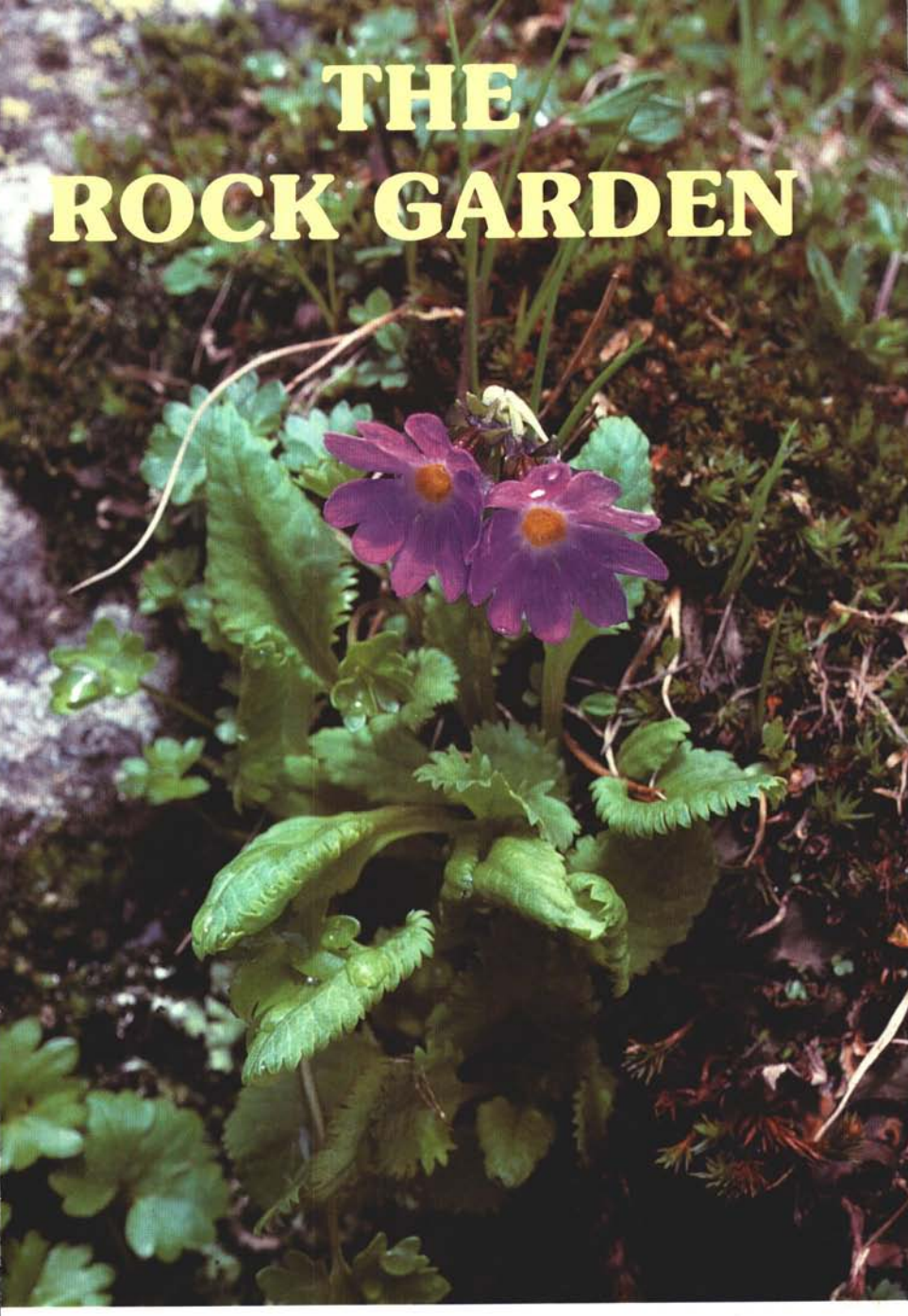
THE ROCK GARDEN



THE JOURNAL OF THE SCOTTISH ROCK GARDEN CLUB

Volume XXV Part 4 Number 101

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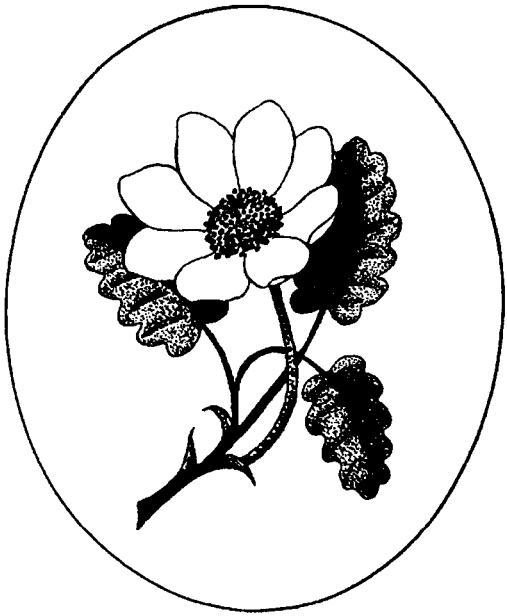

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Front cover : Primula elliptica (p.378)
Photograph: Henry Taylor

THE ROCK GARDEN

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Edited by
Alastair McKelvie
43 Rubislaw Park Crescent
Aberdeen,UK
AB15 8BT

Tel. and Fax. (01224 314533)

E Mail: amckelvie(@)compuserve.com

The Editor welcomes articles on any aspects of alpine and rock garden plants and their cultivation. Articles should follow the format of previous issues with colour transparencies and line drawings if appropriate. Articles, if submitted in manuscript, should be in double spacing, but it is hoped that authors will consider submitting material on disk, either on Microsoft Word or on some compatible software.

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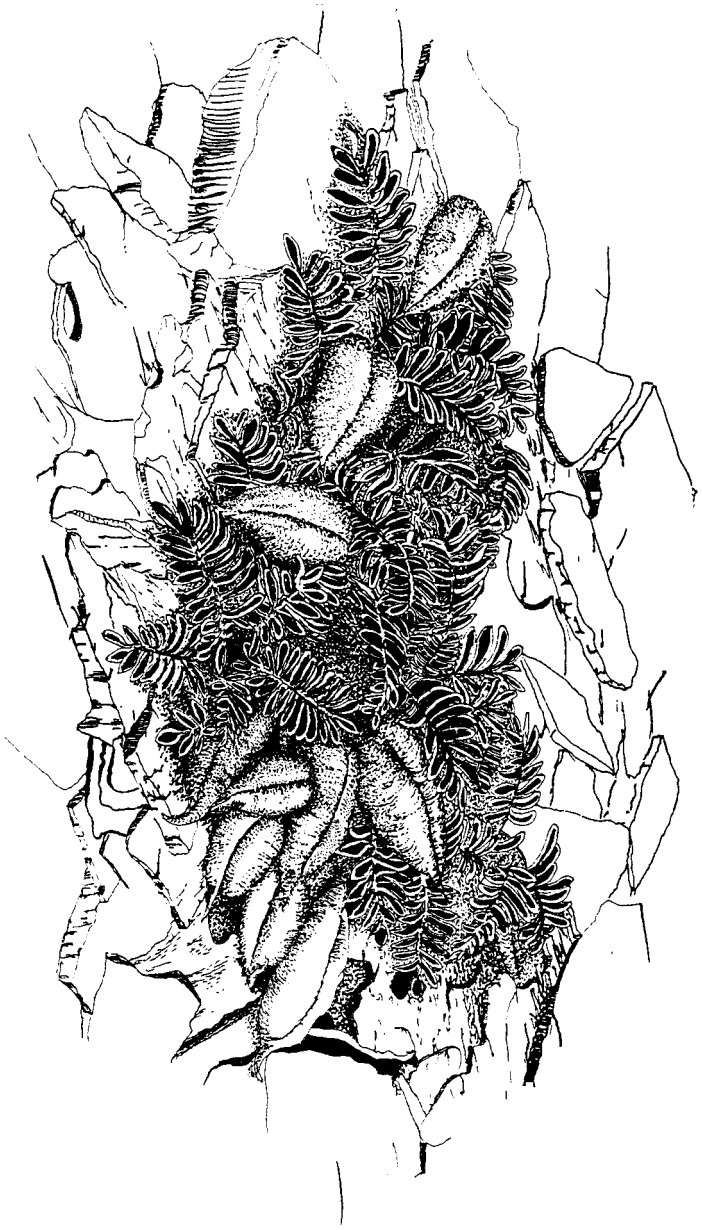
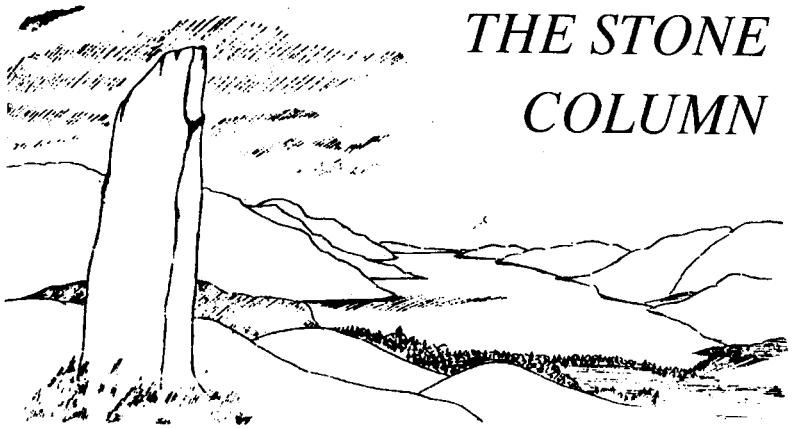


Astragalus lutosus — a beautiful little alpine from the tops of the 'barrens' of Utah and Wyoming. Drawing by Ron Cole



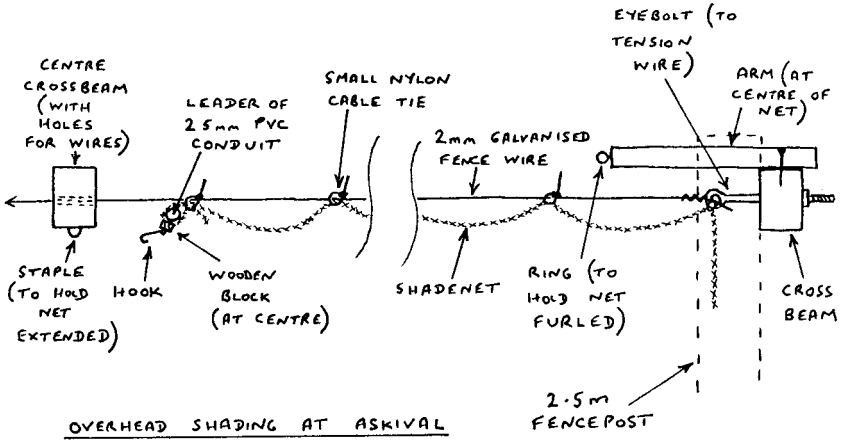
THE STONE COLUMN

MORE SHADY GOINGS ON AT ASKIVAL

There can be many reasons for recalling any particular gardening year, some of far more significance than others. 1986, for example, will always be for us the year of our first visit to the Alps. 1997 may not have been a real vintage year in that sense, but it has been a highly constructive period, in more ways than one. For one last time we decided to tie ourselves to Askival's metaphorical mast, and ignore the sirens' call of the West's high places. This has enabled us not only to complete most of the nursery infrastructure, but also to construct several new beds and so relieve the pressure of young plants in the frames clamouring to be liberated into the garden. Starting in the frameyards, 1997 will probably go down as the year when we drastically changed our shading arrangements.

With only the two of us here to run things, we must make every operation as convenient as possible without compromising standards. Occasionally both ease of use and improved efficiency go hand in hand, such has been the case with our new system of removable walk-under shading. Others may argue against it, but we have found shading over our frames to be essential, especially on those days when our fickle climate replaces a period of dull, damp westerly weather, encouraging lush growth, with over 16 hours of scorching sunshine. When we had only a few frames, unrolling shade-netting across the same wooden supports which hold the lights in winter was perfectly adequate. Every time I built a new frame, another roll of shade-netting stapled to battens went with it. By the time the much larger second frameyard in the ex-orchard was complete, it was taking the best part of an hour to unroll all the nets; Poll found lifting the heavy rolls up onto the ends of our

raised frames to be very tiring. She was also unhappy with the sun heating the unprotected concrete block sides of the frames, and the paths between them, arguing that the whole area should be shaded. Some nurseries have permanent shadow halls, constructed these days not of wooden laths, but of multiple semi-rigid plastic strips such as 'Paraweb'. However, we only require the shading to be in place on the small minority of hot summer days. Thus we decided to extend a simplified version of the successful system we had developed for the dedicated shade frame (see 'The Rock Garden' No. 97, pp 329-30) over the whole of both frameyards. With this now virtually complete, it takes only 10 minutes to unfurl or drawback all the nets; less if one walks quickly. There remain uncovered only the three oldest frames in front of the house, which I intend to rebuild first, raising and extending them slightly.



OVERHEAD SHADING AT ASKIVAL

To construct the system we first obtained a score of 2.5 m fenceposts from a local sawmill, the ones normally sold for deer-fencing. When deciding on the layout, one works backwards. The nets are drawn by walking along the paths between the frames, so the overhead suspension wires must run parallel with the frames. Therefore the beams holding them up should be placed at right angles to the frame-runs, one about 0.5 m beyond each end, and as the frames are 15-20 m long, one across the middle to avoid too much sag in the wires. For the beams we used 4.5 m lengths of 50 x 75 mm treated softwood set long side vertical (for this span 50 x 50 is insufficiently rigid); and these in turn determined where to set the posts. We concreted the posts in so that about 2.1 m remains above ground, the beams bolted to their tops thus within Poll's reach. In one or two cases where a large boulder prevented my digging the hole any deeper, some of the pointed end had to be

sawn off the relevant post. The posts at the ends were set sloping slightly outwards so that the pull of the wires would bring them more or less to the vertical. The netting used was Netlon 'Agroscreen', which gives 50% shade, in 3 m widths, each run being suspended on 6 wires at 60 cm intervals. In order to draw the net easily with one hand, some sort of light rigid bar is required at the leading edge. We chose 25 mm PVC conduit, obtainable from electrical wholesalers in 3 m lengths. A small wooden block screwed to the centre acts as a convenient handle, and has a hook freely attached which in turn holds the net furled or extended.

To set up each net I unrolled the Netlon across the grass and cut a length about 30 cm longer than the actual span required. Using a measuring tape as a guide I crawled around fixing small nylon cable ties at 60 cm intervals along each edge, allowing an extra 10 cm at the leading end to wrap around the conduit. One of the latter, marked off every 60 cm, was then used to position the intermediate ties across the netting. Once the conduit and its block had been attached, Poll helped me gather the net into pleats, threading each row of ties onto short lengths of spare wire which were then bent into loops. The completed bundle could then easily be transferred to its permanent wires, and the temporary loops removed. Now that we have a total of 14 of these overhead nets, we do not take them down for the winter, but instead tie the furled nets securely to the crossbeams using the legs cut from Poll's laddered tights. Last winter's gales did not harm those nets we had rigged during 1996. Being plastic, they will not rot in the wet, and there is far less UV to degrade them during the winter. Only time will tell how long they may last, but our oldest rolled nets are still quite sound in spite of having spent some 20 summers in the sun.

WE'RE USED TO LATE FROSTS

Once the last of the nets described above were in place by the first week in August, Murphy's law decreed that the weather should break, the August monsoon arriving right on time. In fact after the drought of 1995, it has been a second season of business as usual. There were of course frosts towards the end of May, but these are par for the course up here. We understand that for once they also occurred way down south, to the accompaniment of much wailing and gnashing of teeth. Many of their plants such as wisterias were devastated, whereas ours was unharmed as it had hardly started into growth. Sometimes having a garden where cold late springs are the norm can be a distinct advantage, holding some plants, such as the magnificent *Lilium auratum* and various

arisaemas, back until the danger of severe frost is past; or allowing the flowers of such as *Scilla rosenii* to develop properly. Notholirions, sometimes said to require protection, are another good example (Fig.88 p.340); our plants do not have foliage to damage in the winter and early spring, and so are fully hardy outside. They can be the nearest thing there is to a 'blue lily', but like rhododendrons are more violet than really blue. Global warming or not, I am sure that of late the seasons are moving backwards, springs are even colder and later, while summer lingers on into autumn.

MECONOPSIS IN ALL COLOUR FORMS

One consequence we have noticed of a late frost is that, although they may not be totally destroyed, the precocious flowers on our perennial meconopsis do not develop their true blue, but come out rather purple. There is no such problem with the monocarpic 'horridula' group. We had recently raised many of these under a dozen or so ACE numbers; some were planted in the Snake bed in the autumn of 1995, the remainder the following spring. A few flowered in 1996, but the majority waited until this year to bloom. It soon became obvious that there were greater differences between individual plants under the same number than between the various collections; and that's in the first generation! They have already started to sow themselves, so all we can do is to accept the mixture, roguing only those plants of a poor colour. We already have a substantial population of *Meconopsis rudis* self-sowing in the upper gentian bed, descended from a 1987 SBLE collection. These are usually 30-40 cm tall with strongly glaucous leaves dotted with dark purple spines, and flowers of a medium sky blue. The squat seedpods are very spiny; small wonder that some of the seed is left to scatter, where it has to compete for space with seedlings of *Campanula barbata,* a good red-centred *Astrantia major* from the Bergamask Alps and the grey-leaved *Aquilegia chaplinii* with its slender long-spurred yellow flowers.

Meconopsis lancifolia is distinguished by Taylor from *M. horridula* s.l. (in the broadest sense) by its ebracteate inflorescence and longer, thinner capsule. We have two distinct forms of *M. lancifolia* from the KGB collections. The taller one, up to 25 cm, from KGB 737 (Fig.92 p.342), is superficially like a slender *M. horridula* but with two-tone dark and light purple flowers; whereas 824 carries its deep gentian blue flowers individually on basal scapes of around 10-12 cm, a centre one which usually opens first, surrounded by a ring of 6-8 others. This latter may be referable to ssp. *concinna.*

A GOOD YEAR FOR ROSES

Following on from their unseasonable late frost, we understand that June was unusually wet in most of England. Up here we had a series of dry spells of 7-10 days, not always sunny, punctuated by short periods of rain. Some of these were very heavy; one caused severe flooding in Morayshire at the beginning of July, and were sufficient to maintain the moisture in our thin soil. These conditions suited our shrub roses very well; it was indeed a good year for the roses, we had the finest flowering we can remember. It was not until an Indian summer in Sept-Oct. that we had a prolonged dry spell. By then one welcomes dry weather to press on with construction; evaporation rates are low, plants are shutting down, and there's no need for " a box of rain to ease the pain". (Henrik's not the only 'Deadheid' in the SRGC, Maggie.)

"A LITTLE ADDING"

We have Gunne-Bert Wedell to thank for the heading, a delightful and appropriate phrase he used during a recent visit. It sounds even better with a Swedish accent. A comment made by quite a number of visitors is that the Askival garden is larger than they had expected. It is in fact between 0.5 and 0.6 ha, but can appear more extensive because of all the changes of level. We are indeed very lucky in these crowded islands to have such a large space to play in; even after 27 years some parts remain undeveloped. I am actually looking forward to the impending end of the expansion phase, and to being able to remake or improve some of those areas we currently consider to be unsatisfactory. A small start was made this April on rehabilitating the trough area, removing the worst of the moss thatch from most of the troughs, some selective weeding of both the troughs and the gravel beneath, and cutting back hard, or removing altogether, the prostrate conifers we had planted at the bases of many of the troughs.

Some of the moss had to be left, as for example on the north side of a boulder in one trough where the delicate bright green shoots of *Cassiope hypnoides* peep out of a grey-green carpet. The alpine mouse-ear *Antennaria dioica* had self-sown profusely over the whole area and was treated as a weed in both troughs and gravel, whereas the almost equally prolific *Saxifraga paniculata* was only removed from the troughs themselves. Many other plants which had self-sown down into the gravel were allowed to remain, including dwarf aquilegias, polemoniums, and even androsaces and soldanellas; but this does mean that I have to hand-weed the area.

THE NEW LILY BED

Actual new construction started in May with the upper lily bed. Shaped like an American football, 8.5 m long by 4.5 m wide, this lies near the back right-hand corner of the garden, separated from the boundary shrub border by a wide 1.5 m path to allow for the latter's expanding inhabitants. A common mistake, which we have made many times, is to plant shrubs too close to a normal 1 m path; there is never enough time to prune them back. The lily bed started life as a rectangular stack of turves, cut from the site of the upper gentian bed back in 1992, sprayed with 'Roundup', and left to rot. Last January I spread out the turf-stack into the final shape of the bed, and then added on top a layer of garden compost, so that this could weather for about four months. It took five short midwinter afternoons to put all 3 m^3 of compost from the older heap through the coarse barrow sieve, and move it to this bed. In between collecting winter firewood, several tonnes of old walling stones had been imported by Land-Rover from our usual 'mine', and barrowed up to the top garden. Many people construct a raised bed by building the walls, then filling in. We often, as in this case, do it the other way round, starting with a pile of soil, then putting a low drystone wall around it, in this case about 30-40 cm high. Next I forked the loam and garden compost together, then laid the rows of stepping stones in the shape of a 'T'. Before laying these large flat stones, the ground along their path was well trampled, so that they will not settle below the eventual top-dressing.

