THE ROCK GARDEN

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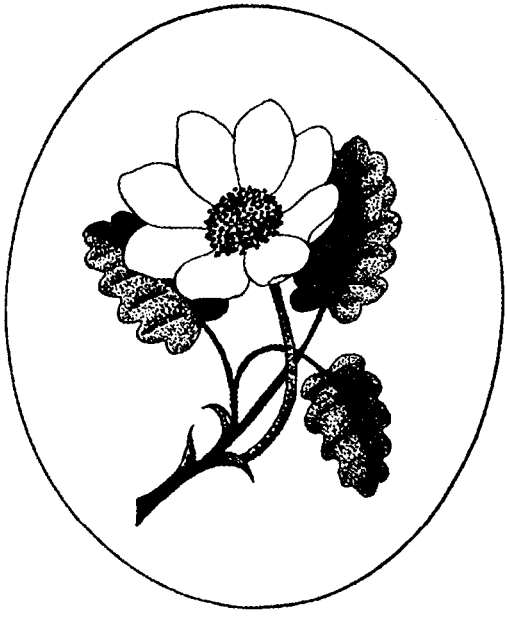

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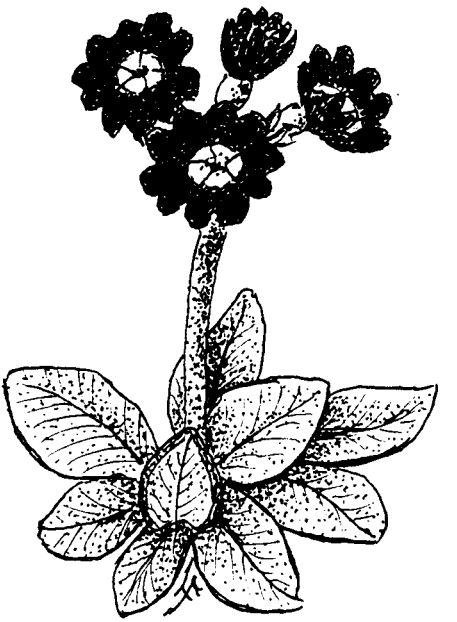

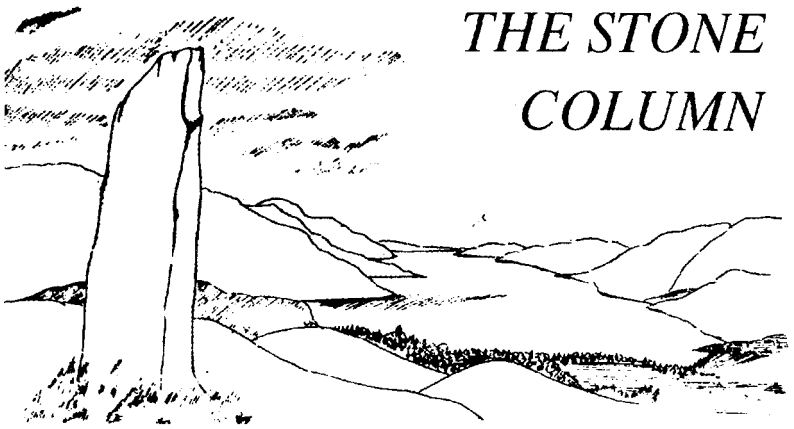

THE STONE COLUMN

"STEADY AS SHE GOES"

Amongst the many clichés used by politicians, the above heading is perhaps most frequently recycled by various Chancellors of the Exchequer, who wish us to believe that they are getting it right. Everyone knows, of course, that in the real world economics is no more an exact science than is horticulture. In the basic scientific method, a theory is formulated, and then utilised to make predictions which can be tested by experiment. In both horticulture and economics real situations are generally far too chaotic, to use a currently fashionable expression, for accurate predictions to be made except at the most basic level. High interest rates usually result in increased unemployment, for example, or if one withholds water for long enough a plant, lest it be *Lewisia rediviva*, will eventually die. For us it is that very unpredictability which makes gardening, especially with alpines so fascinating. One can never really tell whether a plant is going to like one's garden or not.

On a recent visit to the island of Mull, we were told that magnolias have not in general been very happy in Torosay Castle gardens where, on the surface, conditions would appear to be similar to those at say Inverewe. We once made a pilgrimage to the latter to see the famous *M. campbellii* in bloom. On the other hand camellias such as 'Donation' are a great success at Torosay, even when given the easterly exposure they are supposed to dislike. As the lady of the

house remarked, it's a good thing that plants cannot read books. We were shown around the Castle gardens by the Head Gardener, Mike Swift, who is currently engaged both in restoration of the more formal features such as the terraces below the house, originally laid out in 1911, and in redevelopment of the woodland and bog gardens. When Mike moved up from Cumbria, he brought with him plants of the fertile *Meconopsis* x *sheldonii*, named 'Lingholm Strain' after his previous garden, and whose origin was described in 'The Rock Garden' a year ago by Dr. Evelyn Stevens. She recently told me that it is now believed to be a polyploid. If this is confirmed, then it is in effect a new species and as such will require a revised name: *M lingholmensis* would perhaps be appropriate. A parallel example in cultivation is the familiar case of *Primula kewensis*, which is a fertile derivative of the normally sterile cross between *P. floribunda* and *P. verticillata*. In any case the word 'strain' is not permitted in cultivar epithets by Art. 17.16 of the International Code of Nomenclature for Cultivated Plants. Whatever their eventual name, Mike intends to keep his stock well isolated by growing no other similar meconopsis in the Castle gardens. I am afraid that my collecting instinct is far too strong for such self-sacrifice.

TRIAL AND ERROR MODERATED BY EXPERIENCE

Returning to my original theme, I feel that properly controlled large-scale field trials of the kind conducted on commercial crops are inappropriate in alpine gardening. There are just too many variables and we grow far too few specimens of any one plant for the results to be statistically meaningful. Conclusions drawn after the summer drought of 1995 would be quite different from those arrived at after a wet growing season such as the one just drawing to a close. In their absence one has no choice but to fall back on empirical methods, in effect trial and error moderated by experience. The late Harold Esslemont once wrote that two lifetimes were required to cultivate alpines successfully; one to find out how, in one's own particular garden conditions, and the second to actually grow them. We have had the advantage of starting comparatively young. Next year the garden at Askival will be 30 years old, but we are still making endless mistakes. In my own defence, however, I should like to add that most are errors of omission rather than commission. The more plants one has to look after, the less individual attention they get, and the less likely one is to notice potential problems early. A chronic

shortage of space has frequently caused us to plant up any newly developed areas too intensively. After frost and winter wet, we lose more plants as a result of being overgrown by more vigorous neighbours than any other single factor. Planted out as a slender seedling, an iris of the Series Sibericae, for example, becomes in a few short years a vigorous spreading patch, spraying over and smothering its neighbours. Short of a JCB, removal is somewhat difficult. We should not like to be without them entirely, especially the richly coloured forms of *I. chrysographes* , such as 'Rubella' and the so-called 'Black Form', the distinctive flowers of *I. clarkei* with their spreading standards, and the beautiful markings of *I. bulleyana*. This group are particularly valuable in the main border, following on as they do from the primulas and meconopsis. In an ideal world one would space out the supposedly permanent plantings, be they in scree or shrub border, and interplant with short-lived 'fillers'. In practice our fillers frequently don't realise that they are meant to step aside, and thrive for many years, becoming far too large in the process. The 'permanent' plants on the other hand sometimes die, or far worse, just linger on. A death can be replaced with something unrelated, to avoid specific replant problems; whereas one often hasn't the heart to remove a miffy rarity, always hoping that next year it will take off and do its thing.

MYTHS AND FALLACIES

Adverse circumstances can yield valuable lessons, and one thing we have learnt as a result of the congestion in our frames is that some of the conventions of seed-raising do not necessarily apply to alpines. Pricking out at the first true leaf may be the recommended procedure for lettuces to be cropped that year, but the same may well not be appropriate to alpines, especially slow growing species. By leaving the latter in their seedpot for several growing seasons, one has seedlings with more resources to withstand the shock of transplanting. In addition many alpines germinate irregularly over several years; thus by pricking out when the first seedling appears, one may well be discarding further viable seed. On the other hand, the roots of more vigorous species may become badly entangled and hence their seedlings difficult to separate. As usual it is a question of balance. Another myth suggests that if a plant is checked when young, it will never make a good specimen. With many of our sort of plants this is certainly not true. They can sit in their seedpan just

ticking over for several years, then take off when eventually potted on. In nature, they would be waiting for an especially favourable season. Such a delay is definitely not to be recommended for woody plants as their semi-rigid roots, once coiled, are very difficult to spread out. For this reason, I very much regret that very few trees and shrubs are now field-grown and sold bare-rooted. Containerised stock may be convenient for the garden centre, but not so for the gardener who has to untangle the root systems. It once took me almost an hour to plant out a single *Hamamelis* x *intermedia* 'Diane' whose roots had been bundled into a net before containerising. As is my usual practice, I dug a large, relatively shallow hole in our thin soil, built up a broad cone in the centre and and spread out the roots down its sides. If there is substantial root loss one can always prune the top-growth to compensate. Such treatment may check the plant for a season, but in our experience will definitely result in a more vigorous specimen in the longer term.

While visiting Askival this autumn, after his superb presentation at the Aberdeen Weekend, Fred Case told me that he has to follow much the same procedure in his Michigan garden. If he plants out a shrub straight from its container, the bark/peat mixture around the roots rots, closely followed by the roots themselves.

A GOOD YEAR FOR ROWANS

We do not in fact raise many trees and large shrubs from seed these days, as we are fast running out of space to plant them; but things were not always so and we are now reaping the benefit as many of our sorbus are reaching maturity. It has been a magnificent year for rowans, both native and exotic. Our four seedlings from *S.* 'Joseph Rock' were laden with clusters of fruits, each tree a different shade, varying from pale canary to rich golden yellow. By way of contrast, a group of three *S. vilmorinii* are equally bowed down, each curving limb a cascade of pink fading to white, while 20 year old specimens of *S. prattii* add their contribution of purest white. Even these, however, were eclipsed by another planting of three seedlings, raised from a tree of *S. sargentiana* in the St. Andrews BG. Of the plants we obtained only one turned out to be the pure species with its thick twigs, huge leaves, great dinner plates of scarlet fruit, and sticky winter buds. Even this single tree may be significant as I seem to remember reading somewhere that there was only one clone of *S. sargentiana* in cultivation. The species is

normally sold as a grafted standard, a form which does not really suit many sorbus as they are often multi-trunked and/or vase-shaped if allowed to grow naturally. We nearly discarded its hybrid siblings, but are now very glad indeed that we planted out the above mentioned group of three. They are roughly halfway between their seed parent and the common rowan, with larger leaves than the latter, colouring a brilliant red in the autumn, and wider, somewhat flattened, clusters of fruit of a richer red, with less orange than is usual for *S. aucuparia.* Showing considerable hybrid vigour, these trees are taller and more graceful than the stiffly upright *S. sargentiana,* their slender branches increasingly pendulous as the fruit develops. Sadly their finest hour is coming rapidly to an end, as the whole village resounds to the twittering of large flocks of redwings, which have arrived a little early this year. Red fruits generally disappear first, followed by yellow, then finally the pinks and whites; but there is always the odd individualist amongst our resident blackbirds who starts with, say, *S. koehneana* .

Any gardening policy has its exemptions and sometimes Poll cannot resist sowing some seed. Our *Davidia involucrata* flowered very well last spring and, as the leaves fall, it is becoming obvious that it has a good crop of hanging greenish drupes. Last time she raised a small batch we had difficulty finding homes for them; a reflection of the size of most modern gardens perhaps.

YET MORE NEW PROJECTS

Within our own garden at Askival, it really has been a case of "steady as she goes". Of the projects currently under way, only one is at all novel, and that one only in part. The others are all continuations of developments chronicled in recent editions of The Stone Column. A number of these formed a sequence of what our young neighbour, Chris, refers to as 'ABCD' jobs. 'A' cannot be started until 'B' is complete, which requires 'C' and so on. In this particular case the succession went as follows :

A Build the second winter-covered scree-bed in the 'Wendy corner' so that it can be filled with compost using spare loam from the triangular stack by the orchard frames, then

B complete the orchard triangle as a raised bed, to take bulbs rescued from the ex-rose borders around the old nursery, so that

C these borders can be removed to make additional space for

D the reconstruction of the oldest cold frames, and the extension of our high shading over this area.

These bare bones may sound simple enough, but to realise this programme in practice took the best part of a year. New construction has to be fitted in around routine maintenance, such as the autumn clearing which took up the rest of 1997 after our return from Arizona. There was also one loose end to tidy up. The old track which bisects our garden continues on into the rear of the garden next door. When Chris replaced the fence on the mutual boundary, he cut across the track in a single straight descent from strainer to strainer. This necessitated demolishing a section of the retaining wall on the uphill side of the track, and building a ramp on the downside. When rebuilding the wall I curved it round parallel to the fence and tapered it into the slope. The gap between wall and fence was filled by a simple flight of stone steps. Once this job was out of the way, I could return to the main sequence, starting with the orchard triangle. This consists basically of turves stripped from the frame area during 1993/4, and stacked to take up the space between the orchard frames themselves and the winter-covered scree. It had been sprayed with Roundup several springs running, the 'greenest' way to clear it of weeds, especially bluebells. Plantlife may not like it, but the English bluebell *Hyacinthoides non-scripta* is treated as a weed here in all but the coarsest shrub borders. In any case it is still a very common plant in the woods along Loch Ness-side, following on after the primroses and, just to show we are not biased, the Scottish harebell *Campanula rotundifolia*, equally common locally, is far too vigorous for most beds and troughs and also has to be culled.

CONVERTING A LOAMSTACK

Converting a loamstack, already the correct shape, into a low raised bed is a relatively simple process. All I had to do was to build a retaining wall around it of two courses of our usual split boulders. The loam was fairly gritty so a dozen or so sacks of peat were added and mixed in. The stepping stone rows were placed in position, and the bed left to settle while I turned my attention to the 'Wendy corner' scree. As previously mentioned the basic box was completed just over a year ago and the surplus loam from the orchard triangle stockpiled in the dry of the compost store. Following the same recipe as for the orchard winter-covered scree, [The Rock Garden No. 99 p. 115] the various ingredients were barrowed to the site, wheeled up a

plank, tipped in, and thoroughly mixed together. Easy to describe, but the realisation in practice took four days of hard work in early April. Sometimes I refer to myself as Poll's kept labourer.

Like before, there was a higher proportion of 5 mm gravel in the upper layers but no limestone section this time. By now most of the bulbs in the redundant sections of rose border were well into growth and readily identifiable. By moving them to the orchard 'in the green' we could be sure of taking the ones we really wanted. Most were divided, including a large patch of *Iris histrioides* 'Major'. A dozen bulbs purchased in the early 1970s had become well over a gross. We understand that it has become a rare plant in Holland, I wonder why.

A large clump of *Fritillaria verticillata* which had taken over ten years to flower from seed was, however, transferred intact and replanted deeply in the hope that it will continue to bloom. Pots of bulbs from the reserve frame were added to this bed and the whole top-dressed with 3-4 cm of 5 mm gravel. Planted out at this time, some of the bulbs may go down prematurely; but in our experience are back to normal the next year. Once we had transplanted anything we wished to keep, our neighbours were given free run of the rose borders before they were recycled.

THE NEW RHODODENDRON PLATEAU

No matter how carefully I and others picked it over, the soil from these old rose beds would inevitably contain many small bulbs such as muscari, and crocus cormlets. Thus we decided to reuse it on part of the plateau earmarked for larger rhododendrons. This area had been cleared of hairmoss using Challenge, a biodegradable weedkiller we had hoped might be a safer substitute for paraquat, but it doesn't kill poppers. We can use it up de-mossing our paths. I first transferred the edging stones, reusing them to delineate the beds immediately behind the dwarf rhodo terraces. The soil followed and was spread out to form a layer about 20 cm thick. Once this stony soil has been enhanced with a good admixture of peat, the rest of the rhododendrons waiting in their nursery bed can be moved here.

Although we do make large quantities of leafmould each year, we feel this is better employed replacing half the peat in our potting compost. Much of this compost ends up in the garden anyway. Putting these beds on top of the pre-existing ground avoids having to cut holes through the roots of our rowans and maples. They will

soon invade the new soil of course, but hopefully the rhododendrons will by then be sufficiently established to cope with the competition.

PLANTING THE WENDY CORNER SCREE

Thus May went by, and the planting up of the Wendy corner scree could be delayed no longer. Even so the plants put out did not escape the last frost which occurred overnight on 11/12th June. As usual I bare-rooted everything, a process which is not as drastic as it sounds, given that all were in our gritty scree compost which falls easily off the roots. A seedling of *Daphne petraea* had about 75 cm of roots round and round a 10 cm pot. It didn't turn a hair, but a similar sized rooted cutting of *D. arbuscula* dropped most of its larger leaves. These were both the 'reserve' plants, kin having been planted in the orchard scree. The *D. petraea* in the latter has put on over 2 cm of extension growth this season and even thrown a short sucker. Incidentally, a nearby plant of *Physoplexis comosa* raised from seed sown in 1993 from Würzburg BG. had no less than 32 flowerheads, overgrowing a somewhat comatose *Jankaea heldreichii*. Unfortunately it bloomed just before we left for America and so Poll didn't get round to photographing it. Jankaea doesn't seem to like Askival; our last plant went into a north-facing crevice in the Wendy corner scree, and if it sulks here we shall stick to ramondas and haberleas. It has, in all probability been the huge increase in available root run which has resulted in the vigorous growth of both daphne and physoplexis. The covered screes have also suited other species, such as the Central Asian pulsatillas which have a tendency to rot off in winter here; likewise *Adonis vernalis*.

Seeing the latter in flower in the orchard scree, a visitor from the south remarked pedantically that adonis doesn't need winter protection. Maybe it doesn't in drier climates but we have had no previous success with this shining golden beauty in a variety of situations in the open garden. *Stellera chamaejasme* is yet one more example of a plant whose potentially large root system renders it unsuitable for lasting pot cultivation. A seedling of *S. c.* var. *chrysantha* from ACE seed produced a single yellow head of blossom this spring. A hopeful sign perhaps, but last time I wrote of this species the 25°C winter promptly killed all our potted specimens. Planted near the centre of the orchard scree, perhaps the taproots will be rather better insulated from extreme cold.

A second group of plants morphologically inappropriate for pots are those with spraying herbaceous stems such as cyananthus. If these are disturbed, for example by moving a neighbouring pot, they never look quite right again that season. On the Wendy corner scree *C. longiflorus* was able to spread its little carpet of violet blooms unhindered. While a seedling from ACE 1963 had the typical long-tubed flowers of this species, Ron McBeath considered that those nearby from ACE 2464 showed introgression towards *C. incanus*.

LAST MINUTE TASKS

During the rest of June any thoughts of serious weeding had to go by the board, as I raced to complete the last three overhead shade nets in front of the house. Poll spent this time furiously pricking out as many things as possible before our departure. This year she did manage to catch up on the backlog of ericaceous seedpots some of which were very mossy. The border along the front wall had first to be narrowed from 1.5 to 0.6 m, to make way for an extra bay on each of the old nursery frames and the stone edging replaced with two courses of concrete blocks. This is a utilitarian area, and the narrow raised bed thus created will both buttress the old wall and provide a space for culinary herbs near the house and out of Grizzly range. Three 2.5 m fenceposts were concreted in hard by the reduced wall-border and three others on the house side of this, the oldest frameyard. Crossbars and wires were added and the nets rigged, all in less than a week. Not so much 'steady as she goes', more a mad gallop; but I made it with four days to spare, and our garden 'minders', Liz and Robert, reaped the benefit..

