality, it does show some of the above characteristics, including the irregular flower shape and the branching inflorescence.

Lapeirousia divaricata is rare in cultivation here in Britain, but *A. laxa* in its "white-with-red-spots form" is around in a few nurseries, and a nice little summer-flowering bulb it is too. This last point is significant,



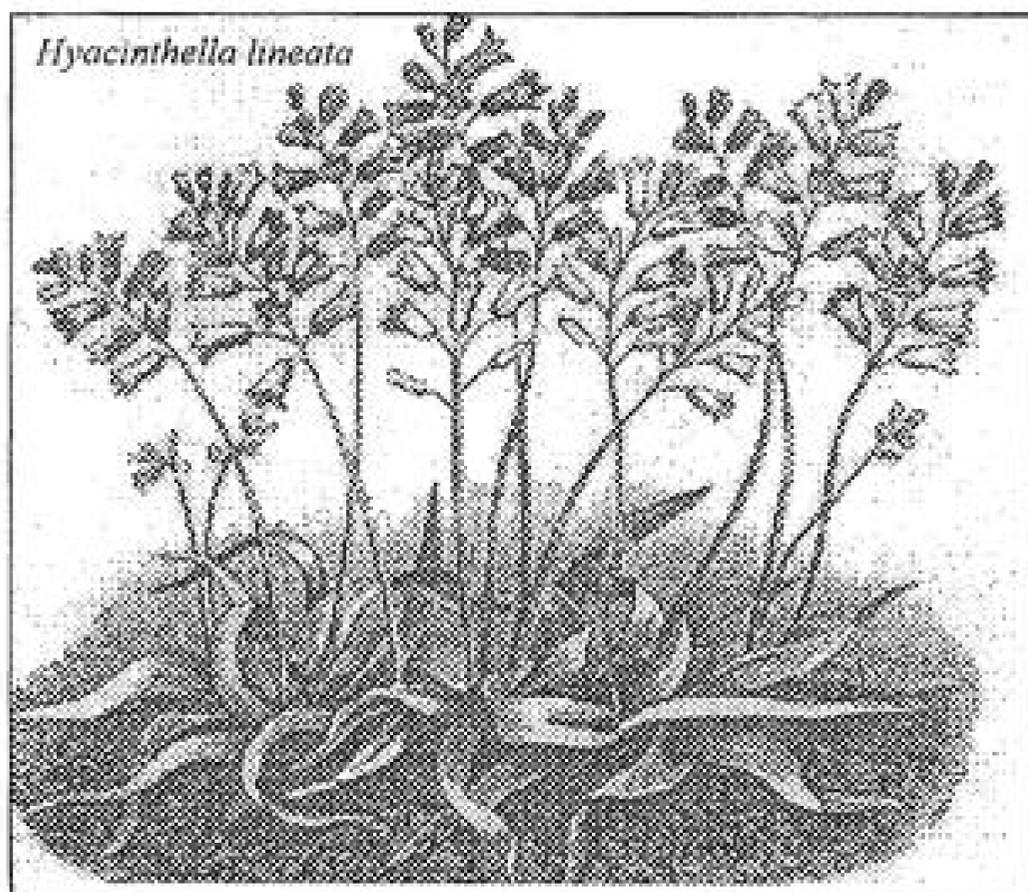
since *L.divaricata* is the opposite in its growth habit; it is a winter grower from the south-western Cape, recorded from areas such as Clanwilliam, Van Rhynsdorp, Wuppertal and Namaqualand. It flowers in the wild in August and September (i.e. late winter/early spring) and dies down for the summer. Like all the winter growing bulbs from the region, it continues to behave in this way in cultivation in the northern hemisphere and grows through the winter months; so in northern Europe and much of North America it is necessary to grow it in a frost-free glasshouse along with other tender bulbs from Mediterranean-type climates.

In praise of Hyacinthella

Hyacinthella (Liliaceae/Hyacinthaceae) is not a very well-known genus in cultivation, perhaps, but one of those small genera of modest plants that make a bulb enthusiast's life interesting - what a boring life it would be if they were all gaudy and beautiful like *Tulipa*, *Crocus* and *Tecophilaea*!

This is a mainly eastern Mediterranean genus with the majority of species in Turkey (10 species, nearly all endemics) but with a few more widespread species and some endemics elsewhere, for example in Greece, Cyprus and Iran.

These are small plants, usually under 15 cm in height, normally with just two leaves per bulb. The bulbs are often covered with a crystalline powdery white substance, particularly if they are growing in dry conditions, their usual habitat. It is also noticeable that when the leaves are dried the longitudinal veins usually become prominent, thus giving them a tough fibrous appearance; the leaves are often greyish-green, in some species broad and sometimes covered with long hairs. As with other members of the hyacinth group



of genera, the flowers are borne in a raceme, each one sessile on the stem or carried on a short stalk and they are held out at an angle just above the horizontal, or almost suberect; the colour is pale blue to deep violet-blue.