The bed was planted up in June, entirely from pots and boxes, with lilium species, nomocharis, notholirion, trilliums and representatives of a few other bulbous genera which we hope will like this humus-rich soil. There were some sad omissions, thanks to the –25°C winter of 95/6, species we had been growing on for years. Once fully planted, the bed was finally top-dressed with 3-4 cm of our hard whinstone chippings. It is perhaps too early to comment on the plants, but many flowered and set seed such as a robust *Lilium hansonii* from wild Korean seed, via Gothenburg, and a lovely stand of a good yellow *Trillium luteum.* It will be very interesting in the longer term to compare this bed with the older, more sheltered, one down below in the frost hollow. (see 'Fullstop for Lilies', The Rock Garden. 91, p.120)

THE WINTER-COVERED SCREEBED

A year ago, I described the construction of our first winter-covered screebed and the results so far have been very encouraging. Deep-rooted plants, such as eriogonums, the smaller cushion phloxes and pulsatillas have responded particularly well on being

liberated from their pots; *Campanula raineri* has spread and flowered with far greater freedom than in either open scree or covered trough, as has *Arenaria obtusiloba,* its tight mat of brilliant emerald freely scattered with stemless blooms of shining silvery-white. We do not normally mix bulbs with alpines, but have made an exception for *Hesperantha baurii*, a summer-grower from the Drakensburg (Fig.89 p.340). Our form is absolutely hardy, to below –20°C, and freely produces its pretty pink blooms over a long period at a very valuable time.

If it works, repeat it; and we are in the process of doing just that in the 'Wendy corner'. This site is in the shade of distant trees from noon until 4pm at midsummer, so should be more suitable for Sino-Himalayan and Arctic plants than the original which is in full sun from 10-11am onwards. Lying in a shallow cutting between the upper and lower gardens, there is always a movement of cool air past the new bed even on the hottest days. This position has, however, limited its size to 7 x 1.1 m, and the 'Correx' sheets for the eventual cover will have to be cut down from 2 to 1.5 m. As before, Chris next door laid the concrete raft — a pity he didn't see Harry Jans' slides at the 1997 Aberdeen Discussion Weekend — while I added the blockwork and final harling. Completed in September, this bed can lie empty for the winter, to be filled and planted in spring. The necessary loam has already been sieved and stockpiled in an empty bay in Poll's compost shelter, again thanks to the dry October.

MT. SHERMAN

One of the chief reasons for taking in the upper garden, way back in 1983 was to provide space for a really large screebed, but circumstances had conspired against this project until now. In between work on the high shading and the above bed, I at long last made a start on 'Mt. Sherman'. The name requires a little explanation. A few years ago, we ordered some seeds from 'Rocky Mtn. Rare Plants', and when she sent them Gwen Kelaidis commented that we appeared to be trying to recreate Colorado's Mt. Sherman by Loch Ness. The name stuck; especially as the proposed neighbouring bed 'Horseshoe' is also a nearby peak in the Mosquito Range. The site, about 15.5 m long and up to 9.5 m wide is on the flank of an undulation in the ground and curves somewhat to provide sloping aspects from NW to SW. There will be no pretence at a 'natural' rock garden, instead priority, as always, is given to homes for plants. As planned, there should eventually be five terraces of around 2 m in width, with a row of stepping stones at the foot of each low retaining wall to allow access to all parts

without standing on any of the planted areas. This summer a modest start has been made with the relatively small bottom terrace, a crescent 8.5 by 2.2 m situated naturally at the lowest point. The area was dug over, removing any stones over 2-3 cm, and raked level behind the base course of large (mostly 100+kg) boulder-stones. This 'prepared' soil already resembled some scree mixes: a stony loam. To boost the organic content we added, not peat, but a very large 1.5-2 m^3 pile of spent potting compost from last year, which had been waiting further up the slope; and spread it out. Mathematicians may work out the average depth of the layer.

We hope to complete the rather longer, 12 m, second terrace next spring; and Poll is currently building up a new mound of used compost behind its position. By repeating this process year-on-year, we can thus progress upwards one terrace at a time. Although some of the spent compost was scree-mix, already 50% chippings, further 5 mm chippings were added to a depth of 15-20 cm. These were distributed by eye, a thicker layer where the compost originally contained less gravel on average. As the level rose, the retaining wall kept in step. Then came the hardest part, mixing the whole lot together with a small border spade. The depth of the prepared rootrun finally varied from about 30 to 60 cm downslope. Having taken care with the air-filled porosity so far, I then reduced it substantially at the back of the bed by consolidating the steppingstone strip for reasons mentioned above.

The Mt. Sherman bottom terrace was finally ready at the end of August, and was planted up straight away. Autumn is perhaps not the best time to disturb alpines, but the nights were cool, the weather showery, and the soil warm enough for some root-growth before winter. A trend towards more autumn planting here has been encouraged by a run of Indian summers, bringing us closer into line with gardens further south. Almost all plants were unpotted, their roots shaken and teased loose and spread into deep planting holes. A large *Soldanella cyanaster* was the exception, its solid rootball only combed on the outside. Amongst the plantings there was a large preponderance of 'Erianthera' penstemons, including a number of natural hybrids such as *P. cardwellii* x *davidsonii.* These dwarf 'shrubbies' are easy and quick from seed; and had to be given priority as they starve very rapidly in pots, not being able to indulge in their self-layering habit. The change of section name from 'Dasanthera' is a little unfortunate as *P. eriantherus* itself is not a member of this section but of 'Cristati' ('Auritor' of some authors).

Contrast was provided by another group of plants which had demanded to be set free as soon as possible, this time for reason of

their tap-roots. These included several aciphyllas, and a dwarf form of *Scorzonera rosea,* another neglected European alpine but one with a long flowering season. We are sometimes asked how we decide on what to plant in our various beds. In fact the plants themselves decide for us. We simply walk around the frames and, from those species considered suitable for the vacant positions, choose those which shout the loudest.

DWARF RHODODENDRON WALK

Once the usual anti-moss top-dressing of 3-4 cm of chippings had been spread onto the completed part of Mt. Sherman, I was free to turn to the next most urgent construction project: the 'Dwarf Rhododendron Walk'. During the development of the 'Haze bed' in '91/93 on the south slope to the left of Mt. Sherman, a path had been cut into the slope immediately above the former to separate it from the plateau behind. The cut face on the uphill side was revetted with our usual stonework to make yet another terrace; the first of two intended for rhododendrons, quite a number of which we had coming on from wild seed. In anticipation many of these had been lined out in the N.E. border, from 1988 onwards. Circumstances forced this project into abeyance; but while I worked on the Orchard frameyard, any spare soil from my excavations was dumped in a long pile behind the line of the proposed second terrace. Meanwhile the nursery rhododendrons grew remorselessly into each other, becoming a greater embarrassment with each passing year. Over several past winters a large stock of walling stones had also been built up on the plateau behind. As all cooks know, assembling and preparing the necessary ingredients can take far longer than cooking the dish. With everything to hand, actual construction of the second terrace wall only took 10 or so September days, in between a number of other jobs. About 20 m long, this retaining wall tapers slowly from 0.75 m high, with 3 courses of stones, at the steps above the stone furniture, to 0.4 m and 2 courses at the end by the upper grass. The bed behind this wall is level with the plateau, and somewhat wider than our norm. Behind schedule as always, I had expected planting to be delayed by the weather; but the anticyclone held throughout October, and I even had to take dry days out to write this Column.

PYROLAS AND MYCORRHIZA

The only practical way to transplant the congested rhododendrons from the NE. border was to cut through their rootballs, between the plants, with a sharp spade. This way each moves with its own block of soil. It took much longer to prune out

the dead growths than to replant each group. Perhaps the most distressing part for me lay not in causing root loss to the rhododendrons, but in having to cut through a ground cover of self-sown *Pyrola rotundifolia,* which had infiltrated most of their rootballs. Since we started to use leafmould in our compost, pyrolas have appeared quite regularly in ericaceous pot-plants, particularly those which have been grown on for a number of years. We can only think that the dust-like pyrola seed is collected with the autumn leaves and recycles through the leafmould pit. The mycorrhizal fungi necessary for its germination are probably provided by the original inhabitants of the pots. If the pyrola pieces re-establish in their new homes, then perhaps this is the way to move them: put some spare ericaceous plants in alongside, wait for the spaghetti to invade, then transplant pyrola and 'host' together. One must hope that the mycorrhizas will flourish in the new site, for without their help, the Pyrolaceae will not grow. This symbiotic relationship helps particularly in difficult habitats; it does, for example, allow *Moneses uniflora* to flourish in the needlemould under one of our front Caledonian pines (Fig.90 p.341). Most mycorrhizal fungi are known to assist their hosts by increasing the uptake of phosphorus in such acid environments; but the order Ericales have their own peculiar type. There is of course a penalty to be paid, the fungus must be fed. Some estimates put the resulting drain on the host as high as 10% of its photosynthetic production. As so often in nature, it is a question of the balance of competitive advantage. Once all the open ground rhododendrons, and their attendant pyrolas, have been safely transferred to the new bed, I could start on the potted seedlings which had been accumulating in the frames.

RHODODENDRONS FROM SEED

As I have said before, these are indeed interesting times for the rhododendron grower as well as the alpine enthusiast with the spate of introductions from China. By raising from seed, we were able to put out groups of three or five plants, selecting deliberately for variation. There was a preponderance of Lapponicas, no bad thing in a cold garden, some of them new to us such as *RR. capitatum, nitidulum, websterianum,* and the true *flavidum.* Amongst the azaleas was a dwarf high altitude form of *R. occidentale,* the valuable late-flowering *R. viscosum,* and the very hardy evergreen *R.. yedoense poukanense.* Primarily for foliage we had raised *RR. bureavioides, rufum,* the narrow-leaved *makinoi,* and the white-backed Caucasian *smirnowii;* all of which went into this bed. One thing I am not really looking forward to is removing a number of

tatty rhododendrons which are not really hardy enough for this garden and replacing them with more suitable species.

WE ALL WANT THE LATEST TOYS

As the upper grass is the largest open area in the garden, the dynamic duo, Dana and Grizzly, play frequent games of 'tag' dodging around this island gentian bed. Whatever toy one has in its chops, the other wants it; nothing else will do. We can all fall into this trap, always wanting the latest introduction while ignoring more beautiful, but familiar, alpines. How many can stand comparison with *Gentiana acaulis* s.l.? Alas, Moppy is no longer with us to join in their games; not that she was able, at 16 years, to make it up to the top garden very often. It is always very sad to lose such a long-term companion, Poll will miss her company in the potting shed where Moppy often slept on the bench. Poll always knew the moment that I returned from work, the tail wagged as soon as I touched the gate. In those days I used to joke about going back to school for a rest; but in spite of all the physical labour involved in 1997's 'little addings' I have no doubt that we have chosen the correct course. There have, however, been times recently when, to quote 'The Faces' :

"I wish that I knew, what I know now, when I was younger,
I wish that I knew, what I know now, when I was stronger,
Ooh la la..... "

Golden Jubilee Salver

The Golden Jubilee Salver awarded annually for an individual who has given outstanding service to the Club was presented in 1997 to Ron McBeath.

Ron who recently retired from the Royal Botanic Garden, Edinburgh is now running an alpine nursery near Berwick-on-Tweed

SANDY LEVEN — SRGC President 1997

I was brought up in Falkland, Fife and while in my teens I grew dahlias and chrysanthemums in my parents' garden. I supplemented my pocket money by selling young plants of both in the spring and flowers in the summer and autumn. I built my first rock garden in 1964 at Falkland and bought my first rock plants plants from Maryfield Nursery (Neil Lyle) in Leslie.

I was educated at Bell-Baxter High school in Cupar, Fife and studied Dentistry at St. Andrews University at Dundee Dental Hospital and graduated in 1969 BDS with Commendation. After a year in Dundee I went to Raigmore Hospital in Inverness where I was Registrar in Orthodontics. After 6 years in Inverness I went into General Practice in Stirling where I still work. I am married to Anne and we have 3 children, Andrew, Alasdair and Johanna.

It was during my time in Inverness that I was taken to an SRGC meeting. The Inverness convenor Jim Sutherland encouraged my interest in rock garden plants. While there I stocked my garden with plants from Jack Drake's nursery. I started showing plants in Inverness at the local group show.

When we came south to Stirling we built our house in Dunblane and have developed our garden there for the past 21 years. I joined the local group and also went to meetings in Glasgow. Joan Stead encouraged the Stirling group to start the Stirling SRGC show in 1980. I became Show Secretary and our group worked hard to make the show successful. In a short time I became Chairman of the Committee of Show Secretaries. Bill Ivey invited me to my first lecture to an SRGC group. I was on the committee for 'Alpines 91' and have until recently been SRGC Publicity Manager. I was awarded the SRGC AGS Golden Jubilee Salver in 1993. I am chairman of the Bulb Group and organise the Dunblane Early Bulb Display. I have served two terms on the RHS Joint Rock Garden Plant Committee

I enjoy growing and showing plants at SRGC shows. and I have won 7 Forrest Medals and 7 SRGC Gold Merit Medals. In 1997 I coordinated the SRGC exhibit at the RHS Scotland's National Gardening Show which was awarded an RHS Gold Medal.

Fig. 87 *Sandy Leven, SRGC President 1997* (p.338) Sandy Leven

Fig. 88 *Notholirion bulbiferum* (p.330) Polly Stone

Fig. 89 *Hesperantha baurii* (p.333) Polly Stone

Fig. 90 *Moneses uniflora* at Askival (p.336) Polly Stone

Fig. 91 *Pulsatilla alpina* (p.364) Kees van Zwienen

Fig. 92 *Meconopsis lancifolia* KGB 737 (p.330) Polly Stone

CLUSIUS, A RENAISSANCE MAN
Part II

by Sheila Brinkley

In the summer of 1576 the Court moved to Regensburg because the Emperor was ill. He subsequently died on 12 October, and the succession of Rudolf II filled the Protestants at Court with dread. Their new ruler was a strict Catholic and friendly with many Jesuits. The Court travelled first to Linz in November and on to Prague in the following month. Several courtiers were sacked. No immediate decision was taken with regard to Clusius' future, but his salary was stopped. He felt humiliated by this treatment and travelled to Prague at the beginning of 1577 to see the Emperor in person, but this was of no avail. Clusius continued to work hard and began to cultivate tobacco in May as an experimental crop. By August the new Emperor had decided to sack his Court Gardener but promised to honour back payments of salary. These, however, were not to arrive for a year. Clusius decided to stay put and to prepare a book on the plants of Austria and Hungary. He resigned himself to fate and trusted in God.

This was to be a very restless period for him and he made many journeys in between periods of working on the new book. He was paid 50 florins early in 1579 in order to report to William IV, Count van Hessen, at Kassel near Frankfurt. His route went via Oudenburg, Vienna, Prague and on to Wurzburg where he visited a friend and records finding a snow-white veronica which he was particularly taken with, the *Veronica chamaedrys* L., (*Chamaedrys minor alboflore).* William IV sent Clusius to Antwerp and to England. This was to be his third trip he had across the Channel.

AND SO TO ENGLAND

His first trip to England had been a short one in 1561 accompanied by two young barons; the second, in 1571, was on the invitation of Thomas Rehdiger, who was a former pupil. They sailed from Dieppe in September 1579 and stayed six weeks in the Southern counties, visiting Dover, Gravesend, London, Windsor, Bristol, Sussex and Somerset. They met Sir Philip Sydney, Hugo

Morgan, pharmacist to Queen Elizabeth, Henry Lyte and James Garret, a plant-loving London apothecary who was to correspond with Clusius over many years. They shared a great love of the new fascinating tulips, and we know from Clusius' records that Garret experimented with the seeds over a period of twenty years. Henry Lyte of Lytes Cary, Somerset, achieved fame by translating Dodoens' "Cruyde Boeck" into English from the French version by Clusius. A copy of this herbal in the British Museum bears the following inscription from Clusius: "Henry Lyte taught me to speake Englishe". Mathias de l'Obel, another contemporary colleague showed him examples of *Phyllitis scolopendrium* L., the Hart's tongue fern, in a cave near Bristol. He also told Clusius to search the fields near the same city for *Iris xiphioides*, the 'English iris', but he looked in vain for this pyrenean flower. It had been seen growing in town gardens after bulbs arrived in a Spanish trading ship from the Pyrenees. During this 1579 journey to England, Clusius discovered a book by Nicolas Monardes written in Spanish later known as "Historia medicinal de las Indias Occidentales". It described 27 medicinal substances, as well as the powers of snow. It was of great interest to Clusius who set about making a translation. He also bought some Brazilian beans from a sea Captain in London. They were larger and of a different colour from the local ones. Returning to Antwerp, he visited his publishing house of Plantin and managed to add facts about the beans to the second edition of his Monardes translation with a picture on the last page. He also discussed the forthcoming publication of his Austrian book "Rariorum aliquot stirpum per Pannoniam, Austriam, et vicinas quasdam provincias observatorum historia, quatuor libris expressa ..." with the printers, and then travelled back to Vienna.

EASTERN EUROPE

He was invited to spend the winter of 1579/80 with his friend Batthyany but declared himself far too occupied with the new book. They did, however, join forces in the spring travelling from the castle at Gussing into the Stiermarksche Alps. There is a charming letter in existence where Clusius writes accepting the invitation and apologising for not being able to send a picture calendar of flowers for 1580, as there was a delay at the printers. Batthyany was the ideal friend — an ex-soldier, he was widely read, had a large library, spoke several languages and was deeply interested in

plants. Growing in certain places in Hungary they were to find beautiful flowers of *Hepatica triloba* L., which were double and deeply blue. They also discovered dog's tooth violets, *Erythronim dens-canis* L., which Clusius called *Dentali,* and the dramatic carline thistle, *Carlina acaulis* L., which he named *Chamoeleon albus*. This is a plant which, he reminds us, was known to Therphrastus and Dioscorides in classical times.

Clusius and his companion became interested in the many forms of toadstool and mushrooms they were to find in Hungary. By writing a brief history of fungi, Clusius produced the first effort in the form of a monograph on the subject, and in so doing laid the foundation or corner stone for all future study. There had been a little fragmentary information in the past but this only dealt with 50 species, and Clusius doubled this number. He divided them into edible and poisonous types — 20 genera with 46 species of the former and 26 genera with 59 species of the latter. Each specimen received a number before being named and the very precise descriptions included size, colour, specific parts, type of habitat and time of annual appearance. Clusius apologizes for not mentioning the cooking potential of various fungi very often, explaining that he never ate them himself. He lists Judas' ear, *Polyporus sulphureus*, and *Lycoperdon* species, puffballs, as having medicinal properties. He relates a story in connection with the scarlet fly cap *Amanita caesarea,* which stems from Roman times, telling how Agrippina made a poisonous dish from the toadstools for Claudius and how her husband ate it by mistake and became ill. Clusius engaged an artist to illustrate his specimens and this attractive manuscript is held by the University library in Leiden. His notes appeared as an appendix to his main work "Rariorum plantarum historia", which was published by Plantin in 1601.

Throughout 1580 he was in touch with many important people, sending them plants and seeds and giving them a lot of good general gardening advice. He was offered jobs to work on various large estates but declined to accept any of them.

A MEETING WITH DRAKE

In October he travelled to Antwerp to see Plantin and deliver the manuscript of his Austrian book; then proceeded to England for his fourth trip arriving early in 1581. This was undertaken especially to meet Sir Francis Drake who had left in 1577 with five

ships to sail around the world, a journey of three years. Clusius received a lot of information about exotic flora from him, and was given plant products and other naturalia. He met up again with the apothecary Garret, travelling further north this time to visit Derby, Lancaster and York. He made contact with the botanist Thomas Penny who had collected plants in the north of England, finding the bird's eye primula (*Primula farinosa* L.,). He also sent specimens of two other interesting plants to Clusius. One, the cloudberry was named *Chamaemorus Anglicana* in Clusius' book, and found "growing in great plenty among heather on Mount Ingleborrow, the highest in all England, 12 miles from Lancaster". The other plant was the melancholy thistle *Cirsium helensoides* L., Clusius' *Cirsium Britannicum,* which was first found by Penny in 1581, and was to appear in Clusius' Austrian book of 1583.

VIENNA AND FRANKFURT

Clusius returned to Antwerp in July 1581 where he studied a book he had been given in England. It was the Spanish work of Christoval Acosta: "Tractado de las drogas medicinas de las Indias Orientales" etc. By the time he arrived back in Vienna via Frankfurt he had been away for the best part of a year. This second period in Vienna lasted until 1588, when Clusius left the city for good and based himself in Frankfurt. His return had coincided with that of Rudolf's Court and there is some evidence that Clusius was still receiving a salary from Count van Hessen, and that he acted as some sort of political agent between the two. He was busier than ever writing and working on translations. His Latin version of the Spanish work by Acosta on medical products of the Portuguese Indies was published in 1582. He also wanted to produce a small book about his latest visit to England and especially of the knowledge gleaned from Drake. This appeared in the same year — 43 pages long, with 15 woodprint illustrations.

The stay in Frankfurt was to last five years (1588-1593). Here he made contact with Theodorus de Bry, who in turn negotiated with explorers to America then living in England, such as Raleigh, Thomas Harriot and Jacques le Moyne. He gained permission to publicise their travel reports. Clusius was employed to work on the Latin translations. He signed himself C.C.A. — Carolus Clusius Atrebas. It is hardly surprising that he began growing potatoes in his garden after making these contacts, but declared it to be "nothing but a noble hobby with no profit". Both Drake and

Raleigh have been accredited with the first importation of the potato but neither the exact date nor the first importer is known.