WESTERN WOODS AND HIGH PASTURES NEW

There have been times this year when it seemed that half the Rock Garden Club were going to be over in the West; could the propaganda be working? Passing back through Denver at the end of this year's trip, our eighth, we called on Panayoti and Gwen Kelaidis to see their new garden. If we have a Mt. Sherman, then they have a beautiful miniature of Pike's Peak in pink granite. They also have an inherited retaining wall of flat rocks (sandstone?) which neither of them likes. I suggested that they turn it sideways and call it a Czech crevice bed, but I don't think this went down too well. However, Panayoti did joke that he thought that the US Government should give us a subsidy in recognition of all our efforts in promoting their

mountain flora. After our presentation on Askival and its surroundings at the 1991 International, Sandy Leven asked if we had had a grant from the Scottish Tourist Board. Be that as it may, we had, over the winter, carefully planned a circular route through Western Wyoming, Central Idaho, and SW Montana to fill in some gaps in both plants and places. Intending largely to avoid the well known spots, such as the Big Horns, we went first to the Wind River Range, which is at least as interesting botanically, but far less easy of access. Up on these wild summits the cushion plants, such as *Douglasia montana,* are the tightest we have ever seen, quite different from the little mats one usually finds. Moving west our next dayhike was into the Wyoming Range, where we hoped to see the rich pink *Collomia debilis* var. *ipomoea* The chosen route involved fording two creeks; we now carry a pair of simple gymshoes specifically for this. Further up, in the high woods, the trail was obscured by snowbanks, just as one had been in Washington in 1996. Learning from that experience, when our footprints had melted out during the day, we marked the trail for our return by sticking a deadfall branch into the uphill side of each drift. When the snow melts they will simply rejoin the litter. We were a little too early for the collomia but we eventually found a few precocious blooms, on the south-facing lip of a lateral moraine above the trail, where presumably snow lies thin and melts first.

There was much else of great beauty in this high lonely cirque, including the vivid violet-blue spikes of *Synthyris pinnatifida* var. *pinnatifida,* the lovely little pink *Anemone tetonensis* and some superb clumps of *Polemonium viscosum.* This last is quite a variable species; here it was light blue and short tubed.

UP INTO MONTANA

Moving north into Montana, we met up with John Roden and together we explored a remote section of the Continental Divide. John had not hiked this mountain before and when we told him that we wanted to see townsendias he had thought that we would only find the usual *T. parryi.* We did; our descent slope was carpeted with it, colouring the hillside for half a mile or more. Magnificent as this sight was it formed a mere postscript to what was indeed one of our best mountain days ever. Picture a 3000 m high ridge over three kilometres long, easy to walk once up there, the crest rising and falling less than 100 m, and mostly thin turf over limestone, with the

odd rock outcrop. For the whole length at least 20% of the turf was composed of *Eritrichium nanum* in full bloom. There was sufficient variation to take in most of the botanists splits: flat mats and tight cushions, tall scapes and totally sessile blooms and every shade of blue from Oxford to Cambridge, even a fair sprinkling of whites. These last lost out in comparison with *Phlox pulvinata*, which was even more common, up to a third of the plant cover, and also in full flower. These two species were just the chorus, however, the real stars were the townsendias. Dotted along the whole ridge were hundreds of the woolly rosettes of *T. condensata* var. *condensata*, their relatively huge white stemless daisies fully open in the sun. By way of contrast *T. alpigena* (= *montana*) formed wider clumps of smaller, glabrous rosettes. The pink flowers are also smaller, but more numerous. This was by far the most vigorous population of the latter we have ever seen; John found one mat with over twenty blooms. In this company the intense red-purple flowers and bright silver foliage of the endemic dwarf alpine *Oxytropis besseyi* var. *argophylla* appeared almost strident. There were dozens of other notable species up there, but the full story of 'Bluefly Ridge' must wait for another time. The blue is obvious, 'fly' because of the clouds which plagued us during the approach up the valley. The cattle had not yet arrived on these high pastures and we humans were the hapless substitutes. John later phoned the local rancher; the mountain indeed had no name, so Bluefly it is.

AND SO INTO IDAHO

Crossing over into Idaho, we kept a prearranged rendezvous with Betty and Ned Lowry in Salmon. Betty is the gardener and trained botanist, Ned the photographer and engineer. Their Seattle garden bristles with innovative ways and means of cultivating alpines. A little older than Poll and I, they hike more regularly and so are somewhat fitter. Sharing our passion for mountains and their flora, one could not wish for better companions on the hill. On our first day together we ventured into the northern Lemhi Range in search of *Caltha leptosepala* var. *sulphurea*. Find it we did in the moist ground by a high lake, nameless on the map, but known to the two 'hillbilly' fishermen from West Virginia we met coming down the trail with their mule, as 'Lunker Lake' for its huge fish. It may appear perverse looking for a yellow form of the normally white American species, when our own European one is yellow, but the

American is dwarfer and altogether choicer than *Caltha palustris*. In thin woodland by the shore *Phyllodoce empetriformis* and *P. glanduliflora* had got together to produce the pale pink *P.* x *intermedia*, while *Penstemon montanus* bloomed in the screes above. This was *P. montanus* var. *montanus*, but further west in the Salmon River Mountains we were into the territory of *P. m.* var. *idahoensis* which has entire glaucous foliage and a more compact inflorescence. The latter was a bonus, I was actually seeking the low-growing white *Erigeron evermannii*, but one always finds dozens more species in addition to the sought after endemic. In the nearby White Cloud Peaks Betty and Ned knew of a site where *Primula cusickiana* would still be in bloom, a moist hollow where the snow lingers. On drier sites close by it was in seed, the best of both worlds. "Is this number 9 or 10 on your list?" Betty teased. It was a sentimental return for us that day, to one of the places that Fred and Boots Case had taken us on our first trip out West ten years before.

To the south in the Boulder Mountains we had no particular plants in mind, the chosen hike was just supposed to be one of the finest in Idaho. Even so the trail was very indistinct and difficult to follow in places, but it took us to one of the most beautiful corries we have ever seen. There were plants in profusion, starting with the pink *Ranunculus andersonii*, which I had not expected to find in a true alpine situation alongside the 'Steer's Head', *Dicentra uniflora*. Unlike the related *R. glacialis*, the American species has a running rootstock. On limestone rocks just above we found a species which was on my list: *Townsendia leptotes*. Closely related to *T. alpigena* this form of the 'Slender Townsendia' had larger violet-blue flowers. Up on the ridgeline, a red ironstone scree which appeared totally barren from a distance, was home to the endemic *Chaenactis evermannii* with the typical fluffy pink heads of the genus, but forming wider mats of less divided foliage than *C. alpina*. Also here were various colour forms of the beautiful little *Allium simillimum*, from shining white to iridescent purple, while down in the corrie, what had appeared to be snowbanks linking a series of lochans turned out to be rivers of *Caltha leptosepala*.

A STITCH, OR TWELVE, IN TIME

It had been a long tiring day, and when we finally regained the clear lower trail, Poll relaxed a little too much, slipped and deeply

Fig. 30 *Gentiana terglouensis* (p.107) Michael Almond

Fig. 31 *Papaver rhaeticum* (p.107) Michael Almond

Fig. 32 *Thlaspi rotundifolium* (p.107) Michael Almond

Fig. 33 *Androsace hausmanii* (p.107) Michael Almond

Fig. 34 *Dryas octopetala* (p.107) Michael Almond

Fig. 35 *Rhodothamnus chamaecistus* (p.108) Michael Almond

Fig. 36 *Dianthus glacialis* (p.111) Michael Almond

Fig. 37 Rifugio Lavarela (p.111) Michael Almond

gashed her knee. Ned patched her up, and she limped the five kilometres back to the trailhead, finally fording a river to reach the vehicles. Back in Sun Valley a young doctor, who had practised on chickens, he said, did an excellent sewing job. You won't feel the same about manicures for a while he joked, scrubbing the trail out of the wound. I wonder if he knows about potting sheds. This is a mountain-biking centre in summer and, fortunately for Poll, he was well used to such accidents. She was hiking again within a week, but meantime we had to alter our itinerary somewhat.

THE SELWAY COUNTRY

Up in the Selway country we went in search of *Synthyris platycarpa*, finding it at a much higher altitude than *S. missurica*. Plants raised a year or two back from seed as the former turned out to be the latter when they bloomed. A little further south we were indeed fortunate to find *Douglasia idahoensis* still in flower; usually the access road is blocked by snow until it is long gone. Pausing to investigate a rocky area we discovered quite by chance *Lewisia columbiana* var. *wallowensis*, thus extending its known range well to the east of that previously published. On the way back, Poll spotted a small group of wild turkeys on the roadside. Following them into the woods we found number something-or-other on my list: *Anemone piperi*, which differs from our wood anemone in its vertical non-spreading rhizome.

Returning to Montana, I hiked one last peak in the Bitterroots with Betty and Ned while Poll rested up "57 Channels and nothin' on" she complained. She had in fact been up this mountain in 1993, but earlier in the season. This time plants such as *Penstemon flavescens* were fully out, its heads varying from almost white to a good clear yellow. Carpets of *Chionophylla tweedyi* coloured the ground under the krummholtz, while *Cassiope mertensiana* sheeted the ridgetop. *C. tetragona* has been reported from here, but we couldn't find it amongst the thousands of the common species. Rarities there were though, including *Eriogonum capistratum*, shorter stemmed and tighter than *E. caespitosum*.

Next day we reluctantly headed in opposite directions on I-90; our white 'GM Jimmy' would miss their twin white 'Chevy Blazer' terribly. The weather chose this moment to break, the anticyclone giving way to allow moist air up from the Gulf of Mexico, leading to severe afternoon thunderstorms, which on one occasion started at

10.30 am. It had been Poll's first real hike since the accident, up a closed road to a firetower. The Native American lookout was fascinated by 'Nessie'; we ourselves by the sheer size of the huge mats of *Saxifraga bronchialis* on this apparently phlox-less mountain and by the miniature form of *Haplopappus lyallii*, once misidentified in the Flora as *H. pygmaeus* from the Southern Rockies. The metal body shell of a car is said to behave as a Faraday Cage; fine in theory, but as strikes came down all around us on an exposed ridge a couple of days later I couldn't help wondering. Someone had been bedding out castillejas up there, the real red carpet treatment; *Phlox multiflora* and *Pulsatilla patens* were in seed and we found a truly dwarf, large-flowered, form of *Aster foliaceus* var. *apricus*.

THE BEARTOOTH HIGHWAY

The well known and popular Beartooth Highway had not figured in our original plans but damaged knees and lightning storms caused a change of plan. Rising at 5 am we managed to complete one hike nearby before noon, without getting wet. Another repeat of 1993, but once again with a different range of plants in bloom, this hill was notable for one of the very best really small erigerons, *E. rydbergii*, and for the tightest willow we have ever found, *Salix dodgeana*, its cushions looking like those of *Kelseya uniflora*. Beartooth is not a pass in the normal sense, just a passage between mountains where one can walk up away from the road; instead this highway runs right along the top of the plateau, giving very easy access to the alpine tundra, but we find the continuous procession of vehicles heading to and from Yellowstone very obtrusive. Escaping south into Wyoming we reverted to our earlier pattern: stay in a small town, drive to a remote trailhead, and hike up to a beautiful lonely place. The road we chose in the Absaroka was said by the Forest Service not to be muddy after all the recent rain. It wasn't; instead it followed the gravel flats along a river, with a dozen or so fords. "Shall I turn circles in the middle while you take a picture?" I suggested. Poll was not amused.

A notice warned of Grizzly Bear encounters; two years before there had been a good crop of cubs and these were now adolescents, with all the failings of the age group. Undeterred, we hiked up a faint hunters' trail to discover, quite by accident, what could well be the most significant find of the trip. Crossing a steep slope of shifting

scree Poll noticed some divided, ranunculus-like leaves. Looking around we found that they belonged to a tiny delphinium, its spike of half a dozen or so bright true-blue flowers only 10-12 cm high. Clearly related to *D. bicolor*. these plants differed from the typical form of this species, not only in size and flower colour, but most notably in their branching elastic, running rootstock, a typical adaptation to the moving talus habitat. Typical *D. bicolor* which we had always previously encountered in meadows and grassy slopes is much taller, has dark purple-blue flowers, and grows in single upright tufts. In my opinion, our find deserves subspecific status at least.

SOUTH TO THE MEDICINE BOW

While the above dayhike marked Poll's partial return to form, we both felt that she was not fit enough to tackle the really long days into the Wind Rivers we had originally planned for the last part of our trip. In any case the weather was still unreliable. Instead we headed south for the Medicine Bow where the Snowy Range Pass is another of the 'standard' places like Bighorn and Beartooth, where one can botanise along the roadside. We had been there twice before, in 1990 the weather was bad, while in 1993 there had been far too much snow to walk up off the highway. In 1998 it really was third time lucky. We were told that it had rained all the day before, our travelling day; but the weather suddenly cleared, and we were able to hike right up the long ridge to Medicine Bow Peak in the sunshine.

Lunching hard by the summit, we met a party of hikers from Oregon, who were very surprised at 'Brits' having a detailed knowledge of the mountains and flora of their home state. Politically in Wyoming, the Snowy Range is floristically part of the Colorado Rockies and, as such, although it contains no endemics, does provide an excellent display of the standard alpine flora of the region. It is the northern limit for a number of species such as *Haplopappus pygmaeus*, mentioned above, *Chionophylla jamesii*, and *Erigeron pinnatisectus*. All in all a fitting finale to what had been, in spite of Poll's trauma, a most rewarding trip and one which had demonstrated the value of travelling independently and remaining flexible. One can never be sure what lies over the next ridge; accurate predictions may be good science, but if they were always possible, wouldn't life be boring? And the Wind Rivers, they'll still be there the next time.

Report on Inaugural Meeting of the Meconopsis Group

Evelyn Stevens and Mervyn Kessell (Joint Group Co-ordinators)

The Meconopsis Group held a successful day-long inaugural meeting at the Royal Botanic Garden Edinburgh on 12 September 1998. It is widely recognised that there is much confusion over the naming and nomenclature of the perennial blue meconopsis in cultivation and the purpose for which the Meconopsis Group has been formed is to attempt to clarify these issues. However, it was agreed at the meeting that at a later time it would be desirable to extend the remit of the Group to investigate problems concerning other members of the genus.

About 80 people have joined the Group and 70 attended the inaugural meeting which was chaired by Mervyn Kessell and a varied programme of talks was presented. Ron McBeath set the scene by giving an hour-long talk on all the species of meconopsis which he has seen growing in the wild. Ron also included a few slides of plants photographed by Anne Chambers.

Members had been sent a questionnaire concerning the meconopsis they grow. An analysis of the answers received from around 60 of the members was presented by Evelyn Stevens. She also spoke briefly categorising the problems she has identified with regard to the naming of the various perennial blue meconopsis in cultivation.

James Cobb then gave a thought-provoking and erudite talk on the botanical problems involved in naming the plants of concern to the Group, followed by Cameron Carmichael talking about his researches into the histories of the various introductions of *Meconopsis betonicifolia* and *M. grandis* from the wild since the first collection of *M. betonicifolia* by Père Delavay in 1886.

Peter Cox gave a short talk on the variation which occurs in meconopsis as seen growing in the wild, illustrated with reference to *M. horridula* and *M. simplicifolia*, photographed by himself and his son Kenneth. Variation, but this time in cultivation, was also the theme of the talk by Margaret and Henry Taylor. The range in variations which can occur in meconopsis when hybridised in cultivation was illustrated, as over a number of years they have experimented by hand-pollinating meconopsis in attempts to improve on existing plants.

Two talks given by David Tattersfieid and Mike Swift were about some of the problem areas in the naming of meconopsis.

David Tattersfield, "stuck his neck" out by arguing convincingly that *M. grandis* GS600 does not exist as it is highly unlikely that plants still exist in cultivation that derive directly from this original collection of seeds by George Sherriff in 1934 or their vegetative propagules. Therefore present-day plants should not be *Meconopsis grandis* GS600 nor *M.* GS600.

Mike Swift cast light on the apparent existence in horticulture of both sterile and fertile forms of *M.* 'Crewdson Hybrids'. He explained that true 'Crewdson Hybrids', a hybrid found by Mrs Cecily Crewdson in her garden before the last war, and named by her, is sterile. But there has also been a false, fertile form in cultivation for many years with the same name, and which is also very desirable: this Mike Swift has nick-named for the moment 'Crewdson Hybrids'("Imposter").

He also recounted the story of the origin of *M.* 'Lingholm'. This is a fertile strain of *M.* x *sheldonii* which has become well-known in recent years and which had its origin in a sterile hybrid some time in the early 1970s (see "The Rock Garden" January 1998, vol XXV pp. 399-402 - an article by Evelyn Stevens). Hugh McAlister presented to the Group a written paper on his very recent investigation into the number of chromosomes in 'Lingholm'. He has found that there was probably a doubling up of the chromosomes in the sterile hybrid which thus produced the new fertile species. If confirmed, this will be an example of allopolyploidy (the formation of new species by doubling up of the chromosome number in hybrids between two or more, different species) which is very common in plants.

Ian Christie then spoke on commercial aspects of meconopsis growing. He elaborated on the conflicting interests of the large-scale grower to produce just a "blue poppy" in quantity to satisfy the needs of the general gardener and those of the specialist nurseryman and specialist gardener who are interested in the variety of clones and cultivars. He maintained that in both cases, but for different reasons, commerce raises its ugly head and concluded by expressing the hope that the work of the Group would lead to the agreed naming of a limited number of distinct and good forms and that in time there would be uniformity in naming from nursery to nursery both country and worldwide.

The day's presentations concluded with two short talks by Dick Fulcher and Tom Shearer. Dick Fulcher showed slides of the meconopsis grown at Inverewe Garden between 1973 and 1983 when he was head gardener. Tom Shearer spoke about his successful experience with the vegetative propagation of meconopsis. He has found that division of clumps and replanting of the divisions is best done in the third week of August rather than in early spring as is often recommended.

Mervyn Kessell, on behalf of the Meconopsis Group, expressed the gratitude of the Group to the Royal Botanic Garden Edinburgh for setting aside a bed in their nursery to be maintained as an Identification Trial Bed for several years. (The RBGE also kindly made available the Conference Room for the inaugural meeting.) There has been a very pleasing response from Group members for the request for the donation of plants with purported names to be included in the Identification Trial. About two dozen members have already contributed about 120 plants and a few further contributors have promised more plants which will be added to the Trial next spring.

It was agreed that the Group co-ordinators should take on the task of forming an Assessment Team. The plan is that the latter will inspect the plants at suitable intervals during the growing seasons. In this way, with all the plants growing in close proximity in the same area, it is hoped to sort out identical plants and then agree on the name that should be given to each name-worthy clone or cultivar. It is intended that the results of the work will in due course be published. In the meantime, a summary of the proceedings of the inaugural meeting will be compiled by Evelyn Stevens and distributed to all members of the Group.

The Joint Group Co-ordinators would like to hear from anyone who is not yet a member, but who would like to join the Group. The date of the next meeting in 1999 has not yet been decided, but will be intimated in due course. Finally, we would like to thank all those who have given us encouragement by joining the Group and who came to the inaugural meeting.

We would also welcome any comments or suggestions — to be addressed to Dr Evelyn Stevens, The Linns, Sheriffmuir, Dunblane,Perthshire FK15 0LP (E-Mail: Is2@stirling.ac.uk)

PLANT-HUNTING IN THE DOLOMITES

A further guide to the Dolomites,
this time based on Cortina d'Ampezzo

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by Michael J. B. Almond

PART 2 THE NORTH-EASTERN DOLOMITES

(East of the Val Badia/Gadertal and north of a line from the Falzarego Pass drawn eastwards through Cortina and down the centre of the Ansiei Valley as far as Auronzo di Cadore: you will need a number of 1:25,000 maps to cover this area, but the Tabacco 1:50,000 map sheet no 1, Cadore-Cortina, Dolomiti di Sesto, covers all of it.)

