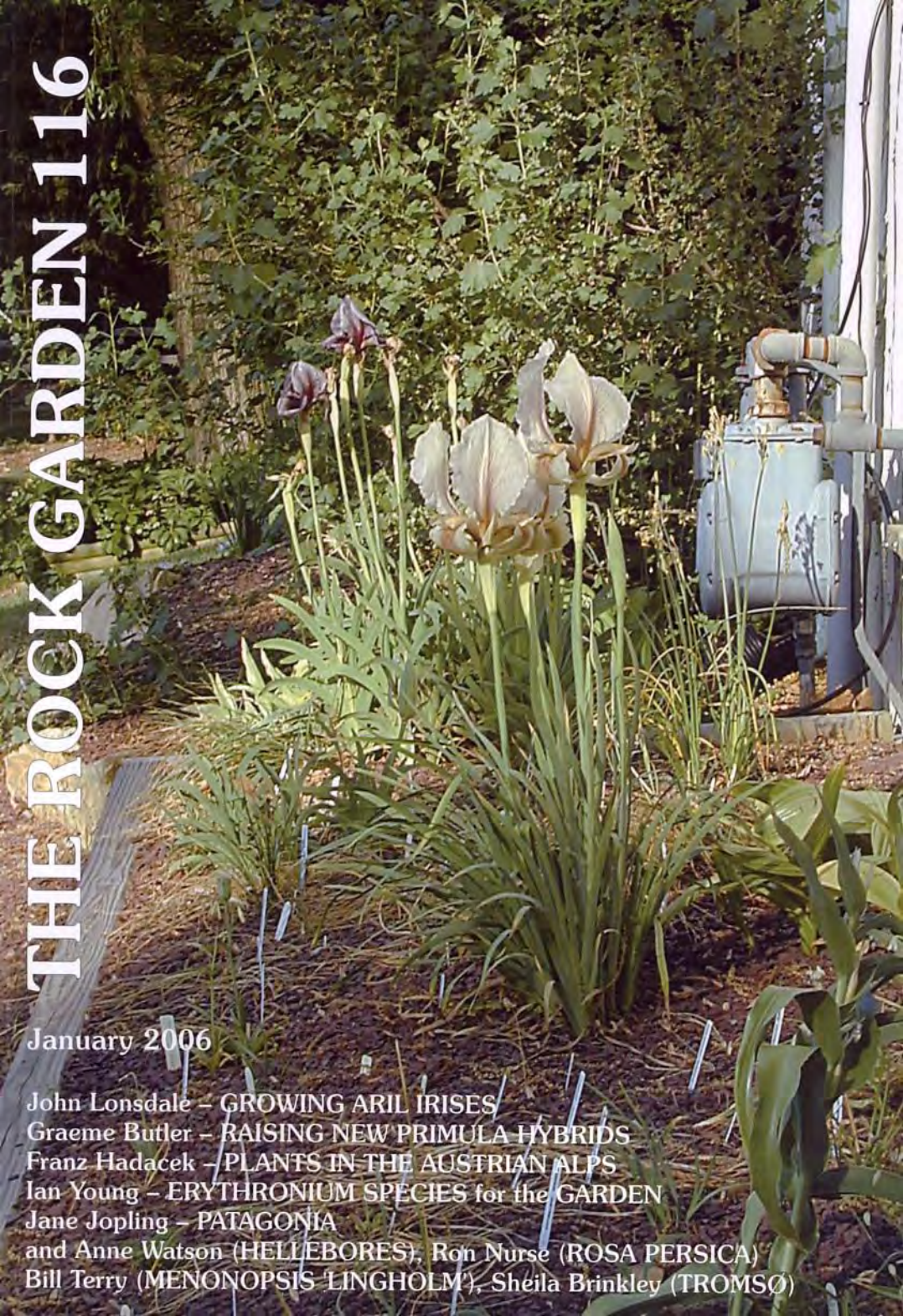
THE ROCK GARDEN 116



January 2006

John Lonsdale – GROWING ARIL IRISES
Graeme Butler – RAISING NEW PRIMULA HYBRIDS
Franz Hadacek – PLANTS IN THE AUSTRIAN ALPS
Ian Young – ERYTHRONIUM SPECIES for the GARDEN
Jane Jopling – PATAGONIA
and Anne Watson (HELLEBORES), Ron Nurse (ROSA PERSICA)
Bill Terry (MENONOPSIS 'LINGHOLM'), Sheila Brinkley (TROMSØ)

SUBSCRIPTIONS FROM 1 OCTOBER 2005

Members' Subscriptions are payable annually on 15 October each year and provide membership of the SRGC until 30 September in the following year.

Subscription Rates from 1 October 2005

	UK	OVERSEAS		
Single Annual Membership	£12	£15	$25	€25
Junior Membership (under 18 on 1 October 2005)	£3	£6	$10	€10
Single Life Membership				
(aged under 60)	£500	£600	$900	€900
(aged 60 or over)	£300	£360	$540	€540
Family Membership (Two adults and up to two children under 18 on 1 October 2005)	£14	£18	$32	€32
Each Additional Adult or Child	£3	£6	$10	€10
Family Life Membership Two people at one address				
aged under 60	£600	£700	$1050	€1050
one or both aged 60 or over	£360	£450	$675	€675

All payments to the Club must be in GB Pounds Sterling, in Euros or in US Dollars. Cheques should be made payable to The Scottish Rock Garden Club. Sterling cheques should be drawn on UK banks. Unfortunately, due to the high commission now charged on US dollar cheques we regret that we are unable to accept such cheques. Where subscription payments are to be made by Visa or MasterCard they can only be accepted if all the following information is given: the number on the card, name of the cardholder as shown on the card, the card expiry date and the cardholder's signature.

Visa or Mastercard subscription payments can also be made via Secure Order Form on the Club's web site at *www.srgc.org.uk*

Applications for Membership and all subscription payments or authorisations for payment from a Visa or MasterCard account should be sent to:

Alastair McKelvie, SRGC Subscription Secretary
43 Rubislaw Park Crescent, Aberdeen, Scotland, UK, AB15 8BT

Alastair.Mckelvie@btopenworld.com

SRGC email - *info@srgc.org.uk*

The ROCK GARDEN

The Journal of the
Scottish Rock Garden Club

January 2006

Number 116

COVER: *Iris gatesii* in John Lonsdale's Pennsylvania garden (John Lonsdale)

Printed by Wyke Printers, Hull. ISSN 0265-5500 www.srgc.org.uk

The ROCK GARDEN

is published twice yearly by The Scottish Rock Garden Club
on 31 January and 30 June

Malcolm McGregor
16 Mill Street
Hutton
near Driffield
East Yorkshire, UK
YO25 9PU
tel. 01377 270717
mmcg@mmcg.karoo.co.uk

T... ...litor welcomes articles, ...illustrations on any ...k garden ...if ... authors ... either in Microso... compatible software.

NOW'S YOUR CHANCE

see page 14

The current editor, Malcolm McGregor, is re...

The deadlines for contributions are 1 November for the January issue and 1 April for the July issue.
These dates also apply for material for the Yearbook & Show Schedules.

Enquiries about advertising to:
Carol Shaw
Delft Cottage
Dyke
Forres IV36 0TF
Tel. 01309 641405
email: *carol@findhornpress.com*

Enquiries about illustrations to:
John Howes
42 Louis Street
Spring Bank
Hull HU3 1LZ
Tel. 01482 225663 (Evenings only)

Individual copies are available from:
Glassford Sprunt
17 Claremont Drive
Bridge of Allan
Stirlingshire FK9 4EE
Tel. 01786 833607 (Evenings only)
email: *glassfordsprunt@aol.com*

Photographs are by authors unless otherwise stated.

Contact can also be made through the website: *www.srgc.org.uk*

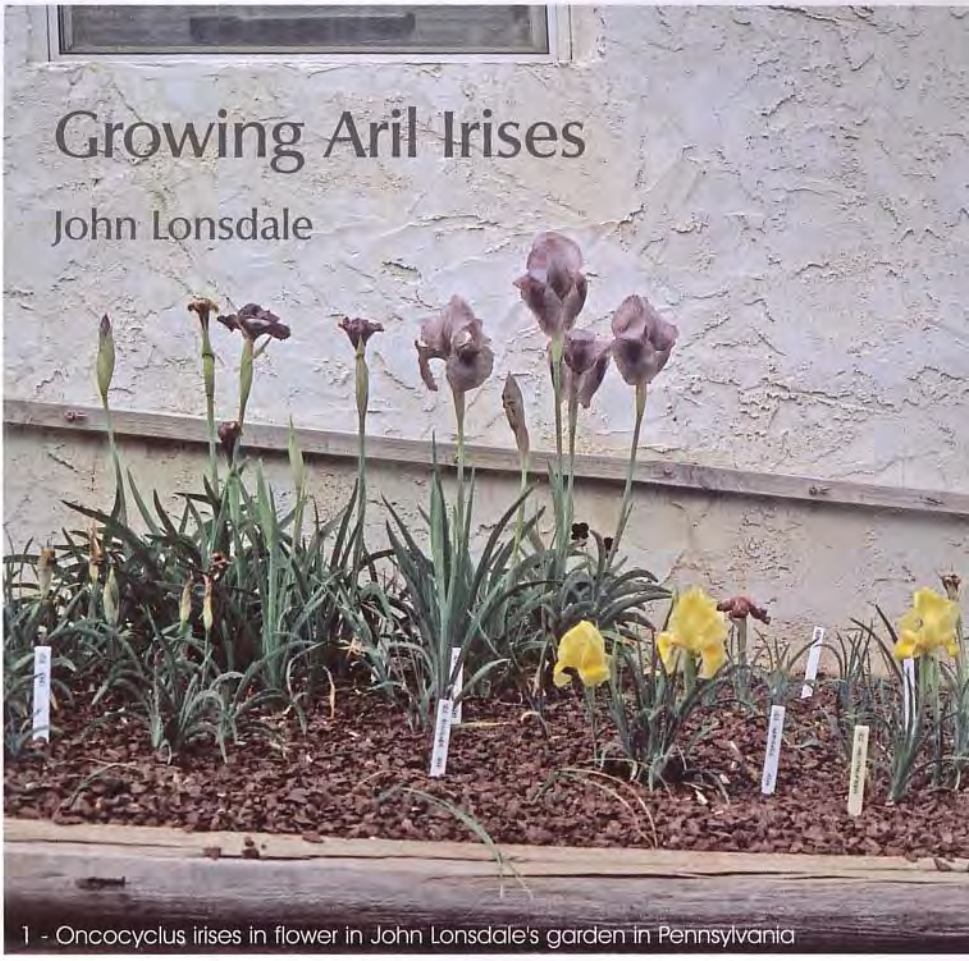
THE ROCK GARDEN on CD

THE ROCK GARDEN has been published since 1937 and for many members the opportunity to own a complete set of journals has not been possible – cost and shelf space both make getting and storing a complete set of journals a major undertaking. But now technology has made it possible for the Club to have the whole archive put on CD for members. As you will see the CD has on it the first 113 issues of the journal, from 1937 to 2004. Each journal is in a separate file with all the original text and illustrations as well as the covers electronically scanned and stored. Journals are in PDF format which means that they are readable with Adobe Acrobat Reader which is freely available over the internet. It's almost certain that members who are using a computer will already have a version of Adobe Acrobat Reader but if not then it is easy to get from the Adobe website (*www.adobe.com*) choosing the button for Acrobat Reader and then the appropriate version for your operating system. It would be possible for us to have distributed copies of the software with the journals but different operating systems need different versions of the Reader.

When I took over as Editor one of the wonderful things was that there was a complete set of the journals for reference that was ceremoniously handed on from Alastair McKelvie, rather like a badge of office. It is this set that has been disassembled to have scanned, and although I miss the set of journals (they came back from the firm that did the scanning as a large boxful of cut single pages) I have found that having the complete set available on the laptop at all times has been extremely useful. I'm certain that all computerised members will feel exactly the same about this wonderful resource – 113 Journals on just one free CD.

Growing Aril Irises

John Lonsdale



1 - Oncocyclus irises in flower in John Lonsdale's garden in Pennsylvania

TEN YEARS after moving to the USA, I continue to be amazed at the number and variety of plants that thrive in the garden under conditions that conventional wisdom deems unsuitable. Having gardened almost exclusively with bulbs and alpines in pots in south-eastern England, it took a while to overcome the urge to 'protect' plants by potting them up. The more special a plant was perceived to be, the stronger the desire to save it from the rigors of the open garden, even though in many cases the plants in question were eastern US natives that had spent thousands of years enjoying conditions similar to those offered by our new garden! Now I am reborn I have no doubt that the best place for any plant is in the

garden, as long as conditions can be provided that give it at least a reasonable chance of survival. Finding such conditions is a matter of experimentation; they won't be found reading a book. Although my Oncocyclus and Regelia iris cultivation in pots was reasonably successful, there was always a feeling that they would do far better given a free root run and more consistent growing conditions. This has indeed proven to be the case, and my methods for growing them are described in this article.

Many things changed as a result of our move, not the least being the amount of space we have to garden in. That certainly provided a major stimulus to develop a garden, rather than a collection of greenhouses and cold frames, although the latter are still very valuable for bringing on seedlings and housing certain tender plants. Here we have a little over 1.5 acres of land in Exton, south-east Pennsylvania in the north-eastern USA, about 35 miles west of Philadelphia. Exton is in USDA zone 6b, winter minimum absolute temperatures can reach –5°F (-20°C), summer maximum is over 100°F (38°C). During January and February several weeks usually go by without the temperature rising above freezing. The ground freezes hard for a month or more in a normal winter, raised beds are blocks of ice, but frost is very rare because of the low humidity. The latter is very low from late fall to late spring but is well over 90% in July and August, with accompanying temperatures in the 90-100°F (32-38°C) range. This is an interesting experience! Much of the winter can pass without snow cover, approximately 24" being the total depth of snow falling in an average winter. However, we have had up to 66" and down to less than 3". Ice-storms can be as

frequent as snowstorms, but weather systems come and go very quickly. Thus, the number of days with abundant sunshine is great, on average 5 or so days a week and, consequently, the conditions are excellent for growing 'in character' plants and bulbs, in particular. Four well-defined seasons is the norm, fall colors are spectacular and the growing season for hardy plants outdoors is very long, generally from late February through late October (and into December for some crocus species). Writing this in mid-November we have at least 8 species of crocus in flower in the garden, with still more to come. January is usually the only month between September and April that we don't have a crocus in flower in the garden. Winters with more prolonged and deeper cold mean we don't see most snowdrops or the main flush of hellebores until late February, but we are spared the temperature fluctuations of an English winter that can fool plants into thinking spring has arrived in January.

Our garden faces south and is situated just below the ridge-line on the northern side of the Great Valley that heads west from Philadelphia, and is thus sheltered from the worst of the prevailing winds. It is around 700 feet above sea level, 300 feet above the valley floor, making air drainage excellent. The soil is moderately acid and is superbly drained; in many places the ground is very rocky, with many exposed large rocks; a few pockets tend towards pure sand.

Whilst the climate and conditions are very definitely not favorable for the cultivation of high alpine cushions, which are rapidly reduced to fungus-ridden mush in the summer months, it became clear that they were perfect for growing a wide variety of hardy bulbs, including many irises. The garden is home to a large collection of irises, including representatives of all the subgenera and sections of interest to rock gardeners. Virtually all are grown outdoors, the exceptions being a few members of sections Scorpiris, Oncocyclus and Hermodactyloides that are likely to be tender or not of sufficient numbers to risk testing them yet. The Oncocyclus irises include *Iris atropurpurea*, *I. cedretii*, *I. jordana*, and *I. sofarana* var. *kasruensis*,


2

Iris atropurpurea

Driveway bed - Juno Irises in flower

Driveway bed - Regelia Irises following the Junos

Iris hoogiana

Iris stolonifera

which are grown in pots in a frost-free greenhouse with forced ventilation. The compost they are grown in is identical to that used for seed germination and is discussed later. These species are kept well watered when in growth but dried off during summer dormancy, from June to mid-September. They do not maintain quite the short sickle-shaped fans of foliage of those grown outside, but they make a passable attempt when grown without any shading from fall until early spring, after they have flowered. Even under frost-free conditions, the flower stems of *Iris atropurpurea* are susceptible to sudden low temperature shifts if grown too close to the greenhouse glass. Four flower stalks collapsed suddenly in February last year after a warm day was followed by a very cold night. This phenomenon has also occurred occasionally on Regelia species grown outdoors.

Aril irises that are grown outside include *Iris acutiloba*, *I. barnumae*, *I. darwasica*, *I. ewbankiana*, *I. gatesii*, *I. hoogiana*, *I. iberica* ssp. *iberica*, *I. iberica* ssp. *elegantissima*, *I. iberica* ssp. *lycotis*, *I. iberica* x *I. paradoxa*, *I. kirkwoodii*, *I. korolkowii*, *I. meda*, *I. medwedewii*, *I. paradoxa* ssp. *paradoxa*, *I. paradoxa* var. *choschab*, *I. sari*, *I. sprengeri*, *I. stolonifera* and *I. urmiensis* with a number of others coming along from seed. These are grown in raised beds in full sun. The raised beds are made from 8' x 3" x 5" treated landscape timbers fastened together to fashion beds approximately 24' x 4' and around 12" high. The price of treated lumber in the USA was also a pleasant surprise! These are a convenient size to work with, and also ideal when it comes to making covers. The beds are filled with pure coarse sand over native soil. The source of the sand seems to make little if any difference to the plants,

Iris korolkowii

as long as it is coarse and provides adequate drainage and air-filled porosity. Although numerous publications suggest incorporation of a wide range of materials, from gypsum to manure, I find the sand alone works exceptionally well. It is also unnecessary to compact the sand, as has also been suggested.