HEALTH PROBLEMS

Clusius' health began to fail and he had an extremely bad cold and cough in 1589. A bad fall in April 1593 dislocated his right hip joint and caused him to limp for the rest of his life. Previous to this accident he had suffered for years from a "luxation of the left foot" – a dislocated ankle. His travels seemed to be over and he felt his age, but his name was well established and he felt content. He must have been amazed, in December 1591, when contacted by a friend in Leiden, Johan van Hoghelande, asking him if he would consider accepting an invitation to teach botany and to supervise the laying out of a new university garden.

LIFE AT LEIDEN

The University of Leiden was founded by Prince William of Orange as an act of gratitude to the city for not surrendering to the Spaniards during the Dutch War of Independence. Leiden was severely threatened and starved throughout a siege. When William, as leader of the revolt, brought relief and offered the citizens the choice of not paying taxes or of receiving a Charter to found the first University to be based on the Calvinistic doctrine, they chose the latter. This was in 1575, but Faculties other than Divinity tolerated divergent religious conceptions and so attracted world famous scientists and learned men.

An important feature of 16th century Universities was the founding of gardens in which medicinal plants were grown. This was to give students first hand knowledge of both useful and poisonous plants. The first such Hortus Medicus had been laid out in Pisa, Italy, in 1543, with other Universities at Padua, Florence, Bologna and Leipzig closely following suit. It was necessary that Leiden should have such a garden and this was founded in 1590: the "Hortus Academicus Lugduno-Batavus".

Clusius at first refused the offer sent to him, answering that there was no way he could be persuaded to teach or even accept the responsibility of laying out a public garden. He thought a younger man would be more suitable, hoping that Hoghelande himself would be offered the job. However, his friend continued to correspond with the old man, finally peruading him that he might be able to accept. A letter from Clusius, dated May 21st, 1592,

states that he would need to employ a servant who would fetch and carry for him because of his infirmities and who would tend his little garden. He also declared that he could not promise to be in Leiden earlier than autumn 1593. This season would be the most suitable for moving all his plants and bulbs. He also demanded a good salary and travelling expenses. The Curators met several times and finally appointed Clusius on 12 October 1592. He was grateful not to have to lecture (give public lessons) as he felt it would be hard to enter this field for the first time at the age of 66. However, to quote Clusius himself, "only in summer when the herbs are strong and fresh might I go daily to the Gardens in the afternoon to answer those that ask for the names, the history and the virtues of these plants". This was in connection with the Hortus Medicus and as far as the general garden plants were concerned he was anxious that young students should benefit from his knowledge gained from long experience.

The correspondence that Clusius undertook with his contacts at the University during his stay in Frankfurt reveal his great interest in the garden at Leiden. He sent nine kinds of seeds forwarded from his former housekeeper in Vienna, to Pauw. Pieter Pauw, an early student, had been appointed previously to look after the temporary Hortus Medicus. He annotated Clusius' letter stating that he had received the seeds on 9 April and had sown them the next day. They included the everlasting *Xeranthemum annuum* L., (*Ptarmica austriaca clusius*). Clusius also requested that Hoghelande's brother should collect seeds when on his travels in Austria, Hungary and Transylvania, but unfortunately these were all lost, either confiscated by soldiers at a frontier post, or stolen in Amsterdam. However, Clusius did forward 251 kinds of seeds to the Curators in 1592. These had been gathered the year before by his Flemish friend Joost Goedenhuyze, known as Josephus de Casabona, as he was Director of the Botanical Garden in Pisa, attached to the Florentine Court. A copy of the original seedlist is still in existence, containing many species which were new from Crete. The inventory of the Hortus of 1594 shows a great many species identical to those mentioned in the list, including *Alyssum creticum* L., named *Leucojum utriculatum* by Clusius. It is probable that a great many of those Mediterranean seeds did not germinate at all, as no greenhouses or frames were available. Many tender plants would have died during the first winter. It would be interesting to know if Clusius ever saw the flower of the beautiful Cretan peony,

which still bears his name, *Paeonia clusiana* L., since no illustration of it appears in his comprehensive book of 1601: "Rariorum plantarum historia".

One of my own pilgrimages in connection with my research took me through the Samaria Gorge in Crete, which is one of the last wild habitats of this wonderful peony. This was in 1993 and great was my disappointment at first to find large healthy plants bearing only seedheads. However, a patient search was rewarded at last by finding a single, perfect flower on an immature plant. It can be grown in this country but would need the protection of a south facing wall and winter mulch.

Clusius arrived in Leiden on 19 October 1593. He was 67 years old and not a well man. The Curators quickly appointed Dirk Cluyt (Clutius), an apothecary of Delft, to lay out and look after the garden. This partnership was to last four years; and Clutius was to die in 1598. He was an energetic man who must have made rapid progress, as the garden was in order by September 1594. Clusius filled it with everything he could lay hands on, including the large collection of bulbs which had travelled with him from Frankfurt. The University found itself in possession of the world's first scientific "Hortus Botanicus", a garden for all plants. Many were grown as objects for study but not least for their decorative qualities. This was a tremendous leap forward from the mediaeval monastic gardens, where formerly plants had been grown mostly for their therapeutic and culinary uses.

THE LEIDEN GARDEN

Details of the garden are well known thanks to the existence in the present day University Register, of a complete inventory and scale plan made in 1594. The garden measured 40 m in length and was 31 m wide. It was divided into four quadrangles by two intersecting paths. Each plot had a number of beds, and these again were subdivided into small squares, 1400 in all. A different plant was placed in almost every square; 1000 species represented in all. Extra ones were grown in tubs and pots.

The University possesses a manuscript catalogue of all plants growing in the hortus in 1596. It contains an enumeration of plant groups occurring in every flowerbed in the following way

"Quadra prima, capitae ad meridieum spectans, continet areas XVI."

Area prima habet Genera: Anemonarum; secunda Iridum bulbosarum; tertia: Ornithologalorum, Crocorum, Colchicorum; quarta: Molium sive Alliorum varia genera";

Area XV was given over completely to hellebores.

Lack of space in the garden was to be a burden for many years and the same catalogue contains a short Latin note which freely translated runs as follows: "All trees and flowers that had to be excluded from the above mentioned flower beds by reason of the narrow space, we planted in the surrounding plots for the decoration of the garden". The first printed catalogue was published in 1601, by Pauw.

In 1599 the Curators decided to build a conservatory or gallery to house exotic plants. In summer it was to serve as an "Ambulacrum", a shelter from rain, doubling as a lecture room. The building extended along one complete boundary of the garden. The front consisted of 48 windows and a wide central door. The walls inside were hung with maps, and rare curios such as coral, minerals; stuffed crocodiles and turtles were exhibited in a cabinet. One of the great attractions appears to have been a piece of bamboo, which according to Clusius was almost nine metres long with a circumference of 40 cm at the base. All evidence of this famous ambulacrum finally disappeared in 1911.

In 1932 a reconstruction of the original botanic garden was made, based on Clusius' own inventory and the ground plan of 1594. It was not possible to carry this out on the original site, which was partly occupied by present university buildings and a huge copper beech tree. Fortunately a suitable area of ground situated between the former theological college and a government building was offered by the Department of Finance. This plot only measured two thirds of the original garden area, but a small extension was added and destined to contain the plants which were added after 1594 up to Clusius' death in 1609, therefore not in the original inventory. These included such specimens as maize, pomegranate, thornapple and the marvel of Peru (*Mirabilis jalapa* L.), known as the four o'clock plant, possessing many-coloured flowers. It also included such decorative exotics as *Celosia cristata* L. (cockscomb); and from Mexico, the bulb which Clusius named the "red-flowered Indian narcissus", *Sprekelia formosissima.* The west border was planted with *Cornus mas* L. which had formed a large tree bearing fruit by the time I was fortunate enough to visit in 1985. One enters the extension through a wooden garden gate, an

exact replica of several which existed in 1600, and probably served as a support for climbing plants. The paths are attractively laid out with small white sea shells. The small garden house which appears on the map of 1601 was also reconstructed and placed against the wall on the south side. It is near the six original-style straw beehives placed in a stall on which Cluyt's motto may be read: "God feeds all Creatures". Cluyt was one of the first Dutchmen to write a book on beekeeping.

One of the difficulties in the reconstructed garden was the interpretation of Clusius' plant names, but researchers have been almost completely successful, with the aid of Bauhin's "Pinax", a comprehensive work on synonyms which appeared in 1623, and also of the later work by H.E. Richter in 1640, which provides the link between Bauhin and Linnaeus. Many plants were easily obtainable; municipal and governmental gardens and nurserymen were generous in supplying specimens. The flesh-coloured form of the lily of the valley, *Convallaria majalis* L., was thought to be extinct in Holland, but the botanical gardens of Bremen were able to supply a few bulbs.

LABURNUMS AND CHESTNUTS

The only specimen of the original Hortus Clusianus which is still alive is a laburnum, the golden chain tree. It forms a wonderful link between the original and the reconstructed gardens. This ancient tree was planted in 1600 and the trunk and heaviest limb are now hollow with internal roots so that it has been necessary to fill areas with a porous pumice cement. A low wall has been built around the tree which is still flowering.

A great curiosity in the past had been the common horse chestnut, which the gardens obtained in 1608. Clusius had obtained the fruit from Constantinople in 1581, while in Vienna, and in 12 years had grown a tree "twice a man's size". He mentions all kinds of detail, such as the leaf buds being covered with resin on which gnats and other small insects were caught. However, as this tree takes so long to flower, the inflorescence was completely unknown to him and no illustration of it appears in any of his publications. The first seed of the oriental Plane tree (*Platanus orientalis* L.,), one parent of the well-known London-planted hybrid, was probably received from Crete in 1592.

VEGETABLES AND HERBACEOUS

All kinds of vegetables and herbs were grown and experimented with in a culinary sense. They included red and yellow tomatoes, artichoke, aubergine, sea kale and a squirting cucumber. Garden flowers grown included sweet williams, peonies, primroses, cowslips, stocks, poppies, hollyhocks and "devil in the bush", *Nigella damascena* L. There were several roses, and carnations were already great favourites. These were propagated almost exclusively by cuttings which were split at the base with a clove placed in the fissure so that the flowers to be formed should have a stronger scent.

The Lady's slipper orchid, *Cypripedium calceolus* L., was acquired in 1596. One of Clusius' names for this plant was *Calceolus Mariae*, literally "the lime-loving flower of the Virgin Mary", which is far more beautiful than later Linnean nomenclature. There were native wild flowers galore, including soapwort, *Saponaria officinalis* L., violas, grass of Parnassus, *Parnassia palustris* L., and many ferns and orchids. It is known that Clusius had a predilection for the strange and unusual, so space was found in the garden for three kinds of proliferating flowers: a daisy, a marigold and a buttercup. In England these sports are called "hens and chickens", but Clusius speaks of "daisies and marigolds with children".

TULIPS

The name Clusius has long been synonymous with the tulip, and as I have mentioned, he is largely credited with its introduction into Holland. He was of course only one of the several growers who helped to promote the bulb growing industry. He certainly carried out an extensive breeding and research programme with tulips and was in constant correspondence with such folk as the apothecary Garret in London who had the same interest. Clusius was not without troubles and setbacks. It is reported that mice ate 150 of his bulbs in 1594 and two years later thieves broke into the garden, stealing a large quantity. Some of the earliest tulips to arrive in Europe were the early flowering types such as *Tulipa schrenkii* L., from the Crimea, and *T.* 'Duc van Tol' which is a pale pink, one which is often offered for sale around Christmas time. *Tulipa clusiana* L., named after the great man, is known affectionately as the 'Lady' tulip for its delicacy and is still widely grown. Once a special treasure of the Riviera, it is now sadly rare

in the wild. Clusius took the greatest care over illustrations of tulips which were to appear in his books. Artists working for him and engravers of the wood blocks found him pernickety and quite difficult to please. However, the excellent results meant the same wood blocks were used by other succeeding authors, such as Gerard, in his Herbal. A case in point is the illustration of Clusius' great branched tulip, the yellow *Tulipa serotina*. Apart from the tulips now growing in the present day Hortus Clusianus there is a special area near the greenhouses in the main garden which contains a collection of bulbs grown in Clusius' day and which are still grown commercially. They include *Tulipa* 'Lac van Rijn', esteemed for the beautiful "flaming" of colour on the tepals.

EXOTICA INTRODUCTIONS

From the earliest days of stocking the Hortus in 1594 every effort was made to acquire the exotic introductions from abroad and to grow them on for subsequent study. A letter from the States of Holland dated 29 November 1599 was sent to the commissioners of the East India Company requesting that a person should collect Indian plants and seeds in order to enrich the garden. Clusius himself had contact with the Zeeland port of Middleburg to obtain plants through foreign commerce.

The South American potato was grown, named *Papas americanorum* in the first garden catalogue, and whatever myths exist regarding its discovery, Clusius did a great deal to make this food more generally known in Austria, Germany, France and the Netherlands. From his books we know that potato was already used as pig feed in Italy and that Clusius gave his opinion that the tubers taste better when boiled or fried than when eaten raw.

The American aloe, *Agave americana* L., flourished, although Clusius was disappointed not to see a flower, as it was to be 1698 before the plant produced one. Two species of tobacco, *Nicotiana rustica* L., and *N. tabacum* L., from Peru were present, as was another American plant, the small nasturtium, *Tropaeolum minus* L.

Other tropical plants which were grown included ginger, *Zingiber officinale 'Roscoe'*, which had to have its rhizomes protected in the winter, sugar-cane, *Saccharum officinarum* L., Castor oil, *Ricinus comunis* L., from Egypt and *Coffee arabica* L., seeds of which had been received in 1596, from Italy.

GARDEN RECONSTRUCTION

The reconstruction of the old garden apppears rather crowded at first glance but after exploring for a short while, one is transported back three centuries in time. It was given a face-lift 50 years after its resurrection of 1932 to correct earlier mistakes which had come to light with the availability of new sources of information. These were provided firstly from the discovery of the water colour paintings produced for Clusius' books, which had been rediscovered in a Krachow library in 1974 and secondly from the Herbal of Antoni Gayman. He had been an apothecary in Leiden and, circa 1650, had illustrated his work from plants collected in Clusius' garden, including such beauties as tulips, fritillaries and peonies. Three parts of his Herbal had been donated to Leiden Herbarium Library by Los Angeles. The plants all had names Clusius used and were thus an enormous help in giving more accurate identification. The reconstructed garden was re-opened on 1 May 1990; I was able to admire the various original-style garden features which had been added: a trellis, conical supports for plants and a central Pavilion, amongst others. The only original part now missing is the famous Ambulacrum.

OLD AGE

Clusius lived in his house on St. Peter's Canal. He was there for 16 years, looked after by the widow of the former Rector of the Latin School. In old age we find him quietly busy with his writing and other projects, his intellect as sharp as ever. His personality emerges as incredibly calm, a man who enjoyed peace of mind. He was conscientious, liked routine and remained a bachelor all his life. That he sometimes suffered melancholic moods is revealed in his letters, which were written in a clear precise hand. He showed consideration to his many friends, who came from every walk of life and respected his knowledge and many and rare qualities. He was not troubled by thoughts of death but welcomed it when the time came, as one who believed in God and the Resurrection. He died on 4 April 1609, at the age of 83 and was buried in Our Lady's Church (Onze Lievevrouwekerk) in Leiden.

CONCLUSION

Clusius founded his botany on personal observation rather than classical authority. None of his predecessors or contemporaries give such exact descriptions of species and

particulars of their locality and habitat. He used the reproductive system of plants to classify them. He studied the colour and number of stamens etc. and paid attention to pollen in the large flowers of fritillaries and tulips. This had scarcely been noticed previously. His nomenclature approached the binominal in its simplicity, providing the ground work for Linnaeus' elaboration in the eighteenth century. Clusius often cultivated plants in his own garden in order to become better acquainted with them and before attempting a description. He was also in the right place at the right time, as all important botanical books were being produced in the Low Countries at the end of the 16th and at the beginning of the 17th centuries. They were printed by the all-important Plantin House of Antwerp, which guaranteed their wide distribution. In all the countries where these books were read a passion for the cultivation of garden plants and the pursuit of the beautiful, rather than the purely useful, was soon felt.

From my research I have concluded, along with Hunger, that Clusius was not only moved by scientific curiosity when he first looked at plants, but also appraised their aesthetic qualities; and by drawing attention to these improved the joy of living for everyone.

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The Works of Clusius.

I also wish to acknowledge help given by the Herbarium Library, Leiden, and University of Leiden.

RHS JOINT ROCK GARDEN PLANT COMMITTEE

Recommendations made at SRGC Shows in 1997

Dunblane - 22 February
Awards to Plants

Award of Merit

To *Corydalis* maracandica as a hardy flowering plant for exhibition, exhibited by Cyril Lafong, 3 Colinton Court, Glenrothes, Fife

Certificate of Preliminary Commendation

To *Dionysia* hybrid MK8809/2 as a hardy plant for exhibition,exhibited by Cyril Lafong

To *Galanthus plicatus* 'Sybil Roberta' as a hardy flowering plant for for exhibition, exhibited by Evelyn Stevens, The Linns, Sheriffmuir, Dunblane

Edinburgh & Midlothian - 22 March
Awards to Plants

Preliminary Commendation

To *Narcissus atlanticus* as a hardy flowering plant for exhibition by Fred Hunt, 34 Morris Place, Invergowrie, Dundee

To *Galanthus plicatus* ssp. b*yzantinus* 'Sophie North' as a hardy flowering plant for exhibition, exhibited by Evelyn Stevens

To *Pulsatilla halleri* ssp. *rhodopea* as a hardy flowering plant for exhibition, exhibited by Alan Furness, St. Luke's Cottage, Wooley, Hexham

Awards to Exhibitors

Certificate of Cultural Commendation

To Sandy Leven, 2 Leighton Court, Dunblane for a pan of *Primula allionii* 'Snowflake', exhibited by Sandy Leven

To Brian Davidson, Carngrove, Borelandwood, Gatehouse of Fleet for a pan of *Soldanella alpina*, exhibited by Brian Davidson

To Ian & Margaret Young, 63 Craigton Road, Aberdeen for a pan of *Raoulia eximia*, exhibited by Mr & Mrs Young

To Alan Furness for a pan of *Oxytropis multiceps* , exhibited by Alan Furness

Award of Garden Merit

Narcissus minor 'Douglasbank' was recommended for further assessment as a candidate for an AGM, exhibited by Sandy Leven

Perth - 19 April

Awards to Exhibitors

Certificate of Cultural Commendation

To Fred Hunt for a pan of *Anemonella thalictroides* 'Oscar Schoaf', exhibited by Fred Hunt

Aberdeen - 17 May

Awards to Plants

First Class Certificate

To Cyril Lafong for a pan of *Lewisia* 'George Henley', exhibited by Cyril Lafong

Award of Garden Merit

Phyllliopsis 'Coppelia' was recommended for further assessment as a candidate for an AGM, exhibited by Cyril Lafong

THE SCOTTISH ROCK GARDEN CLUB

DISCUSSION WEEKEND 1998
Friday 9th - Sunday 11th October at the Stakis Tree Tops Hotel, Springfield Road, Aberdeen, AB9 2QH

Friday 9th October

16.00 Registration
19.45 Evening lectures:
Bob Wallis "Ottoman Treasures" and
Rannveig Wallis, The Small Bulb Talk "Autumn Show"
Followed by the Bulb Exchange and fringe slides

Saturday 10th October

08.00 Registration
09.00 - 12.00 Workshops
12.00 Show opens
14.00 The WILLIAM BUCHANAN Memorial Lecture:
An Afternoon with Fred Case featuring
" The Trilliums of North America"
until 16.30
20.00 Informal Supper
Followed by A Diversion and The Plant Auction

Sunday 11th October

09.00 Registration
09.30 1st Morning Lecture:
Keith Lever "Selection and Serendipity"
11.15 2nd Morning Lecture:
Will McLewin "The Genus Hellebore"
14.30 The HAROLD ESSLEMONT Lecture:
Chris Grey Wilson " 20 Years of Exciting Plants from Western China "

Trade Stands, Book Stall, the Autumn Show, swimming pool sauna, gym, solarium and whirlpool spa
For costs and booking details see the Booking Form in this issue of The Secretaries Page

Fig. 93 *Ranunculus parnassifolius* (p.368) Kees van Zwienen

Fig. 94 Indrasun and Deo Tibba (p.377) Henry Taylor

Fig. 95 *Primula elatior* (p.365) Kees van Zwienen

Fig. 96 *Galanthus* 'The Linns' (p.373) Evelyn Stevens

Fig. 97 *Galanthus* 'Sybil Roberta' (p.371) Evelyn Stevens

Fig. 98 *Iris milesii* (p.384) Henry Taylor

ALPINE PLANTS IN THE CANTABRIAN MOUNTAINS

by Kees Jan van Zwienen

I visited the Cantabrian Mountains in northern Spain in June 1997 with some support from SRGC and AGS for which I am very grateful. I will give information about the growing conditions of those alpine species that are likely to be of interest to alpine enthusiasts, and I will point out their gardening potential. I hope it will be helpful for people who would like to visit these mountains and add a little to the understanding of these alpine plants.