As can be seen from the illustration (from Regel's *Gartenflora*) they best grown in a clump, so this entails growing from seed since in my experience they do not increase very rapidly by offsets; I have not tried chipping or

twin-scaling the bulbs, but there is no reason why this should not work, given that these are true bulbs with fleshy scales. Cultivation seems to be simple enough, treating them as winter growers, starting them off by watering in autumn and keeping them in growth through to the following late spring or early summer when they are dried off completely. A very well-drained soil is essential, and a very sunny position. Although undoubtedly frost hardy, they are too small to be effective out in the garden, so I would recommend growing them in pots in a cold frame or alpine house where they can be appreciated. Unfortunately only two are commercially available according to *The Plant Finder*, although others are around in specialist bulb collections.

The genus *Hyacinthella* has been well studied by Karin Persson and Per Wendelbo, showing that 17 species are currently recognised*. These are:

- H. acutiloba* - leaf blade hairless, but margins ciliate; flowers pale to mid blue.
C. Turkey
- H. atchleyi* - leaf blade hairless, but margins rough (scabrid); flowers bright blue.
Greece.
- H. atropatana* - leaf blade hairless, but margins sometimes rough; flowers pale blue.
Armenia.
- H. campanulata* - leaves hairless; flowers pale blue. C-S. Turkey.
- H. glabrescens* - leaves hairless; flowers violet-blue, on stalks to 7mm long. S. Turkey.
- H. heldreichii* - leaves hairless; flowers dark violet-blue, stalks 0-2mm long. S. Turkey.
- H. hispida* - leaf blades densely hairy on both sides; flowers dark violet-blue. S. Turkey.
- H. lazulina* - leaf blade hairless, but margins sometimes rough; flowers 'brilliant ultramarine blue' (according to original description). C. Turkey.
- H. leucophaea* - leaf blade hairless, but with rough margins; flowers pale blue. Former Yugoslavia, Bulgaria, Roumania, S.W. Russia, S.E. Poland.
- H. lineata* - leaf blade usually hairless, but margins with long hairs; flowers dark blue or violet-blue. W. & S.W. Turkey.
- H. micrantha* - leaf blade glabrous or minutely hairy on veins and margins; flowers very pale blue. N. Turkey.
- H. millingenii* - leaf blade hairless, but margins rough; flowers pale blue. Cyprus.
- H. nervosa* - leaf blade glabrous, but margins ciliate or rough; flowers pale blue to mid blue. Iraq, Israel, Jordan, Lebanon, Syria, S.E. Turkey.
- H. pallasiana* - leaves hairless; flowers pale blue, long (8-12mm), tubular to funnel-shaped. S.W. Russia.
- H. pallens* - leaf blade hairless, but margins rough (scabrid); flowers pale blue. Adriatic coastal mountains (of former Yugoslavia).
- H. persica* - leaf blade glabrous, but margins sometimes rough; flowers pale blue or lilac-pink. N.W. Iran.
- H. siirtensis* - leaf blade hairless, but margins ciliate; flowers pale blue. S.E. Turkey.

**Candollea* 36:513-541, *Candollea* 37:157-175, *Nordic Journal of Botany* 12:615-620.

False Saffron - an expensive mistake

A letter from Christian Agrech in Cajarc, France, is a sad example of wrongly identified plants in the commercial trade - in this case on a grand scale!

Monsieur Agrech had proposed to re-establish Saffron cultivation in the Quercy region of France, an area where it was traditionally grown as a crop in the past. Last year he placed an order for 18,000 *Crocus sativus* corms from Holland (supplier's name not revealed!) but, unfortunately, that is not what came up. At this point, encouraged by Laauw de Jager, a bulb nurseryman and BN subscriber from Fourques, France, Christian Agrech got in touch with BN, sending us some photographs in order to get a positive identification of the plant in question. Apart from the fact that it was an autumn-flowering *Crocus*, there was little similarity! It was, in fact, *C. kotschyanus*, which, for Saffron production, is about as useless as a dandelion (probably less so). In this case the stigma was at best a pale cream, so there would have been no yellow colouration at all, and certainly no flavour!

To add insult to injury, this was not even a good 'clean' stock; it was the malformed (?virused) clone which is around in commerce, a plant that produces odd deformities such as extra 'petals' at the base of the perianth tube.

I hope they gave a refund, but what about the lost Saffron production for that year?

We understand that there will be another attempt to start up Saffron cultivation, this time using corms supplied by Laauw de Jager.

A WEIRD ARUM

Well, they are all a bit weird, we know, but this one is especially demented. Chris Lovell wrote recently that 'strange things were happening in the aroids' [for those who are not au fait with this term, he was referring to plants of the Arum family, not a medical problem].