Rhizomes are planted horizontally such that the lower portion is in the sand whereas the upper surface is exposed. Friends gardening in drier climates may need to plant the rhizomes a little more deeply. These are then covered with approximately one inch of 3/8" gravel as a top dressing. I like to place the rhizomes so that the new growing points sit just clear of the sand surface, roots easily find their way down into the compost, in many cases way down, even into the subsoil. Oncocyclus irises behave much like *Cyclamen graecum* during 'dormancy'; although the tops can go quite dormant in the height of the summer, the roots are always active. Established clumps of Oncos have perennial roots that penetrate over 15" into the soil, still seeking some moisture, even during the hottest months. It is no wonder that lifting and dividing clumps generally sets the plants back such that it can take a couple of years for them to fully re-establish.

Oncocyclus irises divided and replanted

An Oncocyclus iris freshly replanted

Oncocyclus iris bed with summer cover

Iris sari

The summer months of high temperatures and humidity pose the greatest risk to the plants, especially during those summers with frequent and heavy rainstorms. Thus, raised beds containing arils are protected from mid-June through mid-September. Although I suspect protection is not necessary for many Regelias and some established Oncos it is necessary to provide a dry dormancy for some of the choice Juno irises with which they share the beds. The covers are 8' x 4'

Iris kirkwoodii

sheets of twin-wall polycarbonate framed out with timber to make them sturdier. They are simply propped up about 12" above the beds, overlapped and sloped to ensure heavy rains from summer storms run harmlessly away – their sides are completely open to ensure excellent air circulation (and free access to the cats who love to bask underneath them). Once on, the temperatures at soil level get well above 100°F and the top few inches of the beds are very dry indeed.

Following removal of the covers in late September the plants receive water whenever it rains. At this time I also provide a dusting of bone meal and in-line watering with a weak soluble low nitrogen

fertilizer, which stimulates root growth but doesn't encourage excessive top growth that would be more prone to winter damage. Leaf growth at this time is nothing like that of the main spring flush. Weak in-line fertilization is repeated a couple of times in early and mid-spring. Plants grown hard are generally much less susceptible to a number of pests and diseases, and are more likely to be 'in character'. No protection from the elements is needed during the winter; the plants are left to take whatever weather the winter throws at them, and seem to come to no harm other than some cosmetic ice burn to the leaves. It is interesting to note that the foliage of many winter-green irises, cyclamen and crocuses is impervious to damage that one might expect from extreme cold, but it is burnt by repeated exposure to snow and ice. However, in the case of the irises, the damage soon becomes unnoticeable once they start back into growth in the spring, usually in March. I have lost one or two premature and advanced flower buds to a hard freeze in early spring, but this is generally not a problem. The main flowering period covers April and May. *Iris gatesii* is always the last to flower and the time I collect its seed usually determines the time the covers go back on.

Iris urmiensis

The Oncos and Regelias can be propagated either by seed or division. Plants are easily divided and, although the process is simple, the timing is critical. Mature clumps are generally divided every three years. Freshly divided Oncos are exceptionally prone to bacterial rot for several weeks after division and replanting, infection appearing if they even get a hint of moisture, such as a period of high humidity. Thus, freshly divided rhizomes are best planted in late September, when temperatures are starting to moderate and humidity is falling. This time also coincides with the beginning of a period of active root and shoot growth, and the plants get their first watering following emergence from dormancy.

Although I have multiple clones of a number of species seed set is variable and usually poor, probably due to the lack of a suitable pollinator. Seed has been set without artificial aid on *Iris barnumae*, *I.*

gatesii, *I. kirkwoodii* and *I. sari*. Many Regelias appear to set seed but provide me only with empty pods. Seed is collected and surface sown as soon as ripe onto a compost of 50% BioComp BC5 compost and 50% super-coarse perlite. The BC5 is a composted mixture of coarse peanut hulls and bark which is exceptionally well-drained yet holds plentiful moisture and air without ever being waterlogged. As a devout follower of the JI plus grit school in England, I had serious problems finding suitable composts in the US. Had anyone suggested I'd be using such a bizarre mix in future I'd have considered them fit to be certified – but this is the only compost I use for all the bulbs and plants I grow, and it works wonderfully well. Seed pots are covered with 1/2" of granite grit, watered, and placed on the floor of a greenhouse which is allowed to go no lower than a temperature of around 28°F. Germination of aril irises usually occurs during the fall of the year after sowing but can be immediate or delayed for at least 13 years. Seeds collected in Israel in 1992 continue to throw occasional seedlings every fall! Seedlings are left undisturbed in the seed pots for one year, fed with dilute liquid fertilizer with each watering and dried off to a degree during the summer. I do find, however, that many seedlings prefer to keep ticking over during the summer rather than entering a true dormancy. As they grow away in their second fall they are potted up singly, taking care to rescue and sow any ungerminated seeds, and after two years they are usually robust enough to be bare-rooted and planted out into the sand beds.

Without doubt viruses are the single biggest threat to the health of any iris collection and it is vitally important to eliminate aphid vectors (not just maintain them at a population level sufficient to feed predators – a currently recommended method guaranteed to ensure your entire collection is riddled with virus). I find Marathon (active ingredient imidacloprid) is extremely effective and convenient to apply, in either wettable powder or granular forms, and has the bonus of remaining active for 3-6 months after a single treatment. Using applications in both September and February I have thus far managed to keep virus and aphid-free stocks.

As is often the case with any specialist area of horticulture, complacency is the biggest killer and there is no substitute for constant observation and propagation. The Oncocyclus and Regelia irises constitute an incredible group of plants that deserve nothing but the best. The sight of just a single flower takes your breath away and the clump of *Iris gatesii* bearing over thirty flowers that greeted me last spring made for one of life's true highlight moments. In addition to the pictures included with this article, many others can be found on my web site at *http://www.edgewoodgardens.net*.

Iris gatesii

All photographs by John Lonsdale except 1 and 4 (Malcolm McGregor)

IF YO'! FANCY THE JOB of EDITING THE ROCK GARDEN

~~.....Now's your chance~~

~~after six years~~ ~~Malcolm is looking retiring from the post of Editor after the next issue~~

????? [does this say what you want??] It's one of the most satisfying things there is to do

NOW S YOUR CHANCE

The current editor, Malcolm McGregor, is retiring after six years producing THE ROCK GARDEN.

IF YOU THINK YOU MIBHGHT BE INTERESTED CONTACT THE CLUB

you can talk to our President, Ian Bainbridge
(once he's back from Patagonia) on 0131-445-3268
or phone Malcolm (01377-270717)
or email *mmcg@mmcg.karoo.co.uk*

MALCOLM SAYS
THERE'S NOTHING LIKE IT
(.... BUT THEN HE WOULD!)

15 - *Helleborus* hybrid NF32N (17/24)

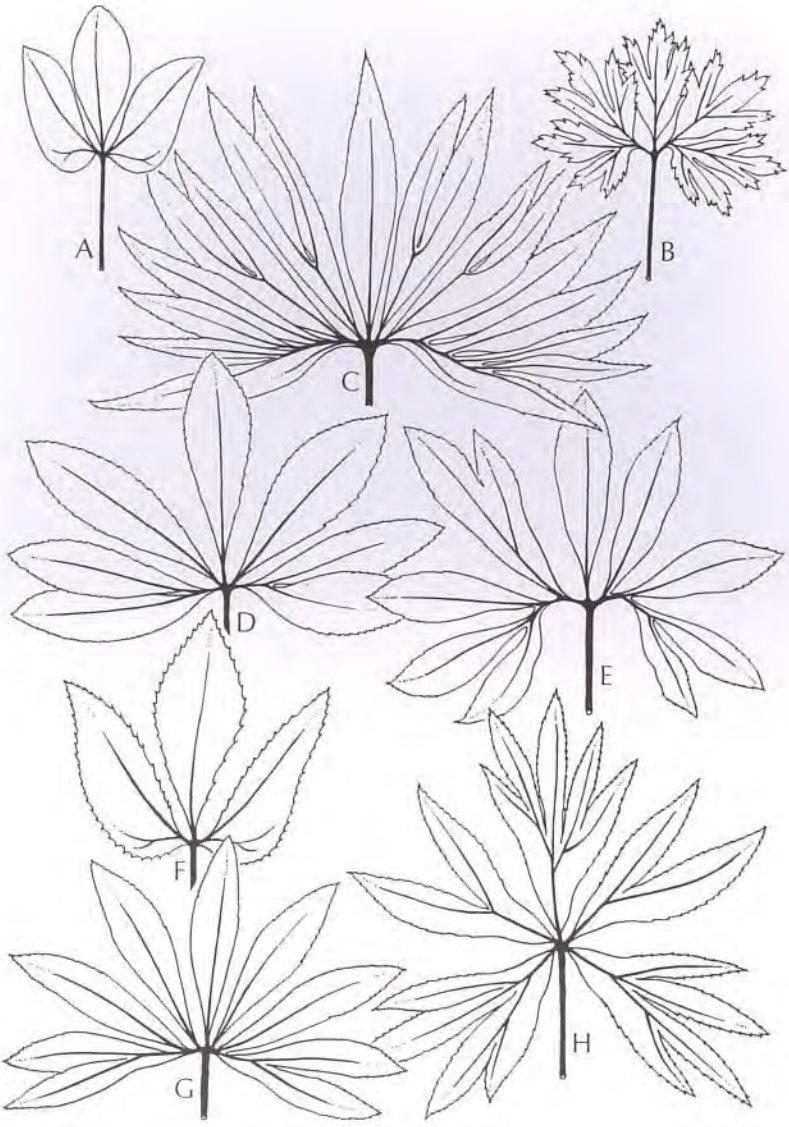
A very peculiar creature

An update on the Helleborus hybrids

Anne Watson

THE JULY 2004 edition of *The Rock Garden* published an article by Ben Zonneveld and myself which included an outline of the development of fertile hybrids from two seeds from a bee-pollinated *Helleborus* x *ericsmithii* ('*H.* x *nigristern*') plant. One hybrid, F3-2, proved particularly fertile, and after I placed pollen from *H. niger* on F3-2 flowers in 2000, 30 seedlings resulted, 24 of which I kept. These flowered in the winter of 2004-5. The plants did not seem particularly remarkable – about 4 have a distinct grey cast to the leaves and some have light green veining. Comparison with a small group of plants produced after attempting to self-pollinate F3-2 at the same time in 2000 suggests the F3-2 x *H. niger* attempted crosses were reasonably successful. The plants from the attempted F3-2 self-pollination are all grey-green in leaf, like F3-2, and generally less vigorous than the other attempted crosses. Visually, generally in the last group, which I call my NF32N group, the influence of *H. niger* is very evident to me.

In April 2005, I cut off most seed pods in the NF32N group – all 24



A *H. lividus*
B *H. vesicarius*
C *H. serbicus*
D *H. orientalis*
E *H. niger*
F *H. argutifolius*
G *H. atrorubens*
H *H. purpurescens*

had flowered. However I began to notice that some leaflets on two new leaves on one plant in particular, NF32N (17/24), seemed to be dividing. The leaves of *Helleborus niger, H. lividus* and *H. argutifolius* (the presumed ancestral 'relatives' of the NF32N group) are illustrated in Brian Mathew's 1989 book *Hellebores* and the drawing of leaf outlines is reproduced here with his kind permisiion. The 3 segments of the leaves of *H. lividus* and *H. argutifolius* are seen, together with the 9 main leaf segments of a mature *H. niger* leaf. It can be noticed that one of the central leaflets is slightly divided. This occurs sometimes on plants here. Brian Mathew also observes that *H. niger* typically has 7-9 segments per leaf.

I thought that weather, insect or slug damage might explain any peculiarity of the leaves in NF32N (17/24). However, in the middle of May I looked again with a certain disbelief. The two new pedate leaves were now 10" wide, 3 of the 9 leaf segments had redivided, not completely but about two-thirds of the way. Moreover, the bottom of each new part-division shows a brown 'notch'. The pale green vein on each 'mother' segment divides neatly and each new part piece of the division more or less mirrors its partner. The three leaf segments in question are the middle three. Something else had happened as well as the middle segment had become placed under the other two which had 'expanded' to form a kind of canopy over it, giving a layered effect. There is a certain elegance of form as the leaflets and their new part divisions seem to accommodate to the available light. My reaction was that this was a very peculiar creature. How does a plant seemingly derived from ancestry with up to 9 leaf segments with no similar re-divisions produce a leaf with 12 divisions or partial divisions?

It was clear to me this was not damage, but the plant was developing as if under "instructions" probably genetic instructions. Mutation seems unlikely – about 4 of the other 23 plants have new leaves with leaflets which may be starting to re-divide. Not all the new leaves of these 5 plants are unusually divided – many have simple segments.

When I spoke to Brian Mathew he said that he had not come across a "*Helleborus niger* variant" behaving in this way and that there was value in photographing and describing it. He also said that if genes in hellebores become mixed strange things can happen. Occasionally plants of *H. sternii* are produced with exra lobing on some leaflets. He also reminded me that in other hellebore species (*H. purpurascens, H. multifidus* etc.) redivision is more pronounced as plants mature. Further observation will be of real interest.

REFERENCES

Mathew, B., *Hellebores*, 1989, Alpine Garden Society.
Zonneveld, B.J.M. and Watson, Anne, "New fertile *Helleborus* hybrids", *The Rock Garden* 113, 2004.

Photograph by Sam Watson.

Rosa persica

Rosa persica

Ron Nurse

IT IS OFTEN forgotten that plant hunting has a very long history and that the 18th century had many contributors. Pallas (1741-1811), a German, was Professor of Natural Science in St Petersburg under Catherine the Great. He travelled widely in the Russian Empire and is remembered for Ixiolirion, Crocus and Iris, species of all of which bear his name, pallasii.

In about 1760 he found *Rosa persica*, which is a native of Iran (Persia), Afghanistan and Uzbekistan. There seems to be disagreement between botanists as to the status of *Rosa persica*. Some put it in the genus Hulthemia (Hultheimia); other include it in the genus Rosa. It flowers from April to June. The flowers are borne on slender, prickly stems, about one metre long. The yellow flowers are blotched crimson at the base. The leaves differ from the genus Rosa, being undivided, greenish-blue and are without stipules. They are oval and toothed near the tip. The fruits are prickly, green and globular. Seed sent to Sir Joseph Banks proved difficult to germinate.

Ixiolirion pallasii

It was not until 1932 that *Rosa persica* was again mentioned. In that year, when E K Balls was plant hunting in Iran he collected seed of *Rosa persica* (see *The Rock Garden* 107, 'EK - the life and plant hunting of E K Balls', Margaret Jordan). It has always been a difficult plant to grow in the UK because it comes from a dry Mediterranean climate. Many well-known members of the AGS have grown it with difficulty.

I have been fortunate in photographing both *Ixiolirion pallasii* (syn. *I. tartaricum*) and *Rosa persica*, near Samarkand in Uzbekistan. Whether *Rosa persica* should more properly belong to Hulthemia, it is equally arguable that it should have the specific name *berberifolia* whichever genus it is placed in. So lumpers and splitters have a choice between Rosa and Hulthemia for a plant with a long and unique history.

Raising new European Primula hybrids

Graeme Butler

THE MARCH OF TIME brings with it the realisation that many of the old primula cultivars in my collection were feeling their age. Having housed them for many years, the day was fast approaching when I would have to dispense with badly virused classics such as *Primula* x *pubescens* 'Blairside Yellow', 'Coy', 'Lismore Yellow', and 'Hemswell Embers', with plants from the magenta part of the spectrum faring little better.

18 - Border auricula *Primula* 'Frederick Delius'

Having to raise 2,000 open-pollinated seedlings from my show auricula collection annually for the past eight years, for wholesale purposes, I noticed the vigour and ease of care of these plants compared to the old cultivars. Clearly, a plan of action was required – perhaps I could ignite fires from the dying embers?

Besides the health situation, other things in the auricula world bothered me: why so many doubles had been named which could not even hold a strong, thick flower stalk? As the demand for auricula-type primulas increased, so did my determination to free myself of these problems. Hopefully, this article will give the average primula enthusiast the encouragement to have a go at raising new hybrids, which can bring the promise of something very special, as I have found, to my delight.