The Cantabrian Mountains run along the length of Spain's Atlantic shore. The area that I will discuss here is the area north and south of the Puerto de San Glorio. The Puerto de San Glorio provides easy access to this interesting mountain area while the village of Potes is an ideal base for exploring this area and is also a very suitable base for explorations in the nearby Picos de Europa. The Puerto de San Glorio area is situated just south of the three limestone massifs that form the Picos de Europa. The Cantabrian Mountains are from a geological point of view very different from the Picos, and, as a result, there is a very different type of vegetation indeed. The area around the Puerto de San Glorio consists almost exclusively of acid rock, but there are a few limestone outcrops on the north side of the pass. South of the pass I did not find limestone at all.

NORTH OF THE PURTO DE SAN GLORIO

From Potes, the Puerto de San Glorio is easy to reach by car. At the summit of the pass (1603 m) you can turn right along a small road which climbs in about two kilometres to another pass, the Collado de Liesba (1679 m). This is the start of the walk, and if the weather is clear, you will have a very good view from here of the Picos de Europa to the north. You can follow the ridge to the west and walk up to the Coriscao (2236 m). There is not a well marked path, and sometimes there is no path at all, but as long as there is no fog, orientation is easy. During the first part of this walk the

vegetation is a dwarf shrub community, dominated by *Cytisus, Genista* and *Erica arborea*, all in flower. Long past flowering was *Erythronium dens-canis*, which grows here in between the shrubs.

If you follow the ridge you will climb steadily and when you are almost half way there are some limestone outcrops to be found. Those are well worth exploring, and one of the first we found was dominated by *Erodium petraeum* ssp. *glandulosum*. This grows typically in rock crevices and can form large dense cushions. The petals are violet and the upper two have a very dark basal blotch. It is a very beautiful plant, well worth growing and, contrary to my preconception that erodiums are Mediterranean plants, a true alpine. Cultivation should be straightforward in a sunny well drained spot. Growing on the same limestone rocks here but in much smaller numbers was *Aster alpinus*. It was only 5 cm tall.

Further along the ridge there were more limestone rocks breaking through the surface and on one large rock we found a splendid specimen (more than 25 cm in diameter) of *Saxifraga exarata* in full flower. The flowering stems were up to 7 cm high carrying about six flowers; the petals were good sized and pale yellow. *Saxifraga exarata* is a very reliable rock garden plant, but there are some forms of it around in cultivation that are hardly worth growing. I have grown for almost ten years a form with greenish minute petals, not really worth valuable garden space. It is one of those plants that you should buy in flower. Growing on the same rock as the saxifrage was *Chaenorrhinum origanifolium*, a nice relative of *Linaria*. Also on the limestone rocks grows *Androsace villosa;* this widespread species is quite common on limestone. It is one of the most straightforward androsaces in the open, and definitely well worth growing. The flowers fade from white with a yellow eye to a good pink with a red eye.

On the top of a steep north facing slope of the ridge, in some limestone debris, *Matthiola fruticulosa* was found in good purple pink forms, showing just a little colour variation (later I found a yellow form of it in the Picos). Good forms are worth growing, but this species seems to be rare in cultivation. *Pulsatilla alpina* (Fig.91 p.341) was very common, on this north-facing slope, making a fantastic display. It was represented here by an excellent form with the outside of the flowers better flushed with blue, than I have seen elsewhere in Europe. *Anemone pavonina*, a small look-alike of *P. alpina,* was found on a more disturbed part near the top of this slope. It is an endemic species of the Cantabrian Mountains

and the Picos de Europa, and has for the last two years been offered by at least one alpine nursery in southwest Scotland.

In a hollow on the ridge grows a dwarf form of *Fritillaria pyrenaica.* It is only 10-15 cm tall, and, surprisingly for those people who have seen this fritillary in the Pyrenees, (where it grows on lime-rich soils), it grows in an acid meadow along with for instance *Calluna vulgaris*. In this meadow it was quite common, growing say every two metres, but always represented by a single plant only. This seems to indicate that this form might be difficult to bulk up in cultivation. Needless to say, this dwarf form has a lot of potential for the alpine or bulb enthusiast. *Ranunculus amplexicaulis* was growing in the same meadow as the fritillary, and is one of the many alpine *Ranunculus* species that would be very nice to grow, but is seldom seen in cultivation. Also in acid soil, on a north facing meadow of short grass was *Androsace cantabrica* in flower. This is an endemic species, very local in distribution. It is a '*carnea*' type, intermediate between *A. laggeri* and *A. halleri*; the latter two are better known as subspecies of what used to be *A. carnea.* You must look hard to see the differences, it looks superficially just like an ordinary '*carnea*', 5-7 cm high with about six flowers to a stem. This species was offered by at least one Scottish nursery last year. I hope that it will be established readily in cultivation, because it is rare in the wild. I only found about 20 plants on two locations along this ridge. Maybe it was overlooked, sometimes because the flowers were usually past their best, and might have been out of flower on other locations (Margaret and Henry Taylor have reported this species also from the south of the pass, near Pena Prieta, where I did not find it).

In another north-facing situation, a steep meadow just under a limestone cliff of the ridge it was clear that the snow had melted only recently. The grass was still yellow, but there was a very fine display of *Primula elatior* (Fig. 95 p.360). Most plants were in flower, but different stages of development were clearly visible. The fact that this species was still in flower clearly demonstrates the effect that snow has on the length of the growing season in alpine habitats. This primula is, of course, widely cultivated, and is really an excellent garden plant. I found most of the interesting plant species on this ridge in north-facing conditions; one of the reasons must have been that the season is less advanced there, and snow melts later. Not far from the *Primula elatior* habitat I found

some good plants of *Gentiana verna*, which was at its peak in this north-facing situation, but had almost finished flowering in other situations. On the limestone rocks of the ridge itself, grow *Saxifraga paniculata* and *Globularia repens*, both not yet in flower but the heavily lime-encrusted saxifrage rosettes made a nice contrast with the dark green leaves of the *Globularia* where the two species met. Another nice plant on these limestone rocks was *Draba dedeana*. The garden value of this white flowering draba is beyond doubt, but it is not easy to receive the real thing from seed exchanges. The seeds usually develop into one of the weedy *Draba* species. It is also variable and the form we later found in the Picos seems to be better than the form at this location. By now we have reached an altitude of about 2000 m, and the last steep climb goes over a lime-free very rocky meadow to the Coriscao. *Teesdaliopsis conferta* grows here in some quantity. This little known monotypic genus is closely related to *Iberis*. It is confined to the mountains of northern Portugal and Spain, and is quite common on acid stony habitats from about 1800 m upwards on both sides of the Puerto de San Glorio. It forms low dense mats of glaucous leaves, up to 15 cm across, with white *Iberis*-like flowers on 10 cm stems. This is another worthwhile plant to grow which hopefully will be available by alpine nurseries in future. There are no spectacular plants to be found on the summit of the Coriscao (2236 m), but if you have good weather there are spectacular views of the Picos de Europa to the north and the Cantabrian Mountains with some high peaks to the south. Just west of the summit there is again some limestone on the surface, and in between a large mat of *Silene acaulis* was *Androsace villosa.* Those species really prefer almost exactly the same habitats, and the same phenomenon was later seen in the Picos. Not far from these two species was the very interesting *Saxifraga conifera.* This saxifrage forms summer resting buds. It has up to seven white flowers to a stem. It is endemic to the mountains of northern Spain.

If you descend southwest for a few hundred metres to a path, you can return to the Collado de Liesba by an easier route than the ridge, and you can find a few fine new plants as well. In the south-facing stony meadows of Coriscao grows *Geranium cinereum* in an attractive form.There are also a few small screes on this south facing slope, where it also grows along with a nice thistle, *Carduus carlinoides.* This thistle grows about 15 cm tall with nice grey-silvery leaves and pink flowers. It seems to be a nice plant to grow

on the rock garden, although, being a thistle, it might be too invasive. You can follow the path in an easterly direction. On a limestone outcrop we found *Saxifraga canaliculata,* which is an attractive mossy saxifrage. It forms large mats and, on average, about eight white flowers on 10 cm stems. It was just starting to flower. The path mainly stays below the ridge, and goes through the south facing slopes. Along the way there are a few small shale screes, which consist of acid rock. *Vitaliana primuliflora* was common in one of those screes, and a *Dianthus* sp. that formed dense cushions with small pink flowers was also present in this scree. In some other shale screes *Sempervivum cantabricum,* another endemic species was quite common. This really is one of the most attractive *Sempervivum* species I know with very densely hairy leaves. No cultivars seem able to beat it. The last part back goes through the same dwarf shrub community where we started this walk.

SOUTH OF THE PUERTO DE SAN GLORIO

On the opposite side of the pass is an area of high alpine terrain, dominated by the Pena Prieta (2575m). From the car park at the summit of the pass you can follow a path in a southerly direction, that goes through a gap in cliffs reaching a valley, which you can follow to the east. After passing a shepherd's hut you can turn south and reach the top of a ridge (El Boqueron de Bobias). On the south-facing rocky terrain of the ridge *Teesdaliopsis conferta* occurs. Sometimes it grows directly on the rocks.

South of the ridge is another valley which leads up to the Pena Prieta, making the short descent from the ridge to the valley floor where we found *Narcissus asturiensis* in seed. There is a good path and a stream following the valley floor which climbs steadily starting at 1800 m. After a few kilometres, the path stops at an altitude of about 2000 m. You can easily follow the valley floor or the stream which flows through it. The valley climbs quite steeply in the direction of Pena Prieta, and in a vegetation of short grass *Narcissus bulbocodium* was found. Most were out of flower, but even at the end of June there were a few still in fine condition. Also in flower in this part of the valley was *Ranunculus pyrenaeus*; *Pinguicula grandiflora* is very common in moister places near streams. It is probably the showiest of all the hardy species of this insectivorous genus, and is easy to propagate vegetatively by growing on the many side buds it forms. On the opposite side of the

moisture spectrum, in dry stony habitats, *Teesdaliopsis conferta* is very common again.

Further progress in the direction of Pena Prieta was prevented because of bad weather. On the way back we followed for some time the south facing slopes of the valley, soon reaching one of the large screes. Immediately recognisable were the huge leaves of *Ranunculus parnassifolius*; not much later it became apparent that the whole scree was populated by hundreds of plants, mostly in flower. The *Ranunculus parnassifolius* in this scree were all of an excellent form, the 'red' *Ranunculus* reported in the past by Ron McBeath and Margaret and Henry Taylor from this area. The plants look very vigorous, and have large leaves. The flowers are carried on stems up to 15 cm high, but usually lower (the flowering stems seem to elongate as they age). The large flowers (Fig. 93 p.359) are very heavily veined with red on the outside, to such an extent that they really are red. The inside of the flowers doesn't look much different from the famous 'Nuria Form' from the Col de Nuria region in the Pyrenees, and is white with some veination. As far as I know this red form of *R. parnassifolius* is not in cultivation, but certainly belongs to the most attractive alpine *Ranunculus* species in the world. In my opinion it is in the same category of outstanding beauty as *R. buchananii* and *R. semiverticillatus* from the southern hemisphere. This plant is definitely well adapted to screes and can survive where other species fail to grow. This particular scree was very mobile and deep and consisted of stones of varying sizes, but mostly around 5 cm in diameter. The only other plant in this scree was a small yellow flowered *Linaria* sp. In the next scree on this slope, which seemed to be identical in all aspects, the *R. parnassifolius* did not grow although the *Linaria* did. The weather by now had become really cold, and after a quick photo-session on the Ranunculus we returned to the Puerto de San Glorio.

Apart from being botanically rich, this part of the Cantabrian mountains is still relatively undisturbed by tourism. It is disappointing that some of the most special plants mentioned in this article are not or only rarely cultivated. The special forms of, in particular, *Ranunculus parnassifolius* and *Fritillaria pyrenaica* that almost completely replace the usual forms in this area, deserve to be carefully introduced and cultivated.

POETRY CORNER

We received two poems in response to our request for a suitable plant to be Scotland's National Emblem.

The first which was sent in by "a very envious Sassenach" extols the virtues of meconopsis:

When Viguier named the poppy
The spelling went amiss
As Scotland's National Emblem
It should be *Maconopsis*

(*The author went on to say that in researching this stanza, McGonagall was essential reading; it became obvious that, as the blue poppy grows just as well in Ireland, a counter claim could be made for it to be Ireland's National Emblem and named Mic(k)onopsis*)

The second from Jean Postill of Beverley, E. Yorks simply extols the heather:

Scottish heather is the thing
Appearing most of all
To be that special kind of plant
That holds us all in thrall

When garden grown and cossetted
A mist of many colours
A lovely sight for one and all
A sight above most others.

But best of all on fell and moor
Its lovely purple colour
Is Scotland's glory evermore
Its emblem — there's no other

ANNUAL GENERAL MEETING

The Annual General Meeting will be held at the Battleby Conference Centre, Redgorton, Perth on Saturday 7 November 1998 at 2.00 pm.

Nominations are required for the President, the Executive Office-Bearers and four ordinary members of Council to serve for three years. All Executive Office-Bearers retire annually but are eligible for re-election.
Nominations, in writing and seconded by another Club member or members, should be lodged with the Club Secretary not later than 15 May 1998. The nominator must ascertain that the nominee is willing to serve if elected.
The following have served for three years as ordinary members and are not eligible for re-election to Council for one year:
Dr. C. Jones, Mr. C. Lafong and Dr. E. Stevens

G. Lee, Secretary
Old Schoolhouse, Hazelrigg, Chatton
Alnwick, Northumberland NE66 5SA

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TWO MORE SNOWDROPS, GALANTHUS 'SYBIL ROBERTA' AND G. 'THE LINNS'

by Evelyn Stevens

I love my snowdrops. They bravely appear when, for the most part, the garden is still in the midst of winter. Even excluding the autumn-flowering *Galanthus reginae-olgae*, by growing a range of species and cultivars one can have snowdrops coming into flower over a period of two months or more, thus giving a long period of interest and delight. This is especially valued if one lives in central Scotland at high elevation (213m) when spring comes several weeks later than in more favoured climes.

My snowdrops have given me extra pleasure recently as I have been fortunate to discover that I have three different ones distinct and fine enough to merit being named. One, *Galanthus plicatus* ssp. *byzantinus* 'Sophie North', I found growing under a hedge in the garden of an early 20th century house we purchased in 1973 (see The Rock Garden, Vol XXV, 1997, p.147 and which, by the way, received a Preliminary Commendation from the Joint Rock Garden Plant Committee at Edinburgh in March 1997). The second I received as a gift, and the third appears to have arisen de novo in our present garden. All three are vigorous good-doers so we have each in sufficient numbers to make quite an impact in the garden.

'SYBIL ROBERTA'

'Sybil Roberta' (Fig. 97 p.361) is a fine double hybrid of *G. plicatus* which was awarded a Preliminary Commendation by the JRGP Committee in Dunblane in February 1997. It was given to me as an unnamed double *G. plicatus* within the last ten years by Margaret and Henry Taylor: they have since checked their records and discovered that they were given it in 1973 by Jim Sutherland of Inverness. Jim thinks that it was probably given to him by Colonel Campbell of the Black Isle in the late 1960s. Several years ago I gave it to Jim Jermyn of Edrom Nurseries and he subsequently took it to the Early Spring Show at Vincent Square, London. There it

was spotted by Matthew Bishop who contacted me in early 1996 for more details and expressing his view, and that of other galanthophiles down south, that it should be named. In response I named it in memory of my mother who had recently died.

(Note: For a short while, in early 1996, I distributed a number of plants as 'Sheriffmuir', before finally deciding to name it 'Sybil Roberta' after my mother.)

Description

'Sybil Roberta' is a tall and graceful snowdrop. The maximum height of the leaves above soil level and after flowering is about 40 cm and at the peak of flowering up to about 30 cm. On cool days when the outer tepals are not fully expanded, but instead tend to embrace the central mass of inner tepals, a patch of this plant gives the impression of a sea of small dancing globules above the foliage. Viewed from below, the dancing analogy is repeated as the rows of neatly packaged inner tepals are reminiscent of a white-edged ballet skirt. When the flowers are fully expanded in sunshine, with the outer tepals standing out horizontally, the effect is more butterfly-like.

The linear leaves (1.5 cm wide), two per bulb, are of medium substance, mid green in colour and with a heavily glaucous bloom. They are slightly arching and semi-erect and lack a prominent mid-rib. In most instances they are turned under about 2 mm from the edges but, in some, one edge is flat. The scape rises well above the semi-arching leaves. The lower part of the pedicel is near vertical, then towards the top it leans outward at an angle of about 30°, finally turning sharply downward, thus dangling the flowers out from the vertical axis. The spathe is not very broad and is shorter than the pedicel. Along with the form of the flowers, all of these features help to create the dancing impression. With regard to the flowers, the ovary is not a prominent feature being small and narrowly cone-shaped. The outer tepals (2.5 x 1.5 cm) are not particularly substantial, fairly shallowly spoon-shaped and are somewhat tapered toward the base, thus revealing much of the mass of inner tepals. The general effect given by the mass of inner tepals, apart from the apical marking on the outer surface, is a pale green colour, this reflecting the green markings on the inner surfaces. This contrasts with the pure whiteness of the outer tepals. In common with other double snowdrops, some of the flowers bear aberrant inner tepals, while others have less than the maximum

possible number. These features are not constant as I have found that plants which are less than fully double and/or have aberrant tepals in one year may be fully and neatly double the following year. That aside, however, a large proportion of flowers have a full complement of about 15 very neatly packed tepals, 1.2-1.5 cm long and slightly less in width. Each tepal has a V-shaped notch, 2 mm deep. On the outer surface, a mid to dark green marking occupies about one third of the area, this being sharply-defined around the outer edge (giving rise to the white edged ballet skirt effect) and more diffuse proximally. In some flowers the green marking occurs over most of the outer surface. I have yet to establish whether this variation is 'fixed' for a particular plant. The inner surface of the inner tepals is totally green, except for longitudinal thin white lines and a white area along either side and the sharply defined white margin at the apical end. 'Sybil Roberta' is a fairly early snowdrop. Amongst my collection it flowers after ordinary *G. nivalis, G. nivalis* 'Sandersii' and 'Fred's Giant'. It flowers at about the same time as 'Atkinsii', and a week or so before 'Sophie North' and 'S. Arnott': then comes 'Lady Elphinstone' followed by *G. ikariae latifolius* and then, latest of all, the third snowdrop to be named by myself, 'The Linns' which is at peak flowering when others such as the common snowdrop, 'Sybil Roberta', and 'Atkinsii' are rapidly fading. It is also still in good shape when *G. ikariae latifolius* has faded and at the same time as *Narcissus* 'Tête-a-tête', for example, is in full bloom.

'THE LINNS'

'The Linns' (Fig.96 p.361) is a bit of a mystery. I became aware of it a number of years ago, but have no recollection of having acquired it from anyone else or from anywhere else. Surprisingly, it appears to have arisen de novo in this newly created garden (started in 1984) remote from any other gardens. If, however, anyone thinks they recognise it I would be glad to hear from them.

Description

Like 'Sybil Roberta' and 'Sophie North', 'The Linns', is a vigorous and distinctive snowdrop. It is quite tall (maximum leaf-length after flowering is about 30 cm and at peak of flowering about 20-27 cm), and it is erect in overall appearance, due to the nearly upright leaves (1-1.4 cm wide) and the stiffly erect scape

and pedicel. Furthermore, the flower at the top of the shortish pedicel (2-3 cm) is at such a sharp angle such that it faces downwards at an angle of 45° Even at the peak of flowering, the flowers are held only slightly (2-4 cm) above the foliage.

The linear leaves, two per bulb, are of good substance and they are flat as in *G. nivalis*: maybe there is just a hint of curving under at the edges. They are mid-green in colour,somewhat shiny on the outer surface, and dull mid-green below. The mid-rib is not prominent. The flowers are a good size and have a rather dumpy, yet handsome appearance. The dumpiness is due to a number of features. The spathe is substantial with thick outer edges and it arches over the ovary. The length of the spathe equals that of the pedicel plus the length of the ovary. The ovary is prominent being dark green and near to spherical (8 mm x 6 mm). The inner tepals are substantial in texture, are broad at the base where they attach to the ovary, broad relative to their length (1.3-1.4 cm x 1.5-1.6 cm) and they flare outwards slightly from the base of the large ovary, with the result that the cup has a wide-open appearance. The apical notch is fairly shallow and there is a broad (2-3 mm), sharply delineated and fairly dark green apical mark. The inner surface of the inner tepals has well defined green and white stripes. The dumpy appearance is further accentuated by the outer tepals. These are of good substance and are relatively short, being not quite twice the length of the inner tepals. When fully opened the outer tepals appear widely spread to reveal the full width of the inner tepals.

The two snowdrops described in this article and also 'Sophie North' had, until recently, only been distributed by myself as gifts. However, as they are so distinctive, attractive and such 'good-doers', I am glad that they are now becoming available from a few alpine nurseries.

The sale of 'Sophie North' snowdrops for Breakthrough Breast Cancer has brought in £955.Thanks to all those who supported the appeal.

NEW FLOWERS IN THE N.W. HIMALAYA

MARGARET AND HENRY TAYLOR

Come with us on our recent trip to India. Good weather and fourteen keen pairs of eyes discovered many new plants.