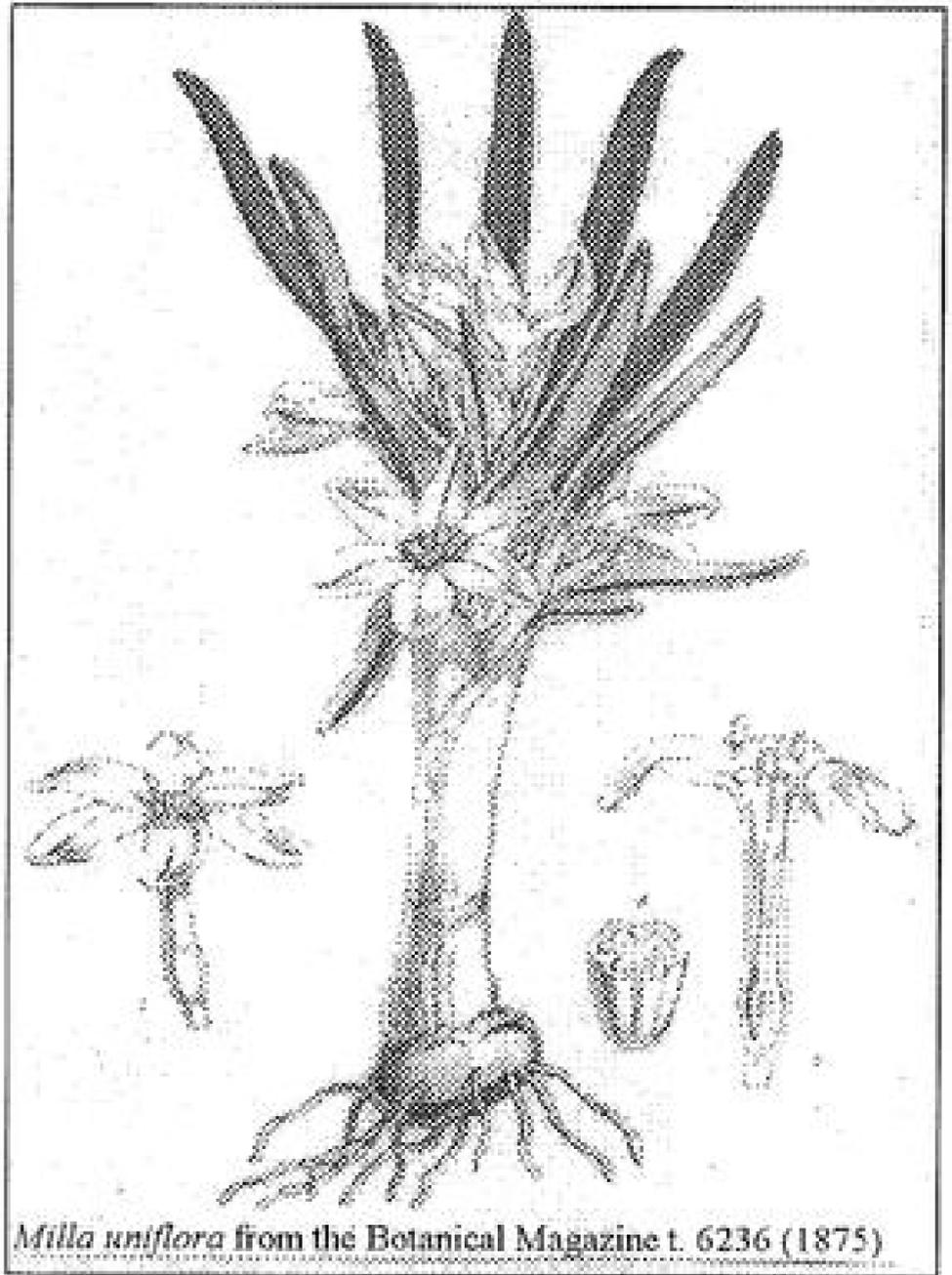
Chris sent us a photograph of an *Arum cyrenaicum* which has two spathes, one each side of the central, erect spadix and arching outwards away from it, but joined at the base into the usual bottle-shaped portion enclosing the cluster of flowers. Quite attractive, really - well, different anyway. It is not yet known whether this is a permanent affliction or whether, as Chris puts it, it is 'just temporary enthusiasm'. One is tempted to suggest that it must have changed into a *Biarum*, but no, those are quite different!

A permanent slot in BN - Another new Allium!

S.Brullo, P.Pavone & C.Salmeri have just described a new species of *Allium*, in *An. Jardin Bot. Madrid* 55(2):297-302(1997). It is *A. oporinanthum* (from Greek *oporinos* = autumn) and is a member of section *Codonoprasum* (the section including *A. paniculatum* & *A. flavum*) which have small pendent bell-shaped flowers on slender, downward-arching pedicels. As its name says, it is autumn-flowering with umbels of up to 18 flowers 5.5-6 mm long, greenish-yellow with brown-purple veins. It is Spanish, between Valencia and Toulon, occurring in localised populations on calcareous shady rocks.

Milla leichtlinii - what is it, and where is it?