Viruses

Alastair McKelvie covered the subject of viruses in his article, 'Getting started with Primulas' in *The Rock Garden* 114. However, a word on the severity of the problem, in relation to managing a collection, may be of help. Alastair McKelvie correctly states that "most cultivars are infected to a greater or lesser degree". This can be seen with plants in my own collection, which includes cultivars simply too valuable to discard. I draw a line at keeping plants which show yellowing around the leaf margins and streaks of lighter green and yellow between the veins, giving a "marbled" effect. Other plants may seem to be healthy until the largest of the older leaves start to lighten and produce dark blotches against a yellow background. Yet other specimens show signs of the virus only when autumn approaches and the natural shedding of basal foliage reveals the undesired secret of Cucumber Mosaic Virus on the dying leaves. When plants fall into the latter two categories, I have made use of their pollen or seed to great advantage, since the viruses are not transmitted through seeds. A word of caution, however, when surveying varieties of the 'mildly infected' category. Sometimes, plants which are due to be re-potted and are in need of certain trace elements can, in fact, start to look very like those which are known to be infected. If at all unsure, simply re-pot into the chosen compost in late summer and watch them green-up almost immediately. If the plant is definitely virused, this will be evident on the new leaves produced in spring. A good insurance policy, when dealing with European primulas, is to feed regularly at half strength with an organic liquid fertiliser, such as Maxicrop original. The iron and trace elements help to build strength continually, which save infected plants from weakening further.

Making improvements

Show auriculas first. Avoid using varieties which "over-offset", thus choking up the centre of the plant with thin, useless offsets which not only detract from the beauty of the plant, but also have a marked effect on the ability to flower well. Whether single- or double-flowered, auriculas with long gangly stalks are a nuisance with their inability to hold up the weight of 5 or 6 flower pips, and again these should be avoided. Good, "clean" varieties with attractive foliage should be placed together for hybridisation within the chosen part of the colour spectrum.

Looking at *Primula* x *pubescens*, I would say that, as a group, they fare better, with fewer faults. Their biggest fault is a tendency to be infected, to a greater degree, by viruses. Therefore, although there are some very good existing cultivars, this section would benefit from having more new, "clean" varieties.

For those who have tried these plants and declared them "too difficult" - wait until you try a new, vigorous, disease-free variety. I can assure you, it is a different story. Raising new hybrids not only has the advantage of being able to "clean up", but also gives the opportunity to try introducing new shades, as yet, seldom seen. I have, in fact, chosen yellows and creams – an exciting prospect to work on of late.

Lastly, the possibilities afforded by inter-crossing species can produce very exciting results. As long as the offspring are well recorded and not released as species plants, then no harm can be done. After all, *Primula* x *pubescens* is the name for the hybrid *Primula auricula* x *Primula hirsuta* – two lovely plants from the European Alps.

Looking forward

Moving on now to the numerous desirable traits, which we should try to establish on our way forward.

The *Primula* x *pubescens* hybridiser, Mr. Alex Stubbs, achieved a great deal when he raised his superb strain of "Wharfedale series" European hybrids. For the first time, we saw a late flowering blue of supreme quality in *Primula* 'Wharfedale Bluebell', and the cream-flowered efarinose hybrid *P.* 'Wharfedale Village' is surely a plant pointing to the benefit of outcrossing with *P. marginata*. To top this, Mr. Stubbs raised one of the finest white-edged show auriculas, with a black ground-colour, sporting heavily-mealed foliage with a serrated edge, which he named *Primula* 'Stubb's Tartan'

By collecting and using plants of this quality, one cannot fail to achieve ever higher standards. It is always possible to improve a little on what is generally considered a "good" plant. For example, Mr. Stubbs raised a plant called *Primula* x *pubescens* 'Wharfedale Buttercup', a charming little thing with lightly-mealed foliage, compact of habit and

Primula x *pubescens* 'Lyn Bezzant'

producing 2" stems of butter-yellow flowers. Personally, I would have preferred the plant to bulk up better, producing a good show specimen, and I wished that it had more vigour and larger flowers. I hope that my hybrid *Primula* x *pubescens* 'Lyn Bezzant' shows that these things can be easily achieved by placing the right plants together for pollination.

I would go as far as saying that, if one has an enviable collection of the best plants available, the idea of the "designer baby" can become reality in a fairly short time! The only restriction is space, or the lack of it, but the problem of keeping enough seedlings for assessment can be eased by the use of plug trays. In fact, the plants seem to relish being held in a tighter space whilst establishing, and will flower pretty well in this environment. This allows for easier selection of the finest seedlings carrying the desired traits required for progress, whilst others, too good to be discarded, may be passed on to friends or sold in the spring.

At this plug stage, I enjoy examining the young plants for the best foliage forms – these often standing out from the others by six months old, when the brightest coatings of silvery farina catch the eye.

I am fortunate in having a commercial nursery [Rumbling Bridge Nursery in Kinross], which helps when holding large numbers of seedlings for assessment. It is probably this factor alone which is of greatest advantage, and not, as one may assume, having a large collection of stock plants.

Primula x *pubescens* 'Rumbling Bridge'

The law of averages

It should be remembered, if one is aiming to improve a certain colour of show auricula, that these plants do not breed true, and show specimens with their charming farina ring surrounding the eye only appear in perhaps 1% of seedlings raised. Even then, they are highly unlikely to be of the standard required of the time-honoured show plants. What mainly appears are 99% border auriculas of mixed colours, without the farinose ring, but of a stronger constitution than their glasshouse "show" cousins.

This is the real difference between the show and border auriculas - a point of uncertainty for many - although, there need be no despondency, as I feel that there is a requirement for "classier" border auriculas, which, after all, grow in the open garden without any cosseting. Two special seedlings which I selected in this category are one named for my favourite composer, *Primula* 'Frederick Delius', and the other named *P.* 'Rhubarb Rock', a seedling of *P.* 'Osbourne Green' which was virused, and sported a similar colour combination but on irregularly notched petals, looking as if a slug had enjoyed a good meal!

I am sure that the European hybrids, which we enjoy at our shows, will, no doubt, be of most interest, and it is here that the chance of success becomes greater. The law of averages for the aforementioned show auriculas do not apply here. Therefore the opportunity to select a

good, compact seedling, sporting exciting foliage – and within the desired colour range, is easily attained.

Simple hybridising techniques

From the outset, it is an advantage to have a good idea of what one is aiming for, as the right type of plants require to be placed together for open pollination. For example, I aimed to produce a plant with mealy foliage in the yellow colour spectrum, with improved flower size. Therefore a suitable group of plants with all the required characteristics were selected. The result can be seen in *Primula* x *pubescens* 'Rumbling Bridge'.

It is invaluable to have an alpine house or cold glasshouse, with plenty of ventilation. When embarking on such programmes, I always start in autumn, as this coincides with the re-potting of all quality plants being utilised.

Once repotted, and with the plunge bed freshly levelled off, I begin by lining out the *Primula marginata* cultivars on the bed, screwing each one downwards into the sand, then I move on to the *P.* x *pubescens* varieties. If, for example, a plant similar to *Primula* x *pubescens* 'Rumbling Bridge' is desired, then *P.* x *pubescens* varieties with yellow flowers should be placed immediately next to the *P. marginata* plants. The intention is that this placement would capitalise on the latter's foliage attributes, whilst relying on pollen from the yellow flowered *Primula* x *pubescens*.

I choose not to hand-pollinate this group of plants, as these European alpine primula cultivars do not breed true even if they were to be hand-pollinated; the result would not be guaranteed, as the ancestry of all our hybrids is very mixed. In some years, the *Primula marginata* stock will flower earlier than usual, and in advance of the European hybrids, which underlines another point - that is, that when seed is sown from these *P. marginata* cultivars, one can witness very few true seedlings of the species type. Usually the seedlings have a *Primula* x *pubescens* influence hidden in the bloodline.

I prefer to let the bees do the pollination, as they are eager to find the early, scented blooms of these alpine primulas in spring, and they can do the job better than I can. Considering the amount of space and the extra labour required for isolation of plants for hand-pollination, I feel that the small proportion (approx 10%) of seedlings appearing in the desired colour range from open pollination is an acceptable amount in the bid to produce an improved hybrid. It is from these first seedlings that the best selection may be made, and the chosen seedlings are invariably as good as the hand-pollinated plants.

The second step would be to use the finest of seedlings from open pollination to back cross with the original parent stock – once again placing these near the *Primula marginata* plants. This may appear over-

Double auricula *Primula* 'Pumpkin' - result of an orange breeding programme

simplistic, however, be assured that the plants photographed for this article are either second or third generation seedlings.

The only time I would choose to hand-pollinate, would be, if, for example, working on an improved green-edged show auricula programme. These would have to be isolated from other auriculas. The best seedlings would then be used to back cross with the time-honoured parent stock to maintain the standard. Even then, the process would require to be repeated over several generations, given the high level of uncertainty with show auriculas.

Seed sowing

The main feature one will notice, when collecting seed from the brown capsules in early autumn, is that the seed count is considerably higher in the first generation of chosen seedlings. Seed should be stored in a cold room or shed, well away from possible theft by mice, until January or February of the following year, when it is sown on the surface of seed trays. These should be open to the elements and not covered by grit or compost.

I use frames facing north, and always place shade netting over trays to deter birds and, again, mice. All the seed will germinate at the same time, when the days lengthen in late March, and heavy frosts abate. It is advisable to have the frame lights partially opened for ventilation, the

Primula 'Pixie Posy' - the first double *P.* x *pubescens* hybrid
(*Primula hirsuta* 'Nivea' x double auricula hybrid)

young seedlings appearing unperturbed by occasional light frosts.

The European primulas greatly appreciate being left in situ, shaded from sun until late summer, by which time one will notice a surge in growth. It is at this time that the choice may be made to either pot up, or place into plug trays, which will flower the following spring.

As the plants grow-on, excitement does build with each individual developing its own form. The skill for detecting "something special" along the way is in the hands of the hybridiser. If this comes naturally, then the rare gem will be uncovered – and often sooner, rather than later.

The International Interim Rock Garden Plant Conference

Friday July 21st - Wednesday, July 26th, 2006.
Sponsored by the North American Rock Garden Society and hosted by the Wasatch Chapter.

The meetings will begin at Snowbird Ski and Summer Resort, in Snowbird, Utah, which is about a 45-minute ride to the east of Salt Lake City airport. There will be lectures beginning on Friday evening, after the fun, great-to-see-you welcoming dinner. Lectures and breakout sessions continue through the day and evening on Saturday and into Sunday morning. We are planning to hold the usual sales tables: books, art, crafts, seeds - but not plants, so that you will not have to worry over them for the next several days. We will save that pleasure for the last day.

You will hear some of the best and most-knowledgeable speakers covering the flora and geology of the area:
Loraine Yeatts: Western Alpines: Life on the Tundra
William Parry: The Geology of the Western Cordilleras
Three presentations on some of the endemic plants:
Noel Holmgren: Penstemon
James Reveal: Eriogonum

Sean Hogan: Lewisia and other succulents

We will cover the flora of the area, of course:

Elizabeth Neese: Southern Utah
Richard Hildreth: Snowy Range
William Gray: Wasatch Mountains
Stuart Winchester: Ruby Mountains

and we couldn't do without some good advice on growing the western alpines:

Rick Lupp: Growing and propagating western alpines: How I do it over here
Graham Nicholls: Growing and propagating western alpines: How I do it over there

On Sunday, the registrants will break into five, pre-selected groups to go off on a three-day field trip to one of the following:

Ruby Mountains, eastern Nevada
Cliff Breaks and Tushar Mountains, southern Utah
Teton Mountains, western Wyoming and Logan Canyon, northern Utah
Snowy Mountains, southern Wyoming
Wasatch Mountains, northern Utah (based at Snowbird)

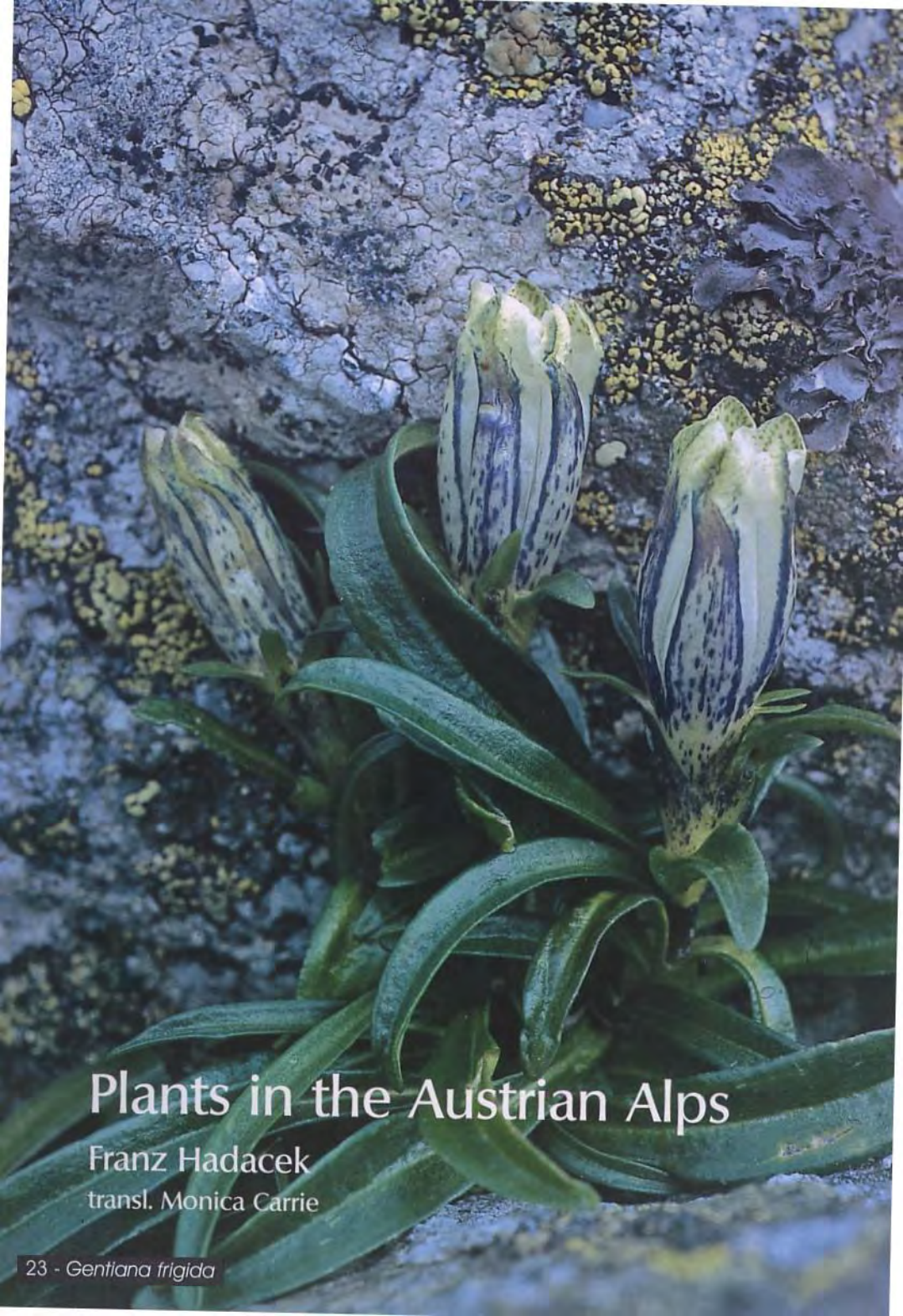
After spending all day on Monday and Tuesday botanizing in the mountains, everyone will return to Snowbird on Wednesday for a plant sale, to quench that built-up plant lust. Wednesday evening will conclude with a banquet, with scenes from the five different field trips - the flowers, the scenery and the people (all thanks to the wonders of digital photography).

The cost of the six days will be $850 per person and will include all meals and activities at Snowbird, and all transportation, meals and hotels on the field trips. We have a contract with Snowbird for the hotel rooms at prices beginning as low as $105 a night. There are also several configurations of rooms and suites that can be shared by friends/family, thus bringing down the nightly cost of a room.

For further information, please contact:

Joyce Fingerut
537 Taugwonk Road
Stonington, CT 06378-1805
U.S.A.
860-535-3067

alpinegarden@comcast.net



Plants in the Austrian Alps

Franz Hadacek
transl. Monica Carrie

23 - *Gentiana frigida*

Among the "classic" locations for alpine plants Austria ranks very highly, with a wonderful range of plants from some of the families which are most popular in the rock garden. Franz Hadacek is extremely knowledgeable about his native flora and many thanks are due to him and to Monica Carrie for translating Franz's article.

WITH 60% OF THE ENTIRE LANDMASS being taken up by the Ostalpen, the Eastern Alps, Austria can truly be defined as an alpine nation. For the plant enthusiast the Austrian Alps are a treasure-trove of interesting and rare alpine plants. Due to the geological structure of the eastern Alps the northern, central and southern regions of the Austrian mountains are well defined with different climatic zones and geological composition enabling the huge diversity of alpine plants. On the smooth, hard rock of the central region different plants are found than on the chalky regions. The differentiation of "chalk loving" and "chalk hating" is particularly noticeable in the world of alpine plants. None the less there are several alpine plants tolerant to both conditions.

Spring

Long after spring has arrived in the valleys and many flowers are in full bloom, up in the mountains it is still winter. But by June spring arrives even in the alpine regions. It is always astounding the speed at which blossoms appear in higher mountains, particularly in the alpine zones but the rush is understandable due to the short growing season.

One of the first plants to flower is the crocus. Generally these bulbs are native to warmer, Mediterranean climates, but *Crocus albiflorus* thrives at altitudes up to 2700 m. The flower is pale violet, white, or white with purple stripes, and can be very floriferous.