JALOH

On the grand trunk road leading north from Delhi towards the mountains, we congratulate ourselves on having that great rarity, a cautious Indian bus driver. Each time our bus peters to a stop, we leap out to encourage it with a push start. Truth dawns, this bus does not enjoy the best of health. After covering 110 km (half our projected journey) in seven hours, we cruelly abandon it on the Slushy Berm (fortunately Indian road signs are in English) and pile into two small jeeps. Luggage and folk cram on top of each other prompting plenty of happy joking. Jolting over the potholes gradually we seem to fall silent. Daylight wears on and we cheer ourselves by imagining photos of the sun setting over our objective, the Rajah's palace recently converted into a hotel. Rain sets in. After twice bumping across a shallow river bed in the dark, I become attached to the view over the tailboard of the jeep — being car-sick. A friend sitting beside the driver tells me I am lucky, he can see our driver stamping on non-existent brakes whenever we meet a vehicle or cow with no lights. As there is no MOT in India, lights and brakes are optional extras adding a spice of adventure to nightime travel.

Next day there is no problem, on a good bus we reach Manali at 2000 m in the centre of the mountains, ready to stretch our legs up the Manalsu Nal. At around 2300 m our lily expert is thrilled by hundreds of *Lilium polyphyllum* nicely scented in shades of white to deep rose and spotted rose to purple. This lily clearing in the spruce forest is on a steep fertile slope occasionally frequented by blundering cattle which knock over stems. A horizontal *Cardiocrinum giganteum* has turned its top 50 cm upright to pose perfectly for a photo. There is attractive deep pink veining on the inside of the flowers. *Cautleya spicata* is a new find resembling a

yellow roscoea but with a rhizome smelling strongly of ginger.

BY GYPSY (LOCAL JEEP) UP THE ROHTANG LA 3980 m

Our first stop at 2550m is to look for seed on *Primula sessilis*, here growing at its upper limit (Fig.101 p.380) and thus probably hardier than from its original low altitude introduction. By the way, Manali at 2000 m gets around two metres of snow in winter, as this northern end of the Himalaya is much colder than the more southerly regions often favoured by flower people. *P. sessilis* flowers very early in spring and seeds prolifically around on its dripping wet cliff, but in July when we visit, seed capsules are hard to find. A little higher at the start of the old walking track there are lots of purple *Roscoea alpina* in the turf, with an occasional pure white one.

The bridge below Marhi has always been a good stopping point; in a moist shady area where the snow is not long gone, among *Primula denticulata* and *P. macrophylla* we find a pink primula relative, *Cortusa brotheri*. Amid bright blue *Polemonium himalayanum* in tall ungrazed herbage, someone spots *Fritillaria roylei*. Once we get our eye in we see lots of the green bells with their brown chequering. Then in turf on top of a huge rock, well out of reach of sheep or goats, we find the crowning glory a group of splendid *Cypripedium himalaicum*.This stands about 20 cm tall with a deep rose pouch and cream upper petals veined with pink. Also in this area there is a particularly good dwarf form of *Rhododendron lepidotum* with large flat cerise coloured flowers on a plant only 15 cm tall. From flowering plants we can collect old dry 'empty' seed capsules which actually yield good viable seed.

TREKKING ADVENTURE

After a day exploring above the summit of the road, testing our fitness at altitude, we leave Manali to go trekking. With Prem and his men, our longstanding friends, we motor over the Rohtang La and down into the dryer rain-shadow Lahul region. We are met by ponies at the road end ready to carry our camping gear and food (including 300 eggs) over a high walking pass, the Hampta Jot. Actually we take a week plant hunting and making our way on foot back to Manali.

Dropped by our vehicle at our first camp site at 3350 m we are well fed by Panchok, then scatter in all directions to explore. Close to our tents in coarse gravel there is an attractive but puzzling pale

yellow crucifer later identified from a pressed specimen as *Chorispora macropoda*. On steep turfy banks there is the lovely blue 15 cm *Geranium regelii*. This makes an excellent garden plant for a sunny situation although it can be double the height in cultivation.

Next morning we set off in a cold drizzle (on the dry side of the mountains !), but as the rain clears, our subdued party cheers up on seeing an area of *Androsace sempervivoides* in all shades of pale to deep pink. We walk on to camp near *Primula rosea* in ripe seed. Exploring a hillside above our tents we meet a family of herb gatherers. The main plant they are collecting is called Kurru in Hindi which forms part of our Latin name *Picrorhiza kurrooa*. The root is dug then dried and fetches good money in Delhi for use in herbal medicine. We show our Hindi family our 'Flowers of the Himalaya' — cries of delight from the children when they recognise some of the flower pictures.

A rest day here at 3800 m produces *Primula macrophylla moorcroftiana* also a few white *P. minutissima* amongst thousands of the standard pink. Plants of *Paraquilegia anemonoides* are spotted high on a cliff above camp and a few woolly *Waldheimia tomentosa* are seen in bud beside a stream but not a single open flower.

Next morning 'Bed Tea' is at 5.30 am, as we need an early start to climb over the top of the Hampta Jot at 4270 m. Bir Singh and Shamshir take turns with the ice axe to cut footholds up the steep snow. We are in luck with sunshine all day, not the usual mist and drizzle between 10am and 4pm. There are brilliant views of snow-covered 6000 m Indrasun and Deo Tibba (Fig.94 p.359).

In the short turf around the summit of the Hampta where the snow has recently melted there are extensive patches of *Primula reptans* with quite a variation in flower colour and size of white eye. It is jolly difficult to tell which are pin-eyed and which thrum as stamens and stigma are well down inside the slightly hairy flower tube; you have to tear the flower open to be sure. Nearby on rather crumbly cliff ledges there are little cushions of the pink highly desirable (but ungrowable?) *Arenaria glanduligera*.

Exploring above the pass we approach 4600 m to find another difficult one *Saussurea gossypiphora* (Fig.102 p.381) which looks like a ball of cotton wool on top of dark green spiky leaves. Here also we find *Pleurospermum candollei*, usually with showy white bracts but just occasionally in pink, an attractive umbellifer which

should be quite amenable to cultivation. Next there is a fantastic purple blue 13 cm primula with an unusual widely flaring brown calyx. We have never seen a plant like it, but I deduce from the book that it may be *Primula elliptica* (Illustration on Front Cover). "Nonsense" says a knowledgeable friend, "I grow *P. elliptica* and it is nothing like this". We nearly come to blows. A month later an 'Authority' examines our pressed specimen and pronounces *P. elliptica.* Our 'friend' reluctantly concedes that his plant could be an imposter even though it derived from a good Seed Exchange.

While we excitedly photograph flowers and views our ponies pass. We follow trudging over snow and ice, then spot our tents already erected below. But what are those specks of blue on the cliffs to our right? Our fleetfooted 70 year old lady flits up the rocks "Yes it's *Paraquilegia anemonoides*". Here, scattered all around are large old plants growing in good fertile soil in rock crevices. This is sandstone rock, a quartz matrix with some minor feldspar and dark mica, no calcite, not calcareous as conventionally associated with paraquilegia, (a little piece of rock was brought back and studied by a geologist friend).

' REST DAY'

When camp is not being moved on it gives a rest for guides and ponies, but our plant hunters dread a 'rest day'; it can be exceptionally strenuous. Above our 3800 m camp site an enticing hillside promises lots of possibilities. On cliffs at the start of the climb we nod to the rather insignificant Snowdon Lily, *Lloydia serotina.* The turf we scramble up is full of blue and white *Anemone obtusiloba*, *Potentilla atrosanguinea* in shades of yellow and red, and the bright pink *Pedicularis siphonantha.* Also there is a plant looking very like a European Scented Orchid which turns out to be the equally scented *Satyrium nepalense.*

Now 400 m above our camp we meet a real beauty, *Lloydia longiscapa.* This grows on steep rich turf not on rock crevices like *L. serotina. L. longiscapa* has white, purple-streaked flowers with an attractive orange centre inside the bell. The dowdy greenish-white *Swertia petiolata* grows alongside.

Light mists come and go all day but we decide to split our group to cover even more ground. Those who climb highest find neat white cushions of *Arenaria festucoides*, more paraquilegia and

Fig. 99 *Cypripedium himalaicum* (p.383) Henry Taylor

Fig. 100 *Androsace muscoidea* (p.383) Henry Taylor

Fig. 101 *Primula sessilis* (p.376) Henry Taylor

Fig. 102 *Saussurea gossypiphora* (p.377) Henry Taylor

Fig. 103 *Potentilla biflora* (p.385) Henry Taylor

Fig. 104 *Saxifraga lychnitis* (p.385) Henry Taylor

Fig. 105 *Arenaria glanduligera* (p.377) Henry Taylor

Gaultheria trichophylla. A few plants of *Saxifraga* pulvinaria with small white fading flowers are seen high up on a cliff.

The other group makes two especially exciting finds. First a gorgeous clump of the pink *Cypripedium himalaicum* (Fig.99 p.379), previously seen on the Rohtang, but here on a rather more dangerous slope. Dangerous for its angle and because the plant grows near the entrance to a dark muddy cave.

BALU

Bare patches of soil with freshly dug herbage and claw marks are spotted, could there be a bear nearby? I (Margaret) declare that Henry will never believe that is bear, he will say that the scratch marks have been caused by a herb-gatherer's tool. "What about this then?" says the discoverer, pointing to a large pile of fresh animal droppings. Before retreating, this proof is collected in a poly bag to be later revealed to Henry and our guides at camp. After tea our 'naturalist' armed with his specimen and tape recorder confronts Henry and Prem. Roars of hilarity. "Yes sir, that is bear. Shepherd is coming summer up valley. Day, bear sleeping in rocks and night time, some shepherd-dog is very lazy, no good, bear looking chance take away sheep, make a picnic".

ONWARD AND DOWNWARD

Next morning we pass a steep bank covered with *Androsace muscoidea* (Fig.100 p.380) scenting the air with honey. This dusky pink androsace has very short stems carrying two to four flowers in a head over silky silver leaves. The wonderful blue *Corydalis cashmeriana* is around here but usually only solitary stems, not growing in big clumps as in cultivation.

Where the valley widens there are shingle beds in the river full of good plants, including sheets of pink *Androsace sempervivoides* dotted with *Leontopodium himalayanum*. The yellow, on the water's edge is supplied by hundreds of *Corydalis thyrsiflora*, while in drier areas there are pale yellow balloons of *Pedicularis bicornuta*.

CHAI SHOP

Branches of rhododendron supply fuel for our chai. Tea, sugar, cardamon and milk are stirred together in a large pot to make a very reviving brew. Nearby there is a smouldering fire in a pit with a roof of rhododendron branches on which is spread the fat tap roots

of a jurinea being dried for later sale as Doop (incense).

A few of us climb the hillside to the source of the firewood, a thicket of 2 m tall *Rhododendron campanulatum*, long past flowering but with attractive rust coloured indumentum under the leaves. Again we find good seed in the old dry open seed pods of the previous year. In the damp shade of a rock the snowy white flowers of *Saxifraga sibirica* resemble the British *S. granulata.* A large turf-covered boulder has a colony of *Androsace sarmentosa*, the true species, which is straggly and hardly garden worthy. The much better plant cultivated in Britain under this name should now be called *A. studiosorum* which is found wild in the drier rain-shadow regions a little further north of the Hampta.

INTO THE TREES AT PANDAROPA

Within the spruce forest wherever there are moist clearings, *Iris milesii* (Fig.98 p.362) can form large spreading patches, usually with poor thin-petalled flowers. But one of our group locates a most gorgeous form with broad lilac petals mottled with purple. The much less desirable plant around here is *Typhonium diversifolium.* We notice the powerful smell of rotten meat long before seeing the sinister dark velvet spathes of this aroid.

ROHTANG N.E. RIDGE

When we get back to Manali in late July after our trek, we take a last taxi ride up the Rohtang La before heading off to Delhi and home. The sloping roof-like N.E. ridge above the summit of the pass is exceptionally good for alpines and as we have explored this area several times, some detail could be of help to future visitors. A couple of soil samples in this rich alpine zone give an average pH 5.0, organic matter 12%, nitrate 17mg/l, P 2mg/l (very low) and K 86mg/l (moderate).

Drive past the stone marking the summit of the Rohtang La and continue one kilometre along the flat top towards Lahul, stopping just before the road begins to dip downwards. At this point a few steps can often take you out of the mist of the S.W. slope into the sunshine of the dry rainshadow region. If you are lucky and strike good weather, walk 200 m over streams and boggy ground towards the ridge. But beware, good weather can be short-lived here in July so be prepared for a rapid change with strong winds blasting snow and rain across the mountains.

The short turf is studded with the monocarpic *Gentiana*

marginata, Lagotis cashmeriana, Potentilla microphylla and *Primula minutissima.* Boggy areas are a sea of lilac *Primula macrophylla moorcroftiana* and shocking pink *P. rosea.*

Among the tumbled boulders under the southern eaves of the ridge there are large patches of the showy blue *Trigonotis rotundifolia* and a lush fern *Athyrium wallichianum.* Cracks in mossy boulders have two yellow cushion saxifrages, *S. saginoides* and the more broad-petalled *S. jacquemontii.* Damp ground between the rocks is a home for *Primula reptans.*

Now walk up the steep grassy slope to get onto the roof of the ridge. This is carpeted with cream *Rhododendron anthopogon hypenanthum* interspersed with *Cassiope fastigiata* and *Gaultheria tricophylla.* Hollows further up have squat yellow heads of *Corydalis meifolia* which has very intricately cut leaves and the sunflower-like *Doronicum falconeri.* In the shade of boulders, *Primula elliptica* grows alongside more *P .reptans.*

Near the southern end of the ridge there are hundreds of large cushions of *Androsace delavayi* growing both in turf and in rock crevices; this could be the most westerly site for this androsace. On a little higher to reach small silvery cushions of a very dwarf version of *Androsace muscoidea* with completely sessile pink flowers. In a gravelly area we come on a most exciting find, *Saxifraga lychnitis* (Fig.104 p.382). This has nodding golden flowers with a puffy maroon calyx and a leaf cushion of hairy deep green red-edged rosettes. *Gentiana tubiflora* is a splendid small perennial dotting the turf, but take a photo quickly before a cloud crosses the sun causing the flowers to close and disappear.

Cross to the high northern edge of the ridge to see *Paraquilegia anemonoides* on shady cliffs and boulders. Rocky hummocks have wonderful cushions of *Potentilla biflora* with large sessile yellow flowers. This marvellous plant would be worth trying in cultivation. Around 4000 m at the limit of our exploration, stopped by snow and lack of time, there is *Arenaria glanduligera, Saussurea gossypiphora, Pleurospermum candollei* and the puffy pink *Pedicularis rhinanthoides.*

Each time we explore this ridge more exciting plants appear, so given clear conditions how many more are still to be found? Perhaps another time.

COMES TOURIST— GO US FRIEND (Roadsign)

THE GENTIAN PUZZLE

What's the problem ? It flowers so easily : or does it ?

by Alastair McKelvie

For over 60 years the pages of the SRGC Journal and the AGS Bulletin have frequently bemoaned the problems of flowering *Gentiana acaulis* (Fig.110 p.417). Now I know that the very name *acaulis* starts furious arguments from those who, like Sampson Clay the author of 'The Present Day Rock Garden', felt that "only the tourist or garden tyro speaks of *Gentiana acaulis*" to those who, like the authors of 'The Plantfinder', feel that it is a perfectly good species in its own right. Flora Europaea probably gets it right by regarding it as a group name for a range of geographical forms.

Be that as it may, I propose to examine the problems of flowering *G. acaulis* by regarding it as group name for a range of species covering such things as *alpina, angustifolia, clusii, dinarica* and *kochiana* which, by and large, have fairly similar flowering problems, although you will be told by 'experts' that certain species flower much better than others.

In recent years the subject has been somewhat in abeyance but, talking to rock gardeners, particularly beginners, I find that many people still find it a problem to attain regular profuse flowering. Even old hands in the business can still find it difficult although those who are successful don't see what all the fuss is about.

> I searched all the back numbers of the SRGC Journal and the AGS Bulletin to see whether the answer can be found within their pages

The first thing I found was what an incredible number of factors have been considered important; all successful people seem to have their own particular formula to which they attribute the continuing and prolific flowering of their plants.

EARLY FINDINGS

In 1939, following several articles in the AGS Bulletin, Sampson Clay wrote "If you happen to be one of those blessed by

the gods whose garden flowers *Gentiana acaulis,* (notice that here he uses the epithet he despises), will you write describing your soil, situation, methods of cultivation and giving your opinion as to why you are successful?" Figs.109 &110 on p.417 show the difference in appearance between flowering and non-flowering plants.

From the many replies he received, Sampson Clay concluded "it is almost impossible to fix on any one single circumstance or environment or treatment as being essential for flower production, or as definitely and always inimical".

SOIL

Various people have claimed success on light, heavy, sandy, clay or peaty soils. Equally all these categories of soil have been blamed at one time or another for failure.

Away back in 1934, in probably the most exhaustive series of experiments using different soils, G. H. Berry (the author of the book on Gentians) made up 51 soil mixtures and grew *G. acaulis* plants in them in pots for 10 years. His sad conclusion was that there was little or no flowering in any of these 51 mixtures.

However, after 10 years he turfed all the plants out into his garden when they promptly started to flower. Perhaps the only thing that experiment proved was that *G. acaulis* plants don't like growing in pots, which many people would have said was self-evident. But what about all those award winning pans of gentians at shows?

LIME

There have always been protagonists of the use of lime to promote flowering and, equally, those who feel that lime is anathema. I particularly liked the conclusion of Horne who in 1939, on the advice of a friend, added limestone chippings to his non-flowering plants at the end of June and then had masses of flower buds visible six weeks later followed shortly after by flowers. He admitted that it could have been co-incidence but he didn't think so. On the other hand it is difficult to think that the lime chippings could have had such an immediate effect.

DIVISION

Some folk say that the secret of good flowering is regular division; others say that the plant needs to form a matted clump. Certainly in the experiment mentioned above by Berry, the plants

had formed a tangled mass of thongs by the time they flowered.

With so many good gardeners achieving success with regular splitting and an equal number doing so without splitting it does not seem that this factor alone is crucial.

WATER

The literature is full of contrasting opinions as to whether plants should have plenty of water at all times and those who advocate a drier regime. Again there seems to be no clear cut advice to give on this topic.

SUN

This is yet another factor where opinion is sharply divided between those who favour a bit of shade and those who advocate full sun. In his summary in the AGS Bulletin, Sampson Clay pointed out that although he could flower it well in the shade of a hedge, other people obtained greater flowering in full sun.

CLIMATE

To my mind, one of the most clear-cut and fascinating experiments in this whole saga was carried out in 1938 by Lt.-Col. J. R. Wood of Roslin near Edinburgh at an altitude of 150 m. He could flower *G. acaulis* in any kind of soil mix at Roslin but he understood that The Royal Botanic Garden in Edinburgh, down near sea level, had great problems in achieving good flowering. So, early in 1938 he potted up two 8-inch pots with the gentian, keeping one and giving the other to the RBG. In 1939 his plants flowered well but the ones at the RBG failed to flower at all. So he swapped the pots round, bringing the RBG pot to Roslin and vice versa. In 1940 his pot at Roslin again flowered well but the RBG pot again failed to perform.

He went on to say that "with the assistance of the RBG, a firther series of experiments is being carried out, starting from the Botanic end this time, the object being to confirm or confute these experiments".

I can find nothing about the results of this proposed experiment and would be grateful if anyone who knows anything about what happened would contact me. It is likely that the 1939-45 War put an end to it but it would be fascinating to know what happened if anything. Wood's conclusions from his short experiment were that the main factor was the purer and cleaner air

at Roslin compared to the RBG.

G.H. Berry in his book on gentians concluded that the chief factor in flowering of *Gentiana acaulis* was simply the weather but there do not seem to have been any proper experiments to prove the point. In any case, to correlate any biological phenomena with weather is an almost impossible task.

BACTERIA

In the 1930's there was a great deal of interest in soil bacteria and mycorrhizal fungi. Claims were made that soil extracts from sites where the gentian flowered well induced flowering at non-flowering sites. Indeed, Fisher away back in 1933 in the AGS Bulletin claimed that " . . . now that the bacteria necessary in the soil for the successful flowering of *Gentiana acaulis* has been discovered . . . . one may envisage the day when the culture will be available from the laboratory in a convenient formula for introducing into gentian beds".

Unfortunately no more seems to have been heard of this wonderful technique.

FERTILISER

There have been very mixed results from the use of fertilisers to promote flowering. In his summary, Sampson Clay reckoned there was no good evidence about the value of fertilisers except that potassium was quite helpful, as it is with many plants.

BIRDS

It is well known that birds live on choice alpines. Several people suggested that birds removed all the flowering buds of the gentian. One person even complained that his chickens damaged the plants and prevented flowering. But, overall, there was no good evidence that bird damage was a major factor in poor flowering.

MOVING TO FRESH GROUND

Opinion varies as to whether moving plants to fresh ground helps flowering. The general view seems to be that if *Gentiana acaulis* doesn't flower for you, moving it to a fresh bit of the graden won't help. French in 1939 propounded that "in a garden in which they won't flower, they just won't, whatever soil you give them. In a garden where they will flower they will do so in any part of it and in any soil". However, Will Ingwersen in his book

'Alpines' (John Murray 1991) recalls a drive flanked by the gentian. One side of the drive never produced a flower while the other side was a mass of blue every year. Aspect and soils were identical. He concluded, after years of trial and error, that if *G. acaulis* does not flower, move it round the garden a yard at a time and you will almost certainly find a position of which it approves.