The best base for exploring this area is undoubtedly Cortina d'Ampezzo. As Cortina is probably the most fashionable resort in the Dolomites, however, hotels (particularly near the centre of town) can be expensive. It is well worth a visit, though, and the Co-op, on the main street in the centre of town near the church, can supply you with all the provisions, equipment and souvenirs you could possibly need, and more besides. And after such exertions, you can spend the rest of your money on coffee and cakes and mingle with the *beau monde* at one of the fashionable cafés around the market place. If you are in Cortina at the right time you may even be treated to a display of chain-saw woodcarving in the square. It must be said, however, that it is still very difficult to spend the whole of a wet day in Cortina without boredom setting in.

Even on the outskirts of the town, virtually in the backyard of your hotel, it is possible to find flowers of interest. The following were noted in the immediate vicinity of the Hotel des Alpes, on the northern outskirts of Cortina (facing meadows and backing on to woodland): *Campanula latifolia, C. rapunculoides, Colchicum autumnale, Dactylorhiza fuchsii, Dianthus sylvestris, Epipactis sp.,*

Gentiana utriculosa, Gymnadenia conopsea, G. odoratissima, Lilium bulbiferum, Listera ovata, Ophrys insectifera, Platanthera bifolia, Sanguisorba officinalis and *Saponaria ocymoides.* Many of these can be seen without venturing more than a few metres off the first four or five kilometres of the old Cortina-Toblach railway line (path number 208) heading north from the old station in the centre of town.

VIEWS FROM THE TOP OF THE LAGAZUOI

West of Cortina is the Passo Falzarego (2105 m) and immediately to the north of the pass, towering above it, is the solid rocky mass of the Lagazuoi Piccolo (2778 m). You can take the cable car from the pass up to the top of Lagazuoi and relax with a cup of capuccino in the café at the top as you enjoy one of the best views in the Dolomites. As you make your way across the bare limestone of the summit to the memorial commemorating the soldiers who fought over this and neighbouring summits in the First World War, you will be able to see a small number of hardy plants anchored in the crevices of the rock, such as a dwarf *Cerastium sp.*, a dwarf *Draba aizoon, Gentiana terglouensis* (Fig.30), some dwarf *Papaver rhaeticum* (Fig.31), the brown, furry buds of *Potentilla nitida* yet to come into flower, hard blue-green hummocks of *Saxifraga caesia, S. oppositifolia, Silene acaulis* and *Thlaspi rotundifolium* (Fig.32).

If you walk down the ski slope north of the cable car top station, when you reach the bottom of the barren, bulldozed slope, you will find yourself on an open, uneven, rocky valley floor, sloping down in fits and starts to the Lech de Lagació (Lago di Lagazuoi) (2182 m) below you to the north. This is the Alpe di Lagazuoi. Above you, to the east, tower the cliffs of the Lagazuoi Grande (2835 m) and the Punte di Fanes (2989 m). Scrambling among the rocks here, and up the scree to the cliffs beyond, can be found *Achillea oxyloba, Androsace hausmanii* (Fig.33), *Armeria maritima alpina, Cerastium latifolium, Draba aizoon, Dryas octopetala* (Fig.34), *Erigeron uniflorus, Gentiana brachyphylla favratii, G. terglouensis* (with its distinctive tight rosette of tiny leaves), *Hutchinsia alpina, Linaria alpina, Minuartia sedoides, Paederota bonarota* (endemic to the Dolomites but quite common hereabouts), *Papaver rhaeticum, Phyteuma hemisphaericum, Potentilla nitida, Salix reticulata,*

Saxifraga caesia, S. oppositifolia, Silene acaulis, Soldanella minima, Thlaspi rotundifolium and *Viola biflora.*

DOWN TO THE FALZAREGO PASS

If you retrace your steps to the bottom of the ski slope below the top cable car station and, instead of clambering back up it, bear east via the Forcella Lagazuoi (2573 m) to the Forcella Travenanzes (2507 m), you can then walk back down to the Falzarego Pass. The path is steep, uneven and loose in places. On your way down you can see *Anemone baldensis, Dryas octopetala, Gentiana verna,* a very dwarf *Myosotis sp., Papaver rhaeticum, Potentilla nitida, Ranunculus seguieri, Salix reticulata, Thlaspi rotundifolium* and *Valeriana supina* - this last a dwarf, ground-hugging plant with pale pink flowers and a smell somewhat reminiscent of bubble gum (or so I am told). As you approach the pass you descend by a small stream; here among the rocks can be found *Soldanella minima* and *Saxifraga oppositifolia.* Around the pass itself, and particularly across the meadows to the south east and around the edge of the *Pinus mugo* scrub, there are more flowers to be seen: *Achillea clavenae, Allium schoenoprasum, Armeria maritima halleri, Astragalus danicus, Caltha palustris, Coeloglossum viride, Dactylorhiza fuchsii, D. majalis, Daphne striata, Dryas octopetala, Erigeron alpinus, E. uniflorus, Gentiana bavarica, G. kochiana, G. utriculosa, Geranium phaeum, Geum montanum, G. rivale, Gymnadenia conopsea, Horminum pyrenaicum, Lilium martagon, Lonicera alpigena, Minuartia sedoides, Nigritella nigra, N. rubra, Paederota lutea, Parnassia palustris, Phyteuma orbiculare, Potentilla nitida, Primula farinosa, Pulsatilla apiifolia, Pyrola rotundifolia, Rhododendron hirsutum, Rhodothamnus chamaecistus* (Fig.35), *Salix reticulata, Saxifraga squarrosa, Sedum atratum, Tofieldia calyculata, Trollius europaeus, Valeriana saxatilis, Veronica fruticans* and *Viola biflora.*

THE PEAKS OF LE TOFANE

Immediately to the east of Lagazuoi, across the head of the Val Travenanzes, rise the three peaks of Le Tofane. The southwestern outlier of the three, the Tofana di Rozes, towers above the Forcella Col dei Bos (2331 m), over which leads the path from the Cortina-Falzarego road to the Val Travenanzes. The path is marked as number 402. There is a convenient car park at the bottom of it by the

road; and for most of the 500 metre climb up to the Forcella it is an old military road - broad and with easy gradients. The meadows around and above the car park are (if you are lucky with the season) awash with orchids: *Aceras anthropophorum, Gymnadenia conopsea, G. fragrans, Nigritella nigra, N. rubra, Orchis ustulata,* in addition to *Dianthus silvestris* and *Phyteuma orbiculare*.There are usually lots of marmots on the lower slopes, watching you from the mouths of their burrows among the rocks and trees.

As you continue your way up the old military track you are likely to see most of the following: *Achillea clavenae, Aconitum vulparia, Aquilegia atrata, Aster alpinus, Astragalus danicus, Botrychium lunaria, Campanula cochlearifolia, C. scheuchzeri, Cirsium erisithales, Dianthus sylvestris, Dryas octopetala, Euphrasia sp., Gentiana utriculosa, Geranium phaeum, Gymnadenia conopsea, G. odoratissima, Gypsophila repens, Leontopodium alpinum , Lilium martagon, Linaria alpina, Listera ovata, Onobrychis montana, Orobanche sp., Paederota bonarota, Papaver rhaeticum, Paradisea liliastrum, Pedicularis elongata, Phyteuma orbiculare, Polygala sp., Potentilla nitida, Primula auricula, P. farinosa, Rhododendron hirsutum, Rhodothamnus chamaecistus, Saxifraga caesia, Silene alpestris, Thlaspi rotundifolium, Tofieldia calyculata, Valeriana supina, Veronica fruticans* and *Viola biflora.* In addition, on the dry track-sides, there are at least two species of *Gentianella* and, on the sides of the boulders higher up, *Potentilla nitida*, including some good, dark-flowered forms.

As this path is easy to walk, and usually not busy, it also seems to be a good place to observe the local wildlife. In addition to the numerous marmots, on one occasion here we have observed a group of six chamois, one of which stayed watching us for almost 15 minutes from a distance of only 100 metres or so. Part of the way up the track goes through a tunnel cut through a spur of the cliffs. On the top of the tunnel is a mass of *Leontopodium alpinum* and on the cliffs themselves a little way below can be found *Physoplexis comosa*. On the rocks around the tunnel mouth can be found *Primula auricula* and, a little higher up, *Campanula morettiana* (which does not flower until August). At the windswept Forcella itself, mainly tucked down in pockets between the boulders, there are

Dryas octopetala, Gentiana terglouensis, Primula minima, Salix reticulata, Saxifraga oppositifolia and *Silene acaulis*.

To the north, the Val Travenanzes sweeps away into the distance, down to the Ponte Outo, where the Rio Travenanzes joins the Rio di Fanes at the bottom of an impressively deep and narrow gorge, which the bridge spans. It is a long walk down the valley, and the lower reaches of the Valle di Fanes are more easily explored from one of the car parks off the main road north of Cortina, near where the road makes a series of serpentine bends and changes its direction from northerly to easterly. The walk up to the Ponte Outo (1380 m) is through thick woodland, well populated with orchids and wintergreen. Just above the Ponte Outo is the lower of the two great waterfalls in the Valle di Fanes, at both of which one can walk right round behind the curtain of water, crossing the torrent beneath the water. There are also innumerable rapids and smaller falls in the middle part of the valley but they are in the bottom of a gorge and generally difficult to see, let alone approach. On our walk between the car park and the upper falls we saw the following: *Aconitum vulparia, Aquilegia atrata, A. einseliana, Astrantia major, Atragene alpina, Caltha palustris, Campanula barbata, C. cochlearifolia, C. scheuchzeri, Cicerbita alpina, Coeloglossum viride, Corallorhiza trifida, Crepis praemorsa, Dactylorhiza fuchsii, Epipactis atrorubens, Fragraria vesca, Gymnadenia conopsea, G. odoratissima, Gypsophila repens, Leontopodium alpinum, Leucorchis albida, Lilium martagon, Listera ovata, Maianthemum bifolium, Moneses uniflora, Orobanche gracilis(?), Orthilia secunda, Paederota bonarota, Paris quadrifolium, Parnassia palustris, Phyteuma nigrum, P. orbiculare, Pinguicula vulgaris, Platanthera bifolia, Polygonum viviparum, Potentilla nitida, Primula farinosa, Pyrola rotundifolia, Rhododendron hirsutum, Rhodothamnus chamaecistus, Salix reticulata, Saxifraga aizoides, S. rotundifolia, Scabiosa vestina, Silene campanula, S. italica, Tofieldia calyculata* and *Viola biflora*.

THE SUMMIT OF THE VALLE DI FANES

Again, it is a very long walk right the way up the Valle di Fanes, particularly if you are delayed by observing and photographing the flora (not to mention exploring the waterfalls). The upper reaches of the valley are more conveniently explored by approaching them from

the north-west, on the other side of the watershed. From the car park at the Rifugio Pederù in the Val dai Tamersc (Rautal/Valle di Rudo) above St Vigil it is possible to travel up the track by minibus to the Rifugio Fanes (2060 m). From here it is but a short climb up the track to the watershed at the Jú de Limo (2172 m), from where the view east down the Valle di Fanes and the view south-west up to its headwaters are very fine. In the alpine turf on the sides of the valley and around the Lé de Limo you can find *Anemone baldensis, Aster alpinus, Atragene alpina, Coeloglossum viride, Daphne striata, Dianthus glacialis* (Fig.36), *Erigeron alpinus, Erinus alpinus, Gentiana spp., Globularia cordifolia, Gymnadenia conopsea, Phyteuma orbiculare, Potentilla nitida, Primula farinosa* and *Saxifraga crustata* with the distinctive, lime-encrusted leaves from which it gets its name. All these are in addition to the small boulder at the top of the Jú de Limo which has been artistically redesigned to take on the appearence of a big green frog.

Around the small lakes below the Rifugio Fanes and on the slopes opposite it and behind the neighbouring Rifugio Lavarela (Fig.37) can be found *Anemone baldensis, Atragene alpina, Codonopsis sp., Coeloglossum viride, Daphne striata, Dianthus glacialis, Dryas octopetala, Erigeron alpinus, Gentiana acaulis, G. verna, Gentianella spp., Gymnadenia conopsea, G. fragrantissima, Leuchorchis albida, Nigritella nigra, N. rubra, Primula farinosa, Phyteuma spp., Rhododendron ferrugineum* and *Saxifraga moschata.* Below the lakes, where the track winds up through scrub-covered scree, there are to be found *Campanula cochlearifolia, Polygala chamaebuxus* (of both colour forms), *Rhodothamnus chamaecistus, Papaver rhaeticum, Phyteuma orbiculare, Potentilla nitida, Pyrola rotundifolia* and, lower down, on the scree itself, *Dryas octopetala, Epipactis atrorubens, Gentiana nivalis, Globularia repens, Gymnadenia conopsea, Linaria alpina, Orthilia secunda, Pyrola media* and *Rhododendron ferrugineum.* In fact, if you look in the right place, you can find large clumps of *Cypripedium calceolus* growing on the scree, sheltered by *Pinus mugo* scrub. In the valley below the Rifugio Pederù in the pine scrub can be found *Campanula cochlearifolia, Cephalanthera sp., Gymnadenia fragrantissima, Listera ovata, Parnassia palustris* and *Pinguicula leptoceras.*

THE IMPRESSIVE PRAGSER WILDSEE

Almost due north of the Rifugio Pederù, but on the far side of the massive limestone cliffs of the Senes group and approached from near Welsberg in the Pustertal to the north, is the charming Pragser Wildsee (Lago di Braies) (1490 m). It is difficult not to be impressed by this small lake, in its beautiful and dramatic surroundings. Leave your car in the park by the hotel and take a stroll through the woods round the lake to find the *Physoplexis comosa* which grows on the cliffs at the far side. It will be there but probably out of reach, and you may find flowers only in bud. The best flowers are usually well up the cliff some way from the path and need to be photographed with a telephoto lens. If you are really lucky you may find one fully out and it may be possible, with care and nimble scrambling, to get right up to it. You can continue right round the shore of the lake and back to the car park. Along the way you can see *Aconitum vulparia, Anemone trifolia, Aquilegia einseliana* (including some white ones), *Aster alpinus, Atragene alpina, Campanula cochlearifolia, C. scheuchzeri, Crepis aurea, Dactylorhiza fuchsii, Epipactis sp., Gentiana kochiana, G. verna, Gymnadenia fragrantissima, Hepatica nobilis, Horminum pyrenaicum, Leucorchis albida, Lilium martagon, Luzula nivea, L sylvatica, Maianthemum bifolium, Moneses uniflora, Orthilia secunda, Paederota bonarota, Paris quadrifolius, Physoplexis comosa, Phyteuma orbiculare, Pinguicula leptoceras, Pyrola rotundifolia, Rhododendron hirsutum, Rhodothamnus chamaecistus, Tofieldia calyculata* and *Viola biflora.*

The lake lies at the head of the Innerprags valley. If you drive up the parallel Ausserprags valley just to the east of it you can explore the woods and find flowers such as *Berberis vulgaris* and *Corallorhiza trifida.* If you continue right to the end of the road you can park just below the Plätzwiesensattel (Passo Pratopiazza) (2003 m), between the great russet mass of the Hohe Gaisl (Croda Rossa) and the Strudelköpf (2307 m). There is a waymarked path to the summit of the latter and the map suggests that the view from the top eastwards, towards the Three Pinnacles - the Drei Zinnen, should be superb. The terrain also looked as if it should harbour interesting plants. When we arrived at the carpark, however, there was a strong, freezing cold wind blowing and the visibility was less than a hundred

metres. The result was that we have not explored this promising area.

THE SEXTEN DOLOMITES

East of this area, on the other side of the Höhlensteintal (Valle di Landro), lie the Sexten Dolomites. On their eastern flank, looking north east towards the ridge of the Carnic Alps and the Austrian border across the top of the Kreuzberg Pass, is the Vallon Popera. You can drive to a height of about 1600 metres, above the Bagni di Valgrande, and from here it is a steep haul up to the Rifugio al Popera A. Berti (1950 m). On the way up we saw *Coeloglossum viride, Lilium martagon, Primula auricula* and *Rhodothamnus chamaecistus*. Above the refuge, the valley opens out and it is a very good place for flowers. *Dryas octopetala* can frequently be found with masses of leaves but relatively few flowers; in the Vallon Popera, however, we found the most freely flowering patches of it we have ever seen. We also saw *Gentiana brachyphylla, G. kochiana, G. verna, Pulsatilla alpina* (white – mainly in seed), *Pinguicula alpina, Rhododendron hirsutum, Rhodothamnus chamaecistus* and *Trollius europaeus*. As we climbed higher up the valley and on to the screes we found *Atragene alpina, Daphne cneorum, Gentiana terglouensis, Globularia repens* and *Potentilla nitida*. On the north side of the valley in damp hollows there were *Primula minima, Silene acaulis, Soldanella alpina* and *S. minima*.

THE FORCELLA

If you were to climb out of the top of the Vallon Popera and follow one of the Dolomites' famed *vie ferrate* across the tops of the ridges, you could eventually reach the Drei Zinnen (Tre Cime di Lavaredo), which lie to the west. Mere mortals, however, are more likely to take the toll road up from Misurina, park beside the Rifugio Auronzo at 2300 metres, and start from there. From the Rifugio Auronzo you strike out eastwards along a broad (old military) track around the base of the Drei Zinnen, past the Rifugio Lavaredo and the monuments to those who have failed successfully to climb the sheer cliffs above you, and then up to the Forcella Lavaredo (Paternsattel) (2454 m). Along the way you can see *Androsace hausmanii, Armeria maritima alpina, Daphne striata, Gentiana terglouensis, Horminum pyrenaicum, Minuartia sedoides, Papaver rhaeticum, Potentilla nitida, Primula minima, Ranunculus seguieri,*

Rhododendron hirsutum, Rhodothamnus chamaecistus, Salix breviserrata, S. reticulata, Saxifraga caesia, Thlaspi rotundifolium, Linaria alpina, Valeriana supina, Veronica alpina, Viola biflora and *V. tricolor.*

At the top of the Forcella Lavaredo you are 'edge on' to the Drei Zinnen and have a magnificent view (but one that cannot be photographed except with a wide-angle lens). Behind you is the saw-toothed ridge of the Cadini with the mass of the Marmarole and Sorapiss beyond, eastwards rears up the Croda dei Toni, westwards the view is closed by the rusty-coloured pile of the Croda Rossa and ahead (north) of you lies a very steep barren-looking scree tumbling down from the Paternkofel (Monte Paterno). There is a path across the scree to the Drei-Zinnen-Hütte on the other side and as you walk across you can see that the scree is not, in fact, quite so barren as it appears at first glance. There are masses of *Papaver rhaeticum* in places and also *Androsace hausmanii, Anemone baldensis, Dryas octopetala, Gentiana acaulis* (on patches of grass), *G. terglouensis, G. verna, Linaria alpina, Paederota bonarota* on some rocks, *Potentilla nitida, Rhodothamnus chamaecistus, Soldanella minima, Thlaspi rotundifolium* and *Valeriana supina.*

DOWN INTO THE RIENZBODEN

It is possible to go down from the screes or the Drei-Zinnen-Hütte into the floor of the shallow valley beneath the north wall of the Drei Zinnen; this is the Rienzboden – the source of the river Rienz which flows down the Pustertal to join the Eisack at Brixen. By this route you can complete the circuit back to the Rifugio Auronzo round their western end. Along the way you can see *Dryas octopetala, G. acaulis, Gentiana terglouensis* (on drier scree), *G. verna, Primula halleri, P. minima, Potentilla nitida, Ranunculus glacialis* (on damp scree), *Rhodothamnus chamaecistus, Silene acaulis* and *Thlaspi rotundifolium.* In the damp hollows beneath the northern cliffs, in particular, there were *Anemone baldensis, Daphne striata, Gentiana verna, Polygala chamaebuxus* (Fig.44) (both colours), *Pinguicula alpina* and *Pulsatilla vernalis* seed heads. If, as you approach the Rifugio Auronzo from the northwest, you bear left a little up on to the scree behind the refuge, you can find *Androsace hausmanii* (up by the cliffs), *Gentiana terglouensis, Linaria alpina,*

Papaver rhaeticum, *Potentilla nitida* (some good dark flowers), *Ranunculus seguieri* and *Thlaspi rotundifolium*.