Soldanellas are also very early flowering. The flowers of *Soldanella alpina* are often seen through the still present snow cover. This is most common species, thriving at altitudes from 500 m to 3000 m and it carries two or three deeply-fringed, blue-violet bells on each 15 cm stem. Less common are *Soldanella minima* which has a single, 1 cm, white or pale lilac, narrow bell on a stem up to 10 cm long, and *Soldanella pusilla* which is the second narrow-belled variety, with reddish-purple, 1.8 cm long bells. It thrives on snowy, grassy ground and scree.

One of the most beautiful and colourful Saxifragas of the European Alps is *Saxifraga oppositifolia*. To see this plant in flower an early spring visit is necessary. It is widespread and thrives in almost any soil. The large, red flowers are often so numerous that the entire plant is covered. Due to the wide distribution of the plant it is not surprising that several sub-forms exist, usually with very small differences. *Saxifraga oppositifolia* ssp. *rudolphiana* has smaller flowers

and leaves and the cushions are firm and compact. *Saxifraga oppositifolia* ssp. *blepharophylla* is long haired and lacks lime pits on its leaves, it is endemic to silicaceous rocks in the eastern central Alps. The multi-flowering, dwarf *S. retusa* ssp. *retusa* can be found in some areas of the central Alps.

An array of Gentians

The first encounter with the sessile gentians of higher regions in full bloom is an unforgettable sight. The full beauty of them can only be seen on sunny days; an overcast sky will cause the bells to close, flowers appearing as insignificant as a folded umbrella. The widespread *Gentiana acaulis* features large blue trumpets. It can be found in meadows, on scree and sometimes in coniferous woodlands. It thrives on lime-free soil up to altitudes of 3000 m. *Gentiana clusii* by contrast, prefers alkaline soil conditions.

The Karawanken gentian, *Gentiana froelichii*, has sky-blue trumpets and flowers from July to September on cliffs and scree at heights of 1400 m to 2400 m. A remarkable gentian in damp areas is *Gentiana frigida* with 3.5 cm, large trumpets which are whitish-yellow with pale blue stripes.

Gentiana verna is another deep blue gentian often growing in tight cushions, but the trumpets are much smaller. It is often confused with another, similar species, *Gentiana brachyphylla*, which is similar with its little, deep blue, long trumpets sitting closely above the rosettes of the small, round leaves which help distinguish it. *Gentiana pumila* is also similar to *G. verna*, but is only found in the eastern limestone regions of the Alps. The branching, multi-flowering, annual *Gentiana utriculosa* can be found growing in boggy meadows and the tiny *Gentiana nivalis* likes similar growing conditions.

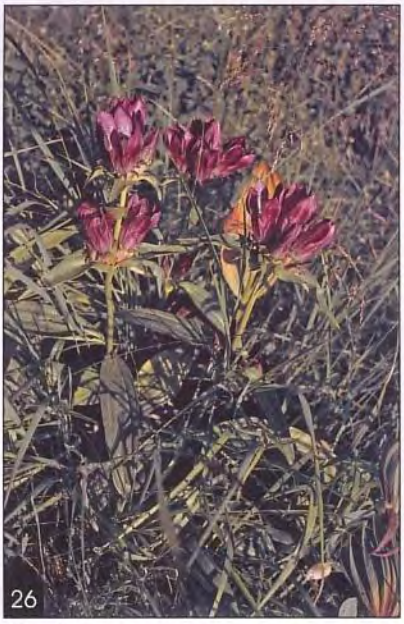
Gentiana froelichii

On short grassy meadows you can find the colourful annual and biennial gentians of the Gentianella group. *Gentianella germanica* is a

Gentiana acaulis

beautiful biennial species with stems of up to 5 red-violet flowers, found on lime-rich meadows up to an altitude of 1750 m. *Gentianella campestris* is very similar, but has usually four violet flowers. *Gentianella ciliata* is a wonderful plant, late flowering from August to November. It has 5 cm large blue-violet flowers, four to a stem and thrives on limestone up to 2000 m.

Some other species also thrive at high mountain altitudes. These gentians are amongst the earliest plants mentioned and illustrated in medieval herbals. For example the late flowering, up to one metre tall *Gentiana asclepiadea* has flowers from white to deep blue. Or *Gentiana punctata*, growing up to half metre in height, with upright, pale yellow, spotted trumpets. *Gentiana lutea* is a handsome plant, found on lime-rich alpine meadows. When not on flower it can easily be mistaken for *Veratrum album*. Already in medieval times the roots of *Gentina lutea* had been recognized for their medicinal powers and today it still used as an addition to the famous Enzian schnapps. *Gentiana pannonica* is indigenous to eastern regions, but can also be found in the Bergamasker Alps and eastern Switzerland. It grows up to half a metre in height and flowers with red-violet trumpets with dark spots. On occasion *Gentiana purpurea*, with its reddish-purple flowers can be found in meadows and open woodlands of the north Tyrol and Vorarlberg.



Gentiana pannonica

Gentiana punctata

Gentiana pannonica

Gentiana punctata

Primula glutinosa

Primulas in Austria

The colourful primulas also flower during springtime. You can find the red flowering *Primula hirsuta* in acid rock crevices while the golden yellow *Primula auricula* thrives in alkaline rock crevices. A viable hybrid can often be found where alkaline and acid conditions meet. This hybrid between *P. auricula* and *P. hirsuta* was named *Primula pubescens*. In 1582 the famous Viennese botanist Carolus Clusius sent plants to Belgium, from where it spread rapidly. All cultivated garden auriculas originate from this plant. *Primula clusiana*, the wonderful rose-red primula of the north eastern alpine regions is named after Clusius. This plant thrives on alkaline, poor, rocky sites at altitudes from 1700 m to 2200 m. *Primula wulfenia* is

Primula minima

found on similar sites to *P. clusiana*, but in the Southern Alps (Karawanken). *Primula villosa* thrives on lime free soil in Steiermark and Kaernten, with glowing red flowers often up to 18-25 mm across.

Primula minima is wide spread in the Ostalpen. It thrives on lime free, damp, rocky sites with long snow coverage. During June and July it displays countless glowing red, up to 3 cm large flowers. In the lime free, damp, rocky parts of the central Alps *Primula glutinosa* can be found. Beautiful, scented flowers are carried on up to 7 cm tall stems. Where *Primula glutinosa* and *Primula minima* meet hybrids can be found.

It can be seen that primulas, like the gentians, can be very particular in their requirements and quite narrowly localised.

Glorious Campanulas

A widespread family of plant in the Alps are the campanulas and Austria is home to a lot of species. Common in mountainous regions up to 3400 m is the delicate *Campanula cochlearifolia*. Common in alkaline regions it is also found on igneous rock. It is easily mistaken for similar, small flowering plants, such as *Campanula rotundifolia*. This, very variable species has deeper cut bells. It is often found in dry, poor and peaty soil. *Campanula scheuchtzeri* is also very similar, with slightly larger, dark blue-violet bells.

Campanula barbata is unmistakable. Up to ten or more bells are carried on a stout, upright, and coarse-haired stem. The flowers are fairly large, ranging from shades of blue and sometimes even white,

32 - *Campanula scheuchtzeri*

Campanula alpina

with the characteristic, typical 'hairiness'. It is often found on lime free soil.

The endemic *Campanula pulla* is found in the north-eastern Kalkalpen. It thrives on grassland, scree or rock crevices at 1500-2200 m, flowering with single, bluish-purple 2-2.5 cm large bells. *Campanula alpina* is also endemic to the eastern Alps. It prefers lime free soil and flowers with several, lilac blue, up to 2 cm bells, which are hairy on the inside, carried on 20 cm tall stems. Finally, in the Karawanken, the beautiful *Campanula zoysii* can be found. This plant forms tight cushions on chalky rocks and is named after Baron Zoys, who first discovered it.

Lilies and others

Of the huge, worldwide lily family some species are found in Austria. One of the most beautiful, *Lilium martagon* is found not only in mountain forests, but also on meadows, up to 2000 m, and the orange flowering *Lilium bulbiferum* also grows up to this altitude. Two subspecies can be differentiated: ssp. *bulbiferum* offers brown bulbils at leaf nodes; and ssp. *croceum* seldom with bulbils and with its foliage velvety on top. A further member of the family is the small *Lloydia serotina*, which is generally found above 2500 m on almost lime free soil. It usually has two grass-like leaves. The slender, 10 cm tall stems carry small, funnel-shaped, white flowers with red veining.

Veratrum album is also a member of the Liliaceae, but a large, strong plant. It is often found in the central Alps on damp meadows and open woodlands, from 700 m to high alpine regions. During May and June it flowers with numerous, white, creamy white or greenish flowers. In the southern and eastern Alps grows *Veratrum nigrum*, a dark flowering species which is also poisonous and avoided by livestock. *Paradisea liliastrum* is also found in Austria. It thrives on sunny meadows and shrubby slopes, flowering during May and June. This beautiful plant is the only one of its genus.

Among the other groups of plants that are typical of the Austrian mountains the various Dianthus must be among the most attractive. A beautiful carnation thrives in the Austrian Alps, in the eastern regions, called *Dianthus glacialis*, at heights of up to 2500 m. Also, in the north eastern Kalkalpen, from the Rax to the Toten Gebirge, the large flowering *Dianthus alpinus* is established, often found on grassland and in the shelter of rocky outcrops. *Dianthus sylvestris* is widespread

in the western regions of the Austrian Alps. It thrives on chalky soil as well as on silicate, right up to alpine regions. On damp meadows *Dianthus superbus* ssp. *superbus* is often numerous. This wonderful, large flowering Dianthus has lilac pink to reddish purple, deeply cut flowers. In rocky and grassy areas of east Austria, in the area of Hainburger Bergen, thrives the 20-30cm tall, most single stemmed, white flowering *Dianthus lumnitzeri*.

There are so many other wonderful plants in the Alps. Among the buttercups *Ranunculus glacialis* stands out. But, finally, if any plant is seen as typical of the Alps it is the Edelweiss, *Leontopodium alpinum*, which can be admired during summer on many mountains. It thrives on chalky, rocky slopes, but also on rich meadows at an altitude of 2000-3000 m. It is a very variable plant, sometimes cushion forming, but can also grow to 25 cm tall. The flower heads consist of cluster of 5-10 closely packed tiny flowers, surrounded by star shaped, woolly-white bracts.

REFERENCES AND FURTHER READING

Edeltraud & Othmar Danesch, *Faszinierende Welt der Alpenblumen*, Ringier & Co AG. Zürich/München

Hadacek, Franz, "Plant Gems of the Austrian National Park", *Journal of the American Rock Garden Society*, Volume 51 Number 3, Summer 1993

Ranunculus glacialis

Crocus vallicola

Show Reports 2005

NEWCASTLE SHOW – October 1st

Having been erroneously credited with the show report for this spring's Hexham show, it was only to be expected that I would be asked to report on the Newcastle autumn show, but this task is a real pleasure, as it encourages even closer examination of the plants on display. [*In the last issue the Newcastle Show report was in fact the work of Mike Dale not of Peter Maguire. Apologies to both. Editor*]

To a greater extent than the spring shows, there is anxiety about the effects of the weather and consequently which plants will be at their best but cyclamen can generally be relied on and this year was no exception, with nine species on the benches joined by three examples of the hybrid between *Cyclamen hederifolium* and *C. africanum*, *Cyclamen* x *hildebrandii*. These three, and many of the others, were staged by David Boyd, who also provided numerous small plants for the sales table, and

one of his more spectacular plants was a pink form of *Cyclamen intaminatum*, which won the Ewesley Salver (for the best plant in a 19 cm pot) with quite deep pink petals, with the grey veining of the commoner white forms being all but invisible. David had stiff competition however, and a certificate of merit was awarded to Ivor Betteridge's large *Cyclamen rohlfsianum*, not for numerous flowers (there were less than 10), but for its attractively marked, large leaves which glistened in the autumn sunshine. Mike and Christine Brown can always be relied upon and this time it was the turn of their large specimen of *Cyclamen hederifolium* ssp *confusum* to steal the limelight. Its swarm of light pink flowers with darker pink noses hovering above the just-emerging leaves was presented to their usual immaculate standard, and was rewarded with the Forrest Medal for the best plant in the show.

Cyclamen rohlfsianum

Providing a sharp contrast to the masses of pink cyclamen, several pans of white flowers stood out early in the morning; two or three pots of *Colchicum speciosus* 'Albus' were striking, however, even more spectacular for me, was a large pot of *Crocus vallicola* grown from seed by Alan Furness. The mass of flowers showed slightly creamy petals, which looked substantial enough to resist the autumn weather but tapered to the characteristic fine tips for which the species is known. Again, this plant received a certificate of merit.

To move away from the flowering entries, there were many coprosmas on display, showing both foliage and berries. Brian and Shelagh Smethhurst's *Coprosma* 'Marble King' (silvery green splashed with darker greens) and *Coprosma* 'Autumn Gold' (variegated yellow and green suffused on many leaves with a fiery scarlet) both had a glistening, waxy look to the leaves. The berries came from *Coprosma petrei* and several of its clones and hybrids. The largest specimen was exhibited by Trevor Jones, and the 25 cm diameter plant was studded with translucent smoky blue berries.

The foliage classes inevitably contain many fine silvered cushions, but this year only one example of the fashionable *Pyrethrum leontopodium*

Small pan classes of cyclamens

with its extravagantly hairy foliage was shown, by George Young, who also showed a fine mature silvery *Celmisia incana*; a difficult plant to present well when mature, as the lengthening stems can look rather untidy as the plant ages. To provide a fiery contrast to the silver cushions, Glassford Sprunt presented a large pan covered in the leaves of *Shortia soldanelloides* var. *ilicifolia*, most of which were turning the fiery red colour, which distinguishes this plant in the autumn. Even in the shaded corner of the show hall, this bright splash of colour caught the eye, and the plant was awarded the Millennium Trophy for best foliage plant.

Many ferns were also exhibited; a group of plants which seems to be undergoing a resurgence in popularity at present, perhaps because certain alpine nurserymen are offering a greater range of species for those who find growing them from spores too much of a challenge. I was impressed by Harry Roberts' *Adiantum pedatum* var. *minor*, a low-growing fern with very delicate foliage held flat about 5 cm above the compost surface and very susceptible to damage from the elements; to achieve a large, perfect display as with this plant takes a great deal of skill. Cheilathes species provide some of the most striking ferns on the show bench, and there were several examples of the dryland American species such as *Cheilanthes fendleri* with its finely dissected grey-green leaves. However I would have to admit a preference for *Cheilanthes argentea*, as exhibited by John Richards; whilst the horizontally held leaves seemed a plain green, if one bent down to examine the underside of each leaf (no touching allowed!), the silvery felting which gives the plant its name was revealed.

After the exuberance of the crocus, cyclamen and gentians followed by the quiet charms of the foliage classes, what else can be found in flower? Quite a lot actually, and there are many plants such as the *Eucomis vandermerwei*, exhibited by David Boyd, which are the sole

representative of their genus or species. Many Eucomis grow far too large for the show bench, but this dainty South African bulb was flowering at about 20 cm, the two flowering spikes of greenish, red-tinted flowers being complemented by the dark red spotting on the leaves. Nerines are another South African genus which are more commonly found in the garden, and we were treated to two species side by side in the same class with fine grass-like foliage and delicately dissected flowers: *Nerine masoniorum*, exhibited by Ivor Betteridge, I was familiar with, flowering at about 15 cm with mid-pink flowers, like a small *Nerine bowdenii*. Next to it, Cecelia Coller's *Nerine filamentosa* was new to me, slightly taller and the flowers were a very pale pink, almost white – quite charming!

Shortia soldanelloides var. *ilicifolia*

It was good to see the sections B and C were well supported with some fine plants showing promise. Russell Hall was awarded the Newcastle trophy for the best plant in the B and C sections, again this was a *Cyclamen rohlfsianum*, with beautifully marked leaves flushed with pink and as many flowers as its larger namesake in the open section. Another fine, delicate plant was *Scilla lingulata*, the blue infloresences and developing leaves immaculately presented in pot *top dressed* with small slate chippings by Joyce Scott. Ian McNaughton also presented a display of the results of his hybridization programme for autumn gentians. A wonderful array of varied forms and flower colours formed an impressive site at the head of the hall and provoked much discussion as which were the 'favourites'; Ian was using this straw poll to decide which forms should be propagated and hopefully made available to the public.