So, who do you believe?

BUDS

One theory is that flower buds are often formed but fail to open because vegetative growth takes over. The theory is that a hard climate is better for flowering of the gentian because plants flower before growth begins. In mild areas flower buds become smaller and shrivel away. This is, in a way, analogous to plants such as pleiones which, if given too much water early in the season, produce leaves at the expense of the already formed flower buds. Successful flowering depends on keeping the pseudobulbs dry.

Berry postulated that the wrong kind of weather can induce plants to begin new leaf growth or go blind. He argued that gentian plants on higher ground should do better, as Lt.-Col. Wood found at Roslin.

GENETIC

It seems fairly well documented that gentian cultivars differ greatly in their floriferousness and also that species related to *acaulis* such as *clusii, dinarica* and *kochiana,* may flower well in places where *acaulis* doesn't. So, if you can't get your gentian to flower, try a different cultivar or related species.

CONCLUSION

In the light of all the above conflicting evidence, I can only re-iterate what Sampson Clay said away back in 1939 that it is almost impossible to fix on any single circumstance or environment or treatment as being essential to flower production, or definitely and always inimical.

Or as Berry concluded . . . "the chief factor in the flowering of *Gentiana acaulis* is simply the weather." Which, of course, is the classical answer given by every expert who is unable to diagnose what is wrong with a plant.

SHOW REPORTS

MORECAMBE - 15 March

There is always an air of expectancy about the Morecambe Show which was run this year under SRGC Rules. It is the first competitive show of the SRGC Show year and was attended this year by the usual stalwarts. Although the weather was no better than expected for March, the welcome from members attending the Show was as warm as ever.

The benches were less well filled than usual and this reflects another difficult winter, some of the usual plants being over and others still not ready for the Show. The quality of those on show was, however, still as high as ever.

The Forrest Medal for the best plant in the Show went to *Pulsatilla* 'Budapest Seedling', a plant in immaculate condition, shown by F. P. Grimshaw of Harrogate. The Hollett Trophy for most points in the Open Section, was won by Geoff Rollinson, who managed, in spite of the weather, to muster a stunning collection of plants in pristine condition.

The Michael Roberts Memorial Trophy for the exhibitor with the most points in Section B was awarded to V.Hancock of Grimsby. Section C is open to members who have not won an AGS Bronze merit medal or more than 10 first prizes in either Society's Shows. The Reginald Kaye trophy for this section was won by Peter Bland.

The Kirby Cup for the best foliage plant in the Show went to J. B. Saxton of Sutton in Ash for *Pinus parviflora* .The SRGC Bronze medal for the exhibitor with most points in Section 2 (B in AGS terms) went to V. Hancock.

Due to the many meritorious plants which were worth more than just the First Prize for their Class, five Certificates of Merit were given to Robert Rolfe for *Fritillaria aurea*, to F. P. Grimshaw for *Primula allionii* 'Mary Berry', to J. R. Dixon for *Dionysia viscidula*, to B. D. Davidson for *Soldanella alpina* and to D. Peace for *Androsace delavayi*. Gold Awards were given to S. Cumbus and to J. Leedal for their Photographic Displays.

At these Shows, there are always many plants which catch the eye, but have failed to catch the judges' eyes on the day and this Show had its share of such plants. They will no doubt return another year when their impact will be just that bit greater.

EDINBURGH - 22 March

Due to the imminent refurbishment of the Church Halls at Fairmilehead, the Show date was exchanged with Stirling and was therefore two weeks earlier than originally scheduled. This did not detract from the overall standard of exhibits, although some classes were less well represented than usual.

The six pan Class in Section I was won by Fred Hunt with *Narcissus atlanticus* (white flowered with small neat cups), *Tecophilaea cyanocrocus* and primulas *P. allionii* (56/32 KRW), *P* x 'Joan Hughes',

P. x 'Miniera' and *P. pubescens* 'Alba'. The Henry Archibald Rose Bowl (for three plants of different genera) was also won by Fred with *Fritillaria pudica* 'Richard Britten Form', *T. cyanocrocus* and a particularly fine *Pulsatilla* x 'Budapest', which in addition received a Certificate of Merit.

The Reid Rose Bowl for the highest number of points was won by Cyril Lafong who took home three other trophies: The Elsie Harvey Memorial Trophy (for plants new, rare or difficult in cultivation) with *Sebaea thomsonii* CRD 992A, *Alkanna aucherana*, with tiny blue forget-me-not like flowers and the delicate *Iris pamphylica*; The A.O. Curle Memorial Trophy (for three distinct plants, raised from seed by the exhibitor) with beautifully presented cushions of *Dionysia aretiodes*, *Haastia pulvinaris* and *Raoulia mammilaris*; The R.E. Cooper Bhutan Drinking Cup (for the best Asiatic Primula) with *P. aureata* ssp. *fimbriata.*

The K.C. Corsair Challenge Trophy (for the best European or American Primula) was awarded to Alan Furness for *P. marginata* 'Shipton Variety', this plant was also given a Certificate of Merit. Another fine plant shown by Alan was *Oxytropis multiceps*, a cushion with crimped lilac, sessile flowers; it too received a Certificate of Merit.

Amongst other noteable plants was *Shortia* x 'Leona' (*S .uniflora* x *galaciflora*) with strong pink flowers and bronze-green, glossy foliage. It was also given a Certificate of Merit. Carole and Ian Bainbridge exhibited *Synthyris pinnatifida lanuginosa*, a striking plant with royal blue flowers contrasted against pale grey, pubescent foliage.

The Henry Tod Carnethy Quaich (for best bulb, corm or tuber) was won by Bob Maxwell with an excellent, well flowered pan of the hybrid dwarf daffodil *Narcissus mesatlanticus* x *romieuxii* SF 151. This exhibit was considered the best in Show and was awarded The George Forrest Memorial Medal.

Two new snowdrop cultivars were shown by Evelyn Stevens; *Galanthus* 'The Linns', tall and large flowered, and 'Sophie North' with broad petals of good substance and distinctive green markings on short stems.

The Kilbryde Cup (for an arrangement of cut flowers and foliage) was won by Christine Thomson. The Boonslie Cup (for a miniature garden) was awarded to Ian McNaughton. Following the current trend, *Corydalis* and *Fritillaria* were represented by numerous good plants.

In Section II, Mrs K. Rimmer's six pan entry was nicely presented and William and James Wright's *Tulipa puchella* 'Lilliput', with neat blood red flowers on short stems looked ideal for a small rock garden. These exhibitors shared the prize for the highest number of points accummulated. The Midlothian Bowl (for the best plant in this Section) was given to Jane and Allan Thomson for a large, well flowered specimen of *P. marginata* 'Pritchard's Variety', it was also awarded a Certificate of Merit. The Special Prize of £10, for the best presentation by a first time exhibitor, was won by Jean Lothian for her miniature garden.

Ian McNaughton

STIRLING - 5 April

In the spring of 1997 the magnificent comet Hale-Bopp lit up the night sky. Comets are thought by some to herald special events; the 1997 show was indeed special. We were treated to an Aladdin's cave of rock plants. For the first time the show was held on the first weekend in April and this later date slightly changed the character of the show. There were fewer *Primula allionii* but many more fritillaries and saxifrages.

The Forrest Medal and the Ben Ledi Trophy, for the Best European plant in the show, were awarded to Fred and Monica Carrie's magnificent *Pulsatilla vernalis*, surely one of the finest specimens of this species ever to grace a SRGC show — over 40 stems of white, blue backed flowers over a dome of deep green leaves, all in perfect condition. The judges' choice was by no means easy as several superb plants challenged for the medal, including Fred and Monica's own *Primula minima* and *Saxifraga porophyllum thessalica* which were both awarded Certificates of Merit as were *Ranunculus* 'Molten Gold' exhibited by Cyril Lafong, *Tecophilaea cyanocrocus* exhibited by Fred Hunt, *Trillium rivale* exhibited by Ian and Margaret Young; *Cassiope* 'Muirhead' and *Calanthe bicolor* both exhibited by Elizabeth and Ron Smart.

Connoisseurs of plants and addresses will see that SRGC members from the Aberdeen area almost made a clean sweep of the top honours at this year's show. Perhaps we should have moved the show north for them.

For the first time at Stirling a SRGC Professional Medal Card was awarded to a tremendous plant of *Erythronium tuolumnense* in Edrom Nursery's fine exhibit of alpine plants. The Institute of Quarrying Quaich for the best non-European plant went to Fred Hunt's *Tecophilaea cyanocrocus*. Ian and Margaret Young took the Spiller Trophy for Best Primula with their immaculate white *P.* 'Aire Mist', one of the most floriferous of the new hybrids. The Carnegie Dunfermline Trust Trophy for the most points in Section I was awarded to Cyril Lafong. Notable amongst his entries were the quite spectacular x *Phylliopsis* 'Sprite', an ericaceous shrub covered with large pink bells and *Sebaea thomasii* which looked like a chrome-yellow *Gentiana verna*. I had not seen this plant before; it is a superb addition to the show bench. Andrew Radley took the Fife County Trophy for most points in section II. There were 44 pans in the Fritillaria classes, notable amongst which were the various forms of *F. hermonis amana* and *F. sewerzowii*, the rare orange *F. edwardii*, dark *F. lanceolata tristulis* and yellow *F. aurea.*

Special mention must be made of some primula hybrids. Margaret and Henry Taylor's *P.carniolica* x *allionii* had large pale purple flowers with a touch of pink. Ray Fairbairn's *P. griffithii* x *pulchra* had rich purple flowers with a green/yellow eye- Ray Phillip's *P.* 'Nightlight' which appeared to be a *marginata* x *auricula* cross with flowers like a large *P. scotica* over nice auricula leaves. These plants deserve to be

propagated and grown more widely. Brian Davidson exhibited a beautiful pan of a pale pink *Soldanella minima* and Bette Ivey has mastered *Anemonella thalictroides*. While the classes for flowering plants seem to dominate the show the discerning eye found treasures among Harvey Shepherd's and Bob Meechen's sempervivums and sedums. I particularly liked *Sempervivum heuffelii* 'Tuxedo' with its large white lined rosettes and nothing can fascinate more than the perfect *S. arachnoideum* forms. How do the plants spin these webs?

There were eight different pleione species and hybrids including three different clones of 'Shantung'. It is always interesting to compare different clones of the same cross and to see how the same plant can vary depending upon who grows it and how it is grown. Scintillating primulas and sumptuous pleiones complemented sinister fritillaries and feathery Fumariaceae.

The whole spectrum of rock garden plants gathered on the benches to welcome Hale-Bopp. Was it the mild winter, the later date or had our exhibitors reached to the stars for inspiration? Skilled growers all, these generous exhibitors brought a galaxy of treasures to Stirling's Albert Hall 1000 days before the year 2000.

Sandy Leven

NORTHUMBERLAND - 12 April

A magnificent 25-year old specimenof *Daphne petraea grandiflora* shwon by Eric Watson won the Farrer Medal and prevented the Scottish exhibitors from carrying all before them at the 1997 Show.

Fred Hunt swept through Section I, winning the R. B. Cooke Plate with such plants as *Anemonella* 'Oscar Schoaff', *Fritllaria messanensis, F. whittalii, F. hermonis amana, F. tubiformis, F. michailovskyi, F. conica* and *Primula* 'White Linda Pope' to mention but a few. In addition at the Show he took his wins total to over 50 so winning his AGS Gold Merit Medal. Small wonder that he headed back north the next day with a hangover.

Other Scottish winners in the Open sections included Fred Carrie with a fine *Saxifraga porophylla thessalica* (syn. *Sempervivum stenophylla*) and a well flowered *Paraqulegia anemonoides*; he was also rewarded with a Certificate of Merit for a large specimen of *Pulsatilla vernalis.* Ian Christie won with *Ranunculus macaulyi* and *Corydalis solida* 'Blushing Girl'. Geoff Rollison, a master of the cushion plant, produced several *Androsace vandellii* in the 19 cm classes, all at their best, while that man of few words Robert Rolfe had several plants to tempt one if they ever came along including *Thalictrum orientale* and a very well flowered *Erythronium multiscapoideum.* He also won the Sandhoe Trophy for the best plant in the 19 cm part of the Open Section with *Daphne petraea grandiflora.*

Classes for Ericaceae were filled with large plants in good condition. Harry Roberts once again demonstrated his skill with a Certificate of Merit for *Ledum palustre procumbens* and a first with *Leucopogon fraseri* being but two examples. Similar awards went to K*almia*

polifolia compacta alba (Ivor Bettridge) and *Arcterica nana* (Alan Furness). Show Secretary, Alan Newton, found time to win with *Orchis purpurea* and his assistant, Ian Kidman, exhibited a new *Dionysia mira* x *teucrioides* in the hybrid class. The Eric Watson Trophy for one plant new or rare, was shared between Ray Fairburn (*Androsace yargongensis*) and Alan Furness (*Eritrichium howardii*).

Entries in Sections II and III were down on previous years. Mrs D. Hinchcliffe, Huddersfield, won the Gordon Harrison Cup for the most first points total in II with plants such as *Rhododendron* 'Egret', an *Anchusa cespitosa* with many flowers of a good blue and *Androsace sarmentosa yunnanense*. Mr D. Macdonald of Whickham won the Cyril Barnes Trophy in III with plants which included *Cassiope* 'Beatrice Lilley'. Other plants which stood out in II and III were *Cyclamen repandum* ssp. *peloponnesiacum* (Certificate of Merit, Mr P. Brown), *Fritillaria whittallii* (Dr. R. Paton) and *Cassiope mertensiana gracilis* (Mr. & Mrs. A. T. Sutherland). Lesley Laws kept the Northumberland Cup in Stocksfield with a first win at a Show.

Over the years Robert Rolfe has introduced new epimediums to the show bench and at Hexham there were several plants on show including *E. davidii, E. leptorrhizum* with *E. kaguyhime* being the latest to be seen — it is to be hoped that more of these fine plants will reach the show benches in due course. Some large pans of *Narcissus* 'Hawera' (Barry McWilliam) were much admired while plants such as *Eriogonum caespitosum* (L. Brown) and *Anisotome imbricata imbricata* (Eric Watson) were two of the day's hard luck stories.

George Young

PERTH - 19 April

This was the first year in which the show's venue was the Bells' Sports Centre in Perth. The new venue was roomy and has an advantage in terms of floor area over the Rodney Pavilion, which has now become a fitness centre.

The George Forrest Memorial Medal was won by Cyril Lafong of Glenrothes with a superb clump of a light flowered translucent specimen of *Jeffersonia dubia*. Cyril was also the winner of the Joyce Halley Award with the unusual *Alkana siehana* and the L.C. Middleton Challenge Trophy for most points gained in Section I as well as the R.S. Masterton Trophy for Best Asiatic Primula, a *Primula* sp. Sphondylia Section.

Anne and Viv Chambers were the winners of the E.H.M. Cox Trophy for the best dwarf rhododendron, with Rhododendron x 'Crane' while the Alexander Caird Trophy and the Bulb Trophy were taken by Ian and Margaret Young. The superb specimens of *Trillium rivale* and *Daphne petraea* exhibited by the Youngs also gained Certificates of Merit

The Major-General D. M. Murray-Lyon Trophy for the best plant exhibited by a member from Tayside Region was taken by Fred Hunt of Invergowrie with a *Trillium decumbens* whilst Ian Christie of Westmuir

won the Dundas Quaich. In Class 36, Bob Meaden was awarded a Certificate of Merit and first prize with a majestic *Iris iberica* ssp. *elegantissima* which bore three enormous deep chestnut and cream flower heads. It was good to see such a well grown specimen of this challenging plant.

Other notable plants on display included a *Meconopsis punicea* in half a barrel bearing more than 20 flower heads and a superb specimen of *Arisaema sikokianum* exhibited by Fred Hunt.

Ian Scott brought along a display of the less frequently exhibited *Primulas* such as *Primula bella* ACE 2145, *Primula gemmifera* Cox 6017, *Primula reptans*, *Primula miyabeana*, *Primula florida*, and *Primula brevicula* KGB 118.

In section II the Bronze Medal was awarded to Graeme Butler of Menstrie. He also won the Diamond Jubilee Award with *Iris pumila* 'Aurea', *Haberlea rhodopensis*, *Daphne petraea* "Grandiflora", *Dryas octopetala*, Border Auricula 'Barnhaven Double' and *Primula* x 'Wharfedale Bluebell'.

The junior section was once again well supported. Helen Scott won the Georgina Blackwood Memorial Trophy for the best junior entry with *Lewisia cotyledon* 'Alba', second was David Scott with *Lewisia cotyledon* ''Sunset Strain Select', while third was Mark Tosh with *Primula* 'Snow Cushion'. Robert Scott won class 87 (junior plant raised from seed) with a nice specimen of *Pinguicula grandiflora.*

Cathy Caudwell

GLASGOW – 3 May

Minimalism. That's the word. And I'm not just referring to the vertically challenged nature of our plants. At the heart of most gardening is the tendency to pare to the bone, to strip away the extraneous hopefully by mimicking nature itself. Hence . . .rock gardens as stony outcrops, peat gardens as windswept moors, troughs as the miniature embodiment of a Tom Thumb landscape. And plants in pots; they aim to refine the form, to idealise the nature and character of the plant.

Step forward *Silene hookeri bolanderi* courtesy Cyril Lafong. Normally this North American plant is seen as a straggly uninspiring specimen but here Cyril managed to produce a tight hemisphaerical plant covered in large white flowers with splayed petals. Quite magnificent. Catching the same spirit was an outstanding pan of *Pinguicula grandiflora* from Maureen and Brian Wilson. The massing of numerous rosettes with their 10 cm tall violet/blue flowers, all at peak condition, top-dressed in sphagnum moss, eschewed any charge of uniformity but, rather, became greater than the sum of its parts. Rightly the Wilsons were awarded the Forrest Medal for this marvellous plant.

Cushions, of course, exemplify this natural adaptation and there were wonderful examples of the genre on show: *Haastia pulvinaris* and *Androsace villose taurica* (Carole and Ian Bainbridge), *Dionysia involucrata* in shades of pink (Edith Armistead, Bob Meaden),

Androsace pubescens (Cyril Lafong), the rock hard *Gypsophila aretioides* (Sandy Leven, Fred Hunt.) My favourite, though, was another plant from Cyril Lafong. . . the New Zealand *Myosotis uniflorus*, a soft dark silvery green bun covered in small white flowers. (yellow in bud).

Bulbs? I suppose what's looked for are clean, plain lines and known cultivation difficulties overcome. Fritillaries epitomise this rudimentary indentikit of an alpine bulb. Bob Maxwell's *F. glaucoviridis* showed a pale green elegance, Fred Hunt's *F. affinis* a darker, vertical note to offset his other pans in the six pan class, Margaret and Henry Taylor's *F. lusitanica* along similar aristocratic lines. Elsewhere, other bulbs included the fairy delicacy of *Leucojum nicaaense* (Fred Hunt), *Tulipa batalinii* (Edith Armistead), the bright yellow *Erythronium tuolumnense* (Bob Maxwell) and the downright beautifully bizarre *Arisaema nepenthoides* (Anne and Viv Chambers).

The roll call of honour was dominated by Cyril Lafong who only arrived on the exhibition scene two or three years ago (a bit like Athena springing fully armed form the head of Zeus). His wonderful collection of plants won him the Crawford Silver Challenge Cup (most points), the Ian Donald Trophy (best Scottish native - *Primula vulgaris)*, the Charles M. Simpson Trophy (Best orchid - *Aceras anthropophorum*), the William C. Buchanan Cup (3 pans, new, rare difficult) and the Diamond Jubilee Class (6 small pans).

Fred Hunt's entry of 6 large pans took the Buchanan Memorial Rose Bowl and included *Clematis marmoraria* and *Cyclamen repandum peloponnnesiacum* forma *peloponnesiacum* which is a lovely pink, though less hardy, variant of the type. The Taylors took the Archibald Rose Bowl for 3 pans, rock plants. They also won two Certificates of Merit for *Androsace studiosorum* 'Doksa' and *Ranunculus parnassifolius* 'Nuria', appropriately two plants they have been instrumental in bringing into cultivation. Peter Barton gained the James A. Wilson Trophy (most points Section II) and a special prize for best plant from a first time exhibitor with an excellent *Centaurea pindicola.*

John Lee

ABERDEEN – 17 May

One of the interesting things about going to the later shows is that plants on the benches are different, near summer-flowerers and every so often something new and unusual jumps up and says "Look at me, this is my show". Aberdeen in 1997 fell into this catgory. The Forrest Medal was won by a superb plant of *Edraianthus serpyllifolia* 'Major', a plant I normally expect to flower well after the show season is over but Fred Hunt managed to bring two terrific plant s to the show. Right next to the Forrest winner sat Jane Machin's lovely *Asyneuma linifolia*, a plant Roman candle, with forty 10 cm spikes of powder blue starrry flowers, all upright, rising from a a mat of 50 x 10 mm straplike leaves. Enough to send you off to the seed box on the sales stalls and find the last packet hiding among the left-over goodies from the Seed Exchange.

(They've even germinated now, so watch the Aberdeen Show in a couple of years.