Scanning through some older volumes of *Curtis's Botanical Magazine* a while ago [a fascinating journey through the plant world, by the way, if you ever have time and access to the 200 volumes!], I came across a water-colour of *Milla leichtlinii*, a bulb which certainly looked very exciting but one which I have not encountered in cultivation. The illustration is repeated here, mainly in order to show the compact habit and the likeness of the flowers to *Ipheion uniflorum*; little has been lost with regard to flower colour since it is white with a green perianth tube; the six white segments are marked on the outside with a green line along the centre of each. There is not a lot of data about the plant, except that it "is a native of the Chilean Andes, and was imported to Europe by our indefatigable correspondent, Max Leichtlin, Esq., who presented a living plant and seeds to the Kew collection". The description and name were provided by J.G.Baker, the Keeper of the Herbarium at Kew (see 'Personalities' BN 11:8, 1995).



Milla uniflora from the Botanical Magazine t. 6236 (1875)

Unfortunately the plant appears to have been lost to cultivation and has been largely ignored ever since, so it is difficult to find references to it. It was omitted from Rosa Guaglianone's account of *Nothoscordum* and *Ipheion* [published in *Darwinia* 17: 159-240(1972)], but that is quite understandable since in the key to the genera belonging to the group, it keys out (well, almost) to a *Tristagma*, a genus which she did not study at the time. It is clearly not a *Milla*, the genus under which Baker published it, and I think it is probably correct to refer to it as a *Tristagma*. The only recent mention I have come across of *T.leichtlinii* was a passing comment by John Watson in a splendid article on South American alpines in the *Bulletin of the Alpine Garden Society* 62:312(1994): "Small white-flowered alpine tristagmas have evolved into colonial snowmelt specialists. Species such as *T.sessile*, *T. leichtlinii* and *T.bivalve* are about as easy to separate [distinguish] as our northern gageas and ornithogalums, though mercifully there are fewer of

them. Essentially they are small, starry white-flowered jobs from a tuft of grassy leaves with a more or less conspicuous median line down the centre of each perianth segment." There is a photograph by Peter Erskine, accompanying the article, showing *T.patagonica*, which John describes as "Undisputed pick of the bunch", but I must say that the *Bot. Mag.* plate of *T.leichtlinii* makes it look even more tempting and more compact. The flower size, incidentally, of the *T.leichtlinii* in the original painting is 3.5-4 cm across. Anyone with more information on this interesting plant, please let us know - especially if accompanied by seeds!

Yet another Fritillaria, this time not Chinese!

In the last BN, I remember writing "One wonders how many more fritillarias are lurking out there." Well, so soon after, here is another, but this time it is Turkish.

In *The New Plantsman** Vol. 5, Part 2: 114-116 (1998), Jimmy and Karin Persson have described *F. sororum* from the Taurus Mountains in Içel Province. Accompanying colour photographs show that this is a slender species having narrow leaves with tendril-like tips and green-and-brown chequered bells; at first sight it thus somewhat resembles *F. ruthenica* and *F. involucrata*, both European species, but the authors do not consider it to be related to these or any of the other tendril-bearing species. In fact, they regard it to be more closely allied to *F. kotschyana*, *F. acmopetala* and *F. whittallii*. A very full description of the species is provided, some of the salient points of which are: Plant 25-45 cm tall with 6-9 grey-green leaves 12-16 cm long, 7-13 mm wide, long tapering to tendril-like tips. Flowers 1 or 2 per stem, broadly bell-shaped, 3-4 cm long and 2.5-2.8 cm across at the mouth, grey-green and slightly brown-tessellated outside, pale yellow or pale green and more heavily tessellated brown-purple inside; they do not have green central stripes on the segments ('fascia') like so many of the related species. The nectaries are narrowly ovate and brown, about 11 mm long.

The habitat of *F. sororum*, as far as is known from the two collections made by J. & K. Persson in 1995, is in small clearings and in oak scrub on stony ground in *Pinus brutia* forest on limestone formations at 500 m and 950 m.

*We have reported several items from *The New Plantsman*. Anyone wishing to find out more about this useful quarterly horticultural-botanical journal can write to the Editor, Sabina Knees, The Royal Botanic Garden, Inverleith Row, Edinburgh EH3 5LR. The annual subscription is £25 (British Isles) and £29 elsewhere.

A REALLY OUSTANDING SISYRINCHIUM

The most recent part of *Curtis's Botanical Magazine* (Volume 15, Part 2, 1998) has a fine water-colour portrait (by Gillian Barlow) and write-up of a huge *Sisyrinchium* which goes a long way to contradict the complaint that I have heard that they are mostly squinny little weeds!

This one, *S. palmifolium*, is neither squinny nor little and has proved to be a most imposing plant in the garden. It is probably better known in gardens as *S. macrocephalum*, but has never been very commonly cultivated as far as I can tell. The latter epithet means 'big-headed', and this it is, with a much-branched dense inflorescence containing an enormous number of bright yellow flowers produced in succession over a period of several months. The clump in our garden went on flowering through summer until the first frosts in the autumn, and started again in May this year. Each flower is saucer-shaped and about 3-4 cm across. The whole plant has formed an evergreen, or rather ever-grey-green, clump some 60-80 cm in height with fans of bold, narrowly sword-shaped leaves and many wiry, flattened, flower stems, about the same length as the leaves.