Mike and Pearl Dale organized a splendid show, which was appreciated both by members of the public and club members, some of whom had traveled great distances to visit the show, and the local group again worked hard to provide plenty of the now legendary refreshments and plants for the local group plant stall. The proximity of a spacious seating area next to the main show hall allows for a relaxed atmosphere, with great opportunity to meet friends old and new, with the afternoon sunshine streaming through the windows. Of course it was raining the next day when we got back to our gardens ..... *Peter Maguire*

Show benches at Pitlochry

DISCUSSION WEEKEND SHOW PITLOCHRY – October 8th & 9th

A very attractive display of show plants, some 130 or so in number, decorated the benches for the Discussion Weekend Show in early October in Pitlochry. These included good examples of Saxifraga, Sedum, Gentiana, Colchicum, Cyclamen, Crocus and ferns. There is a certain feeling of déjà vu to this report. Many of the plants appearing at the show have featured in almost every such report of recent years. They were none the less in quality or beauty for that fact, though. Indeed, the variety of delightful Cyclamen, whether shown for flower, or foliage, was wide and gave ample testament to the pleasure to be had from these plants. Jean Wyllie had three cyclamen and three crocus in her winning Jubilee A class entry. Sandy Leven took the top honour of the Forrest Medal again, with his fabulous *Cyclamen africanum*. This cyclamen, a large elegant specimen which, with two-tone flowers and its leaves, with their picotee edging and red reverse, just unfurling, just gets better with age, was obtained many years ago from Jim Archibald, a speaker at this weekend. The plant was also awarded the new trophy given in memory of that most popular of plantsmen, the late Jim Lever. The elegant duo of Shelagh and Brian Smethurst (a fellow who vies with Fred Hunt as the most dapper man in the Club) brought some super plants to enrich the show, including some fine ferns to give our esteemed fern expert, Harvey Shepherd, some stiff competition. I was taken by the excellent condition of the ferns and made (yet) another promise to myself to improve my knowledge of these feathery delights. I cannot seem to grasp their names and so none in our garden are labelled – bit embarrassing, that!

Glassford Sprunt showed a lovely *Shortia soldanelloides* var. *illicifolia* in the Autumn-foliage class and the harvest season was emphasised by the fruiting plants on display. Roma Fiddes won that class with a perfect mound of the New Zealander, *Nertera depressa* (family Rubiacieae), hardly showing any foliage through the mass of bright orange 4 mm berries. As well as his telling display of Gentiana hybrids, Ian McNaughton also had several gentians on the bench and won the Peel Trophy to complement the Gold Medal for his display.

Peter Maguire brought plants ranging from a *Dionysia curviflora* to the silky *Aciphylla dissecta*, my favourite Aciphylla. Frazer Henderson was a new autumn exhibitor who had success in Section II, but who was pipped for the trophy for best plant in that section by the only junior exhibitor, another first-timer at the Discussion Weekend, Rhia Cook, who showed a neat plant of an *Androsace* sp. CC4442, growing well and in flower. Miss Cook, already experienced in Club events where she has assisted in the Seed Distribution work and with her dad, Scott, on the Book stall, shows that she is as good a grower as she is a helper. Well done Rhia, keep it up!

We were also able to enjoy displays of watercolours by Rosemary Cox, and innovative plant display/furniture creations with a Japanese influence, from Boyd Barr. *Margaret Young.*

Aitchison Fund first award & second call for applications

The Scottish Rock Garden Club is very pleased to announce that it has made the first award under the Diana Aitchison Fund.

The award has been made to John Foley, to help him through a three-year Horticulture and Landscape course at Askham Bryan College, from 2006 to 2009. Many members well know John, as he has helped and worked at Holden Clough Nursery (run by his father Peter) since a very young age. He is interested in both alpine and herbaceous plants, from *Primula allionii* to crocosmias, and he has built up one of the best collections of Crocosmia in Britain over the last few years. (A recent article in the RHS Magazine, *The Garden*, details his interests). We congratulate John on his award, and hope it will help him develop his horticultural career.

After this first successful round, the SRGC has decided to open a second round of applications for awards from the Diana Aitchison Fund. This round requires applications to be submitted by 31st March 2006. Full details of how to apply are on the Club website (*www.srgc.org.uk*) or are available from Liz Mills, Upper Kinneddar House, Saline, Fife KY12 9TR.

We encourage all members to think of young horticulturalists who might apply, and encourage them to do so. The basic principle of the Fund is to assist young people develop a career in horticulture with particular reference to alpines and rock garden plants, and we wish to make the best possible use of it, so please help us to do so.

RHS Joint Rock Garden Plant Committee

Recommendations made at SRGC Shows in 2005

DUNBLANE – 19th February

Awards to Plants
Certificate of Preliminary Commendation
Narcissus 'Mitzy', exhibited by A. J. Leven, Dunblane.

STIRLING – 26th March

Awards to Plants
Certificate of Preliminary Commendation
Fritillaria michailovskyi yellow form, exhibited by F. Hunt, Invergowrie. Subject to the application of a suitable epithet.
Erythronium americanum, exhibited by C. Lafong, Glenrothes. Subject to the verification of the name and the application of a suitable epithet.
Awards to Exhibitors
Certificate of Cultural Commendation
C. Lafong, Glenrothes for a pan of *Draba dedeana* (Watson form).

PERTH – 23rd April

Awards to Plants
Certificate of Preliminary Commendation
Pyrethrum leontopodium, exhibited by B. Davidson, Gatehouse of Fleet.
Botanical Certificate
Arisaema auriculata, exhibited by S. & D. Rankin, Lasswade.
Awards to Exhibitors
Certificate of Cultural Commendation
B. Davidson, Gatehouse of Fleet for a pan of *Pleione* 'Rakata'.
C. & I. Bainbridge, Easter Howgate for a pan of *Erythronium helenae*.

GLASGOW – 7th May

Awards to Plants
Award of Merit
Dicentra 'King of Hearts', exhibited by C. Lafong, Glenrothes.
Certificate of Preliminary Commendation
Arisaema amurense', exhibited by S. & D. Rankin, Lasswade.
Dactylorhiza majalis alba x *D. sambucina* yellow form, exhibited by C. Lafong, Glenrothes.

Daphne cneorum pygmaea 'Alba', exhibited by C. Lafong, Glenrothes.

Awards to Exhibitors

Certificate of Cultural Commendation

C. Lafong, Glenrothes for a pan of *Dactylorhiza majalis alba* x *D. sambucina* yellow form.

ROYAL BOTANIC GARDEN, EDINBURGH - 11th June

Awards to Plants

First Class Certificate

Meconopsis [Infertile Blue Group] 'Slieve Donard', exhibited by I. Christie.

Award of Merit

Meconopsis [Fertile Blue Group] 'Lingholm', exhibited by I. Christie.

Meconopsis [George Sherriff Group] 'Huntfield', exhibited by I. Christie.

Meconopsis [George Sherriff Group] 'Barney's Blue', exhibited by I. Christie.

Meconopsis [George Sherriff Group] 'Jimmy Bayne', exhibited by I. Christie.

All the above cultivars were recommended for further assessment as candidates for the Award of Garden Merit.

Certificate of Preliminary Commendation

Meconopsis [Infertile Blue Group] 'Crewdson Hybrid', exhibited by I. Christie.

Meconopsis [George Sherriff Group] 'Ascreavie', exhibited by I. Christie.

Meconopsis 'Marit' exhibited by E. Stevens.

Erythroniums can be divided into two main geographical groups: in **EUROPE and ASIA** there is a complex around ***Erythronium dens-canis*** while all the rest come from North America split between a small group in the east and a much larger more diverse group distributed in the west.

40

Erythronium dens-canis has a wide distribution, from the UK all the way across southern Europe to the Balkans. Erythroniums are one of my favourite bulbs and I have tried to grow as many of the species as I can in our garden in Aberdeen. *Erythronium dens-canis* forms good clumps in our garden of its showy pink flowers which start to flower in March.

It is easy to tell ***Erythronium dens-canis*** from all the American species: the anthers are a dark violet colour and the spotting on the leaves forms a random pattern of spots and blotches which does not follow the veins of the leaves

42

There are some very good white forms of *Erythronium dens-canis* which also thrive in our garden. Some of these have been given names such as 'Snow Flake' and 'White Splendour' but as I am not sure the naming is always accurate I just call them a white form.

43

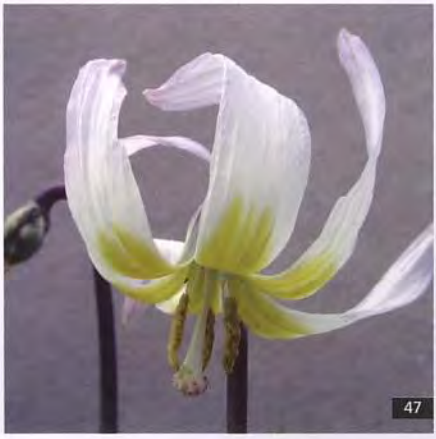
Very dark pink flowered forms can also be selected.

As we move further east we can find other members of the "dens-canis" complex. In the Caucasus we find ***Erythronium caucasicum*** which also has the random brown blotches on the leaves but the flowers are creamy-white with a yellow centre and yellow anthers. This beautiful plant is rarely offered and should be grabbed if ever you get a chance of bulbs or seed.


45

Further to the east and north, is found *Erythronium sibiricum*. Most of the plants we grow have plain green leaves although a few have lightly mottled ones. It has purple flowers with white and yellow zones towards the throat, and the pollen is yellow. Coming from a very cold region it has a tendency, if the weather is mild, to open its flowers before they come through the ground so plant it in the coldest part of your garden.


46


47

A good variation within this colour theme can be found when you raise these plants from seed. A number of white forms of are also available like *Erythronium sibiricum* 'Altai Snow'.

48

The last member of the "dens-canis" complex is the stunning ***Erythronium japonicum***. It has plain to randomly brown-blotched leaves and its large flowers can have very dramatic markings.

49

In recent years, large quantities of ***Erythronium japonicum*** have been exported from China and these contain some of the most beautiful markings that you will find in any flower. These forms seem distinct, to me, from the other forms of the species we have grown and seem to combine the best features found in both *Erythronium sibiricum* and *E. japonicum*.

Opinion is mixed as to whether *Erythronium caucasicum, E. sibiricum* and *E. japonicum* are good (valid) species or just subspecies of *Erythronium dens-canis*. I like to think they are distinct enough to warrant specific status.

Down the **EASTERN SIDE of NORTH AMERICA** is a group of erythroniums that I refer to as the "americanum" complex, or the eastern yellows. There are three principal taxa, *Erythronium americanum, E. umbilicatum* and *E. rostratum*, all very similar. I have had them under all these names but I have to say that from the cultivated material I have grown, I find it impossible to distinguish them. In the wild they may be distinct and I have read some excellent papers describing the different species involved but there is a lot of confusion in the cultivated plants, perhaps hybrids between them are involved. Until I get plants that show clearly the diagnostic features applied to these species I just refer to them all as ***Erythronium americanum.***

The pattern on the leaves of ***Erythronium americanum*** is similar to that found on *E. dens-canis* and is a series of random brown blotches and spots. In fact, these eastern North American erythroniums are more closely related to the Eurasian ones than they are to those found in western North America.

52

There is a form, very common in cultivation, which spreads quickly by stolons and produces masses of single leaves but does not flower very well. However for the last three years our patch of this form has produced a reasonable number of flowers, suggesting that it will flower well if the conditions suit it, but what those conditions are I have no idea.

53

I have raised *Erythronium americanum* from seed many times and have selected out forms that will flower every year. Having distributed this form initially as "the flowering form" we have now given it the name *Erythronium* 'Craigton Flower'.

The anther colour of ***Erythronium americanum*** can vary and we have brown and yellow pollen forms from the same seed batch.


55

Erythronium albidum is like a white form of *E. americanum,* sometimes with a lovely dove grey back to the petals, it increases reasonably well vegetatively but not as quickly as do some of the forms of *E. americanum*.


56

The biggest diversity of species is found down the **WESTERN SIDE of NORTH AMERICA**. ***Erythronium revolutum*** has one of the widest ranges and can be found growing all the way from California up to Vancouver Island. It should be no surprise that a species with that wide a distribution will show quite a variation.

It is easy to identify ***Erythronium revolutum*** as it is the only pink erythronium species with yellow pollen. This is usually golden yellow although it can occasionally be cream or white. The filaments which connect the pollen-laden anthers to the flower are expanded like Dutchman's breeches.

The variable brown pattern on the leaves of ***E. revolutum*** can be very dramatic and follows the veins of the leaves. When you look carefully you can see it is quite different from the random blotching seen in the "dens-canis" complex.


60

Large dark-flowered forms of ***Erythronium revolutum*** like this are often called **var. *johnsonii***.


61

This is another form of ***Erythronium revolutum***, grown from wild collected seed, which is smaller than the others. It has dark pink/red flowers with very steeply swept back petals, there is also pink on the filaments and style. It is very attractive and comes true from seed.


62

Erythronium oregonum is the nearest species to *E. revolutum,* also widespread, from Oregon up to British Columbia and Vancouver Island, and shares many of the same flower characteristics except its petals are predominantly white.


63

64

In our most attractive forms of *Erythronium oregonum* there is a good brown and yellow zone towards the centre of the flower making it very attractive. Many also have a nice green shading at the back of the petals.

65

Sulphur yellow forms of ***Erythronium oregonum***, often with cream anthers, are also common in cultivation in the UK. I have often seen these sulphur forms wrongly labelled as *Erythronium citrinum*. It is very easy to tell them apart by the filaments; in *E. oregonum* they are wide at the centre like Dutchman's breeches and in *E. citrinum* they are thin and thread-like.


67

Erythronium californicum, coming from California as its name suggests, is one of the many creamy-white erythroniums with a yellow centre; all have patterned leaves which vary from a slight silvery trace to dramatic patterns with dark shiny brown areas.

Probably the most commonly grown erythronium is *Erythronium* 'White Beauty' which has a series of red/brown zigzag markings on the yellow throat. It has regularly been described as *E. revolutum* 'White Beauty' and I have also seen it listed as a form of *E. oregonum,* both of which are incorrect. It does not seem to be anything other than a vigorous form of *E. californicum* and only a DNA study will tell us if it is a hybrid with any other species.


68

Also from California, ***Erythronium multiscapoideum*** is superficially similar to *E. californicum* and is doing well in cultivation. It produces several flowers on a stem that splits unseen below the level of the leaves making it very distinct as well as giving the impression that several stems are rising from a single bulb and hence the specific name.

Erythronium helenae is one of my favourites of those with the same basic formula of a creamy-white flower with a central yellow zone. It too is native to California. The distinguishing features of this species are that there is a distinct change from the central yellow to the white, like a fried egg, and the style is normally bent downwards by as much as 90 degrees. It also has a beautiful scent.

Two very similar species in this closely related group, both from Oregon, are ***Erythronium citrinum*** (left above) and ***Erythronium howellii*** (left below). The only taxonomic difference is that *E. howellii* does not have the swollen appendages at the base of the flower segments. As I have mentioned, nearly all the plants I have seen labelled as *E. citrinum* in the UK, are either the sulphur forms of *E. oregonum* or are *E. citrinum* hybrids.

A very beautiful, recently described variety of ***Erythronium citrinum***, which is appearing in some seed lists is **var.** ***roderickii***, differing from the type in having brown anthers. I also find it to be shorter than our other forms of this species.

Erythronium montanum is one of the real gems and often described as being impossible to flower in cultivation. It has plain shiny green leaves and large white flowers whose petals twist away towards the ends. It is perfectly happy growing in both pots and beds in our cool northern garden and we regularly get good quantities of seeds set. In the wild it can be found from Oregon up to Vancouver Island.

74

Erythronium elegans is very similar to *E. montanum*; it has white flowers which turn pink as they age. I know it is more widely grown than *E. montanum* so perhaps it is more amenable to general cultivation. It is said that it can have patterned leaves but all the plants we have raised from both introduced and home produced seed have plain or almost plain green leaves. A few have the slightest hint of a silver pattern on when they first emerge but this soon fades. *E. elegans* slowly forms clumps by offsets. It hails from Oregon.

75


76

One of the smallest of the western species, from California, at under 10 cm, is ***Erythronium klamathense***. Each stem can have five small white flowers, with a yellow centre, over shiny plain green leaves.


77

Erythronium idahoense is rare in cultivation but is occasionally offered as seed on specialist seed lists, it also has plain green leaves and white flowers. It is found in western Idaho and eastern Washington.

Erythronium grandiflorum is the best of the western yellows for the rock garden; it has good sized bright yellow flowers over shiny plain green leaves. It has a wide distribution from southern Canada down through most of the western states to California. Three varieties are named depending on the colour of the anthers; **var.** ***grandiflorum*** has brown pollen, **var.** ***chrysandrum***, yellow and **var.** ***pallidum***, cream (below).


78

We grow a good form of **var.** ***pallidum*** that has a nice purple red line around the leaf edges which is passed onto all the seedlings that we have raised from it.


79

80

Erythronium tuolumnense is the largest growing of all erythronium species and some forms can get up to 50 cm tall with wide, pale green, leaves and flower stems with several good yellow flowers. It has had an undeserved reputation of being shy-flowering but it flowers every year in our garden where we grow it both in full sun and full shade. It comes from Tuolumne Co, California.

As with all the erythroniums I have been raising many forms of this plant from seed as well as getting bulbs from various sources and while they are all basically similar they do vary in the shade of yellow of the flowers, the number of flowers to a stem, how the flowers are held on the stem, (some look outwards, some look downwards,), the height of the stem and the size of the leaves. The form that is mass-produced for the trade tends to be a large-leaved form which, while nice, is not the best for the rock garden. *Erythronium tuolumnense* has given rise to many of the commonly seen larger hybrids that are offered in garden centres such as 'Kondo' and 'Pagoda'.