The other plant which really caught the eye was another late flowerer, *Silene hookeri bolanderi* from the western USA. This appeared on several places on the benches, in two very different forms. There was a big plant in a 30 cm pan , the usual form, with plenty of the big white, deeply cut flowers for which it is admired and for which you forgive it its legginess. The star of the silenes was, however, was a form collected in Trinity County, California by Jim Archibald (J&JA 13503) and exhibited by Cyril Lafong. Much smaller and and probably younger plants formed a loose green cushion, studded with slightly smaller flowers at a density which almost hid the cushions – a real cracker — awarded a Certificate of Merit, and one to look out for, especially if the ooffspring and seedlings retain the character of the parent.

Flower power was also rewarded with Certificates of Merit elsewhere; Ian and Margaret Young's *Tropaeolum azureum* had at least 150 white-centred blue flowers around artistically arranged twigs; Mavis and Noel Kent showed a waterfall of a *Sarmienta repens*, with hundreds of tubular red blooms and Cyril Lafong's *Epimedium grandiflorum nanum* combined neat red-edged leaves with sprays of dozens of dainty white flowers resembling four-pointed jesters' hats. Last but not least, Sandy Leven's *Cypripedium calceolus,* quite striking; even with just a few perfect ladies' slippers.

Three plants, all exhibited by the Taylors on this occasion caught my eye. A dwarf form of *Sisyrinchium jumceum*, only 8-10 cm tall, small and delicate, and interesting to compare with the 30 cm tall plant of the same species on the next bench. Another South American, *Nototriche macleanii*, collected at 4500 m in Peru by David Hale, with typical feathery leaves and tubular, ground-hugging pink flowers so reminiscent of merendera. Finally, who can resist these little meconopsis? A specimen of *Meconopsis lancifolia* KGB 824, sown in 1996 had developed its gorgeous violet disc and golden anthers on a 8 cm stem; simply perfect.

Ian Bainbridge

(SHOW REPORTS CONTINUED ON PAGE 419)

MECONOPSIS X SHELDONII 'Lingholm Strain'

by Evelyn Stevens

It is widely recognised that an important feature distinguishing *M. grandis* from *M.* x *sheldonii* (*M. grandis* x *M .betonicifolia*) is that the latter is sterile, or occasionally produces just a few fertile seeds. If a large blue himalayan poppy is sterile one suspects that hybridisation has occurred (see my previous article in 'The Rock Garden' 1997, Vol 25 p.267). However, an exception to sterility in *M.* x *sheldonii* has fairly recently come to light. James Cobb, in an article in 'The Rock Garden' (1994, Vol.24 p.42) discussed a fertile strain of *M.* x *sheldonii* which "turned up here about ten years ago and reputedly came from a nursery somewhere in England". He also wrote "If anyone knows where this seed first came from I should be fascinated to hear". In the course of my work on *M.* 'Jimmy Bayne' I have, in fact, learnt about the origin of this seed strain from Mike Swift, Head Gardener at Torosay Castle, Isle of Mull. It appears probable that it is currently in cultivation under a number of different names including *M.* x *sheldonii* fertile form, *M. grandis, M.* x *sheldonii* 'Lingholm strain' and *M.* x *sheldonii* 'Blue Ice'. The latter two names are probably the most common and it is these I want to discuss here.

Mike Swift tells the following story. He became Head Gardener at Lingholm Garden, Keswick, Cumbria in 1984, taking over from Mr Harrison. At that time a single sort of meconopsis was grown at Lingholm under the name *M. grandis*.(NAME NUMBER 1) In 1985 it dawned on Mike Swift that this naming might be incorrect, so he decided to investigate. He contacted the man who originally gave the seed to Mr Harrison.This was Dr. Nelson, a retired doctor from Brampton, who told him that he had bought the plant as a named *M.* x *sheldonii* from Hayes Garden Centre, Ambleside in 1970. Unfortunately Dr Nelson was unable to remember what that name was. Each year he had checked the seed pods and found no 'proper' seed, until in 1977 it unexpectedly produced seemingly good seed. A single pod was given to Mr. Harrison and the seed was sown and germinated in early 1978. The

resulting plants subsequently flowered and consistently produced fertile seeds, this also applying to later generations. Mr Harrison assumed they were *M. grandis* and sold them as such in large numbers, to the tune of several thousand per year.

Dr. Nelson's information confirmed Mike Swift's view (based on leaf shape, seed pod shape and general hairiness characteristics) that this was an important discovery — a uniformly fine and fertile strain of *M.* x *sheldonii.* Mike took the precaution of growing it in isolation, far away from other meconopsis that he had brought with him to Lingholm Garden: he changed the name to *M.* x *sheldonii* 'Lingholm Strain' (subsequently to *M.* x *sheldonii* 'Lingholm') (NAME NUMBER 2) and continued to sell it in significant numbers.

Mike Swift also distributed seed widely, e.g. to Inverewe Garden; Bodnant Castle; Kayes of Silverdale (to Mike's knowledge, Kayes had also originally sold the plants as *M. grandis*, subsequently changing the name to *M.* x *sheldonii* 'Lingholm'); Bridgemere Nurseries, Cheshire and Garden Cottage Nursery, Poolewe.

The reason that this single plant should have suddenly produced fertile seed is not known. According to James Cobb it may have been due to a mutation in the parent plant or "maybe a back-cross of some sort". It has also been speculated that fertile seed was produced as a result of it becoming tetraploid (that is having twice the normal number of chromosomes). As cytological investigations have not yet been undertaken there is no evidence for any of these theories. Whether there was more than one fertile seed pod or whether the parent plant continued to produce fertile seed in subsequent years is also not known, and probably now never can be.

I have so far given an account of the introduction of *M.* x *sheldonii* 'Lingholm Strain' as recounted to me by Mike Swift. Quite independently, Fred Carrie of Tough Nursery, Aberdeenshire acquired seed purporting to be *M. grandis* "many years ago". He similarly realised that it was wrongly named and that it was, in fact, a fertile form of *M.* x *sheldonii.* He selected the best plants from which to collect seed. Originally (1994?) he sold them as *M.* x *sheldonii* '*Correnie*' (NAME NUMBER 3) but then in 1995 changed this to the nicely evocative *M.* x *sheldonii* 'Blue Ice' (NAME NUMBER 4). *M.* x *sheldonii* 'Blue Ice' is also now being sold in large numbers (many thousands per year), by Tough

Nursery and others and is now also frequently seen in garden centres.

Plants labelled *M.* x *sheldonii* 'Lingholm Strain', *M.* x *sheldonii* 'Blue Ice' and certain plants still being sold by some nurseries as *M. grandis* (I have myself bought one and seen another of the latter within the last year) are very distinctive. I, along with others, for example, Bill Chudziak, holder of the National Collection of Meconopsis, and David Tattersfield, former Head Gardener at Branklyn Garden, can see no differences between these plants. Mike Swift who has compared his *M.* x *sheldonii* 'Lingholm Strain' with plants of *M.* x *sheldonii* 'Blue Ice' sold by Edrom Nursery cannot distinguish them either. It is concluded that it is difficult to believe that each of these seemingly identical strains could have originated independently: on the other hand there appears to be no proof that this did not happen.

Therefore confusion exists over the naming, but the fact remains that this is a lovely plant. In our garden, I have it growing beside the famed *M.* x *sheldonii* 'Slieve Donard' and I find it hard to decide which is the finest. The flowers are very large and a deep sky blue, and the plants are vigorous and soundly perennial.They are instantly recognisable from the leaves which display a peculiar abnormality in that the leaves are slightly twisted which results in the mid-rib of at least some of them partially breaking half way along their length, this break then resealing. Therefore one observes a slight scar at a point along the mid-rib. Also the apex of the leaves sometimes forms a 'fish-tail', i.e. Y-shaped (this may even be seen in some of the seedlings according to Mike Swift).

I would like to make two further points which I think will be helpful for people growing these plants in their gardens or wishing to acquire seed from the seed exchanges. The seeds are distinctive, being large and rather angular as in *M. grandis* rather than half the size and more rounded as in *M. betonicifolia.* Also it is speculated that it retained its fertility at Lingholm Gardens because it was grown as an isolated colony there, far removed from any other perennial blue poppies. James Cobb believes that if it is grown in gardens in close proximity to other forms, e.g. *M. betonicifolia*, plants raised from seed of successive generations will eventually become sterile: according to Bill Chudziak this has already happened in certain nurseries and gardens.

To me the origin of *M* x *sheldonii* 'Lingholm Strain' seems certain, and it seems probable that the 'Blue Ice' strain also derives

originally from the same source. Therefore, in view of the fact that many of the acknowledged meconopsis experts can see no differences between them these two named seed strains that are both being widely distributed, it would seem desirable if a concensus could be reached and a single name were agreed for them. In terms of priority 'Lingholm Strain' has a good claim: on the other hand 'Blue Ice' is a lovely name for a lovely plant. Maybe a concensus can be reached at the Meconopsis Workshop (see below) if not before.

UPDATE ON WORKSHOP ON PERENNIAL BLUE MECONOPSIS

A Workshop to consider the naming of the various fine clones of perennial blue meconopsis was planned for June 1999 as announced in the last issue of The Rock Garden.

As a result of further research and discussions with other interested people it is now felt that it would be desirable to postpone the Workshop for at least a year to allow more time to get together a comprehensive range of established plants and other material. The revised date and arrangements will be announced in due course. In the meantime we would like to hear from any meconopsis lovers with whom we are not already in contact to see if you would like to be in any way involved with the Workshop.

Dr. Evelyn Stevens, The Linns, Sheriffmuir, Dunblane, Perthshire, FK15 0LP Tel. 01786 822295

Mr. Meryvyn Kessel, West Coast Nurseries, Glengilp Farm, Ardrishaig, Argyll, PA30 8HT Tel. 01546 602091

THE SAFE USE OF GARDEN CHEMICALS

A guide for beginners - - - and for those who think they already know all about it

There are many rock gardeners who, on principle, never use crop protection chemicals but probably most of us, from time to time, use such chemicals in order to deal with a particular weed, pest or disease. In this article, the general term 'pesticide' will be used to cover all types of garden chemicals used for crop protection.

Pesticides are thoroughly tested before being licensed, not only for their efficacy in relation to a garden problem, but also for their toxicity to humans or animals. But they are almost all dangerous if used incorrectly so it is important to read carefully all the instructions on the label and to act accordingly.

PURCHASE

* Ensure that you buy the correct product for the problem. By law, all stores selling pesticides must have staff who have a Certificate of Competency to give advice so there should always be someone on hand who can help you.

* Only buy as much of the product as you are likely to need in the near future and, if available, buy a 'ready to use' product which does not need diluting and can be used as and when needed.

* It is illegal for gardeners to buy, or in any way obtain, products marketed solely for professional growers. It is equally illegal to transfer pesticides from their original containers into bottles (lemonade or otherwise) and give them to other gardeners.

MIXING

* Never mix or dilute pesticides in the kitchen but do it outside on a level path or drive and have a can of clean water at hand for mixing. Do not allow pesticides to enter drains or watercourses.

* Wear gloves when mixing pesticides as it stops your hands from becoming contaminated.

APPLYING PESTICIDES

* Use good equipment which does not leak and wash it out thoroughly after use. Washings should be put on to areas of bare level ground or gravel path away from drains and streams.

* Spray plants to wet them but not to the extent of run-off. Aerosols should be applied from a distance of about 50 cm from the plant, waving the can over it, but not making the plant wet.

* Spray in early morning or late evening when insects and bees are not foraging. Avoid wet and windy weather. Most products tell you how long an interval there should be between spraying and the onset of rain.

* Keep children and animals away from sprayed areas until the pesticide has dried.

* Pellets should be used with caution. The commonest one that rock gardeners are likely to use is the slug pellet. They should be applied sparingly, just one or two spread several inches apart. Never put them in a pile under a slate or flower pot; birds and small animals will find them and be poisoned.

STORAGE

* Pesticides should be stored in a locked cupboard or shed and well out of the reach of children.

* Keep all products in their original packaging and don't use any pesticide which has lost its label.

* Store out of direct sunlight and away from frost.

* Don't store surplus diluted spray unless it is in a ready-to-use pack.

DISPOSAL

* Don't make up more product than you need; use up all diluted sprays at the time of application.

* Don't pour waste pesticide down drains, sinks or ditches. Small amounts of the undiluted product (less than about 125 ml) can be diluted as for use and applied to bare soil or paths, avoiding run-off into drains; be careful because some weed-killers have a residual action so that the ground can not be used for growing plants for some time. If you have larger quantities than 125 ml to dispose of, contact your Local Authority who can advise you as to what to do.

* If the container is not sealed, rinse it at least three times, disposing the washings as mentioned above. It can then be disposed of via the normal domestic waste collection. Empty pesticide containers are not suitable for recycling.

CORRECT USE OF PESTICIDES

Every pesticide lists its recommended uses on the label; it is illegal to use the product for any other crop protection use. This means that if you buy a product for killing weeds on paths and then find, perhaps by chance, that it is excellent for killing slugs, you must not do so. It is really environmentally irresponsible to use peticides for the wrong purpose. This ruling does not apply to the use of non-pesticide products; it is probably all right to use beer as a slug trap or to apply WD-40 around the base of a pot to deter slugs but care should be taken in every case.

WHICH PRODUCTS CAN I USE ?

Only pesticide products which have been approved by the Government are allowed to be sold so you can be sure that anything you buy has been given a seal of approval for a specific purpose.

However, this does not mean that all pesticides on the market are regarded as safe for all time. With regular commercial use of the product it may become apparent that there are some possible health risks associated with it so it is withdrawn from the market. The product is not necessarily unsafe, but there may possibly be a risk.

If a pesticide is withdrawn from the market because it is regarded as possibly unsafe, manufacturers and shops must withdraw it at once from their shelves. Equally it becomes illegal immediately for gardeners to use any of the product they may happen to have on their shelves or even own the product.

A good example of this was the withdrawal in October 1997 on safety grounds of formulations of the chemical, dichlorophen, whioch contain 40 g/l or more of the active ingredient. There are fears that it can cause eye injuries. This chemical is sold to gardeners to kill moss in turf and on paths or algae on irrigation benches. One or two products containing lower concentrations of

dichlorophen will still be on sale. Your best guide as to what you can use is to enquire at your local garden shop.

Pesticides may also be withdrawn from the market by manufacturers, not because of any safety fears, but simply on commercial grounds. In such cases, the product is given a period of two years when it can still be sold and used. After the two years it becomes illegal to use or own it. An example of this was the withdrawal by the manufacturers in October 1995 of the systemic insecticide Bio Longlast and the soil pest insecticide Bio Chlorophos. By October 1997, it became illegal to sell, use or own either of these products.

The problem for gardeners is to know when a product has benn banned. Probably the only way is to read the gardening press or to enquire at garden centres or nurseries and to spread word around gardening friends. There is no simple way to deal with the problem. The booklet listed below: 'Garden chemicals guide' is regularly up-dated and is probably the best source of information.

FURTHER INFORMATION AND ADVICE

Information and advice on the the horticultural, environmental and safety implications of using pesticides can be obtained from:

The Environment Agency (England & Wales), The Scottish Environmental Protection Agency (Scotland) or the Department of the Environment (Northern Ireland).

The Ministries and Departments of Agriculture in England & Wales, Scotland and Northern Ireland.

Local phone numbers are available for the above organisations.

The following leaflets are available from:

The British Agrochemicals Association, 4 Lincoln Court, Lincoln Road, Peterborough PE1 2RP

'Safe and effective use of garden chemicals' (Free for a SAE)

'Safe disposal of garden chemicals' (Free for a SAE)

'Garden chemicals guide' (£3 including postage)

The Health and Safety Executive (HSE Books, PO Box 1999, Sudbury, Suffolk CO10 6FS) produce a leaflet :

'Pesticides - use them safely' (Free for a SAE)

Reader`s Digest New Encyclopedia of Garden Plants & Flowers.
864 pages with 4500+ photographs and illustrations.
Price £29.95 ISBN0276 421914

However specialised an alpine plant enthusiast's interests may be there is always a need for a comprehensive encyclopedia providing information on genera that are not the main subject of that gardener's activities.This book performs that task very well and it is also a hard-to-put-down browsing book supplying information on unfamiliar plants.

Many readers will be familiar with the original version of this book and the reviewer admits to having used the predecessor to this new book for the last twenty years or so. Any concern as to whether the new version would have sacrificed quality of information for the increased number of colour photographs of a larger format than in the original book is unfounded. The increase in both page size and number of pages has resulted in many cases in additional information and photographs, particularly of more recently introduced hybrids. For example the section on Clematis has grown from four and a half to ten pages with a wider selection of blooms illustrated giving a useful survey of the range of colours and types that are available for planting. Major genera are given appropriate attention with for instance rose having twenty eight pages and rhododendron sixteen.

As with the original book there is good coverage of lesser known plants and it will therefore normally provide information on those species that one has not come across before. Rock garden plants are well represented, for example saxifrages occupy four pages. There is a two page summary for the use of rock plants.

With sections at the end of the book on fruit, vegetables, general cultivation, a quick reference coloured flower identifier by season, propagation, pruning and a well laid out section on pests and diseases, it is an ideal present for the new gardener. It would also serve to broaden the mind of any highly specialised alpine grower who perhaps has tended to forget the larger plants that are available as a background to the rows of sinks and raised beds

NK

Trilliums
by Frederick W. and Roberta B. Case
Timber Press
220 pages:78 colour plates
Price £22.50 ISBN 0 88192 3745

If, like me, you have been waiting patiently, wondering why the long-awaited Trillium book had not yet arrived, we now have the answer. The cover photo of perhaps the most desirable trillium, *T. grandiflorum* forma

roseum, growing in its native range of the Blue Ridge Mountains of Virginia, gives a visual indication of the quality of this book. Fred and Roberta Case have put a tremendous amount of effort into this work, passing on to the reader the fruits of their years of field trips, research, experience and cultivation of trilliums.

This readable book first introduces us to trilliums, their history and near relatives, before guiding us through the structure of the plant. Next is a handy section on the biology, from pollination through to seed germination, including growth bud dormancy – all very useful in helping to understand how to propagate these lovely plants. This is followed by cultivation notes, offering many good tips to success. The section on creating trillium hybrids, along with the accompanying colour plate, is mouth-watering in the range of fine cultivars that can be produced.

The remainder, and by far the largest section of the book, deals with all known species (the most recently described was only published in 1996) both North American and Asian.

Each species is described in a very organised and logical manner. The botanical details are very 'gardener-friendly' and with a concise glossary that even I could follow. Perhaps the most interesting section for the gardener is where the Cases provide a wealth of information in the 'comments' section that appears for each species. There are excellent colour photographs, many of plants in the wild and a distribution map of all species is included.

A key of species that includes details of vital features looks so easy to follow that I can hardly wait until spring to try it out and be able at long last to have our trilliums correctly named.

This book is a must for all trillium fanatics and, even if you are not smitten by these plants, will prove a very good read. Beware though, you may well be infected by the happy and knowledgeable enthusiasm that radiates from this work.

JIY

A Pioneering plantsman - A. K. Bulley and the Great Plant Hunters
by Brenda McLean
Published by The Stationery Office, London
180 pages, 32 colour plates plus b/w plates and maps
Price £29 ISBN 011250018 8

This joint venture on 'The Great Plant Collectors' between the Royal Botanic Gardens, Kew, the Royal Botanic Garden, Edinburgh and the Stationery Office has already published one volume on 'Chinese Wilson' and has a further one on 'George Forrest' in preparation.

This second volume in the series, about the life of A. K. Bulley serves to bring to our notice someone who has tended to remain in the background where plant collecting is concerned but who was, by his

financial support for many of the great collectors earlier this century, responsible for much of the wealth of plants, predominantly rhododendrons, that are now in cultivation.

Brenda McLean has produced a most readable account of this great man who was a Liverpool cotton broker who developed a love of plants and paid for collectors such as Forrest, Farrer, Kingdon Ward and Cooper to go out to the Himalaya, as well as supporting the first Mt. Everest expedition in 1921, to bring back plants for his garden at Ness and to support his nursery, Bees Ltd.

The book is thoroughly researched with at least 20 references given in each of the 11 chapters while many original drawings and photographs are included. Not the least interesting part of the book is the transcript of a North Regional radio talk which Bulley gave in 1930 entitled 'The Fascination of Alpines'.

The book is beautifully produced and will make a delightful present for any keen gardener as well as being one which everyone interested in where alpine plants come from should have.

JB

Perennial Ground Covers
by David S. MacKenzie
Published by Timber Press
380pp. 316 colour plates
Price £37.50 ISBN 088192 3680

This is a mammoth book but not perhaps quite what you might expect from the title as the definition of 'ground cover' is extremely wide and, in fact, covers any plant that covers the ground. So you have, as expected, *Vinca major* (periwinkle) but also *Primula japonica* which few of us would think of as a ground cover plant. I don't think that many gardeners in temperate regions are going to welcome *Equisetum* (horse tails) and *Aegopodium podagraria* (ground elder) which are also included (and recommended) in the book.

Being published in the USA, the book concentrates on species suitable for American conditions but information on growing conditions and hardiness make it appropriate for other temperate areas of the world.

Some plant descriptions are a bit odd; *Euryops acraeus* is recommended as a low spreading stoloniferous shrub which may seem rather strange to those of us who grow it. On the other hand, it is fascinating to read details of around 120 cultivars of *Hemerocallis* and to have them recommended as good for stabilising banks and edges of streams and to learn that the only thing they do not tolerate is foot traffic.