On the grassy slopes in front of Rifugio Auronzo can be found *Armeria maritima alpina*, *Astragalus danicus*, *Gentiana acaulis*, *G. bavarica*, *Nigritella nigra*, *Primula halleri* (although the cattle seem to be partial to them), *P. minima*, *Saponaria ocymoides*, *Saxifraga ascendens* and *Trollius europaeus*. A little further on, beside the path across the Forcella Longeres towards the ridge of Le Cianpedele (Campedelle), can be found *Campanula cochlearifolia*, *Ranunculus parnassifolius* and *R. seguieri* (quite good clumps in hollows to the right of the path) – and also *Potentilla nitida* with large mats in flower at the top of the steep slope down from the Forcela into the Valon de Lavaredo below.

On the ridge of Le Cianpedele itself and on the screes and slopes on its north side (facing the Drei Zinnen) there are to be found *Campanula barbata*, *Cirsium spinosissimum*, *Coeloglossum viride*, *Daphne striata*, *Dryas octopetala*, *Erica carnea* (on limestone), *Gentiana acaulis*, *G. verna*, *Globularia repens*, *Leontopodium alpinum*, *Leucorchis albida*, *Nigritella nigra*, *Paederota bonarota*, *Papaver rhaeticum*, *Potentilla crantzii*, *P. nitida*, *Primula auricula*, *P halleri*, *P. minima*, *Pulsatilla alpina* (including some with cream-coloured flowers), *Ranunculus parnassifolius*, *R. thora*, *Rhodothamnus chamaecistus*, *Salix reticulata*, *Saxifraga caesia*, *Silene acaulis*, *Soldanella alpina*, *S. minima*, *Thlaspi rotundifolium*, *Trollius europaeus* and *Viola biflora*. On the far (south) side of the ridge, where the old military path keeps below the skyline at the top of the cliff and services the gun-emplacements along the top, there are lots of *Primula auricula* above the path.

THE LAKE OF MISURINA

Below and south of the Drei Zinnen (and visible from the car park at the Rifugio Auronzo, with the massif of Sorapiss as its backdrop) is the Lake of Misurina. The slopes beside the road on the way down, and particularly beside the toll booth, are bright with *Primula farinosa* and other flowers that can be seen from the road include *Cypripedium calceolus* (if you are very lucky), *Gymnadenia conopsea*, *Listera ovata* and *Nigritella nigra*. Although the west side of the lake at Misurina, along which runs the main road,

Fig. 38 *Penstemon crandallii* (p.125) James Cobb

Fig. 39 *Penstemon laricifolius* (p.126) James Cobb

Fig. 40 *Penstemon thompsonii* (p.128) James Cobb

Fig. 41 *Penstemon montanus* (p.128) James Cobb

Fig. 42 *Penstemon whippleanus* (p.129) James Cobb

Fig. 43 *Penstemon superbus* (p.131) James Cobb

somewhat resembles the front at some small but popular seaside resort, the walk through the woods around the eastern shore is very pleasant. Here can be found *Aquilegia atrata, Atragene alpina, Coeloglossum viride, Gentiana acaulis, Lilium martagon, Phyteuma nigrum, Pyrola rotundifolia, Salix reticulata, Saxifraga rotundifolia, Soldanella alpina* and *Tofieldia calyculata.*

South of Misurina, the main road runs down into the Ansiei valley, which forms the southern limits of the Sexten Dolomites and of this part of this guide. I shall leave the floor of the valley, its southern side and the area south of Auronzo di Cadore for the next part.

From the Rifugio Auronzo, below the Drei Zinnen, it is possible to walk down the thousand metres to the end of the motorable road up the Valle Manzon; as we were blessed with atrocious weather when we were exploring this side of the Ansiei valley. However, all I can say about the Valle Manzon is that in the woods alongside the road, a hundred metres or so below where it peters out, can be found *Aquilegia atrata, Coeloglossum viride, Dactylorhiza sp., Epipactis sp., Lilium martagon, Listera ovata, Neottia nidus-avis.* Lower down the road, it is possible to find *Convallaria majalis, Cypripedium calceolus, Epipactis sp.* and *Platanthera sp.*.

The Val Giralba is only a few kilometres or so to the east of the Valle Manzon and arrives above the main road as a formidable canyon. There is a path up the valley but when we were there in 1997 it had been obliterated completely by landslips and it was not possible to get very far up the gorge. The woods at the bottom of the valley are very rewarding, however, and well worth exploring even in pouring rain. We found large numbers of *Cyclamen purpurascens* (Fig.45) of varying flower colour – including some of a deep shade of magenta, together with *Cephalanthera longifolia, Cypripedium calceolus, Epipactis sp., Paederota bonarota, Platanthera sp., Polygonatum verticillatum, Rhododendron hirsutum* and *Rhodothamnus chamaecistus.*

RHS JOINT ROCK GARDEN PLANT COMMITTEE
Recommendations made at SRGC Shows in 1998

Dunblane - 21 February
Awards to Plants

Award of Merit
To *Galanthus* 'Spindlestone Surprise' shown as a hardy flowering plant for exhibition, exhibited by Ron McBeath, Lamberton Nursery, Lamberton, Berwickshire

Certificate of Preliminary Commendation
To *Corydalis schanginii* as a hardy plant for exhibition, exhibited by Carole and Ian Bainbridge, 3 Woodhouse Lee, Easter Howgate, Edinburgh

Northumberland - 4 April
Awards to Plants

Certificate of Preliminary Commendation
To *Anemonella thalictroides* 'Amelia' as a hardy flowering plant for exhibition, exhibited by Fred Hunt, 34 Morris Place, Invergowrie, Dundee

To *Saxifraga* 'Allendale Pearl' as a hardy flowering plant for exhibition, exhibited by Alan Furness, St. Luke's Cottage, Wooley, Hexham, Northumberland

Awards to Exhibitors

Certificate of Cultural Commendation
To David Sampson. Oakdene, Heathfield, E. Sussex for a pan of *Narcissus* 'Sennocke', exhibited by David Sampson

Stirling - 11 April
Awards to Plants

Award of Merit
To *Fritillaria davisii* as a hardy flowering plant, exhibited by Richard Lilley, 17 Strathview Place, Comrie, Perthshire

To F*ritillaria affinis* var. *tristulis* as a hardy flowering plant for exhibition,exhibited by Ian and Margaret Young, 63 Craigton Road, Aberdeen

To *Sebaea thomasii* as a flowering plants for exhibition, exhibited by Cyril Lafong, 3 Colinton Court, Glenrothes, Fife

Certificate of Preliminary Commendation

To *Corydalis* x *allenii* as a flowering plant exhibition, exhibited by Margaret and Henry Taylor, 32 Morris Place, Invergowrie, Dundee

Awards to Exhibitors

Certificate of Cultural Commendation

To Ian and Margaret Young for a pan of *Clematis* 'Craigton Comet', exhibited by Ian and Margaret Young

Glasgow - 2 May

Awards to Plants

Award of Merit

To *Primula* 'Ice Cap' as a flowering plant for exhibition, exhibited by Margaret and Henry Taylor, 32 Morris Place, Invergowrie, Dundee

Certificate of Preliminary Commendation

To *Lewisia nevadensis* 'Rosea' as a hardy flowering plant for exhibition, exhibited by Margaret and Henry Taylor

Award of Garden Merit

Primula 'Ice Cap' was recommended for further assessment as a candidate for an AGM, exhibited by Margaret and Henry Taylor

PLANT PORTRAIT

Incarvillea longiracemosa Sprague
((Syn. *I. lutea* ssp. *longiracemosa* (Sprague) Grierson))
Anne Chambers

This handsome plant (Fig.46), unlike most other members of the genus, has long had the reputation of being difficult in cultivation. Back in the 1950s Bobby Masterton raised a plant (as *I. lutea)* from a seed introduction but after seven years at Cluny it flowered and died without setting seed. Other similar failures were reported at the same time. In June 1988 an introduction of seed from south-east Tibet has given us hope that we may at last succeed in getting this desirable plant to flourish and flower regularly in our gardens.

First the nomenclature: in the New Plantsman of June 1998, Chris Grey-Wilson published a revision of the *Incarvillea* subgenus *Pteroscleris* to which *I. longiracemosa* belongs. He concluded that the differences in physical characters and geographical distribution of the yellow-flowered plants under the name *lutea* were sufficient to justify their separation into two taxa. He retained the name *lutea* for those originating in China from W and SW Sichuan and NW Yunnan and reinstated the name *longiracemosa* for those from S and SE Tibet. The two species do not overlap in the wild.

I. longiracemosa has the typical corolla of the genus, a long campanulate tube with five spreading creamy yellow lobes and the throat channelled with brown lines.The scape may carry as many as 20 flowers, the lowest opening first. As the flower ages the throat becomes suffused with crimson then the colour spreads to the lobes. The pinnate leaves, about 40 cm long, die back in autumn and the plant overwinters as a tuberous taproot.

On the 1998 Tsari expedition to SE Tibet we found plants in two locations, both open hillsides between 3,660 and 4,000 m and likely to receive moderate amounts of rain. It was not obvious why this species is so intractable in cultivation. Plants of all sizes from large mature specimens to young seedlings with only one true leaf were flowering in the second half of June. Tall woody stems with intact seed capsules from the previous year stood out on the hillside but these were not associated at their base with living plants and seemed very few in number. It may be that some mature plants set seed and die after flowering.

The seed germinated in ten days after sowing and only a month later the taproot had thickened to over 5 mm in diameter and 15 cm in length. Let's hope that such vigour will be sustained to good purpose.

PENSTEMONS

Easy to grow, easily obtained, huge choice and flowers late into the summer

by James Cobb

My introduction to alpines in the wild was on Ben Lawers as a student on a fine summer day. I don't think I had ever thought about mountain habitats before and it was nearly thirty years before I looked at another one – this time the far more impressive fellfields of Mount Rainier in Washington State. I had in the meantime put some effort into cultivating alpine plants in my garden. The very earliest gardens I looked at were the Sherriffs' garden at Ascreavie, the Knox-Finlays' at Keillour and many times at Branklyn. It was natural therefore to grow in particular Himalayan plants although how sensible this was is questionable. The climate where I garden in East Fife is as dry as anywhere in the United Kingdom with a fiercely draining neutral to alkaline soil. I still do grow many Himalayan plants and try to maintain my meconopsis collection.

I was also most privileged to have seen Balruddery, the garden of the much missed Col. and Mrs Anderson near Dundee. They grew many Himalayan plants superbly but also many difficult southern hemisphere plants. Col. Anderson was a great experimenter and although both of them were undoubtedly most skilled growers, their extensive travels in South America and Tasmania clearly gave them a considerable advantage in growing plants because they saw them in the field.

Mount Rainier intrigued me and it is still the only alpine habitat I have visited. The flowers were, of course, wonderful but I was forcibly struck by the apparent lack of soil and the mobility of the rocky screes. There was American wild collected seed available at Alpines 91 and I tentatively started growing it. I remember the first seed was *Penstemon wislizenii* from New Mexico and since that start I have grown a great deal.

I had grown American plants before, particularly in my frit phase, before I decided that really all frits do look alike. The American species of fritillaries do offer a chance to diversify a frit collection but I have to report almost universal failure even of the

easier species both with bulbs and seed. I had also messed about with *Calochortus* though I hope that is a chapter still to be written. It is possible to buy a huge range of North American seed from quite a number of professional collectors as well as to ask for wild collected seed from AGS and SRGC seed exchanges.

You need to understand that though enthusiastic I have far too many irons in the fire ever to develop any great skill at anything. I grow everything in my garden from all our fruit and vegetables through herbaceous borders, trees for several woods I maintain, to the cottage garden which is our living space for half the year. Although I do my best, plants simply have to survive on their own, especially at times of bird migration, and it quickly became clear that at least some genera of Rocky Mountain plants were doing this pretty well. I do try to devise, however crudely, some sort of imitation of the natural habitats. In the main this has been imagination based on the wonderful pictures of more intrepid travellers back from remote places. In the case of Rocky Mountain plants I did have just a glimpse at the personal level. There are a huge number of variables in a habitat but actually being there gives you an edge, even if the appreciation of some factors is subliminal. For all this you may still fail because vital factors simply cannot be reproduced or are not recognised. I have failed totally to grow the purple flowered meconopsis species that have recently been recollected in China such as *M. delavayi*, *speciosa*, and *impedita*. They can be grown in northern Norway but in this case it is not clear whether my failure would be helped by having seen them in the wild or whether there is some quality I cannot reproduce in eastern Scotland. I suspect seeing them in the wild might help since Peter Cox, who actually collected some of these species, has had initial success and he lives not that far away.

I have for the Rocky Mountain plants begun to develop a habitat that has improved the success rate and this has chiefly been with seed of the genus *Penstemon* which is absolutely laden with wonderful treasures largely unappreciated in UK gardens. I suppose I have trialled about 80 species so far. I might add at this point I am gradually running through other North American genera. It is strange how easy some are and very difficult others are. I have *Physaria alpina* as lovely gnarled plants at ten years old but have yet to flower an *Eriogonum. Astragalus* species do wonderfully but some of the lupins are much more miffy. All the phlox are wonderful and

there are lovely gems to be found. This year *Phlox grayii* has flowered superbly from a sowing in January.

THE HABITAT IN THE GARDEN

A major clue to the cultivation of penstemons is the very long roots they grow as soon as they germinate. Two tiny leaves may have 15 cm long roots within a matter of days of germinating. All my penstemons are in raised beds or troughs with a back-up collection in pots. Some of the beds are raised 60 cm but they are all structured in the same way. The bottom of the bed has a good rich base of soil with well rotted dung relatively generously incorporated. This layer is 15 cm deep. I then add about 10 cm of very gritty sand. The bed is then topped with stones as a layer 15 cm deep. They vary from the size of walnuts to half bricks. The original bed was broken roadstone bought in by the lorry load (primarily as the bottom for a road). A much nicer second bed has random rocks off the beach chosen in general for raggedness and they are mostly sandstone of varying brown and reddish hues. All the penstemons are initially pot grown in 7 or 9 cm pots and planted out when they are becoming root bound. The rocks are moved aside until the sand layer is reached and then the depotted plant is stood on this and the rocks gently pulled back round it. In the troughs the whole scheme is the same but miniaturised. There have, of course, been many failures but not obviously because they do not like this habitat. At least some of the plants are covered from December to late February with roof lights. There is little doubt that three very dry and hot years in a row have helped (and killed many of the mecs) and this wet year has seen some potted seedlings rotting in wet soil though the large plants seem impervious to summer rain.

SOWING AND GROWING ON

I sow all seed in early January and leave it for at least four weeks out in the cold. By mid-February all the seed is given a little bottom heat. Now many of the alpine penstemon species are known to need the seed stratified by cold. A number of species do not germinate even with this treatment until the following year. I have to say I keep all 'failed' seed pans for at least three seasons but mostly this is a forlorn hope but it is vital with penstemons. Very often a 'failed' pan produces a totally synchronous germination the next season. Deno (1993) gives a lot of advice on penstemon germination. I tried a

carefully controlled set of experiments using both gibberellin and kinetin but none of these were any better than the untreated controls. All the treated seedlings grew more leggy but this had no long term effects. Not all seed needs stratification; some needs dry storage.

Way and James (1998) in their excellent recent Penstemon book identify four types of germination. For alpine gardeners assuming the need for stratification of penstemon seed is a good basis. Although the seedlings rapidly send a long curling root down they are relatively forgiving about transplanting while very young. If the whole pot germinates then knocking the lot out from a good gritty seed compost is fine and avoids any root damage. If, however, one or two of something germinate the first year then one can, with care, winkle these out although with some inevitable root damage. They are then potted into something like a gritty JI2 with a little added leafmould and left to grow on until they fill the 7 or 9 cm pot.

Small alpine species are better in small pots as they sulk if over potted. They are left in part shade and watered fairly freely. Only this wet year have there been any significant losses at this stage. Some of the more difficult desert species might be better in a frame where moisture can be controlled a little more. If I have a good germination then two plants are potted into 10 or 12 cm plastic pots and overwintered under glass and two are left in the small pots to overwinter also under glass. Care is need since they do not like to be soggy in winter but at the same time will die in spring if the compost really dries out. In practice some of them actually flower better when pot bound and often provide earlier material for cuttings.

The next problem is the age old one with seed. All my gardening life I have been tempted by seed catalogues offering seed from 'our finest strains'. Almost invariably they come at best mediocre (though I have a pink delphinium this year worth a name). The same is true with wild seed. Most may not be very floriferous. In a trial of ten or twelve some will flower markedly better than others. If only one or two germinate then you may end up with a very downbeat view of something potentially excellent. I have great mats of a single germination of *P. discolor* which has still not flowered after six years though it has made a lovely tough mat. I have on the other hand a brilliant dwarf, amazingly floriferous form of *P. whippleanus* and one of seven *P. teucrioides* was extremely impressive. Several sowings of *P. crandallii* have never produced a plant to touch the

first one I grew. You need therefore to trial as many as you can and then treasure and vegetatively propagate anything good.

Most penstemons come well from cuttings taken at any time during the summer. They root quickly from nodal cuttings, basal shoots or even flowering stems without hormones. They are better in a mist situation but not over wet (i.e. restrict the length and frequency of mist and use pure sharp sand). These are potted on quickly and hardened off just as the seedlings are. I have to say there are two or three species that I have found very difficult to root and sadly these are always the choicest. I have a lovely form of *P. montanus* and have failed for four years in a row and the original plant looks geriatric. One has to admit that many of the species are not long lived and regular vegetative propagation is often essential as I have found seed set most irregular in many species. It is probably better with those that produce long flowering shoots from a basal rosette to cut the flowering spike off as soon as it is over. Like this, new shoots are produced and a healthy rosette built up by the end of summer. The remains on a few gnarled old stems often do not seem to overwinter. Even with all your care and attention a great many of the species would not appear to be very long lived.

SEED SOURCES

There are many sources for seed including UK seed exchanges. In general, especially if seed is wild collected, the naming is good. I have, however, very largely bought seed. Three American sources I have used are Southwestern Native Seed, Rocky Mountain Rare Plants and Alplains. My seed sowing data has been computerised for some years and it is clear that seed from these sources germinates exceptionally well with at least twice the success rate of any other commercial seed source and is comparable with my own home saved seeds. All these seed lists offer a great variety and are reasonably priced, though a slight disadvantage in our global economy is that they will not accept UK funds. I have also obtained good seed of rare species from the Archibalds and I am looking forward to a new North American listing from them this winter. There is a Penstemon Society in North America but my efforts to contact them have failed

REFERENCES.

I must confess the botany of this group is difficult and there are an awful lot that look alike. Certain identification requires a proper

botanical key. There is also a complex classification with many groups and subgroups. The excellent articles by Charlesworth in AGS Bulletins (1994) and the Way and James (1998) book both explain this classification and discuss all the species in an order that follows the classification sections. Perhaps I should say at this point that having longed for a good book I was a bit wary because the Gardeners Guide series is a bit variable. This book is excellent, however, and what I particularly like is the clear message that they know what they are talking about and have real thoughtful practical experience. It is not a botanical book but what it says – a gardeners' guide, but it has made a great effort to be comprehensive about all the species. If you read it carefully, every page offers real guidance on all aspects of this genus. It would be nice one day to see a really comprehensive monograph but this book is essential reading with a whole series of highly valuable appendices. I am not attempting to do anything like that here but merely to introduce some interesting species I have grown in rather a random order.

SPECIES ACCOUNTS

I am starting with a species that nearly all of you will know — to be used comparatively.

Penstemon pinifolius 10 - 8 - 5

The figures following the species name are my subjective ratings on a scale of 1-10

10 refers to the ease of growth, propagation and behaviour in the garden: quite faultless.

8 refers to its structure and shape in the rock garden: a nice neat non-sprawling plant of character that is amenable to pruning to shape.

5 is the flower and general floriferousness which is fine but not exceptional with a relatively small tube of a flower.