81

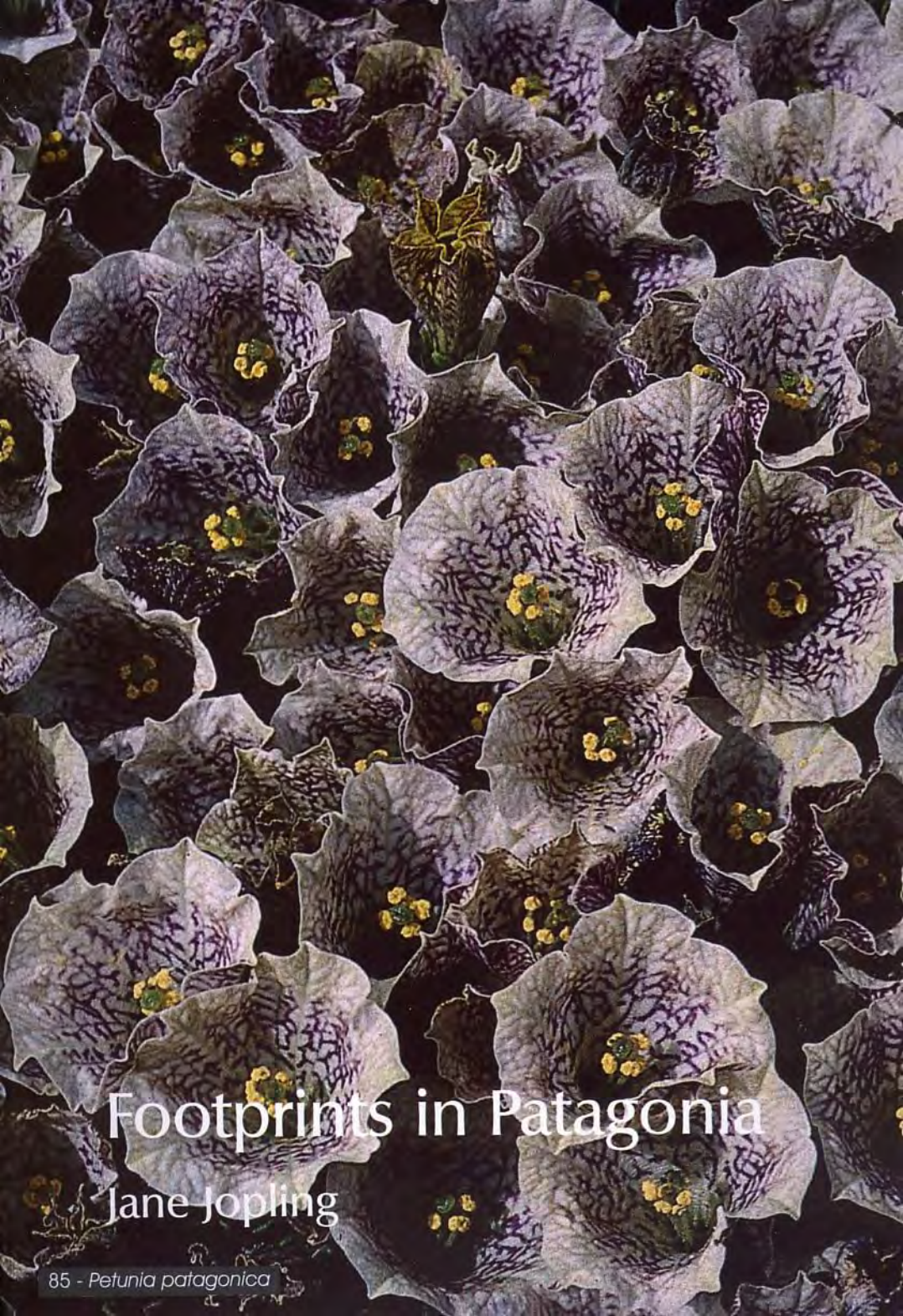
Erythronium taylori, from the central Sierra Nevada, is another recently described species that is related to *E. tuolumnense*. It has plain shiny green leaves and a white flower with a yellow centre. This is the first flower on our pot of seedlings so I cannot say what size a mature plant will be or how many flowers we will get on a stem.

Erythronium hendersonii has that combination of pale pink to white petals with a blackcurrant coloured throat that no matter what plant it appears in, such as hepatica, nomocharis, peony, etc. is always universally irresistible. Again I have seen a lot of misnamed plants offered as *E. hendersonii* which comes from southern Oregon and northern California. It is easily identified as no other North American erythronium I have seen has this combination of colours with the ovary, style and throat all a deep blackcurrant colour.

83

These are the species that we regularly flower and collect seed from in our garden. Most of them we have raised from seed so we see a wide variation in size, shape and colour. We have managed to grow most of the other species although some have not yet flowered and there are a few that have flowered when I have been away so I have not yet got pictures of them. We also have an increasing number of hybrids both old and new, some of which show promise of being good garden plants. I plan to look at the hybrids and the cultivation of species and hybrids in a future article.


84



Footprints in Patagonia

Jane Jopling

85 - *Petunia patagonica*

PATAGONIA has a certain ring to the name: a land I had heard of, but never dreamt of going to. I was into mountains which had "alpine flowers" above the tree-line, as on my walking holidays in Austria, or even the high mountains of the Himalaya where I went higher to see spectacular flowers. So when the opportunity came to go with the Alpine Garden Society to South America I was very pleased because I would be able to see unusual flowers in lower regions as well as in the mountains.

Patagonia is an area of mainly flat steppe land in the east with mountains on the western side stretching across the southern part of Argentina into Chile and down as far as Tierra del Fuego.

We flew via Buenos Aires, which is a colourful city famous for the widest street in the world, called July 9th Street. We had one day there before flying on to Rio Gallegos on the south-eastern coast, but to get there we flew down to Ushuaia on Tierra del Fuego where the plane picks up more passengers before flying back up to Rio Gallegos. However, the plane broke down and couldn't fly back so we were stranded for a few hours. No time was wasted with our party and we spent a wonderful few hours in the National Park of Tierra del Fuego, travelling by taxi, with pleasant scenery and sunny weather, probably some of the best in the whole trip. We saw flowers like the small *Caltha sagitata* in a marsh and a wonderful bank of *Primula magellanica*, the only Primula species in Patagonia, and in South America as a whole according to John Richards.

We eventually boarded our plane late that evening to Rio Gallegos to be met by one of our hosts from Estancia Stag River and Robbie Johnston, who was to travel with us for the rest of the trip as interpreter and who was with the transport to take us 150 miles west of this small town.

Stag River Estancia is a 50,000 acre property and used to run 11,000 sheep in its heyday, but now rents out some of its land and, as with many of the estancias, has turned to tourists, as sheep have become less profitable. We were well looked after with pleasant surroundings and excellent food.

Patagonia is a very windy place and also can be quite wet, especially towards the mountains in the west where the estancia extends into the Andean foothills. Having at first waded across a rather cold river and walked up through woods of *Nothofagus antarctica* and *N. pumilio* we saw cushion plants such as *Xerodraba pectinata* and *Azorella monanthus* hugging the ground very closely, the flowers in the main keep their heads down, as well as *Benthamiella nordenskjoldi* and a weird, small dark plant, *Nassauvia lagascae* ssp. *lagascae*, whilst up on the ridge we saw our

Oxalis enneaphylla

first mighty condors circling high above us. By the time we came back down the weather had turned to snow.

On another day we went out on to the steppe and it became windy and showery but apart from *Calceolaria uniflora* and *Oxalis enneaphylla* the other interest was the birds: Chilean flamingos, Black-necked swans, oyster-catchers; and a Grey fox with two cubs.

The following day we headed towards the Chilean border town of Puerto Natales where we changed money into Chilean pesos. One of our vehicles was giving trouble, which made our journey to the National Park of Torres del Paine rather slow. We did manage to see some magnificent trees of *Embothrium coccineum* with their bright scarlet flowers as well as a member of an unfamiliar genus in South America, *Saxifraga magellanica*, as well as an unusual orchid named *Codonorchis lessonii*.

As we entered the National Park we saw our first guanacos, a very elegant wild relative of the llama confined basically to the National Park, which covers over 500,000 acres. When we eventually arrived at the Hosterio Pehoe, on an island in the Lago Pehoe reached by a footbridge over which all the luggage was trundled on a handcart, the fine views to the Torres del Paine in the evening light had a mystical feel to them.

87 - *Nothofagus antarctica* and *N. pumilio*

Saxifraga magellanica

On our first day there, some of us were taken round behind the Torres by vehicle to the start of the walk up to the viewpoint of these spectacular spires of granite. Pushed up to the surface and exposed by erosion of the sedimentary or metamorphic rocks that once covered them, the tallest of the three is 9,350 feet. On the way we saw the flowering prickly shrub *Anarthrophyllum desideratum* with its brilliant red legume flowers against the backdrop of mountains.

We walked first to a refuge and on the way a gaucho passed me, riding a packhorse and leading another evidently loaded with provisions for the refuge. Some of us stopped there briefly to eat a packed lunch before climbing on up the track to the viewpoint - in total about 3,000 ft, and nearly 5 hours. The climb up was most satisfying but unfortunately the Torres were topped with cloud. However, it was worth the walk to see the red *Ourisia ruellioides* being washed by a waterfall on the way and also an *Anemone multifida*. Before leaving Torres we went to the shores of Lago Grey and watched the icebergs floating in from its glacier in the far distance. In the gravels on the shore grew the *Nassauvia magellanica*.

From the Torres del Paine, and the wonderful mountain landscape,

89 - *Ourisia ruellioides* washed by a waterfall

Torres del Paine

Gaucho leading packhorses

Xerodraba pycnophylloides

Hamadryas kingii (female plant)

Junellia azorelloides

Petunia patagonica

we travelled back into Argentina and the steppe land, across miles and miles of unmetalled road till we reached a paved road to Calafate, our next place to stay, a town of 3,000 population on the southern shore of Lago Argentino. From there we went up to a windswept stony ridge with weird rock formations where one wouldn't expect to find anything growing. But in a horizontal crevice in the rocks we found *Oreopolus glacialis* with tiny bright yellow flowers and *Xerodraba pycnophylloides* with cream coloured flowers, and *Benthamiella longifolia* which was a superb rounded white cushion plant. Further up on to the plateau at 4,000 ft little plants both male and female forms of *Hamadryas kingii* with greenish felted leaves and yellowish flowers, one of the Ranunculaceae.

To contrast with flowers, the other memorable sight was two sets of tracks side-by-side of a puma and a guanaco. What the outcome of that we never found out but as there was no further evidence of bloodshed, we hoped the guanaco won!

The visit one day to see the Moreno Glacier was a major tourist attraction not to be missed. There is a viewing platform from which one watches as huge lumps of ice break off with a dull roar from as high as 200 ft from the end of the glacier that stretches back 160 miles up the fiord.

Calceolaria polyrrhiza

Viola auricolor

Alstroemeria patagonica

We followed these days with travels along lonely roads with very little habitation but some marvellous steppe plants. Although further east, away from the mountains, is drier, the snows and rains of the previous winter and the good spring produced some good flowers for our visit. On the edge of the road where it had been disturbed we found an ideal habitat for low mat forming Junellias such as *Junellia azorelloides,* both pink and white forms, and *J. patagonica* with a hard dome-like white mat. There was even a species of cactus growing on the drier steppe, *Austrocactus patagonicus.*, and we saw both yellow and red forms.

In a damper area again just by the road were some tight mounds, three foot or more in diameter, of open, cupped flowers called *Petunia patagonica,* (or *Combera patagonica* if you look in the *Encyclopedia of Alpines*), some pinkish and some creamy white. In one area of grassland a slight rise was obviously the ideal habitat for *Calceolaria polyrrhiza* as they dotted the whole area in yellow.

We stayed for one night on an isolated estate, Estancia Angostura, with a very hospitable family and, not arriving there till turned 9 pm, we were then invited outside to an *asada* which is lamb roasted over a wood fire, preceded by tasty snacks and with plenty of red wine. We all put extra clothing on as of course it was very cold. Lurking close by were some friendly collie dogs useful when the meat was a bit tough or fatty!

From there we travelled further north and west into the Perito Moreno National Park which was created in 1937 basically to protect sources of water and is 23,000 acres. There is flat land, or pampas, rising up to 3,000 ft high mountains, and seven lakes joining up to flow into the Pacific and one into the Atlantic. Only 800 people visit the park in a year compared with the 50,000 that visit the Torres del Paine. We stayed in another pleasant estancia, Estancia Orientales, where the food was very good too, with some of their own beef; Patagonia is certainly a meat eating country.

As we climbed up the rocky track we found a bright yellow *Benthamiella patagonica* and then higher still, the "find of the day" – *Viola auricolor* which is a speciality of the area, one of the rosulate violas of which there are several different species in Patagonia. The day was bright and the views were clear so the distant Lago Belgrano looked so blue. The only drawback was the strong wind to fight against as I walked along the high ridge before moving downhill into the calmer valley where we found a large group of *Primula magellanica.* We had one more day out on the low land where we saw a "host of *Olsynium biflora*" blowing in the wind like the famed daffodils!

Guanaco footprints tracked by puma footprints below

Our last move was south to El Chalten, the distance of some 240 miles interrupted by the vehicle I was in having a puncture and the vehicle in front overheating, which gave some of us the time to look and photograph flowers. El Chalten is at the northern end of the Parque Nacional Los Glaciares and is a small village developing as a mountaineering and trekking centre situated near the foot of the Fitzroy mountain range towards the Chilean border. This is where Oscar, who runs his own guiding and climbing company, lives and he had been with us since Calafate. He helped with the guiding and driving of our party and was also learning about the plants of his area. He proudly showed us up a steep climb to an outcrop overlooking a ravine where the beautiful orchids *Chloraea magellanica* and *C. alpina* grow. He later took us up through the woods to where we could view the famous Mt FitzRoy which is one of the highlights of the area at 3,405 m or 11,171 ft high and named after the Captain of the Beagle, of Darwin fame. We had a last look at the steppe with its tussock grass and prickly *Mullinum spinosa* and then finally a view back to Mt. FitzRoy which now had become so clear, with a bush of *Adesmia boronoides* in the foreground, and even among this steppe habitat there were splashes of colour, with *Perezia recurvata* and still one of my favourites, *Alstroemeria patagonica* ... a fitting end to a memorable visit to southern Patagonia.

100 - *Junellia azorelloides*

General view of trial beds with plants seed-raised from a range of provenances

Seed trials of *Meconopsis* 'Lingholm'

Bill Terry

This article reports on seed trials of *Meconopsis* 'Lingholm' carried out in coastal British Columbia at Sechelt in 2004/2005 followed by some comments from Evelyn Stevens who first suggested that Bill undertake the trials described.

I WAS VERY PLEASED to be asked to undertake the trials reported here; first, because it gave me an opportunity to play a part in the work of the Meconopsis Group; second, because it offered the prospect of introducing the true *Meconopsis* 'Lingholm' to my garden and from there to other gardens in the Pacific North-West. Hitherto, while I had easily raised big blue poppies belonging to *Meconopsis* Fertile Blue Group, none could confidently be labelled 'Lingholm' and I doubted that the real thing was to be found in Canada. After the trial it happily thrives in my garden and, through seed distribution, will soon be enjoyed by others in this country.

The aims of the trial were to check:

- whether different sources of *Meconopsis* 'Lingholm' conformed to the diagnosis of this cultivar
- whether *M.* 'Lingholm' seeds collected from plants grown in mixed collections of Meconopsis (big perennial blues and other species) breed true
- consistency within and between batches
- whether there is duplication, as suspected, in the case of two items from a wholesale seed catalogue, one labelled *Meconopsis* x *sheldonii* 'Lingholm' and the other *M. grandis* Hort (Lingholm)
- what proportion of *M.* 'Lingholm' turn out to be long-lived rather than being short-lived perennials or monocarpic.

Eight batches of seed were sent to me in late 2003. To ensure this was a 'blind' trial, only minimal identification was provided. All seed was stored in the fridge until late January 2004, when started indoors under fluorescent lights, (as described in my article to be found on the Group's website: *www.meconopsis.org*.)

Germination began in two weeks. All batches germinated strongly with the exception of the two commercial packets - consistent with my experience of commercial seed which, even if packed fresh, loses viability at a rate measurably faster than seed kept in cold storage. By the end of February all seedlings were moved outside to a cold frame, then, during April, at the two-leaf stage, transplanted singly into 4" (9 cm) pots.

The trial bed is partly shaded by deciduous trees. It's a level area of municipal wasteland, bordering our property, which I cleared with mattock and spade of towering thickets of blackberry, ivy, Vinca, bindweed, and Japanese knot weed. All these horrors over a few decades had deposited a rich leaf mould, a foot of which overlays a sandy base, providing excellent drainage and moisture retention. It proved to be a superb site for the *Meconopsis* 'Lingholm' trials. The climate of the Pacific North-West - just a tiny part in the bottom left hand corner of Canada - is also quite well suited to cultivating Meconopsis. Summers are cool, particularly bordering the sea as we do, with normal highs around 23°C. Winter is mild and frost uncommon. Rainfall amounts to about 2 metres a year with very wet winters and dry summers. Excellent winter drainage is therefore important as well as the provision of adequate summer moisture.

The plants were set out during July in nine well separated blocks, with twenty plants for five of the batches and nine for the other three (total of 127 plants). A trowel-full of steer manure was muddled in each hole, with a little 6-8-6 NPK fertilizer and a further top dressing of slow release pelleted fertiliser (21-7-14). The plants responded extravagantly.