Although a native of South America, in Brazil, Uruguay, northern Argentina, Bolivia and Peru, *Sisyrinchium palmifolium* appears to be fairly frost hardy and was completely undamaged last winter by frosts to about -10°C ; it is growing in a raised bed in full sun with a gritty soil mix.

I do have two criticisms of *S. palmifolium*, firstly that the flowers open in the afternoons and evenings only and do not open well in dull weather (and we have had lots this year), and secondly that the big heads of flowers get so heavy with developing seed pods that they bend over instead of remaining upright. But then, no plant can be perfect, just like the gardeners who grow them.

The same part of *Curtis's Botanical Magazine* includes a watercolour portrait by Pauline Dean of the fairly recently described Turkish *Crocus* species, *C. kerndorffiorum* (see BN 6:9 and 10:3) which was named after Helmut and Robert Kerndorff.



The Mystery Crocus

It is always good to have a taxonomic mystery - how dull it would be if everything was in perfect order. In the genus *Crocus* the one big remaining mystery is *C. boissieri*, described by George Maw in 1881 from a specimen alleged to have been collected in 1853 by the Russian traveller Tchichatscheff in southern Turkey. The original specimen is in the Geneva Herbarium, showing enough for us to be able to say that it is a distinct species, but the plant has never been found again. In my monograph of *Crocus* in 1982 I had to leave this as a "Little-known species, taxonomic position uncertain" and made the comment that "it seems highly probable that the specimen in Geneva has the wrong information attached to it." In *The New Plantsman* 5,1: 12-14 (1998), Helmut Kerndorff and Erich Pasche have also reviewed all the available information, providing a useful translation of the German text of the appropriate part of the account of Tchichatscheff's travels. They have come to a similar conclusion, that the information given on the label is incorrect and that "...the real type locality of *Crocus boissieri* remains unknown for the time being and it is even more difficult to get an idea from where it originates."

Unfortunately, one cannot even be sure that it came from Turkey or was collected by Tchichatscheff. Having done a considerable amount of plant pressing in the field, and working with herbarium specimens in one of the world's best herbaria for 25 years, I know just how easy it is for specimens and labels to get mixed up - either during the collecting process or later on, before being permanently mounted on herbarium sheets. There are many examples of such cases, but this is a tantalizing one, since somewhere out there, between Portugal and the Tien Shan, is Boissier's *Crocus*, waiting to be rediscovered. However, it is possible that the great Russian traveller did collect it, so one could retrace his steps - the journey is quite well documented, but a sabbatical of a few years might be necessary! For those interested in learning more about this intriguing *Crocus*, Helmut and Erich have illustrated their article with photographs of the type specimen in the Geneva Herbarium.

Nora's Armenian 'Thog

I suspect that when someone eventually gets down to the strenuous task of working on a monograph of the northern hemisphere species of *Ornithogalum*, we will have a considerable flush of newly described species. In Turkey alone one frequently encounters plants which do not 'key out' to anything in particular. A fascinating job, but time is short - and running out fast in the BN Editor's case! Just across the border, in Armenia, there are many good bulbous plants, not all that well known horticulturally* and another has just been added to their number: *Ornithogalum gabrielianae*. This commemorates an old friend Eleonora (Nora) Gabrielian, a very active Armenian botanist based in Erevan. The paper

* This is a good place to mention some specialist 'flower tours' which are organised and led by Israeli botanist Ori Fragman, some of which go to Armenia; there are various other venues in western Asia. Ori is particularly knowledgeable on the geophytes ("bulbs") of the region. Further details can be obtained from:
Ori Fragman, 9 Wilson St, Tel-Aviv 65220, Israel.

where Natalija Agapova has described *O. gabrielianae* is to be found in *Willdenowia* 27: 199-206 (1997). This is a plant of about 15-25 cm in height when in flower, the actual flowering portion of the raceme being 3-8 cm long with up to 9 flowers. These are carried on short stalks, so they face outwards one above the other in an almost spike-like fashion [rather than forming a corymb like so many *Ornithogalum* species], and are each about 4 cm across when fully open; of course, they are white with a green stripe along the centre of each segment - what else would one expect! There are 3-5 leaves, usually 3-9 mm wide, the widest part being towards the apex, and they lack any signs of a white stripe along the centre, so characteristic of many 'thogs'.

Ornithogalum gabrielianae is found on Mt Aragatz at 2300-2600 metres in grassy mountain steppe. Only three populations have been found so far, and two of these are reported to have been destroyed by road-building activities.