There is also the good yellow variety, found in Essex, 'Mersea Yellow'. I have tried this species from wild collected seed but have had poor germination so far. There is variation in the wild and this is worth persisting with.

Penstemon crandallii 9 - 9 - 9

This is my absolute favourite (Fig.38). It grows in a trough and propagates well. The original plant is ten years old and still growing strong. It is meant to be the subspecies *glabrescens*. It has a lovely neat habit with small thyme-like leaves and lovely shortish stems of

big deep blue flowers with a white throat. It confines itself to a little shrub 15-20 cm across which can easily be tidied up. It is truly smothered in flowers and like many of the penstemons flowers well into July and reinforces one of the great strengths of this genus in the garden, flowering late into summer. I have grown it in a pot where it grows quite happily and with the care and attention alpine plants need I am sure it would do well on the show bench. Penstemons will certainly be a good thing for the late show at the next International Alpine Conference in Edinburgh in 2001. I have grown the subspecies *atratus* from seed but so far, though growing well, they are most reluctant to flower. It may well be that my old plant is a particularly good form for the garden.

Penstemon laricifolius 7 - 7 - 8

My second favourite suffers from a poor press but I think it is exquisite with a lovely mass of sugar-pink flowers on short stems over a long period in mid summer (Fig.39). The foliage looks like a heather and the whole plant is neat and tidy. It does eventually sprawl but again it can be trimmed back. It comes well from cuttings and has even set seeds. All the plants I have grown have flowered well. I think probably with this species 3 to 4 years is about as much as one can expect. I would certainly do my best never to be without it. There is a white sub species *exilifolius*. I have had trouble with this and it is one that needs a little codling as a growing seedling in a small pot with a modest amount of care and attention to watering. This summer plants in soggy pots and unending rain rotted. I guess I have learnt my lesson.

Penstemon purpusii 5 - 6 - 6

This is one of those wild species with real class. It is certainly not a difficult plant though I suspect rare. It has a neat creeping habit with a few stems hugging the ground. The foliage is sparse but it looks well on the scree. It has nice large purple flowers but borne singly, enough flowers to be respectable but no excess. It propagates easily and I suspect that this needs doing regularly as it is rare enough not to take risks. It originally germinated well and all the plants were very similar, two of them surviving two vears out in an open border. I have now sadly lost this plant but will try hard to replace it as it is both attractive and different.

Penstemon bracteatus. 5 - 4 - 8

This species is very different again. It has grey almost succulent foliage which indicates a dryland origin. It is suprisingly easy and

plants have survived some years with no protection. It is especially easy to propagate so there is no excuse for losing it. It is most happy in a pot and would be a good late show plant with a short stem smothered in flowers that all at once have blue, rose and purple tones, almost reminiscent of some of the *Meconopsis grandis* plants that get sneered at for not being blue. There are other related species, like *P. nitidus*, which seem to be doing nearly as well but more time is needed to assess them.

Penstemon eriantherus. 6 - 5 - 9

Another different sort of a plant which originally came to me as seed from Mike and Polly Stone. It grows in a trough but again makes a well behaved pot plant. The form and foliage can be a little untidy but it has lovely large hairy flowers often of a very good blue. It stays dwarf in a trough and is reasonably long lived but I take cuttings each year which root easily. This has set seed in some years but none of the species so far is totally reliable in this respect. I am currently trying the subspecies *whitedii* but it has yet to flower.

Penstemon linarioides 8 - 8 - 5

A nice plant but a pity about the flowers. This is very reminiscent of *Penstemon pinifolius* with a similar leaf but just a little more lax in growth. The flowers are a pretty blue and of a reasonable size but they never seem to smother the plant in the way one expects. I am damning this with faint praise which is unfair because it is utterly reliable and regularly self seeds. They are easy from cuttings, set seed and are long lived. I have three wild collected subspecies. *coloradoensis*, *sileri* and *compactifolius*. They are very similar though *sileri* has rather attractive greyer foliage. *P. compactifolius* grows no more compactly than the other two which grow to about-15 cm across and 15 cm high. It is an absolutely essential plant for the late rockery and can be safely trimmed to shape. Substantial numbers of seedlings have all behaved similarly with regard to size and quantity of flower.

Penstemon teucrioides 7 - 8 - 8

This is another class plant that is relatively easy in a trough. It has much the same dimensions as *P. crandallii* and is indeed similar in all respects. The flower is just a little smaller and slightly more inclined to have purple shades. This is a species I have grown many of with seed from a number of sources and they were very variable in floriferousness. One or two were quite exceptional, completely covered in flowers by late June while others were reluctant. I think

probably one needs really good selected strains of these dwarf penstemons and then grow on vegetatively. Again easy from cuttings and probably not long lived with increasing risk of it dying after the second flowering.

Penstemon thompsonii 6 - 8 - 5

A little bit of a collectors plant, most admirably dwarf with a lovely neat grey foliage (Fig.40), this is the nearest thing in penstemons I have grown to a bun plant. Even at three years old some of my plants are no larger than an *Androsace cylindrica* of the same age. There is a pretty little purple blue flower which though not large is well in keeping with the proportion of the foliage. This species is good in a pot and relatively easy from cuttings. I grew some seed of a dwarf strain but it seemed identical in the scree to the type plant. It certainly does not appear difficult but the usual caveat applies to vegetative propagation.

Penstemon nitidus 5 - 5 - 6

This is very similar. to *P. bracteatus* and no more difficult with glaucous foliage and a similar type of flower. It is grown in a trough but covered with a small tent cloche in winter and again propagates easily and happy in a pot. It is like *P. bracteatus* – an early flowering species which would do for shows in May.

Penstemon montanus 9 - 8 - 9

This is a great plant of gem-like quality (Fig.41) but it has one flaw; I cannot get cuttings to strike. It is deciduous and looks decidedly dead in winter but fresh little shoots break out all over the gaunt skeleton by late April. The foliage is soft and almost sticky. The buds are a lovely pink-orange but they flower a delicate soft purple. They are large and borne in well proportioned numbers and flower for a long period into August. The plant is still a neat 25 cm mound after ten years in an unprotected scree. It looks ever more geriatric and I am desperate to propagate it; if nothing else to give it away. I had two absolutely magnificent 15 year plants of *Phlox bryoides*. These two have simply failed to propagate and over many years I took hundreds of cuttings all through the summer. This year both died of old age. There is a sub-species of *P. montanus* called *idahoensis* which is fairly different and growing well at present but it needs more assessing before rating.

Penstemon speciosus 5 - 5 - 8

This is rather typical of a large number of species. I have grown the dwarfer form called *kennedyi*. They form a basal rosette and

throw a flowering spike of varying length which is covered in large purple blue flowers. I have made the mistake of trying to keep these stems going for seed but it is better to cut them back. This encourages the plant to make new shoots from the base which can be used for propagation but also to concentrate energy into the base of the plant for the following year. I find many of the penstemons that throw basal shoots tend to get blown around in the wind and often the whole plant dies the following winter. *P. neomexicanus* is like this only larger and again a lovely plant for a large scree, as is *P strictus*. To the general gardener these are all so alike that one really needs to select those that are best adapted to our gardens rather than try and grow ten or fifteen similar species. I have at least another half dozen of this type on trial.

Penstemon virens 6 - 6 - 8

Vaguely similar to the *P. speciosus* type this has a less obvious basal rosette and rather more flowering stems at a time with lots and lots of lovely large blue/purple flowers. It sets seed, propagates extremely easily and is long lived. It grows to about 35 cm and sprawls just a little so it needs space on the rock garden. It grows well quite unprotected in the ordinary border.

Penstemon confertus 6 - 6 - 5

This is a yellow penstemon although really a yellow cream and is quite a large plant fairly quickly reaching 45 cm or more across and 15 cm high. It needs cutting back and is probably not long lived but comes easily from seed and cuttings. The flowers are not overlarge but they form thickly massed spikes. It is really excellent as it first comes out but, as a few flowers die, it quickly has a vague untidy look to it while 90% are still at their best. Plants from seed have come uniformly good.

Penstemon whippleanus 6 - 6 - 6

Just marginally better than *P. confertus* it is just as easy with masses of seed available. It is meant to be variable but all my seedlings are the same deep wine purple (Fig.42). Thompson and Morgan would call it black. It is universally very floriferous but one of my plants was much dwarfer than the rest and a distinctly good thing which is, again, easy from cuttings.

Penstemon aridus 7 - 6 - 5

This is a nice neat mat-forming penstemon at home in a scree or a trough. It is very easy and some of mine are eight years old with no protection. They give rise to nice little flowering spikes with good

sized flowers of a plain blue purple. A plant smothered in flowering spikes would be sensational but all mine are not overgenerous. Eventually the mat from a single plant will cover a small trough.

Penstemon auriberbis 8 - 6 - 7

This is a relative of *P. eriantherus*. It has narrow leaves in a neat basal tuft and large delicate mauve flowers. It is a species with pleasing proportions which makes it obviously attractive. It is a dryland species and appropriate to end the current species accounts with because it typifies many of the rarer species I am trying. It is clear that so far none of the species I have had on trial are in the same class of difficulty as say dionysias and the like and more than half are desert or dryland species. I think a major reason for this is that they do not have the sort of denseness of foliage many of the difficult alpines have. They can be grown through a really coarse rubble top dressing and there is no build up of dead or decaying foliage which can so easily be fatal in winter dormancy. A really good buoyant atmosphere soon dries them out after a damp foggy spell. Some are subject to greenfly but they respond quickly to simple insecticides with no adverse effects. It would be misleading to suggest that I have not lost some of the rare dwarf desert species. I am fairly confident, however, with just a little more care in the early seedling stages these losses could have been reduced. I am thinking of species like *P. acaulis*, *yampaensis* and *pumilus*.

OTHER SPECIES

There are a number of other species I am happy enough to write about but they are not really suitable for a rock garden unless it is the size of the RBG in Edinburgh. *P. barbatus* is a lovely big red tube of a flower of the classic humming bird type. It flowers right into the autumn, sets seed and has lovely proportions. It really is, however, at home in the herbaceous border. I have grown from Exchange seed *P. barbatus praecox nana*, a really nice dwarf penstemon, not long lived but easy, sets seed and propagates well. To my untutored eyes it is a hybrid and looks like it, but good satisfying plants nevertheless. *P. wislizenii* is related to *P. barbatus*; it has less flamboyant flowers of a more maroon shade than the fire red of *barbatus*. It is long lived and easy and is another that would benefit from cutting the flowering stems to ground level in mid summer as it will flower right into winter. Again it is far too big for the rock garden. *P. eatonii* is a wonderful plant, Eaton's firecracker

says it all. It is smaller than *barbatus* and much more flamboyant. It would squeeze into the back of an average rock garden. I cannot say I find it easy to flower more than once so it needs care to keep it propagated with spare plants over-wintered under cover in pots. Yet one more of this type is *P. kunthii*. This is a real bread and butter plant with lots of good qualities but is overlarge for all but a big rock garden or one with a wild corner. It is immensely easy and very tough; it flowers the season through into November, produces prodigious numbers of flowering stems such that I regularly pick it for the house and you do not need to propagate it because it comes close to being a nuisance in self seeding. You can cut it back at the end of the year with great brutality. It has a maroon red flower of the humming bird type but is only borne in modest number, certainly an excellent filler for the herbaceous border and it does well in a pot.

Three others I love but which are not really suitable for rock gardens are *P. alamoenis*, *P. grandiflorus* and *P. superbus*. *P. alamoensis* has lovely blue-green basal foliage and long stems of orange-red flowers, similar to *P. barbatus* but with more delicacy. Again it almost certainly needs cutting down after flowering to strengthen the basal rosette. *P. grandiflorus* lives up to its name; it has the classy look of a species but the flower colour and size look as though much effort has gone into its selection. They grow easily in a big pot and indeed make an excellent conservatory plant. They again are very easy from cuttings and mine set seeds. They flower in the first year and would even make a nice bedding plant or fill a back space over bulbs in a big rock garden. *P. superbus* has such a lovely colour and strange almost symmetrical flowers of that indescribable mix between pink and orange, a great purity and intensity of colour (Fig.43). It is another of the basal rosette types with a long flowering stem type and not long lived in my experience but a great joy.

THE REJECTS

Now to be mean, what of the rejects? There are a number like *P. digitalis* that are more leaf than flower even in the herbaceous border. The hot rock penstemon, *P. deustus* is a great mound of foliage with small dingy flowers; I expected more of it, which probably does not help. I guess if it was native we would just ignore it as a weed (like shall we say we ignore docks?). There are others where I question the hardiness. The cold that killed all my eucalyptus did little harm to the penstemons except one or two Californian

Fig. 44 *Polygala chamaebuxus* (p.114) Michael Almond

Fig. 45 *Cyclamen purpurascens* (p.116) Michael Almond

Fig. 46 *Incarvillea longiracemosa* (p.119) Anne Chambers

Fig. 47 *Geranium donianum* (p.134) Per Björklund

Fig. 48 *Arnebia benthamii* (p.134) Per Björklund

species. A very large planting of *P. centranthifolius* was uniformly wiped out. I have also tried three species of the related genus *Keckiella* and while they have survived a year or two in pots they have not outside. I have to say that while I would not condemn a plant just because it comes from California, I have lost a number of plants with this provenance and I am slightly wary of them.

There are some very obvious plants missing from this list and with the editor's indulgence I would hope to write later. There are in particular the shrubby types of penstemons and there are some very good things here including species like *rupicola*, *davidsonii* and *newberryi*. I have grown nearly all this group but still have not made up my mind about them and I feel some may take years to settle into a flowering pattern. I also wonder about the hardiness of the wood in sharp frost of one or two of the species. There are also a number of potentially very exciting rarer plants which I have not given a fair trial to by growing too many new species each year. It is, of course, possible to buy many of these species as nursery grown plants. I tend these days to buy seed rather than plants and am a bit out of touch but certainly a few years ago Kim Davies of Leintwardine offered a nice collection of species penstemons and I am sure many nursery lists are worth scrutinising. Very often they will be vegetatively propagated from good forms and that is really what is needed.

SUMMARY

Penstemons have four great virtues. They are relatively easy to grow, there is huge choice, they are easily obtained and above all they extend good rock garden plants late into summer. The disadvantage is that many are relatively short lived and continuing propagation is called for.

REFERENCES

Deno, Norman. 'Seed germination' - 2nd Edition 1993

Charlesworth, Geoffrey. 'Penstemons - a gardeners guide' AGS Bulletin June and December 1994

Way, David and James, Peter. 'The Gardeners guide to growing Penstemons' David and Charles 1998

SOME SINO-HIMALAYAN PLANTS IN ARCTIC NORWAY

by Ole P. Olsen

I live in Slettmo in Balsfjord 60 km south of the town of Tromsø beside the main road E8 between Nordkjosbotn and Tromsø in Northern Norway and about 335 km north of the Arctic Circle at around 69 degree 41 min latitude North. The climate is maritime with fairly mild winters and temperate humid summers with light during the day and also at 'night' time in summer.

The mean winter temperature is: December -3 or -4°C, January -4 or -5°C, February -5°C and March -2°C. The minimum may be as low as -18 to -20°C. Snow fall usually begins in October or November with a gradual accumulation of snow until the end of March although last winter the snow did not arrive until January. Final snow melt starts at the end of April or the beginning of May.

We have the polar night between 21 November and 17 January when the sun disappears from the horizon. Christmas time is the darkest with only about four hours daylight. The mean summer temperature is about 11°C in June, 13-15°C in July and 13-14°C in August and a maximum around 25°C. This climate is due to the Gulf Stream which sweeps along the coast up to the Svalbard and makes the area milder than places of corresponding latitude.

My garden is about four hectares and slopes westward down to the fiord. It is a typical collector's garden where I grow plants from the Northern and Southern hemispheres especially from alpine and montane zones. I am especially interested in genera such as *Geranium, Saxifraga, Cremanthodium, Corydalis, Meconopsis* and many members of the family Ranunculaceae. Plants from the temperate montane zones of New Zealand and Southern South America are surprisingly hardy outside here.

I am very interested in Himalayan plants and would like to describe some rare plants which are hardy here and should also, I think, be hardy in Scotland. I am grateful to Alastair McKelvie and Chris Chadwell because they collected many of the plants I grow.

Geranium donianum

This is one of my favourite geraniums. It is very hardy and is one of the most floriferous beauties I have ever had (Fig.47). My plants were raised from seed collected in Ganesh Himal, Nepal (CC&McK 1077) at 3750 m. I have grown it successfully in well-drained leaf mould mixed with sand and conifer needles. New growth appears very late in spring so one must be patient. They start flowering in July and continue until September. They set a lot of seed which germinates readily. In their first year they produce only a few leaves just as cremanthodiums do but in the second they flower. I planted some plants in peat but they soon disappeared. Last summer was very dry so that *G. donianum* was not floriferous and set few seeds.

Arnebia benthamii

This is a striking plant with a large dense shaggy-haired cylindrical spike of red-purple flowers (Fig.48) showing between longer, linear, gray drooping bracts and borne on a stout leafy hairy stem. It has attracted attention from everyone who has seen it in my garden. Some think it pretty, others a curiosity and others think it ugly. I myself think it really pretty. My plants were raised from seed collected in Kashmir (CC&McK 712).

It flowered first in summer 1997 with one stem; in 1998 it had four flower stems and was quite a sight, about 30-40 cm across and a height of 40 cm. I raised several plants from the seed and planted them out in various places in the garden but only one survived.

I have been very fond of cremanthodiums since I first saw pictures in a book right up until I flowered my first *Cremanthodium ellisii*. They surprise me every time with their beauty and I look forward to growing more species whenever possible. It is a typical Himalayan genus and, like meconopsis, likes my climate, flowers freely and is very hardy. They set a lot of seed but fertility can be erratic from year to year. Most cremanthodiums prefer moist leafy soil or peat but there are exceptions such as *C. nepalense* and *C. pinnatifida* which need a drier site.

Cremanthodium ellisii

This was my first species in the genus to flower (Fig.49); it was raised from seed from Himachal Pradesh (CC&McK 383). They seem to grow and flower well in leaf mould with good drainage or in

peat. The basal leaves are blunt oblong 5-12 cm while stems are 20-30 cm tall. Flower heads are yellow and solitary, 4-7 cm across.

I have another plant raised from CC&McK 423 seed from Himachal Pradesh which is quite different from CC&McK 383. It is much taller with several flower heads on a stem. It seems to me to be perhaps just a variety of *C. ellisii* but I wonder if it could be a hybrid between *C. ellisii* and *C. arnicoides*. This *C. ellisii* (423) has hybridised with a *Ligularia* in my garden to produce a beautiful plant with 60-70 cm broad leaves and with flower heads in a spike-like terminal cluster. It sets lots of seed which germinate readily. Seeds are available in the SRGC Seed List this year.

Cremanthodium plantagineum

I received seed of this species (KGB 602) from my friend Finn Haugh Li who raised it from seeds from the Kunming-Gothenburg Botanical Expedition to NW Yunnan (KGB). It is quite different from *C. ellisii*; it is 15-20 cm tall, more hairy, slightly stoloniferous and not so caespitose. I use the same soil as for *ellisii*.

Cremanthodium rhodocephalum

This species raised from KGB 167 seed is one of the most beautiful in the genus with pink nodding flower heads on 15-20 cm tall stems (Fig.50). The leaves are also pretty, leathery kidney shaped and reddish purple underneath. It is stoloniferous and is easy to propagate vegetatively but seed germination is erratic. I have planted it in peat which it seems to like.

Cremanthodium helianthus

Raised from KGB 397 seed this is a nice plant with oblong blue-green leaves and with nodding flower heads with yellow ray florets. They grow readily in good soil with free drainage.

Cremanthodium calcicola and ***C. campanulata***

They are both KGB plants which I have not had long enough to describe fully . They have kidney shaped leaves and yellow flowers and do well when planted in good soil.

Cremanthodium nepalense

This little plant raised from CC&McK 136 seed has short stems 5-10 cm tall, nodding and solitary with yellow ray florets. The oval

toothed leaves are hairy and deeply impressed above. I have planted this nice plant in the alpine garden in well-drained soil.