Three pictures of plants raised from seed of "original" *Meconopsis* 'Lingholm' grown in isolation from other big blue poppies. The uniformity of plants can be seen.

I made detailed notes of each batch at various times during growth. These notes covered phenotypic features and numbers of plants surviving up until August 2005. The dates on which notes were made were:

- the date of setting out - early July 2004
- before the onset of winter dormancy - November 1st
- emergence from winter dormancy - late February 2005
- first flower opening - May 1st
- peak of flowering - June 3rd
- post-flowering - August 3rd

Survival rate, from the time of planting out in July 2004 until flowering 10 months later, was very near 100%. The plants (with just a few exceptions) flowered well and it is noteworthy that after only 16 months from seed-sowing, almost all bloomed. This I'm told is much sooner than would be the case in Scotland, for example, where flowering would not be expected until the second summer after seed-sowing, i.e. a year later.

My main conclusion was that, though there were small variations within and between batches, the flowers, leaves and general appearance of the plants as a whole are insufficiently different to warrant different cultivar status for any of the batches. This also applies to the two batches from a wholesale commercial source: these were essentially identical in appearance and performance, though the packets were labelled differently - *Meconopsis* x *sheldonii* 'Lingholm' and *M. grandis* Hort (Lingholm).

Final observations for 2005 were made in early August, when I recorded the perennial versus monocarpic showing of each batch. Perennial here refers to plants that, with new basal shoots, show the promise of blooming at least one more season. Whether they prove to be short-lived or long-lived perennials remains to be seen. The results were mixed. The average figure was 36% (44 out of 122 plants) with the promise of perenniality. In the best two batches, 60% and 65% appear to be perennial, in the worst, all died, i.e. all were monocarpic. These results support the view that inheritance is a determining factor but there is the remaining question as to whether inheritance is the only factor.

In this trial, all plants were allowed to bloom. I plan to continue watching the survivors to see what percentage prove to be *long-lived* perennials. But further trials are needed to determine whether there's any validity in the widespread belief that preventing big blue poppies from flowering in their second (first blooming) season will increase the likelihood of the plant becoming perennial. To test this, I plan to conduct experiments in which 50% of the plants from a single seed source are disbudded in their first blooming year, and the rest allowed to flower when they will. Results will be documented over several years.

In summary, all eight batches tested in this trial appear to me to be within the type description for *Meconopsis* 'Lingholm'. There are minor variations, but judged on the general appearance of the plants as a whole, throughout vegetative growth and flowering, these are not sufficiently distinct to warrant different cultivar status. However, there is a need for gardeners to select for quality in choosing plants from which they collect seed for the next generation, particularly in selecting seed to pass on to friends, for seed exchanges or for commercial use.

Comments and conclusions from Evelyn Stevens

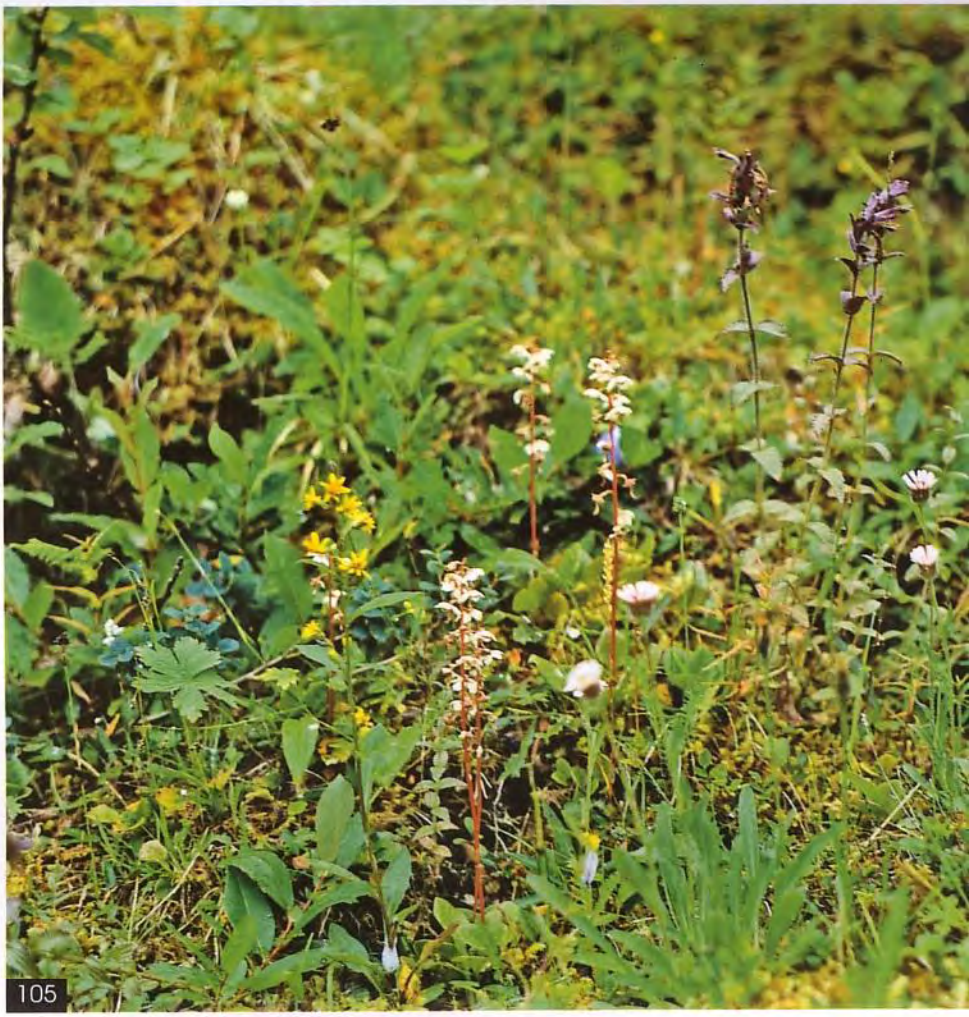
Bill has made a comprehensive photographic record of his trial (November 2004 and summer 2005) which he has sent me. There is no doubt in my mind that he is correct that the plants can all be ascribed to *Meconopsis* 'Lingholm'. This applies both to batches raised from seed from plants growing in mixed collections of big blue perennial poppies (three batches) and to those from seed of plants grown where *M.* 'Lingholm' is grown isolated from other big blue poppies (three batches). However, as Bill says, in all the batches variations *do* occur, sometimes a bit more marked than one would wish in a good seed-raised cultivar. I agree with Bill's plea for gardeners to select for good forms and to collect seed only from these in order to try to achieve uniformity and excellence in this cultivar. It is perhaps relevant here to report that *M.* 'Lingholm' received an Award of Merit (AM) from the RHS when presented to the Joint Rock Garden Committee in June 2005.

Despite the variations referred to above, I think we can confidently state on the basis of this trial that when *Meconopsis* 'Lingholm' is grown in a mixed collection of big blue poppies, at least, in the absence of hand-pollination, it breeds true, and is not as promiscuous as some people would have us believe. The two seed lots from the one wholesale source are also undoubtedly both *M.* 'Lingholm' and we feel that it is misleading to sell them as two different entities.

Individual plants of *Meconopsis* 'Lingholm' are known to us that can be fairly described as long-lived, some are even decades old. Therefore it is perhaps a little disappointing to find that *M.* 'Lingholm' raised freshly from seed will not necessarily prove to be so long-lived, or even fairly long-lived. However, Bill's findings have borne out my own impressions, but I was hoping that in Bill's excellent growing conditions, this would not be the case. Bill's findings are also supported by the impressions of Dr. Roger Nelson (see below).

According to Bill's detailed notes, one batch had overall top marks, taking into consideration germination percentage, flower quality, consistency of plants within the batch and perenniality. This

is very pleasing. These plants were raised from seed donated by Roger Nelson of Brampton in Cumbria. He is a recent member of the Meconopsis Group. From him, we have learnt in the last few years that it was he, and not his father, who purchased the plant(s) which gave rise to the cultivar *Meconopsis* 'Lingholm'. Roger purchased a few plants from Jack Drake's famous Inshriach Nursery in the early 1960s. This date pushes back the origin of *M.* 'Lingholm' about 15 years from the earlier reported date of 1977. Roger and his father expected the plants to be monocarpic. They were pleasantly surprised to find that they were perennial and then early on to notice that they set viable seed. This seed was in time given to Lingholm Garden. Plants were raised and distributed from there, at first as *M. grandis* and later, from 1984, when the new head gardener, Mike Swift, realized that they were hybrids, as *M.* x *sheldonii* Lingholm strain. Roger Nelson still has the original early 1960s plants (divided every few years), and he regularly raises plants from his own seed. Interestingly, Roger tells me that in a new planting of, say 60-80 seedlings, he will expect about two-thirds to become securely-established and long-lived, this figure matching closely that found by Bill Terry in his 'blind' trial. Until Roger joined the Meconopsis Group, it was the only big perennial blue poppy he had in his garden – so there was no chance of any "contamination".



Pyrola rotundifolia among other arctic flowers

Tromsø, a place to visit more than once

Sheila Brinkley

I WAS VERY INTERESTED to read Ian Young's article (January 2005) as by coincidence I was in Tromsø at the same time as he was. I also visited the Botanical Garden there and share his enthusiasm for the garden which has got to be the best of its kind. There is a wonderful collection of colourful and well-grown plants; and the experimental saxifrage bed is a great success.

My return to Tromsø for a second visit is in July 2005. Landing in brilliant sunshine just before midnight, my first thought is that if the morning dawns as fair I must be away early and up on the cable car to Mt Fløya (671m) on the mainland in case the weather should change. Ian and his fellow travellers were escorted to remote and usually inaccessible areas to find arctic treasures, whereas my companion and I explored locally on foot, and by making use of the really excellent cheap bus service. Bus No 26 from the centrum faithfully delivers passengers to the foot of the cable car every half hour or so. It is very easy to study plant life below the car during the ascent. A sea of natural birch woodland, *Betula pubescens*, has a ground cover mainly of ferns, the dominant one being the pale green oak fern, *Gymnocarpium dryopteris*, which is well known in Scotland. It is even possible to spot *Arabis alpina* growing on the cliff during the last stages of vertical ascent. This helps to take one's mind off the fact that the car appears to have almost halted and seems to have difficulty in making the last few feet to the top!

Leaving the upper station it is hard to stop taking photographs of the scenery below. The whole of Tromsø and its surroundings are laid out like a map. The island nestles in its fjord and is connected by a

slender elegant bridge to the mainland, at which point an architecturally dramatic church surveys all. The vista is enhanced by a ring of mountains, many still bearing a fair amount of snow. A good path leads to the summit and immediately we are surrounded by a carpet of dwarf cornel, *Cornus suecica*. The plants are at their best, and close inspection reveals that the small flowers at the centre of the white bracts are a curious purple-black colour. At lower altitudes the flowers are over and the small clusters of dark red fruits are almost ripe.

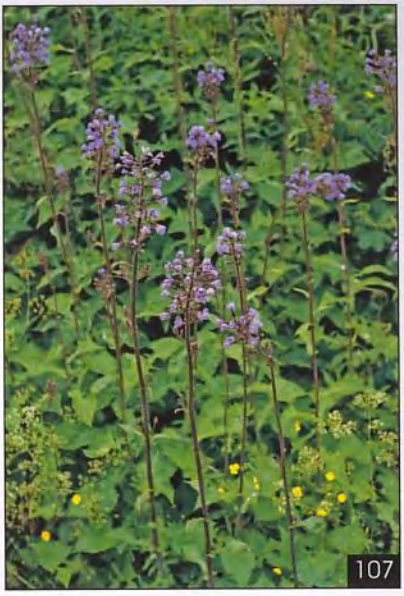
There are a series of different miniature habitats to explore. Areas of low cliffs have exciting plants growing where wild reindeer fail to graze efficiently. Here are saxifrages in bloom: *Saxifraga cernua*, *S. stellaris*, *S. nivalis*, and *S. oppositifolia* (a form with dark centres). *Thalictrum alpina* and tiny *Woodsia alpina* jostle with *Veronica alpina*. Damp patches are gay with bright yellow *Viola biflora* and pale violet *V. palustris*. Both these species have prominent veins, a reminder that the flowers of these arctic regions need all the help they can get in order to attract insects for pollination purposes during the short growing season. Also favouring the moister areas are luminous white *Pinguicula alpina*, and *Pedicularis lapponica* which differs from other louseworts in holding its ivory flowers at a horizontal angle to the stem. Also present are two beautiful ferns, the northern buckler, *Dryopteris expansa*, and alpine lady fern, *Athyrium distentifolium*, both of which show up from afar in July as light green clumps.

Mid-level slopes have a covering of low sub-shrubs; dwarf birch, *Betula nana*; mountain avens, *Dryas octopetala*; crowberry, *Empetrum nigrum*; and the rare "blue heather" of Scotland, *Phyllodoce caerula*, which is anything but rare here or blue as it bears large, pink, decorative lantern-like flowers.

The edges of snow patches appear bare and devoid of vegetation from a distance but closer inspection reveals the snow buttercup, *Ranunculus nivalis*, flowering only millimetres away from the edges of the snow. Peering through a hand lens to verify the presence of dark brown hairs on the sepals ensures very wet knees.

Approaching the summit the terrain is much drier and stonier. Cushions of *Diapensia lapponica* occur here: most are going over but there are sufficient flowers to generate some excitement. It is not surprising to see moss campion, *Silene acaulis*, and areas of *Cassiope hypnoides* adding to the rock garden appearance, but it is a thrill to find a few plants of our Scottish rarity, the alpine catchfly, *Lychnis alpina*, on the ridge beyond the summit.

Galium boreale



Cicerbita alpina

Athyrium distentifolum

Torrent on Kroken

Walking over Mt Fløya is only the beginning of easy exploration around Tromsø. There are several valleys which extend inland from the fjord, bisected, as one would expect, with anything from a small burn to a raging torrent, and usually accompanied by a good footpath which extends well into the hills. Each valley appears to be different botanically and a good one to start with runs east from the church already mentioned. Soon after leaving the last of the houses there are dramatic stands of alpine sowthistle, *Cicerbita alpina,* at the side of the path, up to six feet tall and bearing superb purple blue inflorescences: an amazing plant to be an alpine and much easier to admire here than scrambling around cliffs in Scotland. Under the birch trees there are shrubs including various willows and northern blueberry, *Vaccinium uliginosum,* which looks attractive with its blue green leaves and deep pink flowers. Wood stitchwort, *Stellaria nemorum,* and a dense ground cover of ferns, pyrolas, and the odd spotted orchid, *Dactylorhiza fuchsii,* indicate moist conditions. The ubiquitous oak fern is accompanied by my favourite, the elegant beech fern, *Phegopteris connectilis* cascading down the wayside banks. There are also clumps of mountain bladder fern, *Cystopteris montana,* and the shuttlecock fern, *Matteuccia struthiopteris.* Large areas of woody cranesbill, *Geranium*

sylvaticum and globe flower, *Trollius europeaus*, which enjoy such a wide distribution are the very epitome of arctic woods. They appear where the birch canopy is less dense. Clearings either side of rushing burns or beside the path display colours reminiscent of a Persian carpet: *Saxifraga aizoides*; white grass of Parnassus, *Parnassia palustris*; golden rod, *Solidago virgaurea*; *Pyrola minor* and *P. norvegica*, and blue fleabane, *Erigeron uniflorus*. The saxifrage appears in its bright yellow British form plus the northern dark orange one, and all the variations in between. One plant of *Chamorchis alpina* (like a small frog orchid) is an interesting find on this walk. It is good to observe a bluethroat, the northern version of our robin, amongst the trees and a gyr falcon in flight.

Parnassia palustris

A slightly longer bus journey takes us to the valley above Kroken on the mainland. A helpful bus driver sets us down with instructions about where to catch the return bus. This wooded valley is different in botanical character and remarkable for masses of bog rosemary flowers, *Andromeda polifolia*, and good lichens. A third valley is memorable in that we find ourselves walking near a heard of wild reindeer. This is a consolation for the persistent rain.

Near the centre of Tromsø island there is a sizeable lake. The area is a Nature Reserve and visitors can enjoy studying a colony of not so common Common gulls, Arctic terns, and Red-throated divers. The numbers of young present this year indicate that this is successful breeding site. The boundaries of the lake are fringed with bog bean, *Menyanthes trifoliata*. This member of the gentian family would have been a beautiful sight at flowering time; crimson buds followed by white, starry blooms. It is easy to discover small areas of permafrost in between the trees around the lake. The spongy hummocks act as host

Lyngen alps, Karlsøy

to some interesting plants. One in particular, the small cranberry, *Vaccinium microcarpum*, was new to me and reminiscent of a wee dodecatheon. Cloudberries, *Rubus chamaemorus*, occupy the tops of the mounds and the red fruits will soon turn to a glowing amber colour. This delicacy is much prized by local inhabitants throughout

Scandinavia for making preserves and a liqueur. Dwarf willows are here, and the large sundew, *Drosera anglica* nestles in between the hummocks in association with spaghnum moss. Taller plants of marsh cinquefoil, *Potentilla palustris*, decorate the perimeter of the permafrost area with their blue green leaves and brick red flowers.