***Colchicum davisii*, a new species from Turkey**

A *Colchicum* which was collected long ago by Dr Peter Davis in the Adana region of southern Turkey in 1957 and cultivated at the Royal Botanic Gardens, Edinburgh, has just been described as *C. davisii* by Chris Brickell. In the RHS publication *The New Plantsman* Vol. 5, Part 1: 15-22 (1998), Chris explains that this is one of the autumnal species flowering without leaves ('hysteranthous') and that it has some features of both *C. cilicicum* and *C. baytopiorum* but is nevertheless quite distinct from these. The article is accompanied by a watercolour painting by Anne Chambers showing that this is an attractive species with quite large flowers (perianth segments 4-6 cm long) of a mid pinkish-purple with a noticeably darker tessellated pattern, graduating to white in the centre of the flower. The leaves, which appear in late winter or early spring, are thick-textured and glossy green, numbering three per corm and much narrower than those of *C. cilicicum*. In its corm, *C. davisii* is more like *C. baytopiorum* in that it is soboliferous; that is, the corm produces slender, elongated extensions, thus giving it the ability to move on into new soil; several species do this, including *C. boissieri*. Horticulturally, Chris Brickell rates Peter Davis's *Colchicum* quite highly: "*Colchicum davisii* has already proven its worth as a reliable garden plant at Edinburgh, flowering very freely.....and has proved to be fully hardy in Scotland and Sussex."

Heteropolygonatum

What is that, you may well ask.

It is not a serious gap in your knowledge, because this is a newly described genus in the *Polygonatum* group of 'liliaceous' genera, currently recognised as belonging to the family Convallariaceae. The genus is described in a paper in *Kew Bulletin* 52,4: 949-955 by Minoru

Tamura (Osaka City University), Mikinori Ogisu (Tokyo) and Jie-Mei Xu (Chengdu, Sichuan). Apart from the publication of the new genus and descriptions of the two species (one of those new as well) belonging to it, this is a most useful paper in that it presents an outline of the tribe to which this and related genera belong - the tribe *Polygonatae*. This is currently a very popular group, with many exciting introductions from China and neighbouring countries in the last few years. Thus, it will probably be of interest to list the genera which the authors have included in the tribe, with some of their stated characteristics:

Polygonatum - axillary flowers, perianth segments fused into a tube

Disporopsis - as above, but differing in that the flowers have a corona

Smilacina - terminal flowers, flower parts in multiples of 3

Maianthemum - terminal flowers, flower parts in multiples of 2

Heteropolygonatum - terminal and axillary flowers, flower parts in multiples of 3

The new genus is considered to be most closely related to *Polygonatum*, differing in having both axillary and terminal flowers and in that the six stamens are carried in different levels in the perianth tube, in two whorls of three (in *Polygonatum* they are at all one level).

The two species in the genus look like Solomon's seals, with creeping rhizomatous rootstocks producing arching to pendent leafy stems and drooping tubular or bell-shaped flowers both in the leaf axils and at the tips of the stems. In *H. roseolum* (described here as a new species) the flowers are tubular, 14-16 mm long and pinkish, tipped green, while in *H. pendulum*, which was described as *Polygonatum pendulum* in 1984 by Z.G.Liu & X.H.Hu, they are bell-shaped, 9-13 mm long and white; the latter is an epiphytic plant, with stems up to a metre in length, hanging down from mossy, evergreen trees. They are both Chinese species, *H. roseolum* known from Guangxi province on Mt Dayao and *H. pendulum* from Sichuan province on Mt Gongga.

The paper in *Kew Bulletin* is accompanied by an excellent drawing of *H. roseolum* by the Japanese artist Ms Kazuko Tajikawa.

The classification of Fritillaria, and a plaintive cry from poor old Mr Baker

A few weeks ago David King, who is studying the North American fritillaries (and having a nice lot of trips to California in the process) asked us if it was correct to use the name 'Liliorhiza' as a section of the genus *Fritillaria*. We always like to doubly check these matters before putting anything down in writing and so a scan through the literature was made to see how various authors had dealt with the classification and which names had been used for subgenera, sections, etc.

Knowing that J.G.Baker (see BN 11:8) had lectured on*, and subsequently published a survey of, the whole of Liliaceae in 1870, that account was consulted first. Baker

had ten subgenera and used the name *Liliorhiza* (attributed to Albert Kellogg) as a subgenus to include *F. recurva*, *F. liliacea*, *F. biflora* and *F. camschatcensis*; further American species were scattered through other subgenera - for example *F. pluriflora* was included with *F. persica* in subgenus *Theresia* and *F. pudica* was placed with *F. bithynica*, *F. forbesii*, etc. in subgenus *Amblirion* - although from this point of view the classification does not look very promising, the names are there and can be used, even not if not in quite the same way.