I have another little cremanthodium like C. *nepalense* which I think may be *C. oblongatum*. It is a CC&McK plant but I forget the number because the birds have taken the label.

Cremanthodium pinnatifidum

This lovely little species raised from EMAK 629 (Edinburgh Makalu Expedition) seed is a mini plant for the rock garden. The stem is about 5 cm tall with big flower heads, solitary and nodding with yellow ray florets. The leaves are small, pinnate, oblong and all basal.I have planted it in well drained soil where it increases slowly.

Cremanthodium arnicoides

This plant was raised from CC&McK 168 seed from Nepal. It has flower stems 60 cm tall with several nodding yellow flower heads in a spike-like terminal cluster 10-30 cm long.The basal leaves have a long winged stalk and a blade to 30 cm. They grow well in good soil that does not dry out.

Cremanthodium reniforme

This pretty plant is the commonest species in the genus here in Norway. The flower heads are solitary on 20-40 cm stems, nodding with spreading yellow ray florets and brown disc florets. The leaves are kidney shaped or rounded with blades 3-10 cm broad. They grow here in good moist soil.

Cremanthodium decaisnei

This plant raised from ACE 1806 seed (AGS Expedition to China) is usually 10 cm tall like a small *C. reniforme* with kidney shaped 8 cm basal leaves and long winged stalks. The yellow flower heads are terminal and solitary, 3.5-6 cm in diameter (Fig.52). It is a pretty plant which I grow in good freely drained soil.

These are some of the Himalayan plants which I grow here in Arctic Norway and which should do well in Scotland because of the cool climate. I am interested in exchanging plants or seeds of any of these rare cremanthodiums.

My address is: Slettmo, N-9040 Nordkjosbotn, Norway.

MORECAMBE SHOW - 21 March

After an odd sort of winter, it was interesting to see how other members had fared. Some plants normally exhibited at the Morecambe Show had long since done their thing for the year and there were others which were still waiting to put on their show. Normally there is a great display of *Primula allionii* and this was noticeably less than usual.

It was quite clear on looking at the Show Benches that there were fewer plants on show than normal. Although there were only eight fewer exhibitors than in the previous year, there were 154 fewer plants on the benches. There are never more than two or three entries for Class 1 - the six pan class, there were none at all this year. Six other classes had no entries and some of the others were very lightly supported.

This year the Show was run under AGS rules and a Farrer Medal, for the best plant in the Show was awarded to a well-filled and exquisite pan of *Iris graeberiana* which was owned by Mr. J. A. Almond who also won the Hollet Trophy for having the most points in Section I and the AGS Medal for his plants in Class 39 for six rock plants. These were *Corydalis solida* 'G. Baker', *Corydalis macrocentra*, *Primula* x *allionii* 'Clarence Elliott', *Fritillaria carica*, *Cyclamen pseudibericum* and *Erythronium multiscapoideum*.

The Michael Roberts Memorial Trophy, for the most first prize points in Section II, was awarded to Mr. and Mrs. R. P. Bathe and the Reginal Kaye Trophy, for the most first prize points in Section III, was awarded to Mr. P. Craven. The Kirby Cup, for the best foliage plant, was awarded for an entry in Class 30 of *Pinus parviflora* 'Hageromo Seedling'.

The Bronze Medal (SRGC) for the most points in Section II went to Mr. and Mrs. R. P. Bathe. The Roger Smith Cup for an entry of six pans of rock plants raised from seed went to Mr. and Mrs. F. Bundy.

A Silver Award was given to Mr. S. Cumbus for his photographic exhibit - 'Spring Flora of Crete' and a Bronze Award to Mr. D. Sleep for his photographic exhibit - 'Orchids for the Garden'. Certificates of Merit were given to Mr. J. A. Almond for his plant of *Corydalis macrocentra* and to Mr. G. Rollinson for his plants of *Primula bracteata* and *Dionysia microphylla*. A further Certificate of Merit was awarded to M. and H. Taylor for their pan of *Narcissus cyclamineus* x *alpestris*.

EDINBURGH - 28 March

The mildest winter for many a year, fine weather on the day and newly renovated halls all contributed to a very successful first show for Carole and Ian Bainbridge as Secretaries and, perhaps, the best seen in Edinburgh in recent years. The warmth of the early part of the year, followed by a cold run up to the day brought a most varied range of

plants; the brightness of the new halls showed true colours and helped to create a very pleasant atmosphere.

Several changes had been made to the schedule, with the introduction of a number of innovative classes. The One Pan from Africa (Class 66) attracted a very fine plant of the yellow Gentianaceae *Sebaea thomasii* CDR 992A from moist areas of the mountains of the south-east of the continent. Class 70 was for 3 pans to illustrate variation either within a species, hybrid or its parents. In this, Ian and Margaret Young showed three striking colour variants of *Trillium rivale*, one of which had abundant deep maroon speckles.

An incredible display of *Trillium rivale*, *Fritillaria affinis* var. *tristulis* and *Arum creticum* shown by Ian and Margaret Young was awarded the Henry Archibald Rose Bowl (First, Class 2). The trillium was awarded both the Forrest Medal and the Henry Tod Carnethy Quaich for best bulb, corm or tuber; a Certificate of Merit was given for the striking fritillary. The judges must have had some difficulty deciding between these and a magnificent *Cyclamen persicum* (Certificate of Merit; Peter Semple) for the best plant in the Show.

It is particularly pleasing when local members are successful. The Reid Rose Bowl for most points in Section I, and the Kilbryde Cup for a lovely arrangement of cut flowers (Class 120) were won by David and Stella Rankin. The Midlothian Vase for best Rhododendron was awarded to J W Russell (Tranent) for *R. pemakoense*. Ian McNaughton's well established miniature rock garden, planted for all seasons, deservedly received the Boonslie Cup (Class 73).

Many fine plants were on show in Section II, which was particularly well supported by local members. Jane and Alan Thomson accumulated the highest points and achieved a Bronze Medal. Also, Eileen Goodall's fine plant of *Helleborus lividus* well merited the Special Prize awarded for the best plant shown by a first time exhibitor. The depth of quality in Section II was exemplified by *Primula veris* which took the K C Corsar Challenge Trophy for the best European or American Primula, and also the Midlothian Bowl for best plant in the section (Kathleen Rimmer).

The best Asiatic Primula was *P. edelbergii* (R E Cooper Bhutan Drinking Cup; Bob Meaden), which also featured in the stunning Gold Medal display from the Royal Botanic Garden, Edinburgh. The mainstay of the exhibit was a colourful array of erythroniums and narcissi, but highlighted by, among others, a large pan of the Iberian *Scilla ramburei* and superb specimens of *P. bracteata* grown from the ACE Collection.

A number of other plants caught my eye. *Gentiana oschtenica* and *Rhododendron dendrocharis* featured in the class for 3 pans new, rare or difficult (Class 3; Elsie Harvey Memorial Trophy; Cyril Lafong). This relative of our spring gentian from the Caucasus has been in cultivation for some time but is both rare and difficult. The latter plant is a new

introduction, and with its erect outward facing pink flowers looks a real winner. Other notable plants, all shown by Cyril and awarded Certificates of Merit included: *Androsace muscoidea* CR188, *Haastia pulvinaris* and the very striking *Orchis italica*. The androsace clone had somewhat larger flowers and a lower cushion than is typical of the species.

David Millward

STIRLING - 11 April

In recent years it seems to have become the norm for each season to produce its extremes in weather conditions. The winter of 1997-98 was no exception being particularly mild. This was clearly reflected in the range of plants seen at the show. For example we are accustomed to see numerous pans of forms of *Primula allionii, P.marginata* and *P.* x *pubescens* at the Stirling Show but this year there was not a single pan of *P. allionii* and only a few of the others.

The Spiller Trophy for the best primula in the Show was awarded to Cyril Lafong for a very floriferous plant of *P.* x *kewensis*. Amongst his other plants on display was the unusual gentian relative *Sebaea thomasii* which gained for him a CC and an AM from the JRGPC which met at the Show. *Sebaea thomasii* is a native of the Drakensburg Mountains. The flat cushion is covered with flat-faced clear yellow flowers.

A fine specimen of *Rhododendron primuliflorum* 'Doker La' won the Forrest Medal and the Institute of Quarrying Quaich for the best non-European plant in Section I for David Millward.

One very popular genus seen in abundance was *Fritillaria*. There were 31 pans representing at least 24 species in the three classes devoted to fritillaries. Peter Semple won the Ben Ledi trophy for the best European plant in Section I with *F. meleagris. F. davisii* exhibited by Richard Lilley and *F. affinis tristulis* exhibited by Ian and Margaret Young both won an AM. The Youngs were also awarded a CC for a pan of *Clematis* 'Craigton Comet', a CC for a large pan of *Trillium rivale* and the Carnegie Dunfermline Trust Trophy for the most points in Section I. 'Craigton Comet' was raised and selected by the Youngs. It is a pleasingly compact and low-growing back-cross between *C. marmoraria* and *C.* x *cartmanii* 'Joe'.

Further awards at the Show were Certificates of Merit to Richard Lilley for *Erythronium tuolumnense* and to Ron Smart for a fine pan of *Calanthe bicolor*. A PC was also awarded to *Corydalis* x *allenii*, a sterile hybrid raised by Margaret and Henry Taylor by crossing *C. bracteata* with *C. solida*.

J. and S. Whyte won the Special prize for a first time exhibitor. The Fife County Trophy for most points in Section II was won by Bill and June Mackie.

Section III for Juniors was well supported both in the plant and in the

artistic classes with first prizes being won by Joanna Leven, Robert, Helen and David Scott and Jamie Wardrop. It is pleasing to see such participation by our youngest members.

Lawrence Greenwood once again (and sadly for the last time) supported the Show with a display of his much acclaimed water-colour paintings for which a Gold Medal was awarded. A Silver Medal was awarded to James Aitken for his display of photographs of native alpine plants.

Evelyn Stevens

PERTH - 18 April

The Perth Show was again held in the Bell's Sports Centre. The entry was a bit low particularly in Section II, perhaps because of the frosty weather which followed an exceptionally mild February. It was nice to have Ian Martin's extra exhibit of *Masdevallia* seedlings and species which he has been cultivating at Kirriemuir and which received a Bronze Medal.

In Section I the Forrest Medal and Bulb trophy were awarded to a pan of *Fritillaria pallidiflora* of impressive size shown by Fred Hunt. Fred says that this is a tough plant easily grown in a pot and in the garden. The medal-winning plant was repotted annually in September and has probably grown up from a bulb acquired around 15 years ago.

Ian and Margaret Young took the Alexander Caird Trophy, the Dundas Quaich and first prize in Class 1 with *Narcissus casorlanus* (Certificate of Merit), *Clematis* x 'Craigton Comet', *Clematis marmoraria* x *petriei*, *Dianthus* 'Rivendell' and *Cyclamen pseudibericum*. The 'Craigton Comet' was an impressive and well-flowered hummock.

The six excellent pans from Cyril Lafong which took the Diamond Jubilee Award comprised *Anemonella thalictroides* (pink), *Dactylorhiza sambucina*, *Androsace villosa arachnoides*, *Daphne* 'Bramdean' (*collina* x *cneorum pygmaea*), *Alkanna siehana* and *Dianthus* 'Rivendell.

The Joyce Halley Award for the best plant grown from seed was given to *Raoulia eximia* exhibited by Ian and Margaret Young whilst Best Asiatic Primula was Bob Meaden's *Primula forrestii*.

In Section II the Bronze medal was won by Bill and June Mackie; among their plants was a nice *Iris bucharica* while Robert Paton of Dundee exhibited good specimens of *Fritillaria hermonis amana* and *F. gracilis*.

Cathy Caudwell

GLASGOW - 2 May

In such a capricious spring season it was heartening to see so many good plants on the benches. Once again Cyril Lafong presented six immaculate and varied pans to win the Jubilee Class A; one of the six was

a delightfully compact *Daphne cneorum pygmaea alba*. He also won the Charles M Simpson Memorial Trophy for the best orchid in the Show with a pot of *Orchis militaris* and his magnificent *Jeffersonia dubia* was awarded a well-deserved Certificate of Merit. In Class 1, Nick Boss' six pans of alpines set among miniature landscapes of stone and scree won him the Dr William Buchanan Memorial Rose Bowl. Class 2 was won by Stella and David Rankin with three pans which included a magnificent *Lewisia* 'Joyce Halley'. This exhibit was just one of their many entries which gave them the trophy for the most points in Section 1. Another visual treat was Margaret and Ian Young's entry in Class 3 for new, rare or difficult rock plants with wonderful 'silvers', *Raoulia eximia, Eriophyton wallichii* and the silversword *Argyroxiphium sandwichense* ssp. *macrocephalum*. The velvet-textured leaves of the *Eriophyton* were particularly appealing.

In many gardens last year rhododendron foliage was devastated by a severe late frost which forced plants to channel energy into replacement leaf growth rather than bud formation. This, together with sharp frosts last month, resulted in few pans or cut exhibits of rhododendron on the benches and in Class 4 the trophy was not awarded.

The Ian Donald Memorial Trophy for the best Scottish native plant was admirably won by Alison Ward with a multi-stemmed plant of *Dactylorhiza incarnata* ssp. *pulchella*. Two new prizes were awarded to commemorate Alison's parents, Joan and Don Stead, who died last year. Both Joan and Don were enthusiastic exhibitors who believed that our shows were the public's windows on the work of the Club and the prizes reflect their particular interests. The Joan Stead Prize for the best Primula was won by Margaret and Henry Taylor with a large pan of the lovely hybrid 'Icecap'. The Don Stead Prize for most points in the bulb classes was taken by Stella and David Rankin.

Other plants that caught the eye in Section I were David Millward's *Ramonda nathaliae* with its crystalline lilac flowers and a *Meconopsis delavayi* shown by Carole and Ian Bainbridge that had all five stems of royal-blue flowers in perfect condition. But the star of the show and the unanimous Forrest Medal winner was Glassford Sprunt's *Daphne petraea* 'Grandiflora'. Two other splendid examples of this difficult subject were eclipsed by the sheer flower power of the myriad of pink blooms — 3,500 of them according to Glassford - on an enormous plant which he has cultivated for 15 years.

In Section II the James Wilson Trophy was won by Ian Frier. This year, unusually, there were no first-time exhibitors. The outstanding plant in this section was undoubtedly Robert Paton's *Fritillaria liliacea*, an attractive American species in perfect condition.

Anne M Chambers

ABERDEEN – 16 May

It's nice to see a first-time winner of the Forrest Medal from the group hosting the show. On this occasion Chris Jones was the recipient for his very well flowered *Erinacea anthyllis*, never an easy plant to produce to show standard. This was grown from a small plant purchased from the club plant stall at the 1992 show.

Certificates of Merit were awarded to John Lee for a nice big pan of *Leiophyllum buxifolium nana*, and to Ian and Margaret Young for their 10 cm dome of *Raoulia eximea* and for *Eriophyton wallichii* KEKE504, both grown from seed sown in 1989. These last two, along with *Argyroxiphium sandwichense ssp. macrocephalon*, also gained for the Youngs the Esslemont Quaich for 3 pans new, rare, or difficult.

Mark Tosh was the winner of the Elizabeth Bowl for the most points in Junior Section III; Mark also gained a special Judges' Prize for a splendid *Lewisia cotyledon* hybrid.

In section II Edward Stephen won the Brian Bull trophy for the two-pan class with beautifully presented plants of *Haberlea rhodopensis* and *Shortia soldanelloides* and the best plant was Edward's immaculate silvery dome of *Helichrysum pagophyllum*. Bill and June Mackie won the Bronze Medal for the most points.

Carole and Ian Bainbridge won the Diamond Jubilee award for 6 pans and the Walker of Portlethen Trophy for the most points in Section I. The Craig Cup for Best Primula went to Jane Machin for her *Primula sieboldii*, with delicate lacy petals of palest pink and a deeper pink reverse. Bob Maxwell's *Rhododendron* 'Phalarope' won the Simpson Salver for the Best Rhododendron.

Bronze Medals were awarded to Heather Salzen for her accomplished display of 30 paintings, and to Ian and Margaret Young for their display of three 'fish-box' troughs of foliage plants, one of which contained only New Zealanders, another natives of Scotland.

Ian Christie showed the spectacular *Myosotidium hortensis*, with enormous glossy leaves and substantial forget-me-not flowers shading from white at the edge to deep blue at the centre, and also an *Oxytropis* sp. with dainty pale purple flowers and silvery foliage set off against a background of glistening mica-schist.

Pleasing among the *Fritillaria* was Bob Maxwell's pot of semi-double *F. pyrenaica*, each widely flaring bell having 8 or 10 petals in two concentric whorls of deepest chocolate purple, the contrasting yellow interior showing on the reflexed tips. Bob also showed a fine pan of the more retiring *F. pontica*, which won the class for one pot of *Fritillaria*.

The remarkable *Calceolaria uniflorum darwinii* shown by Margaret and Henry Taylor attracted much interest from the public at large, as did Nick Boss' unusual and attractive presentation of the fascinating and

diminutive *Lewisia sierrae* from the Tuolumne River, Sierra Nevada.

Other exhibits of note included a large dish of *Pinguicula grandiflora* set in a carpet of moss, shown by Maureen and Brian Wilson; *Androsace studiosorum*, with sugary pink flowers in substantial whorls and neat rosettes of leaves from which emerged an abundance of offsets on long reddish runners; and Edith Armistead's *Vaccinium oxycoccus*, with little nodding pink flowers hovering above a carpet of tiny leaves.

Chris Jones

ABERDEEN DISCUSSION WEEKEND — 10-11 October

Any Show in mid October is bound to lack a lot of plants which flower earlier in the autumn but this Show in Aberdeen made up what it lacked in quantity by excelling in quality.

David and Sheila Rankin won the Mary Bowe Trophy for most points in Section I with a range of excellent plants. One in particular was *Gentianopsis* sp. SDR 714 collected in the Lijiang Range in China in 1997 and raised by them from seed. What it lacked in elegance it made up for in the beauty of its deep blue flowers on 20 cm stems.

There were many cyclamen with the easy enough *Cyclamen hederifolium* in many delightful forms. One pan of this plant won Jean Wyllie the East Lothian Trophy for the winner of Class I for three pans.

A range of attractive plants with autumn berries included *Coprosna petriei* x *brunnea* with pale blue fruits shown by Roger Robinson, *Fuschia procumbens* with large red fruits shown by John Lupton and *Pernettya* 'Pearls' with delightful white-pink berries also by John Lupton.

There were several excellent crocuses. Two which appealed were a deep lilac form of *Crocus banaticus* shown by Brian and Maureen Wilson and *Crocus goulimyi* 'Albus' shown by Glassford Sprunt which opened its pure white cups fully in the autumn sun of the room.

The George Forrest Medal was deservedly won by Bob Maxwell with a huge pan of *Gentiana sino-ornata* with more than 200 blooms which he had lifted from the open ground the day before.

The East Lothian Cup for the Best Plant in Section II was won by Liz Loch, a first time exhibitor who had to be persuaded to unload the plant from her car to put on the Show bench. Her plant was a lovely specimen of *Vaccinium vitis-idaea* 'Koralie' 20 cm wide and 25 cm tall with masses of pink flowers and bright red fruits.

The J L Mowat Trophy for the Best Conifer was won by Elizabeth and Ron Smart with an immaculate plant of *Pinus* 'Mops'. June and Bill Mackie gained the most points in Section II with a splendid entry which included a silver *Celmisia* species more than 30 cm in diameter.

Alastair McKelvie

SAXIFRAGA HIRCULUS

Conserving the yellow marsh saxifrage

by Bill Paton

Throughout Europe *Saxifraga hirculus* (Fig.51) is in decline while in the UK numbers remain more or less in balance as some sites are lost and new sites discovered. At the last count it was growing in two Scottish and 11 English 10 km squares. These figures do not indicate that the species is in imminent danger although it is probably more vulnerable than the figures suggest. As a plant of wet moorlands it is highly susceptible to changes in land use, as for example drainage of its sites or changes in grazing pressure.