If you are looking to choose plants to cover the ground and to suppress weeds this is the book for you but it obviously deals with much more than this. Its price, however, is likely to deter most gardeners. PW

(Continued on p.420)

OBITUARY

James T. Aitken

James (Jimmy) T. Aitken died on 7 May 1997. He had been a member of the Club for more than 30 years. I had known him for almost all of three decades and often enjoyed time spent in his company. He had a special sense of humour which appealed to many but he was also worth listening to when discussing his favourite topic, rock garden plants. He had a great love of them and knew a lot about their little foibles.

He will be remembered by many members for the work he put in while Show Secretary of the Edinburgh Show where he set up and managed some quite comprehensive shows. This he did for seven years from 1977-83. In earlier days he and his wife May were keen competitors and earned awards for their exhibits.

He was enthusiastic about nature and travelled to places such as North America, Europe, China, Japan and South Africa. He was a most accomplished speaker and was much sought after by convenors who invited him to enlarge upon and describe to Club members the terrain and plant communities which gave him so much pleasure. He was fascinated by the exploits of plant collectors and any who heard him applaud the exploits of Farrer, Forrest, Wilson and others were aware of the in-depth research he had made. He could certainly tell a tale.

Jimmy had a small garden at Cramond in Edinburgh which was well stocked with good plants. The plant content in the borders noticeably changed over the years; his collection of dwarf Ericaceae and species and hybrid rhododendrons became one of his prime interests.

Horticulturally he had catholic tastes and for many years was an activ-e member of the Royal Caledonian Horticultural Society and was its President for a time. He did much valuable work for that Society in his capacity of voluntary legal adviser.

Jimmy was a lawyer, a graduate of Glasgow University and for much of his professional life held a senior post with the North of Scotland Hydro-Electric Board. He was also first secretary of the Friends of the Royal Botanic Garden, Edinburgh, an honorary post he held until quite recently.He is survived by his wife May and their family, Joan and Andrew.

Alfred Evans

JOHN B. DUFF

John Duff passed away aged 92 in November 1997. He is survived by his wife Helen. John was an Honorary Vice-President of the SRGC and Convenor of the Perth Group during the 70s and 80s. He served on Council and as Publicity Manager. He was a superb plantsman who grew

the best alpines extraordinarily well. He exhibited marvellous plants at shows and his name will be inscribed on many of our trophies. At the shows he took a keen interest in new exhibitors and their plants. His advice and encouragement spurred us on to enter plants in other shows. He lectured on rock gardening and contributed articles to the Journal. Their garden in Glenfarg was one of the finest in Scotland.

He lived an very interesting life. I was proud to know John and privileged to have been his friend. He will be missed by members far and wide. I fondly remember the last time I saw him – at this year's Perth Show naturally ,where he still took time to examine the plants on the benches.

Sandy Leven

In March 1967 we found ourselves at Eastfield School Hall, Penicuik visiting our first SRGC show. We worked our way down the tables filled with splendid alpines and stopped opposite an impeccable pan labelled *Pulsatilla* 'Budapest'. The plant was indeed a real beauty, the petals seemed to glow with a soft lilac colour; the label read Exhibitor Mr. J B. Duff. We had read in the Journal about his skill and how he had the habit of collecting all the trophies at the shows, so we spent some time discussing the man and his plants. As we did so our way was blocked by a tall man with a military aspect and his wife. They introduced themselves as John and Helen Duff who had been amused by our comments and soon we were invited to their home at Broughty Ferry. So began a strong friendship which lasted 30 years.

At Broughty Ferry we were shown slides of many wonderful plants and were taken on a tour of the garden where John had assembled all his show plants for removal to their new home at Glenfarg. The following year we visited them at Glenfarg and saw the start of the garden which was to become such a showpiece for SRGC groups.

In 1970 we mentioned that we were going to show paintings at the 1971 International Conference at Harrogate and Helen asked if we would show these paintings at the Perth Show. We agreed and in April 1971 began a commitment which has lasted to the present day. Year after year we returned to Glenfarg to stay with the Duffs and to show the latest paintings at the Perth Show. In the early days we knew no one in the SRGC but John soon altered that and we were introduced to all the exhibitors of note and most of the Club officials as well. It was a source of great pleasure to John and Helen when they saw that the paintings which we brought continued to improve each year and they could take much of the credit by giving encouragement each year.In our sitting room we have a painting of the *Pulsatilla* 'Budapest' which John grew so well, and as we look at it we remember the tall figure whom we met at Penicuik 30 years ago.

Lawrence and Lillian Greenwood

Primula sikkimensis v. hopeana
Alastair McKelvie

This is a dwarf version (up to 25 cm tall) of the well known tall *P. sikkimensis* which can reach 50 cm; it grows from Central Nepal eastwards into Bhutan and SE Tibet in the same sort of wet meadows and streams as the type species.

It resembles *P. ioessa* but has rather more serrated leaf margins and a narrow ivory-cream corolla.

The plant illustrated (Fig.106 p.415) was photographed in the garden of Fred Carrie at Tough in Aberdeenshire at an altitude of 300 m and was collected as seed by myself and the late Douglas Macnaughton in Ganesh Himal in Central Nepal in 1992 under the Collectors' Number CC&McK 1022. It grows readily in any good well-drained soil with plenty of organic matter but is unlikely to do well in alkaline soils.

It seems to be quite long-lived; the plant illustrated has been growing in Fred's garden since he planted it out in 1993

It is a beautiful and delicate primula, even more so than the type species, for the front of a border or for the peat bed and is greatly admired when in full flower in May. It is available from Tough Alpine Nursery.

Primula sp. (GOS 134)
Fred Carrie and Alastair McKelvie

One of the problems of going on a seed-collecting expedition to the Himalaya in the autumn is that you don't see many plants such as primulas in flower and are therefore sometimes baffled when confronted just by leaves and a few seed capsules but no flowers. The capsules can give a good indication of which Section of the genus the plant belongs to but that is about all.

On an expedition we made to Gosainkund in Central Nepal in 1995 along with Ian Christie, Sandy England and Ian and Marie Brooker we came across, at the side of the main lake at 4200 m, some plants of what were indubitably *Primula aureata* v. *fimbriata* with viable seed which later germinated to give plants of that species. Nearby, there were some other plants which, judging by their stiff dark green tight rosettes as they entered their winter resting stage, appeared to be *P. deuteronana* which is also recorded for that area. But between these two

species were some small primulas with dark green crinkled leaves like *deuteronana* but with rather more farina and without the typical tight resting bud. In many respects they resembled the plants of *aureata fimbriata* but the leaves were not right for that species.

There was no seed on these plants so we brought back small cuttings from three plants which Fred grew on at Tough. Because we had no name for them, they were labelled 'GOS 134' in accordance with the nomenclature we used for material from the expedition. The cuttings flowered in March 1996 to produce one plant with a dazzling large white flower (Fig.107 & 108 p 416), one with a whiteish-pink flower and one with a tiny white flower. Only the large white form was outstanding; it won a First Prize at the Edinburgh Show in 1997.

The flowers of the good form were 30 mm across, deeply fimbriate and similar in many structural respects to *aureata fimbriata*. They did, however, have the characteristic hairs inside the throat of the flower which is so diagnostic of *deuteronana*. As already mentioned, however, the vegetative appearance of the plant was quite unlike typical *deuteronana*. Fig.108 p.416 shows a true *deuteronona* collected as seed at Gosainkund by myself in 1991 (CC&McK 664) and photographed in its winter resting condition with the typical tight flower bud – not at all like the plant we collected.

Dr. John Richards had a look at the flowers of GOS 134 and concluded that they were most probably a form of *deuteronana* and unlikely to be a hybrid because the pollen was fertile. Although *P. deuteronana* is normally purple or pale lilac, white forms have been recorded.

It still seems to us that it may be a hybrid because it has so many characters intermediate between the two species. However, whatever its genetic make-up is, it is a really beautiful plant with its large glistening white flowers on neat crisp foliage with yellow farina. Not surprisingly, because the material came from just one plant it has not produced seed but is being propagated vegetatively.

Possible hybrids of *aureata* have been recorded in the past from Gosainkund by various collectors with other parentages suggested such as *pulchra, scapigera* and *deuteronana*. Stainton reported primulas with purple edges to the leaves which he suggested were *aureata* x *deuteronana* crosses. In his case, however, the pollen was sterile which would indicate a hybrid.

Embothrium coccineum

Alastair McKelvie

Some excuse may be necessary for including a non-alpine shrub such as embothrium in a Rock Garden Journal. But, as the accompanying photograph (Fig.111 p.418) shows it associates well with *Rhododendron luteum* and flowers at the same time in May-June so, I suggest, it can be classed as suitable plant for the 'wild garden' which is an area we rock gardeners dabble in .

The form illustrated is *Embothrium coccineum* Lanceolatum Group and probably the 'Norquinco Valley' form although this particular plant is a seedling from a plant from Kildrummy Castle Gardens in Aberdeenshire so will not necessarily be the true form.

Embothrium belong to the family Proteaceae and is native to Chile and Argentina, where it grows in open woodland at low altitude. It was introduced to the UK in 1846. It is a small tree up to 10 m tall and has red-scarlet flowers in late spring and early summer. The Lanceolatum Group is hardier than the Longifolium Group and can tolerate temperatures down as low as -20° C in a sheltered spot.

The Lanceolatum Group has the great merit that the flowers are evenly spread right along the branches so that a specimen in full bloom is a wonderful sight as can be seen in the illustration taken in my garden in Aberdeen. I find it fully hardy and easy to grow; it responds readily to pruning immediately after flowering to keep the bush neat. Otherwise it can become tall and leggy and not flower so well. It is not completely deciduous but retains some leaves all winter.

It does not produce much seed but what there is is viable and germinates readily if sown in spring at a temperature between 13-16 °C. Seeedlings, however, have a tendency to damp off at a young stage. It does not come at all readily from cuttings but the books suggest it can be propagated from suckers and root cuttings but so far I have not dared to try it on my one and only precious specimen.

It seems to like any moist, well-drained neutral or slightly acid soil but will not tolerate lime.

This is a wonderful free-flowering shrub which is much hardier than the books suggest.

Fig. 106 *Primula sikkimensis v. hopeana* CC&McK 1022 (p.412) Fred Carrie

Fig. 107 *Primula* 'GOS 134' (p.413) Fred Carrie

Fig. 108 *Primula* 'GOS 134' (close-up) (p.413) Fred Carrie

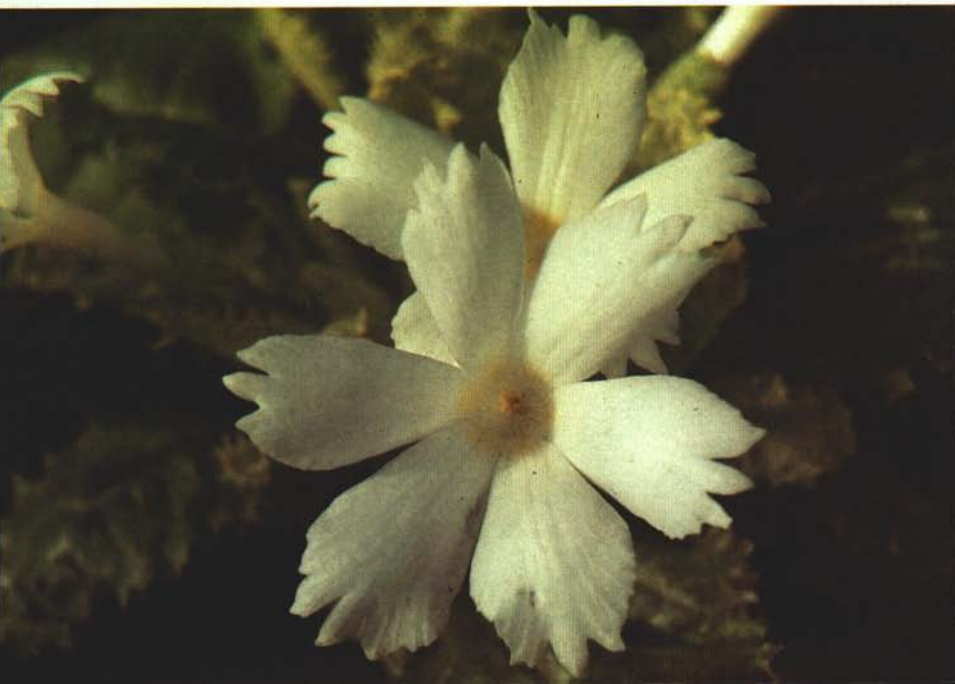


Fig. 109 *Primula deuteronana* (resting bud) (p.413) Alastair McKelvie

Fig. 110 *Gentiana acaulis* (flowering) (p.386) Ian Christie

Fig. 111 *Embothrium coccineum* (p.414) Alastair McKelvie

SHOW REPORTS (Cont. from p. 398)

Discussion Weekend, Aberdeen - 10-12 October

The Stakis Treetops Hotel, Aberdeen was the venue for the 1997 Autumn Show where we were able to celebrate the array of forms, textures and spectrum of colours displayed by this year's exhibits.

Sandy Leven's proud specimen of *Cyclamen africanum* (raised from JCA seed) displaying delicate hues of pink, lilac and rosy-purple flowers, enhanced by its zoned leaves, received the Forrest Medal.

Cyclamen africanum earned Sandy Leven the East Lothian trophy for three glorious pans of mature cyclamen; *C. graecum, C. africanum* (ex JCA) and *C. mirabile* and Jean Wyllie a Certificate of Merit for her attractive specimen.

Meconopsis x *cookei* on its debut earned a Certificate of Merit for Margaret and Henry Taylor. This dwarf hybrid emerged from a neat rosette of felt leaves, displaying the crimson colouring of *M. punicea* and the bowl-shaped nodding flower head of its other parent *M. quintuplinervia* (Kaye's Dwarf).

Roger Robinson's *Shortia soldanelloides* provided a pageant of glossy green leaves and shades of russet, contrasting nicely with Betty Craig's dark leaved *S. uniflora.*

The silvery-grey foliage of *Argyroxiphium sandwicence* from Ian and Margaret Young evoked comments such as "Cartier's silver-smiths surely have surpassed themselves" , "was this designed and constructed by Rolls Royce?" to "reducing blades", this highly burnished twin-crowned plant with its inter-meshed leaves appeared surreal.

Another winner was the grey green rosettes of *Sempervivum ciliosum borisii* which were skilfully bedded in a depression of Luing slate; this glimpse of nature was shown by Ron and Betty Smart.

Within Class 38 was a beautiful proud delicate rosette of *Pinguicula primuliflora*, an insectivorous plant grown by Brian Hammond. Of the conifers, *Pinus mugo* 'Mops', a well shaped and furnished tree gained the J. L. Mowat trophy for Ron and Betty Smart while Roma Fiddes' *Cryptomeria japonica* 'Vilmorin Gold' sported juvenile growth, perhaps due to the growing conditions this year.

John Lupton won the East Lothian Cup for best plant in Section II with H*elichrysum plumeum* with sea-green mature leaves and the six pan Class B featuring *Fuschia procumbens* laden with fruits and *Salvia roemeriana* with its charming deep crimson flowers.

The Wellstanlaw Cup was won by S. and D. Rankin with an autumnal display of flowers, fruit and foliage from rock garden plants.

A powerful scent of musk perfumed the hall from a non-competitive exhibit, the slender *Narcissus viridiflorus* with its delicate backward-pointing olive-green petals.

Heather Salzen's plant water colours won a Certificate of Merit while the Taylors' photographs of an Andalucia trip won the Photographic Competition.

Davie Sharp

Irises — A Practical Guide
by Karen Glasgow
Published by B. T. Batsford
104 pp. 100 colour plates
Price £17.99 ISBN 07134 82850

This slim softcover volume describes irises suitable for growing in 'milder climates' but in practice most of the irises mentioned and illustrated are perfectly hardy in the UK and other northern temperate regions. There are others described such as Louisiana Irises, for example, which will only grow in warm humid climates and will not tolerate much frost.

There have been a number of recent books about irises which describe species and cultivars in more detail than this book. In particular, that by Phillips and Rix ('Perennials Vol.2') describes and illustrates over 250 species and cultivars for the same price as this book. The merit, however, of this book is the depth of information it provides on how to grow the various irises.

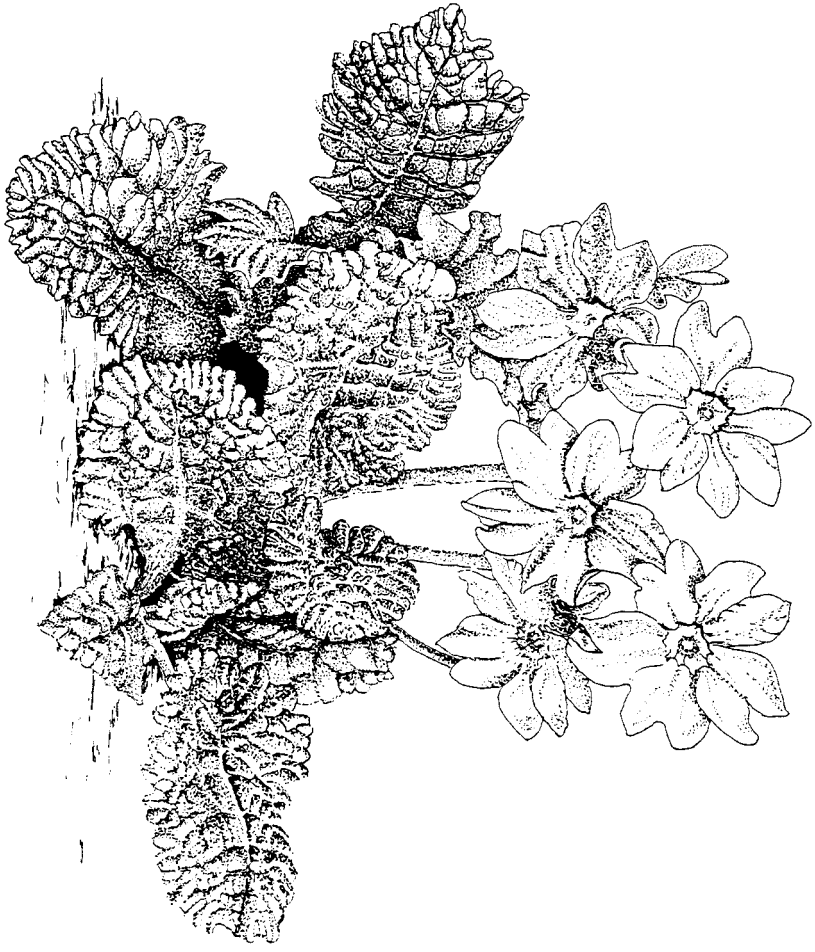
There is detailed information about irises suitable for the border, water and bog gardens, woodland gardens, containers and also rock gardens so that anyone looking for an iris for a particular situation will find this an excellent book.

The late Karen Glasgow was Editor of the Iris Society Bulletin for 22 years and this book reflects her great love and knowledge of the genus. It is beautifully produced and is a must for the general gardener. RT

Primroses & Polyanthus —A Guide to the Species and Hybrids
by Peter Ward
Published by B. T. Batsford
160 pp. 64 colour plates
Price £25 ISBN 07134 81838

Until recently the SRGC seemed to take a disdainful attitude to many primroses and all polyanthus and specifically banned them from Shows. Happily the Club now takes a more enlightened approach and these two groups of plants are once again being admitted within the hallowed walls.

This book makes it quite clear why we should welcome this change. Rock gardeners tend to think solely of European and Asiatic species of primulas but here we have an up-to-date account of the wonderful world of the new primroses and polyanthus which are now on the market as well as many old favourites. The excellent illustrations highlight the magnificent new colourful strains such as 'Quantum', 'Prominent Mix', 'Wanda Supreme' and 'Danova. All rock gardeners should try them.



Primula amoena — one of the many primroses described in the book reviewed on page 420. Drawing by Ron Cole

This book is a fascinating account of the history and cultivation of primroses and polyanthus and their derivatives including cultivation and pest control and can be thoroughly recommended. The excellent illustrations, especially of the newer hybrids so widely available now at garden centres and nurseries, show just how magnificent they are.

MT

Leaf, Bark and Berry — Foliage Plants for Texture and Form
by Ethne Clark with photographs by Clive Nichols
Published by David and Charles
160 pages 200 colour plates and 25 planting plans and illustrations
Price £20 ISBN 07153 04208

This is a reasonable coffee book and the photographs are excellent with a wide range of plants illustrated to show form, colour and leaf texture. Plants are grouped according to leaf colour and the book includes a section on these plants with good autumn colours. Planting plans give good guides to combining colours and leaf forms to give pleasing effects in the garden and the listing of the plants according to soil type and aspect is useful.

Although good value for money for its photographs alone, I feel the book doesn't quite live up to its title. Foliage is covered in some detail but the sections on Bark and Berry are quite sparse. The book also has a chapter on propagation which is more applicable to a general book and could easily have been left out of this work to allow the Bark and Berry sections to be extended. The type face is very much larger at the start of the chapters. Although in principle the effect of this is dramatic, the change, on turning a page, to a smaller type face sometimes mid-sentence, makes the reader think that pages are missing. The effect would have been better if it had been restricted to the end of a paragraph.

BH

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