A check on Bentham & Hooker, *Genera Plantarum* (1883) and Engler & Prantl, *Die Natürlichen Pflanzenfamilien* 15a: 332-335 (1930) shows a somewhat simpler approach, with both recognising five sections: sect. *Eufritillaria* (i.e. the 'true' or 'proper' fritillaries such as *F. meleagris* - in modern nomenclature is now be called sect. *Fritillaria*), sect. *Petilium*, sect. *Theresia*, sect. *Amblirion* and sect. *Liliorhiza*.

It was W.B.Turrill (in Hooker's *Icones Plantarum* 34, Parts 1 & 2 (1980) who provided the basis for a modern classification, although this too could well change when someone does molecular studies. Turrill's system has four sections, the first of which has two subsections:

Sect. *Fritillaria*

Subsect. *Fritillaria* - the squared-bell frits, usually with three-branched styles

Subsect. *Olostylae* - the conical-bell frits, often with entire styles

Sect. *Theresia* - *F. persica*

Sect. *Liliorhiza* - American spp. + some Eastern Asiatic such as *F. dagana* & *F. maximowiczii*.

Sect. *Petilium* - *F. imperialis*, *F. eduardii*, *F. raddeana* & *F. chitralensis*.

F. gibbosa and its relatives were included here with the *Olostylae* but should surely be placed in a separate section, *Rhinopetalum*, and *F. sewerzowii* is probably also better placed as a section of *Fritillaria* rather than a separate genus *Korolkowia*.

So the answer to David King's request is that yes, *Liliorhiza* is a section, at least until someone has other ideas.

* Poor Mr Baker! At the start of his lecture on 3 February 1870 he noted that:

"I believe that I am quite safe in saying that there is now no Order of flowering plants in whichthere is more difficulty and loss of time incurred in determining the name of an unknown plant, than in the Liliaceae."

Yes, John Gilbert Baker, we agree that you are quite safe in saying it!

Catalogues

Neglected Bulbs is what we have a lot of at the moment, but this is in fact the name of the list issued by Californian bulb supplier H. P. McDonald to denote bulbs which are not the usual run-of-the-mill types. Many will recognise Hugh's name as the Editor (ex - see page 6, this number) of *Mariposa*, the journal of the Calochortus Society. The plants are split into groups such as 'Native California Bulbs', 'Calochortus',

'Iridaceae', 'Summer growing species from Mexico', etc. There are some interesting items offered; species such as the Mexican *Calochortus balsensis* (see BN 1:8), *C.marcellae* and *Sphenostigma longispathum*, *Hymenocallis liriosme*, and many others. Unfortunately at present the nursery does not send outside North America, although Hugh has written on top of his list that he got so many overseas enquiries that he may start shipping elsewhere if he can get a single phytosanitary certificate to cover all orders, otherwise it is too expensive - a familiar problem for growers. **Neglected Bulbs, P.O. Box 2768, Berkeley, CA 94702-0768.**

A brand new list has arrived from **Ian & Margaret Young** under the very straightforward heading of 'Bulblist 1998' - no messing about with arty titles here. Bulbs are said to be of a size which should be large enough to flower, although one can never guarantee this of course, and they are 'home grown' from seed or vegetative multiplication. Although the list is not a long one, there are some good plants here: *Narcissus romieuxii* 'Joy Bishop', *N. rupicola* subsp. *marvieri*, *N.watieri*, *Oxalis* 'Ione Hecker' and *O.* 'Beatrice Anderson', *Trillium hibbersonii*, *Corydalis* 'Beth Evans'.....No orders after 31 August, please, and U.K. only. For list send s.a.e to: **Ian & Margaret Young, 63 Craighton Road, Aberdeen, AB15 7UL.**

Pacific Rim Native Plants is an intriguing title, and the list from Pat and Paige Woodward has plenty of interest, although much of it non-bulbous. From this nursery, which is situated on Chilliwack Mountain 90 minutes from Vancouver ("We recommend 4-wheel drive" are the instructions to visitors) one can obtain a wide range of Pacific Coast native plants, intentionally grown from collected seed so that "They are genetically diverse. Each one carries unique traits and possibilities that could mean survival in the face of new challenges." Although not a bulb nursery, we know that most of our BN subscribers are not wholly bulb fanatics, so the alpiners and hardy perennials will also be of interest to many of them. The monocots include *Disporum hookeri* var. *oregonum*, *D. smithii* and *D. trachycarpum*, *Lilium pardalinum* subsp. *pitkinense*, *L. washingtonianum*, *Zigadenus venenosus*, several *Allium* species, etc.....Orders are accepted outside Canada but of course there is an extra charge for a phytosanitary certificate. **Pacific Rim Native Plants, 44305 Old Orchard Road, Sardis, British Columbia V2R 1A9, Canada.**