ABERDEENSHIRE SITE

Normally grazing is an enemy of wild plants but in Aberdeenshire in recent years *S. hirculus* has been lost from one site because grazing was stopped and the resultant burgeoning of vegetation smothered the saxifrages.

David Welch of the Institute of Terrestrial Ecology at Banchory in Aberdeenshire has been responsible for monitoring *S. hirculus* in Scotland and was aware of the extinction of the species at this site. When the species was put on the EC lists as needing 'Action Plans', David looked around for a replacement site and found a flush system about one kilometre away which seemed eminently suitable in terms of the underlying rock, soil composition and the wide range of plants it supported.

DONOR SITES

S. hirculus was known to be growing in three other flushes in NE Scotland with similar plant communities to the lost colony. Seeds were taken from these flushes and in the first year some were sown directly at the new site. Others were used for cultivating plants in garden conditions, keeping those from each site separate.

In subsequent years the garden-based plants will be propagated entirely by vegetative means, leaving any additional seeds taken from the wild plants to be sown at the new site.

GENETIC EFFECTS

This has led to an interesting side issue. The donor sites lie just three kilometres apart. Within each of them, the *S. hirculus* plants are very similar but comparing site with site discloses clear differences in leaf size, shape and colour. Is it common to find genetic divergence between small isolated sites of this nature when they are situated so close together ?

PLANTING

Planting took place at the new site in the springs of 1997 and 1998.

The introduction of new plants has seen them adapting very quickly to their new — and, indeed, their natural — environment. In some cases they bloomed in the late summer of the year in which they were planted.

The effect of direct seeding is more difficult to assess. This is the system recommended by many conservationists and it has the advantage of being nature's way. Certainly it is easily operated and a wide area can be covered in a short time but it needs a plentiful supply of seeds and, in many cases, this may be a constraining factor.

RAINFALL

The exceptionally high rainfall of 1998 has not favoured direct seeding especially in areas which became inundated. Here it appears that the seeds germinated without difficulty but the seedlings remained little more than the size of pinheads when being so often submerged. It is not known whether any seeds or tiny plants found a suitable landfall lower down the flush; perhaps plants will bloom gloriously next year where they were not sown.

LOOKING FORWARD

Another planting is planned for spring 1999 after which the hope and the expectation are that nature will complete the introduction of the marsh saxifrage through self-seeding and the spread of plant parts, thus creating another flush that is far from dreich.

Further information on *S. hirculus* is given in 'The Rock Garden', Vol. 25, pp 207-208.

Thanks are due to David Welch for his input to this article.

A DREICH PLACE ?

A "flush" he ca'ed it, yon botanist Billy
A flush? Just dubs and puddles,
mud, divots and a deid tree.
A richt dreich place.
Yet, listen to yon whaup, dirlin' its hert oot.
Surely its nae dreich to her.

Aince a castle was nearbye.
In time burnt doon, wi' its lady an'a'.
And a gallows stood on the hill –
just the place for it!

Yet look, in a' the glaur, a flash o' white.
" Grass of Parnassus" the botany chiel ca'ed it.
Parnassus, Greece, culture here! Nane the fear o't.
And ahint yon divot, wee white bells.
"Wintergreen"? There's nae much green in winter here.
But richt enough they're braw, yon siller bells.
And that splash o' yellow?
"*Viola lutea*? " Mair like wee pansies to me.
And yon ither yellow?
"Marsh saxifrage?" Noo' there's a bonny, bonny floo'er.

A dreich place?
For them that looks, richt enough,
there's gowd in the glaur.

Bill Paton

Glossary

billy - specialist
dreich - dreary, bleak
divot - turf
whaup - curlew
glaur - mud
braw - lovely
gowd - gold
an' a' - and all, also

OBITUARY

LAWRENCE GREENWOOD

Lawrence Greenwood died on 9th July 1998. Although he had suffered increasingly from heart problems, his death was unexpected and a great shock to all his many friends. Despite his increasing ill health he remained unfailingly cheerful and always a pleasure to be with. Like so many really talented people, he was always quiet and unassuming in his manner. He had been hard at work preparing more of his justly renowned flower paintings (or *watercolour drawings* as he preferred to call them) up until a few days before his death. Fig.53 is a photograph of one of these watercolour drawings.

Lawrence was born in Todmorden 1915. He gained a scholarship to the local grammar school but did not take it up as he had already been offered a job in the design department of Crossley Carpets, in Halifax, which he started after leaving school at the age of 14. Rejected on medical grounds for military service in the Second World War, he was directed to retrain as an engineering draughtsman - after which he worked on designing machine tools.

He showed artistic flair from a young age – so much so that at the age of twelve he was invited to attend Saturday morning classes at his local art school, the Fielden School of Art. He was a fell walker and rock climber and so it was natural that he should turn his artistic talents first to the portrayal of the landscape he loved. Landscape painting was of great importance in his artistic development, and remained so throughout his life. He produced illustrations for two books on the local history of Calderdale (*Pennine Valley*, published in 1992, and *A History of Todmorden*, published in 1996).

His love of the hills led him to an interest in and appreciation of mountain flowers. He joined the AGS in 1964 and the SRGC in 1968. In this latter year he began to turn his attention to painting flowers. He exhibited at the RHS in London in 1971 and 1974, and at the International Alpines Conferences in 1971, 1981 and 1991. He sold his first flower painting at the SRGC Discussion Weekend in 1971, in which year he also first exhibited at the Perth Show. His introduction to the Perth Show is detailed in the note he and Lillian wrote on the death of John Duff, in *The Rock Garden*, January 1998, page 411, and he has had an exhibition of his paintings at the

Fig. 49 *Cremanthodium ellisii* (p.134) Per Björklund

Fig. 50 *Cremanthodium rhodocephalum* (p.135) Per Björklund

Fig. 51 *Saxifraga hirculus* (p.144) Heather Salzen

Fig. 52 *Cremanthodium decaisnei* (p.136) Per Björklund

Fig. 53 *Cypripedium franchetti* (p.119) From Water Colour Drawing by Lawrence Greenwood

Perth Show every year since. He also exhibited regularly at the Stirling Show and the Autumn Discussion Weekend. He held exhibitions at Cluny House in 1980, 1982, 1984 and 1986, and first exhibited at the Stirling Show in 1988. He exhibited for 22 years at the AGS Summer Show North and from time to time at other AGS and SRGC shows. In 1975 he had a one man show at the Tib Lane Gallery in Manchester and had paintings exhibited by other commercial galleries in England and Scotland. Some of his paintings were reproduced in *The New Plantsman*, and his painting of Scottish native alpines formed the cover of the first two numbers of the Journal of the SRGC to have colour covers (in 1983) and was subsequently used by the Club for publicity purposes. His painting of *Malvastrum humile* was included in the Hunt Institute's International Exhibition of Botanical Art in 1992, and in 1996 his *Rhododendron falconeri* was shown at the Kew Gardens Gallery, as part of the Shirley Sherwood collection (this exhibition later moved on to the USA and Japan). In her book describing this collection (*Contemporary Botanical Artists*) Shirley Sherwood refers to Lawrence's unusual skill as a painter in being able to paint accurate portraits of flowers from the transparencies plant hunters have taken in the field, producing "watercolours which have amazed the botanists and gardeners who have seen them".

Those of us who have visited Lillian and Lawrence in their eyrie high on the slopes of upper Calderdale have been privileged to see a multitude of Lawrence's paintings. We cherish our memories of him and are fortunate to have on our walls such wonderful mementoes of him in the shape of his magnificent paintings.

Note: It is intended to mount an exhibition of Lawrence's paintings at the Perth Show in 1999 (24 April). Would anyone who would be willing to lend a painting or paintings for this exhibition please contact Dr Michael J B Almond, *The Retreat*, Grange, Errol, Perthshire, PH2 7SZ (Phone 01821 642232/ e-mail: l.a.almond@dundee.ac.uk), as soon as possible.

(The photograph of *Cypripedium franchetii* was taken by the University of Dundee Photographic Service.)

BOOK REVIEWS

A Book of Salvias
by Betsy Clebsch
Published by Timber Press (1997)
226 pages 96 colour plates
Price £22.50

The genus *Salvia* does not immediately spring to mind as one for rock gardeners but in this book Betsy Clebsch describes 120 species plus cultivars and hybrids, many of which she grows in her Californian garden. Since the bulk of the species come from Mexico and South America many are not hardy in Europe but there are at least 23 species which are hardy down to -18°C. There are three NCCPG collections in the UK and 180 species listed in the Plant Finder so obviously the genus is a popular one.

The genus contains many of the truest blue and red colours of any plants and the fragrance of the flowers and leaves is outstanding so that they are worth growing even if they need a bit of winter protection.An added bonus is that they do not seem to be prey to insects, slugs, snails nor even deer.

This book gives botanical descriptions and cultural hints for the species and cultivars, arranged alphabetically. It is beautifully produced

PC

Lilies
by Edward Austin McRae
Published by Timber Press (1998)
392 pages 107 colour plates
Price £25

Edward McRae is one of the world's leading lily growers and hybridisers and is particularly well equipped to write this guide to lily growers and collectors. He has pioneered hybridisation methods for lilies and is full of praise for one of our own members, Dr Chris North who at the Scottish Horticultural Institute at Dundee developed embryo culture methods for crossing distantly related species.

The book lists alphabetically around 140 species plus varieties and cultivars and gives information on hybridising, cultivation and propagation. Wild habitats are listed and, even although the book is written by an American there are many hints for European growers whether growing large-flowered hybrids or rock garden species so that it is a very useful volume for anyone interested in any aspect of lily culture. Wild species form the core of the book.

As expected from such an expert, the book is comprehensive and well produced.

MS

Garden Guide to Growing Penstemons
by David Way and Peter James
Published by David & Charles (1998)
160 pages
Price £16.99

This is the first modern in-depth look at the cultivation of penstemons, a popular genus as shown by James Cobb in his article in this issue but until now lacking a book such as this which describes the garden-worthy members of the genus, their taxonomy, cultivation, pests and diseases. Many of the species are not alpines but most are good garden plants.

An excellent introduction to penstemons but a pity that it does not have a bibliography.

PB

Conservatory and Indoor Plants
by Roger Phillips and Martyn Rix
Published by Macmillan (1997)
Pages Vol.1 286 Vol.2 319
Price £19.99 per Volume

It is perhaps strange to review a book on conservatory plants in a rock garden journal but these two splendid volumes are much more than that. They encompass over 2200 plants for window sills and conservatories but also for cool and cold glasshouses and even outdoors in milder parts of the UK.

Many rock gardeners also grow plants under glass. This book, for example, devotes 90 pages to pelargoniums (every plant mentioned accompanied by an excellent colour plate), many of which are semi-hardy and all of which can be grown outside and brought in for the winter. Nowhere else could you find such a collection of superb photographs of species and cultivars of pelargonium.

The book is specially recommended for the range of unusual but interesting semi-hardy plants it describes and depicts. Usefully it gives hardiness guides to all the species it covers which is a great help to all gardeners. Even plants which can tolerate temperatures as low as -10°C are described.

Inevitably there are a number of errors in two volumes of this magnitude. The dust cover for Volume 2 says that it includes saxifrages but the Index for this volume refers you to Volume 1 in which there is no mention of saxifrage. Just a minor mystery which in no way detracts from the wonderful wealth of information on plants which are seldom described and illustrated.

AM

Himalayan Cobra Lilies
by Udai C Pradhan
Published by Primulaceae Books, Kalimpong
(Second revised edition 1997)
100 pages 20 colour plates
Price £19.95

This revised edition covers all the species of *Arisaema* found in the Himalayan regions and details their botany and culture. It will be a most useful work for the growing band of gardeners who delight in the challenge of this genus. The magnificent leaves, handsome inflorescences and brightly coloured autumn fruits give delight from the moment the shoots appear in late summer.

An excellent key permits fairly easy identification which will be of great help to gardeners who are often bemused by problems of naming.

The book is unfortunately not well designed, produced or bound but considering the problems facing Mr Pradhan in his nursery away up in the foothills of the Himalayas it is good that he has managed to assemble his vast knowledge into print. This will be an essential book for all cobra lily fans.

MC

Scots Roses of Hedgerows and Wild Gardens
by Mary McMurtrie
Published by Garden Art Press, Woodbridge (1998)
110 pages plus watercolour plates
Price £19.50

Many varieties of the Scots or Burnet Rose are recorded and illustrated here by Mary McMurtrie in her own wonderful style.

She is an amazing lady who in a long career has run a plant nursery but is best known for her superb watercolours of plants. This latest volume is a lovely contribution to her work and also a useful addition to the literature of roses.

PC

A Botanical Pioneer in South West China
by Heinrich Handel-Mazzetti
Translated and published by David Winstanley 1997
192 pp. 48 black and white illustrations, 7 maps
Price £14

Most gardeners are familiar with the names of Forrest and Kingdon Ward from their plant explorations in China but few have heard of Handel-Mazzetti though he was a contemporary and an eminent botanist.

In 1914, by then an experienced taxonomist in the Botanical Institute of Vienna, he accompanied Camillo Schreider on an expedition to

Yunnan which was prompted to some extent by Forrest's success in introducing plants from the area into cultivation in the west. The outbreak of the First World War meant that he was unable to return to Austria and he was advised to continue his work in China. In 1915 Schreider left to take up a post in the USA and Handel-Mazzetti continued alone until he was repatriated in 1919. Handel-Mazzetti's work was the collection and documentation of- a vast amount of botanical material, more than 13,000 specimens. The academic nature of this achievement and the fact that his account of these years, *Naturebilder aus Südwest China* published in 1927, was not available in English translation meant that his name did not become known here. This publication rectifies that omission.

Handel-Mazzetti's book was written from his diaries and is a well-organised account, mainly from a scientific viewpoint, of the five years he spent exploring and collecting not only in Yunnan but in Sichuan as far as the borders of Tibet and Burma then finally further east in China. His botanical interests were wide-ranging from trees to alpines and included the lower plants. However, the narrative does not lack other interest and relates his daily encounters with the local populace plus all the trials and tribulations of travelling in China in the early years of the century. He stayed in passing with Forrest at his base in Nguluke, territory familiar to some of us since restrictions were eased in the 1980s; it is fascinating to see this area of NW Yunnan through other eyes.

The book is inexpensively produced in A4 format with soft covers and this is reflected in the comparatively low price. The illustrations of plants, places and people are from Handel-Mazzetti's original photographs. Also included in the volume is an excellent biography written by David Winstanley containing much new material which gives us a comprehensive picture of the man.

AMC

The Woodland Garden
by Jack Elliott
Published by AGS Publications Limited
225 pages 74 colour plates
Price £12.95 plus £1.65 p&p

This book is just the thing for gardeners who want to grow something in a shaded spot and are not sure what to plant. It deals with 175 genera so that the range covered is vast. Some sections such as the ones on erythroniums and trilliums are right up to date and incorporate the latest information on species and cultivars.

It is a very handy reference book for those occasions when one wants a plant for a shaded corner or when a friend asks for suggestions about what to plant where. AM

ANNUAL GENERAL MEETING

The Annual General Meeting will be held at
Battleby Conference Centre, Redgorton, Perth
on Saturday 30 October 1999 at 2.00 pm.

Nominations are required for the Executive Office-Bearers and for four ordinary members of Council to serve for three years. All Office-Bearers retire annually but are eligible for re-election.

Nominations in writing and seconded by a Club member or members should be lodged with the Club Secretary not later than 15 May 1999. 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:

Mr I J Douglas, Mr J Ross and Mr A Thomson

Mrs G Lee, Secretary
Old Schoolhouse
Hazelrigg
Chatton
ALNWICK
Northumberland
NE66 5SA

GROWING ALPINES UNDER GLASS

by A. J. Leven

Members of the Scottish Rock Garden Club and its sister societies cultivate plants from many parts of the world. Considering that these plants come from widely diverse habitats it is surprising how many of them survive the rigours of our Scottish winters, not to mention the idiosyncrasies of our spring, summer and autumn. In my Dunblane garden I have planted alpines and subalpines from the European Alps, shrubs and bulbs from temperate Asia, trees from Australasia and Chile, and herbaceous plants from North America. The most successful group of plants in my garden are those which we would term 'woodland plants'. If I wanted an easy gardening life I would concentrate on growing woodlanders and dwarf shrubs.

In the garden, plants are susceptible to spring frosts, biting winds, sun scorch and autumn damp. Mild spells of weather encourage early growth which can be damaged by later frosts. This has been especially noticeable last spring (1998) when even *Helleborus orientalis* plants suffered. I have long been accustomed to losing some rhododendron flowers to late frosts. I counter this by planting more rhododendrons than perhaps I should. I count myself lucky if I see flowers on those rhodies which start to open during a mild spell in late March. They are often spoiled by an April frost. Paradoxically this year with its long mild winter and early spring allowed us to enjoy Rh. 'Christmas Cheer' and 'Snow Lady' as never before. Petiolarid primulas can suffer flower damage from heavy rain. Farina is washed off plants of *Primula marginata*. Most Mediterranean bulbs do not like our heavy clay.

The range of plants which can be grown in our gardens can be greatly increased by giving some simple protection. This can range from a cloche or even just a pane of glass raised on two bricks to a custom-built alpine house. Between these extremes are cold frames and modified aluminium greenhouses.

WARNING

It is often said that an alpine house protects the grower rather than the plants but it will only protect the plants inside if the grower looks after them. There are many ways to automate some of the work in an alpine house but plants under glass demand attention for most of the year. **Do not start growing your plants under glass unless you have time to look after them.** Remember holidays. I am lucky to have a good friend, an expert plantswoman, who is prepared to spend time in July tending my plants while I am enjoying myself exploring hillsides in distant countries. If you are less lucky than I have been, start training a neighbour as soon as possible.

SITE

Textbooks often advise choosing an open site for an alpine house to ensure that maximum light reaches the structure. My garden is very exposed, or at least it used to be until my trees and hedges grew tall. I planted the beech hedge on the north and west sides to screen the alpine house from the road. As it grew I found it sheltered my cold frames and the alpine house itself. I now lose less glass in gales than previously. As I need to shade both frames and alpine house in summer I do not worry about the decrease in light caused by the hedge. My frost-free house benefits from being shaded in summer by a large *Sorbus cashmeriana* planted three metres from the south side. In winter there are no leaves on the rowan and the frost free house gets plenty light. In summer the tree provides some dappled shade. I still give it extra shade. Here I grow my pleiones and those cyclamen which might be tender in Perthshire.

If possible build the alpine house on a north-south axis with the door at the south end. In our northern gardens the south side of a structure gets most sun. (Tomato greenhouses are usually built with their long axis east-west to let maximum sunshine on to the plants.) In my alpine house the longer east and west sides are not subjected to the most intense sunshine. I tend to place pans of bulbs at the south end of the side benches. Always remember that alpine plants are subject to scorching in a strong sunlight. The morning sun shines on the east side and afternoon sun on the west. Make sure that the site is level and well consolidated. The ground under the bench supports will be subjected to very heavy loading. A ton of sand does not go very far in a plunge bed. My alpine house sits on sloping ground and I had to build up one side with stone wall to make the

site level. I should have built the wall in brick with paving slabs as a coping. and had a path right round to give easy access to all the glass. My alpine house is built too close to the top of the retaining wall with the result that the eave height on the 'down' side is three feet higher than on the 'up' side. Water pipes and electricity cables should be led into the site before the greenhouse is fixed in place.