Elizabeth Strangman's renowned hardy plant nursery is a great place for finding unusual hardy perennials, and sometimes some choice monocots as well so it is worth checking the catalogue annually. This year there are (amongst many others) *Dicentra cucullaria* 'Pittsburg' ('a free-flowering' clone of this choice woodlander' - pale pink-flowered), the yellow-flowered *Disporum flavens* and beautifully scented *Disporopsis pernyi*, *Ipheion*

uniflorum 'Charlotte Bishop' (a new colour break with pink flowers) and *Iris* 'Paltec' which is becoming rather scarce, a hybrid between the bearded iris *I. pallida* and the Evansia *I. tectorum*. *Lilium ledebourii* does not crop up very frequently either. These are squeezed in between masses of geraniums, pulmonarias, epimediums and hellebores. It is good to hear that Elizabeth is making good progress back to health. **Washfield Nursery, Hawkhurst, Kent, TN18 4QU.**

Tony Dickerson is planning to put out a list of surplus bulbs ("including *Arisaema*, *Erythronium*, *Fritillaria* and *Iris*") for the autumn and this will be sent on receipt of an A4 s.a.e. So far we have had a preview of only the *Iris* section of this list, which includes *I. bracteata*, *I. crocea*, *I. cycloglossa*, several subspecies of *I. spuria*, *I. taochia*, etc. and twenty different Arilbreds (Oncocyclus x tall bearded irises). **Tony Dickerson, 9 Westonbirt Close, St Peter the Great, Worcester, WR5 3RX.**

A visit to the daffodil competition at one of the spring shows of the RHS intrigues and impresses me without fail every year, such is the huge range and degree of perfection that has been achieved in breeding these fascinating plants. I always come away with a list of those I must have - strange how one always manages to pick the most expensive! A considerable number of these *Narcissus* cultivars can be obtained from Jack Scamp's nursery in Cornwall, and his catalogue illustrates a good number of them in colour. It is good to see that some of the older cultivars have been maintained and are listed in a separate section as 'Historical Varieties'. **R.A.Scamp, 14 Roscarrack Close, Falmouth, Cornwall TR11 4PJ.**

Bookends

Lilies, A Guide for Growers and Collectors by Edward Austin McRae. 392 pp. + 108 colour photographs, 8 botanical prints, several line drawings. Timber Press, 1998. ISBN 0-88192-410-5. £25 (U.K.), \$34.95 (U.S.A.).

Ed McRae's name is synonymous with the world of lilies and a book by him on the subject has been awaited with anticipation. Ed worked as a botanical foreman at the Royal Botanic Gardens, Edinburgh but in 1961 joined Jan de Graaff's team at the Oregon Bulb Farms as the lily hybridiser which is where he stayed. He is still working on lilies, both in the field of hybridising and in what I see as a most important new project with the North American Lily Society (NALS), to preserve the *Lilium* species in cultivation. His work in the development of the lily as a garden plant has been acknowledged world-wide in the form of the E.H.Wilson Award from the NALS, the Lyttel Cup from the RHS and the Medal of Honour of the New Zealand Lily Society.

The book is divided into three parts. Part 1 deals with the basics of the lily plant, describing its structure from the bulb upwards; this section is illustrated with some

scaling and tissue culture (including d-i-y in the kitchen!). All matters concerning cultivation are covered - soils, fertilizers, planting, mulching, etc., and there is an extensive section on diseases and pests, so crucial to successful lily growing.

Part 2 is the descriptive part starting with an A-Z chapter of the species; this is written in readable style rather than condensed botanical descriptions and contains information as to how each species has been used in hybridising programmes. Following the species we have a table showing the familiar 1964 RHS classification of the hybrids and an updated version proposed by the NALS in 1995. Although basically the same system, this set out to embrace the modern developments in lily hybridisation, including the crosses between *L. longiflorum* and the Asiatic hybrids, and the 'Oriempets' (Orientals x Eastern Asiatic trumpets, of which 'Black Beauty' is still one of the most famous). Three of the more important hybrid groups are given chapters of their own, with details of their history and development. The groups covered are the Asiatic Hybrids (Division 1), starting with the famous Mid-Century group, the Oriental Hybrids (Division 7), from the early *speciosum-auratum* crosses through to the extraordinary plants of today such as the huge 'Casablanca', and the Trumpet Hybrids (Division 6) showing how such familiar 'strains' as 'Black Dragon', 'Golden Splendor' and 'Pink Perfection' were developed.

Part 3 covers miscellaneous matters like exhibiting lilies, the techniques of hybridising, and lilies around the world, taking a look at lily cultivation and development in North America, New Zealand, Australia and Holland. Two chapters cover the commercial aspects of lily cultivation, including bulb production, the cut flower industry and pot lilies. The final chapter is Ed McRae's own selection of 'Personalities of the Lily World' - names which are an integral part of the realm of lily breeding and cultivation. Harold Coomber, Jan de Graaff, Carl Feldmaier, Chris North, Leslie Woodriff and many others are all here - except Ed McRae! Maybe this modest Scotsman, so influential in the development of the garden lilies which give us such pleasure, will treat us to an autobiographical chapter in the next edition!

Last autumn I had the pleasure of spending a day with Ed McRae in Oregon, inevitably with much 'lily talk', and I said how much I was looking forward to his book. My anticipation has been fulfilled.

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