THE ALPINE HOUSE

The choice is between aluminium and wood. Mass produced aluminium greenhouses are readily available. Cedar wood alpine houses are more expensive but most people would agree that they look better in the garden. If you really want, you could have brown or green aluminium. We are told that wooden greenhouses have wider astricles than aluminium ones and so let in less light. I think the difference must be minimal. Buy the largest you can afford. Small structures have a small volume and a large surface area. Unlike large structures, they can heat up and cool down quickly, thus subjecting the plants inside to stress and scorch. The floor and benches act like electric storage heaters. They absorb the sun's heat in the day time and release it at night. This is particularly helpful in winter time. Another reason is that if you start with a small alpine house, you will quickly fill it and want another one. Two small houses have the same problems with heat as one small one. The width of the alpine house is important. Make sure you have enough width to have a plunge bed on both sides and a good path between. If the bench is too wide you will not be able to reach the pots close to the glass. If you have to stretch too far you will squash and damage plants close to the path. You need to be comfortable, as well as the plants. I recommend that you buy one at least 8 ft., and preferably 10 ft. wide. This will give benches of adequate width and a central path 3 ft wide.

The length will be 10, 12 or 16 ft. It is possible to join two aluminium greenhouses together to increase the length but you can never increase the width. If you have a choice, choose one with as much height at the eaves as possible. Glaze it with glass; plastic, though cheaper, does not transmit all wave lengths and can change the colour of the flowers inside. It also tends to scratch and dull with age. There are several different methods used to retain the glass in an aluminium greenhouse. The best one I have used has metal plates the same width as the glazing bars. These plates are screwed down to

the glazing bars and hold the entire side of the glass panes in place. The worst I had, retained the glass with spidery wire clips. These used to ping out when there was a strong wind and the glass would go with them. Gale force blasts through the alpine house do not improve plant growth.

Traditional alpine houses, the best Scottish example of which is in the Royal Botanic Garden in Edinburgh, are built on a brick wall, which is about half the height of the side. Such a house is expensive and if you build one, you will lose half the possible planting area because the floor under the benches is very dark. The floor under the benches in an aluminium greenhouse is very useful for young plants and those which like more shade. Indeed you could have a sunny side floor and a shady side floor, both of which are cooler and more shaded than the bench tops so you have three distinct areas offering three distinct conditions.

Ventilation is easily provided in an aluminium house. Louvre ventilators along the side walls can be opened or closed depending how much draught you need. In winter snow can blow through the louvres, so if snow is forecast it would be best to close the sides. Roof ventilators can be automated if desired. Include as many ventilators as you can afford. It is best to have as much air circulating through the alpine house as possible at all times. In summer this helps keep the temperature down and in winter a steady breeze reduces the chance of fungal diseases attacking plants.

BENCHES

I grow the plants in my alpine house and frames in clay pots. Ideally the pots should be plunged to their rim in sand but it can be difficult to get sufficient depth of sand for very deep pots. Benches are 3 ft. wide and of different depths. The benches need to be at least 6 in deep and if possible 12 in. Once filled with sand such benches are very heavy and need to be well supported. I have tried various supports. I have come to the conclusion that the best alpine house bench would be 12 in deep, with wooden sides supported on a frame of 2 in angle iron. The base of the bench should be corrugated iron, the ridges running across the benches. i.e. cut the sheets of corrugated iron into short pieces and lay these side by side and overlapping by a couple of ridges. Excess water can escape at the edges and ends of the corrugations. This base is also very strong and can support the weight of plunge and the pots. Anyone wanting to

build a self-watering bench could adapt this design by lining it with polythene. I have a bench built of sheet metal and it has warped over the years. The wooden sides should be treated with preservative before filling the plunges. Paint the angle iron with metallic finish Hammerite paint and it will look good for years. After several years one of the benches started to sink and was starting to push against the aluminium side. I realised I would have to lift the legs nearest the glass to level the bench again. I carried all the pots outside, shovelled out a lot of the plunge sand and tried to lift the bench. It was still too heavy as it was made of sheet metal on angle iron legs. I had to raise it at least 3 in.

Eventually, under the bench, I built a plinth of concrete blocks and put the car jack on top. By turning the jack I raised the legs, one at a time, off the ground and I was able to put another brick under the legs which needed raising. In very cold spells I have found to my cost that the plunge freezes from below as well as from above. The roots of plants in the plunge are very vulnerable to this type of freezing. Since then I have kept a small electric fan heater in the alpine house. It is set to come on when the temperature falls below freezing. Last winter I stuck 4 cm thick polystyrene sheets onto the undersurface of the metal plunge to insulate the plants from below. I have still to see if this is successful. If it is, then it would be better to increase the depth of the plunge beds to accommodate the polystyrene just beneath the sand.

POTS WATERING AND COMPOST

The type of pot, compost mixture and watering routine are closely related. Plastic pots retain more water than clay and can need less watering. The compost in a plastic pot will usually need to be more open than that in a clay pot. Remember that for successful growth alpine plants and bulbs need air in the compost as well as water and nutrients. Once you have your own method you will often have to repot any new plants before growing them on. Many nursery grown plants are raised in peat type composts. Others seem to have been raised in a ball of solid clay. The time taken to replant new plants into your own compost is time well spent.

As I said before I plunge my pots into sand. Other growers sit their pots on top of the benches and check their moisture level each day. I do not have time for that. I try to grow all my alpines in clay pots which are porous, making watering easier. Moisture in the sand

plunge travels into the pots. It is more difficult to over- or under-water them. Other growers use plastic and grow their plants better than I grow mine. Nowadays it is again possible to get frost proof clay pots at quite reasonable prices. Ten years ago it was a different story. Never grudge the cost of the pot. A dozen *Fritillaria* bulbs could easily cost £30 to replace so why grudge £1.50 for the pot? If you have grown a plant for five years it is worth giving it a good home. The pots should be cleaned regularly. In plastic pots the sun hitting the pot side very quickly heats up the compost and can lead to root damage. Once a plastic pot has been watered it takes a long time to dry out. They can be sat on capillary matting and the plants watered this way but I have never done so.

I water the sand round the plants regularly either with a watering can or with a hose running slowly. In hot dry times I sometimes water into the pots as well. The plunge is kept moister in summer than in winter when it is kept just moist. In general the more the plants are growing the more water they need. The sand deeper in the plunge is wetter than the surface. Bulbs are kept drier in summer than in winter but never baked dry. Incidentally, in Dunblane a bulb frame two concrete blocks high needs very little watering during most of the year, as sufficient moisture is drawn up from the ground. Shiela Maule told me 25 years ago that a bulb frame should get a thorough watering (a thunderstorm, she called it) in September, another in October and kept moist till the bulbs show new growth.

SHADING

Direct sunlight through glass can scorch most alpines. Sunlight hitting the sides of unplunged pots very quickly heats the pot and compost resulting in root damage. From late spring to early autumn some shading will be needed. The method used can be as complicated as you want. I find that white 'Coolglass', which is like whitewash, when painted in bands across the glass protects the plants. I leave alternate strips of glass unpainted. As the sun passes over, the shadows cast by the shading move over the plants. The strong rays never rest on one part of a plant for long. If the house were built east-west instead of north-south the shadow cast by the shading would stay more or less in the same place all day. Another good material is the very wide plastic mesh that shepherds use to protect young lambs from winter winds. It is 1 m wide with holes about 2 cm x 12 cm. It is easily nailed to a wooden frame and can be

rolled up in winter. Green small mesh netting can be attached to the inside of the alpine house.

One very hot summer I removed the glass from the west side of the alpine house to allow more air to circulate. Most years I remove the central section of glass from the gable end opposite the door.

Most of my plants are grown in a compost of John Innes 2 or 3 with an equal amount of grit added. When necessary this is varied by adding humus or more grit. I usually add some Osmocote granules to the mix. Most plants get a liquid feed usually of Phostrogen several times a year.

MAINTENANCE

The main disadvantage of growing alpines under glass is that during the winter months what daylight there is, is further reduced by the glass. Grown under conditions of poor light plants can become weak and etiolated. Weak plants are more susceptible to diseases especially mildew. During the winter months it is important to keep the glass clean. For most bulbs this probably does not matter much till they come into growth early in the new year. I try to wash all the glass with water and weak detergent at the start of winter. If you are lazy like me you will try to wash the inside without removing the plants but I am sure that it is better to wash down an empty greenhouse.

Algae starts growing where the glass overlaps. The best way to clean this off is to remove the glass and wash each pane, again with detergent. Moss can grow between the glass and the astricles. The moss eventually starts to lift the glass and can eventually crack it. Again to remove the moss effectively the glass should be unclipped. Cracks in the glass lead to leaks and drips. You can be sure that any drips will land on the most vulnerable plants. In the short term you can move the plant but eventually a new pane of glass will be needed.

In winter condensation can form on the aluminium. Drips from this source are difficult to eliminate. The best policy is too have as much air blowing through as possible. I only close the alpine house completely when it is very frosty. An auxiliary electric fan is a great help if it is set to circulate the air. Pick dead leaves and flowers off the plants before they start to rot. Sometimes after a period of strong winds or heavy snow I find that there has been slippage of one or

more pane of glass, especially along the ridge. If this happens you have to reset the glass.

Weeds can grow inside an alpine house, the worst being annual grass and a little yellow oxalis. Remove these when they are small. Sometimes good plants seed into the sand plunge. Plants like *Rupicapnos africana* grow better in the plunge than they do in a pot. In the bulb frames seedling narcissus, corydalis and crocus frequently occur. *Pulsatilla vernalis* is another plant which seems to prefer to germinate in the plunge rather than in a seed pot. The sand plunge is also a good place to insert cuttings which root well and can be potted on when they are ready.

A tidy alpine house is a healthy alpine house. Greenfly, whitefly, slugs and vine weevils are the main pests. All can be controlled, so I am told. I must confess that on many occasions I have reacted to impending disaster when I should have been more diligent beforehand.

If you still want to grow alpines under glass it is time for you to order. Then study Robert Rolfe's splendid book 'The Alpine House'.

I enjoy working away in the alpine house. Over the years its inhabitants have changed depending on my whims but the pleasure of seeing the plants come into bloom is undiminished. Once you have a lot of plants in pots you will be able to bring them to the SRGC shows and let us all see what you grow. Remember the shows are first of all SHOWS and secondly competitions. Also remember Wordsworth's worthy words, "I gazed and gazed but little thought, what joy to me the show had brought." Until you build and use your alpine house you can have no idea just how happy you can be in mid-winter turning pots of *Primula allionii* while the rain batters off the glass outside.

HOW TO DRAW PLANTS

by Heather Salzen

My drawings have often been used to illustrate articles in *The Rock Garden* so I thought it would be worthwhile to contribute a few notes on how I actually do the drawings and to include a few examples.

All are drawn wherever possible from plants flowering in my garden. Before putting pen to paper I think it is important to look at the growing plants, to note the manner of growth, how the stems are angled and how leaves and stems are attached to them. I then make a quick sketch on a scrap of paper while observing the growing plant.

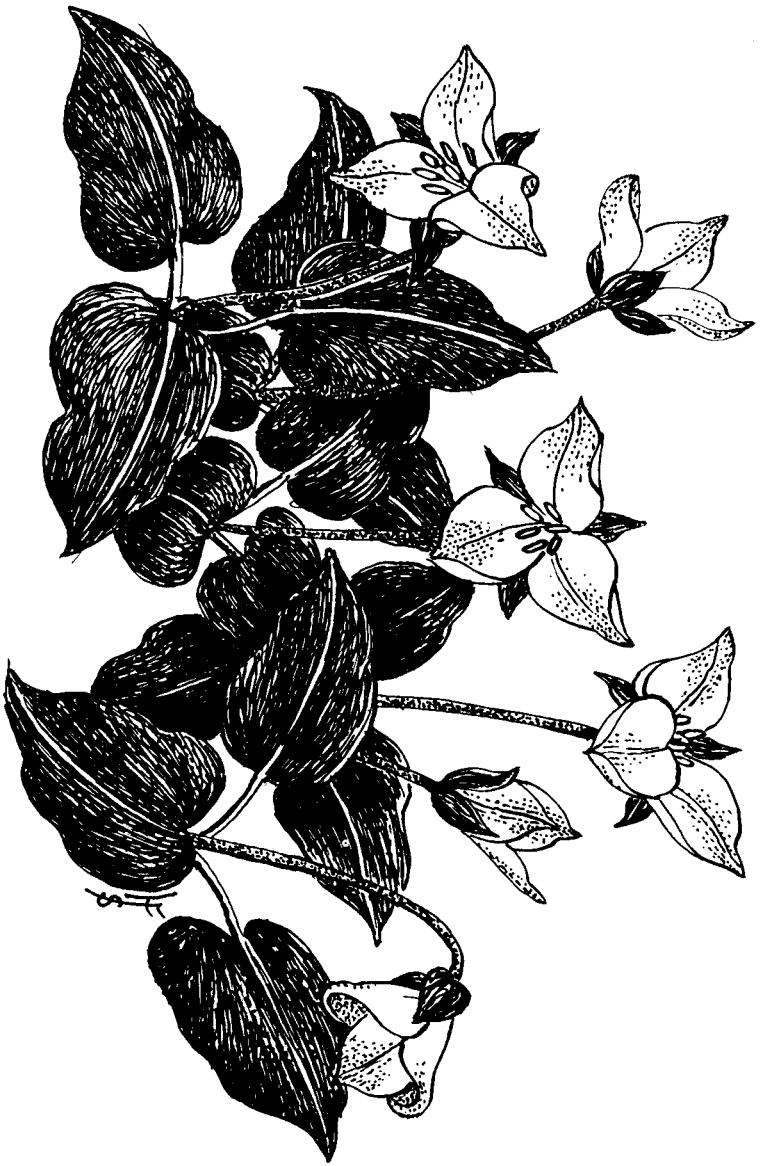
The ideal model is a plant flowering in a pot which can be taken indoors and viewed all round but usually I have to use several cut stems placed in water in a vase (a block of 'Oasis' is useful for holding stems at the correct angle). Where the plant has only a few flowering stems which I am unwilling to cut, such as trilliums, I draw plants *in situ*, a procedure not recommended as it is difficult to see detail at a distance and is also uncomfortable.

As the drawings are done with a view to reproduction, which usually involves considerable reduction, black lines of sufficient thickness are essential. I use several different inks, some water-soluble and some water-proof (India ink). A Rotring Artpen is used with water-soluble inks as it is has a reservoir and interchangeable nibs of various widths. India ink, being shellac-based, is suitable only for dip pens but does give the densest line.

Each drawing starts with a few lines in very soft pencil (6B) establishing the placing of the stems, leaves and flowers and their sizes and relationship, followed by a more detailed drawing with a 2B pencil. This is then inked in with pen. Occasionally I use a brush and diluted ink to indicate a feature such as leaf patterning (eg *Trillium chloropetalum*) which I find difficult to do in any other way.

Finally, when absolutely dry, any remaining pencil marks are removed with a very soft eraser.

Trillium ovatum



Trillium rivale

Trillium grandiflorum

Trillium chloropetalum

Arisaema triphyllum

Fritillaria meleagris

Roscoea cautleoides

As we go to press we have learned of the death of Molly Harbord, a long-standing member of the Club.

An Obituary will appear in the June 1999 issue

The Annual General Meeting of the Club on 7 November 1998 approved the following appointments:

Honorary Vice-Presidents (for outstanding service to the Club):

Kirsteen Gibb, Ian Aitchison and Alastair Mckelvie

Honorary Members (for outstanding service to horticulture):

Brian Mathew, Michael Stone and Polly Stone

THE SCOTTISH ROCK GARDEN CLUB
DISCUSSION WEEKEND 1999
FRIDAY 1 OCTOBER — SUNDAY 3 OCTOBER
at THE RADISSON SAS AIRTH CASTLE HOTEL and COUNTRY CLUB

The last two Discussion Weekends of the Millenium will be held in the heart of Scotland at the edge of 'Braveheart Country'. Within 35 miles of Edinburgh, Perth and Glasgow and only a few miles from Stirling and Falkirk, Airth Castle Hotel is situated on the banks of the Firth of Forth, beside the Kincardine Bridge. Here in Stirlingshire the Highlands and Lowlands meet. North over the water are the Ochil Hills and to the west are the Trossachs with Ben Ledi and Ben Lomomd. The Wallace Monument stands silhouetted on the Abbey Craig just a few miles upstream at Stirling. Many of Scotland's popular visitor attractions are close by including:- Stirling Castle, Bannockburn, Inchmaholme Priory and the Lake of Menteith, Linlithgow Palace, Hopetoun House, Loch Leven, The House of the Binns, Culross, Falkland Palace, Seaworld and the Forth Bridges. There are modern shopping centres in Stirling and Falkirk. Lists of attractions and hotel and B&B accomodation will be sent on request. (SAE please)

Airth Castle is 0.5 miles west of of the roundabout where the M876 joins the A876 and the A905. The M876 has junctions with the M90 and M80. The closest Railway Station is Larbert but Airth is closer to Stirling and Falkirk.

Accomodation is in double and twin rooms. There is a single room supplement. It would be appreciated if single members who wish to share a room could arrange this between themselves. **Please remember to give details of dietary or other special requirements.**

As usual there will be a PLANT SALE and AUCTION. Donations of plants will be much appreciated. We are also expecting a large entry for the SHOW and for the HOLIDAY PHOTOGRAPHIC COMPETITION (details in the Show Schedules). If you have lost your Show Schedule ask us for another when you book.

Please use the Booking Form enclosed with the Journal
Applications for bookings together with the appropriate remittance should be sent to:
The Registration Secretary
Mrs Liz Mills, Upper Kinnedar House, Saline Fife KY12 9TR

Members wanting further information should write to Liz at the above address

THE 1999 SRGC DISCUSSION WEEKEND PROGRAMME

Airth Castle set in woodland dates back to the 14th century. We will be using rooms in the new extension which was completed in 1997.The Country Club has a fully equipped health centre which includes an indoor swimming pool, sauna, steam room and solarium.

FRIDAY 1 OCTOBER

16.00 REGISTRATION

19.45 PRESIDENT'S WELCOME AND OPENING ADDRESS

FRIDAY NIGHT IS BULB NIGHT

Presented by the SRGC SMALL BULB GROUP

20.00 **JIM ARCHIBALD-**

-Eurasian bulbs from Southern France to Iran

21.45 SMALL BULB EXCHANGE AND BULB SALE (for details phone 01786 824064)

SATURDAY 2 OCTOBER

08.30 REGISTRATION

08.30 - 09.45 SHOW EXHIBITORS SETTING UP TIME

10.00 **STEVE NEWELL**

- Cushion Plants in New Zealand

12.00 SHOW OPENS

14.00 THE WILLIAM BUCHANAN MEMORIAL LECTURE

MIKE and POLLY STONE

- The world's our mountain, 30 years at Askival

15.30 **NEVILLE and KATHLEEN CARTWRIGHT**

- Arctic Odyssey Kamchatka, Siberia, Spitsbergen, Greenland and Arctic Canada

16.30 Dinner

After Dinner Talk

- Author & Journalist - RENNIE McOWAN

21.30 PLANT AUCTION

SUNDAY 3 OCTOBER

08.30 REGISTRATION

09.30 The HAROLD ESSLEMONT LECTURE

HENRIK ZETTERLUND

-Corydalis in the wild and in cultivation

11.15 THE JOHN DUFF SCOTTISH LECTURE

WILLIE DUNCAN

- An East Neuk garden over twelve months of the year

14.30 **JIM ARCHIBALD**

- Plants of the Southern Andes

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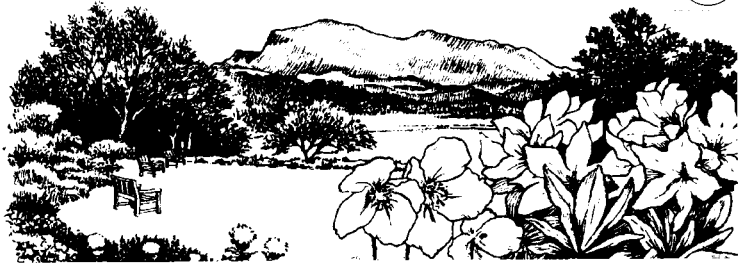

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1-8 (Reprint-no discount)	250 (post paid)	4.25
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39,52,55,58,60-64,66	50	0.85
67-73,75	100	1.70
77-81,83-86	175	3.00
76,82	300 (waiting list only)	5.10
87-90	225	3.85
91-93	275	4.70
94-98	325	5.55
99-103	375	6.40
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