It is possible to visit outlying islands from Tromsø using local bus and ferry services. Ian mentions Sommaroy and we too enjoyed a day excursion to the summer isle which boasts many holiday homes amid paintable scenery of sea, sky and mountains. Near the hotel there are drifts of seasonal flowers including melancholy thistle, *Cirsium heterophyllum*; northern bedstraw, *Galium boreale*; harebells, *Campanula rotundifolia*; tufted vetch, *Vicia cracca*; and some of the largest specimens of parnassia I have ever seen.

However the one island I want to reach is Karlsøy, away to the north of Tromsø. Owing to the warming influence of the Gulf Stream it is rather special in botanical terms, being the most northern outpost for some species: for example the lesser butterfly orchid, *Platanthera bifolia*. Getting to Karlsøy and back proves to be something of an adventure. We know the trip entails at least one night away; the Tourist Office assures us of a bed there but whether there

The hotel on Karlsøy

will be other facilities or even food remains to be seen. The island is small, has one hotel, a church, several dwellings and a permanent hippie community. The hotel owner provides all our needs; an attic each and eggs and bacon on best china plus beer for supper. Fortunately his English-speaking son is on leave from catching cod near Greenland and translates for us. The times of the ferry dictate opportunities for exploring which mean only an hour before bedtime, and another two the following morning. I remember admiring a large patch of twin flower, *Linnea borealis*, and the deep denim blue of alpine sawwort, *Saussurea alpina*. *Campanula uniflora* of similar hue is growing in short turf by the shore. I shall long remember walking along the shore towards the lighthouse at 6.00 am being dive bombed by nesting arctic terns and gazing across the sea to the magnificent Lyngen Alps.

On this trip we are only able to see a small part of Karlsøy. Indeed the whole of Tromsø area merits more than one visit in order to explore the wealth of varied habitats.

Readers should also be reminded that there was an article by Finn Haugli on 'The arctic-alpine flora of Troms County, north Norway' in *The Rock Garden* 108, January 2002.

PETER SMITH – 1929-2005

It is sad to have to tell readers of the death in November of Peter Smith who was one of the major contributors of saxifrages, particularly mossy saxifrages, to the rock garden in Tromsø. They have rarely been in a location where they can be seen to better advantage. After retiring from his work in industry Peter, with his wife Maryla, ran Darley House Nursery in Matlock, Derbyshire. Peter's article on Erodium for the rock garden was published in *The Rock Garden* 110 in January 2003. Peter was a central figure (successively as Vice-Chairman, Chairman and Treasurer) in the management of the Saxifrage Society from 1992 until October this year.

For the second year the Discussion Weekend is in the heart of Perthshire at Pitlochry which is also called "The Gateway to the Highlands". Pitlochry is on the main A9 north of Perth. There are rail links from Edinburgh and Glasgow but also a direct line from London. The nearest airport is Edinburgh with bus and rail links to Pitlochry.

Pitlochry is a tourist town with many Hotels and B&B's. It is set in the most beautiful countryside with Ben Vrackie looking over the town. We have 2 distilleries near the town: Bell's and Edradour, the smallest distillery in Scotland. There is good High Street shopping and, of course, the House of Bruar just up the road. Gardens of interest include Cluny Garden and all the Perthshire Garden Collection, in total 11 gardens. The hotel, on the southern approach to Pitlochry, is set in 48 acres of beautiful grounds with red squirrels frequently seen and lovely walks into the local Black Spout Wood. Facilities include a pool, spa-bath and tennis courts. It is within an easy walk of the town - about 5 minutes - for shopping.

RESIDENT	
Friday Dinner – Sunday Afternoon Tea	£175
Saturday Lunch – Sunday Afternoon Tea	£120
NON - RESIDENT	
Saturday (morning coffee, lunch, afternoon tea)	£35
Saturday Dinner	£21
Saturday (morning coffee, lunch, afternoon tea, dinner)	£56
Sunday (morning coffee, lunch, afternoon tea)	£35

FRIDAY 6TH OCTOBER

16:00	Registration
19:45	President's Welcome Address
20:00	The Bulb Group Lecture – Tony Hall **'Rare and Unusual Bulbs for the Alpine House'**
21:30	Small Bulb Exchange

SATURDAY 7TH OCTOBER

08:00	Registration
From 08:00	Setting up plants for show
09:00	Workshops and optional tours – Cluny, distillery or The Scottish Plant Hunters' Garden
12:30	Show Opens
14:00	The Harold Esslemont Lecture - Bobby Ward **'Modern day plant hunters'**
15:45	TBA
19:00	Dinner
21:00	After dinner speaker, Plant Auction and Raffle

SUNDAY 8TH OCTOBER

08:00	Registration
09:30	The William Buchanan Lecture – Bobby Ward **'Native wild flowers of the American south east'**
11:00	**'Building for growing'** – Peter Korn
14.00	The John Duff Scottish Lecture – Ron McBeath **'Growing plants in a windswept garden in the Borders'**

Please book early to prevent disappointment, as we have an allocated amount of space in the hotel.

All accommodation at the Atholl Palace Hotel will be in double, twin or single rooms. If single members prefer to share a room, it will be greatly appreciated if, when booking, they could arrange this between themselves. Tell us the name of the person with whom you will be sharing. Otherwise, we will use our best judgement when allocating single delegates to twin rooms. Extra nights on the Thursday night before and the Sunday night after can be booked at a specially negotiated rate of £45 per person per night, sharing a twin room to include breakfast. Tell us on the reverse of this form if you need this extra accommodation and we will book it for you. There is no ground floor accommodation but there is a lift to all floors.

Star attractions will be the PLANT AUCTION, RAFFLE and 50-50 PLANT SALE, PLANT SHOW, and HOLIDAY PHOTOGRAPHIC COMPETITION. Details are in the Year Book.

Please use the booking form enclosed with the Secretary's Page.

Members should make sure that the form and remittance reaches Julia not later than 19th September:

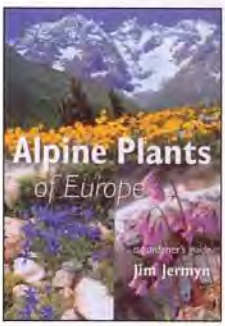
The Registration Secretary, Miss Julia Corden, 2 Lettoch Place, Pitlochry, Perthshire PH16 5BB (Tel. 01796 474410)

Members wanting further information should write to Julia Corden at the above address or email ***julia.corden@pitlochry.org.uk***

Book Reviews

ALPINE PLANTS OF EUROPE

Jim Jermyn



320pp. 220 colour
& 1 b/w photograph,
7 line drawings, 1 colour map
ISBN 0-88192-734-1
Timber Press
£25.00

This new book is a worthy successor to Jim Jermyn's acclaimed *The Himalayan Garden*, published in 2001, also by the Timber Press. The photographs are mostly by Wilhelm and Dieter Schacht and anyone who is fortunate enough to own a copy of *Rock Gardens* by Dieter Schacht, will be aware of their great skill as photographers and will be similarly thrilled by the high standard of illustration in the present volume. In some ways, the book is also a much-needed successor to *Mountain Flower Holidays in Europe* by Lionel Bacon, published by The Alpine Garden Society in 1979. That book however, was a guide to finding plants in the field rather than a guide for gardeners, while the volume under consideration comprehensively covers both disciplines.

The foreword is by Margaret and Henry Taylor, who themselves have done so much to further the cause of bringing choice alpine plants into cultivation. As they point out, Jim started his career at Ingwersen's Nursery in Sussex, followed by a traineeship at the Munich Botanic Garden, where Dieter Schacht was Curator of the Alpine Section. Jim has also worked at Jack Drake's Nursery in Aviemore, a nursery on the side of Lake Garda in Italy, and was for a time the proprietor of Edrom Nursery, where he was famous for his award-winning displays of alpines at flower shows.
The core of the book is a tour round the best plant-hunting locations in the mountains of Europe, starting with the Cantabrian mountains in north-west Spain and finishing with Greece, Bulgaria and the High Tatra

mountains which straddle the border between Slovakia and Poland. Each chapter describes the geology of each area, in so far as it has a bearing on plant distribution.

The bulk of each chapter is devoted to descriptions of the choicest species to be found in each area. These descriptions are sufficiently detailed to act as a useful guide in the field as are the photographs that are almost always on the same page as the plant's description or the one adjacent, a useful layout for the impatient reader. Each plant description is followed by a most helpful and detailed account of each species' requirements in the garden, together with tips on raising plants from seed and propagation from cuttings or division, as appropriate. In terms of cultural recommendations, Jim's constant refrain is that most of the species described love to grow wedged between pieces of stone, or even planted directly into boulders of tufa. There are also tips on how to flower plants that grow perfectly well but are reluctant to flower in the garden: how many of us have failed with certain of the soldanellas, or say, *Potentilla nitida*? I know I have. In fact so valuable are the cultural recommendations in the book that it must surely be regarded as a sound investment, saving the aspiring grower of alpine plants from wasting money on purchases that are doomed to failure for want of knowledge of their exact requirements and from much frustration on account of wasted seed.

Where appropriate, for example in the chapter on the Dolomites, Jim quotes from Reginald Farrer, sensibly concluding perhaps that it would be futile to attempt to emulate the somewhat overblown but very motivating descriptions of alpine plants penned by this superlative plantsman in the early years of the last century. Turning to the plants themselves, Jim provides a timely reminder that although in recent decades alpine plants from for example China, New Zealand and South America have captured the imagination of growers, the rich diversity of the European alpine flora must surely form the core of every alpine gardener's collection. By way of illustration, the book contains accounts of no fewer than 30 species of primula, 20 species of campanula and 25 of gentian, excluding hybrids, sub species and cultivars! What further proof could be needed of the huge capacity of these genera for speciation in the mountains of Europe.

Here and there, reference is made to plants that also grow in the UK, principally in Scotland and I can't help feeling that the author could have made more of the connection between our native mountain flora and the more celebrated and, it has to be said, the more diverse flora of the mountains of mainland Europe. For example reference is made to the alpine bearberry, *Arctostaphylos alpinus* in the section on the Dolomites, with further reference to it growing in Japan, but you don't have to go to Japan, or even Italy to see this lovely plant. You only have to wander over the cliffs of Hoy in Orkney in October to experience the fiery red autumn hues of this prostrate deciduous shrub, tempered by pale grey mats of reindeer moss *Cladonia* spp. A further niggle is the scant treatment afforded to the High Tatra mountains, to which the Alpine Garden Society led an expedition in 1995.

These are however, very minor complaints when set against the many good things in this wonderful book. Go out and buy it, and save yourself some money! *Richard O'Connor*

HORTUS BULBORUM

- a Treasury of Historial Bulbs

Leslie Leijenhorst

189pp
ISBN 90 71123 74 X
Self published, Arnhem
£28.95 from NHBS Mailorder Bookstore
$36.50 from Old House Gardens

For botany, the science of plants, all definitions of roots are of utmost importance. For gardeners, knowing the correct names of the plants you are growing shows others your expertise and measures your status among your peers. Knowing the pedigree of your cultivars defines you as a connoisseur of the art of gardening.

Leslie Leijenhorst's book is a history of the bulb trade in Holland told through the story of the collections of historical bulbs in Limmen Village that celebrated their 75th anniversary in 2003. The book is written in both Dutch and English with parallel text in side by side columns. Included are historical photos of the gardens and memorabilia.

The bulbs in Limmen Village have persisted through that time with the help of passionate growers, enduring through a world war, harbored during the hard times when the people were starving and forced to eat flower bulbs, and undergoing two major relocations within the village. The Hortus Bulborum in Limmen Village is a unique collection of bulbs all reproduced vegetatively annually, and requiring rigid, painstaking inspection to maintain the purity of the lines. Today the collection encompasses over 2500 different species and cultivars including over 1500 Tulips, about 800 Daffodils, 80 Hyacinths, 22 Irises, 49 Crocus, and 17 Fritillaries. Each of the above bulbs is described to classes of cultivars such as Darwin Tulips, Single Late Tulips, Lily Flowered Tulips, etc. defining the distinguishing features of each and illustrating each with a picture example of each type. The raiser, lineage, year of origin, flower color, breeding, and occasionally synonymy, for the bulbs is given when known, as well as the derivation of some of the cultivar names such as the Tulip 'William Rex' being named after the Dutch King-stadhouder William of England. All this information not only clarifies the relationships of the bulbs, but also gives you some measure of how long some of the bulbs, still favorites in the garden, have been in cultivation. Of those grown in Limmen Village the oldest known cultivar Tulip listed being 'Duc van Tol Red & Yellow' from 1595, the oldest *Narcissus* the Large Corona Daffodil 'Sir Watkin' (all yellow) from 1868, the oldest hyacinth 'Gertrude' (pink) from 1850, the oldest species crocus *Crocus tommasinianus*, 1847, the oldest fritillary *Fritillaria persica*, from 1573, and the oldest *Iris* 'Imperator' (deep blue with an orange pattern) from 1920.

Since its founding, samples of the historical tulip collection have been shared with Uppsala, Sweden and Holland, Michigan, U.S.A. Other collections of historical bulbs in the Netherlands are also described as to their bulb specialties. Listed are addresses of other gardens with extensive bulb collections throughout the world, including the City Parks of Holland, Michigan, which celebrated its 75th anniversary in 2005, and the Hampton

Court Palace Gardens in Surrey, United Kingdom. In all, this is a book for the bulb enthusiast for whom history is also a fascinating adventure. *Susan A. Reznicek.*

NHBS Mailorder Bookstore (01803 865913)
2-3 Wills Road, Totnes, Devon TQ9 5XN, UK
Old House Gardens – Heirloom Bulbs
(734-995-1486)
536 Third St., Ann Arbor, Michigan, 48103 USA

BULBS IN CONTAINERS

Rod Leeds

224pp, 99 colour & 9 b/w illustrations
ISBN 0 88192 735 X
Timber Press
£20.00

My first impression on flicking through Rod Leeds's book, was to wonder just who is this book aimed at, the general gardener or the specialist grower? Some of the pictures suggest that it is the general gardener that the book hopes to tempt into growing bulbs in a selection of containers but many of the bulbs suggested will challenge the best of growers. I was also a bit put off by some of the pictures that were obviously staged, with a pot of bulbs double planted into a decorative pot for the photograph, until I read the text. Then I discovered that the author suggests growing the bulbs in a small pot that can then be dropped into a more decorative one for prominent display when it is in flower.

The book starts with a selection of photographs of bulbs in containers, this includes many of the well known genera as well as some of the more unusual ones that will give the grower a sequence of bulbs to provide flowers for most of the year from Early Spring through to Autumn. I was puzzled by the use of two pictures of shrubs in the Summer section, one in particular on page 95, of *Cotinus coggygria* which

it is stated can be given a lift by a planting of *Lilium regale*, but where is the lily? It is only when you turn over to page 96 that I found the companion picture showing the lily in front of the shrub. I wish editors would keep pictures that should be viewed together, like these, on pages that can be viewed together.

The next section of the book lists alphabetically a selection of bulb genera suitable for containers; this widens the choice of bulbs given in the previous 'through the season' chapters, with a selection of both species and cultivars.

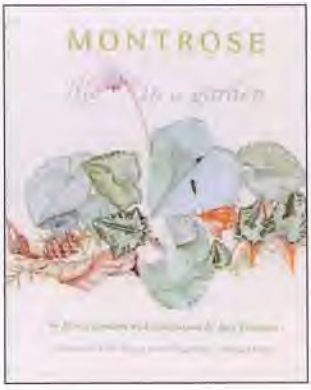
The final chapter deals with the 'Practicalities' and includes a lot of excellent advice on cultivation and propagation; just what I would expect from a grower of such skill and experience as Rod Leeds.

Having finished the book I am still not sure for whom it is intended: I think that many of the staged pictures will put off the specialist growers and the detailed chapters on scaling and chipping of bulbs will tend to put off the general gardener.

Do not be put off by this review, Rod Leeds' book has much to offer to all gardeners; he is an expert grower with many years of experience in growing bulbs much of which he shares in this book. *Ian Young*

MONTROSE

Life in a Garden



Nancy Goodwin
illustrations by Ippy Patterson

294pp with 168 colour illustrations
ISBN 0 8223 3604 9
Duke University Press
£22.95

Nancy Goodwin gardens in North Carolina where she and her husband Craufurd have lived since the late 1970s. The gardens at Montrose are 61 acres in all and surround the nineteenth century house and were the

home of Nancy's Montrose nursery from where for many years she mailed a range of plants, but especially cyclamens, to gardeners across North America. Montrose is very much in the tradition of the historic American garden with the efforts of a dedicated couple creating a garden which can be left with organisations such as the Garden Conservancy. The traditions of American gardening lead to programs such as Master Gardeners that many gardeners would aspire to, just as in Britain there is an increasing trend towards qualifications in garden design or the RHS Diploma.

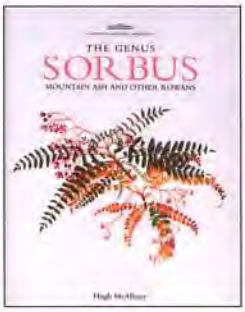
This is not so much a book about gardening as about the love and development of a particular garden. Nancy Goodwin uses the garden year to reflect on the garden and the plants she loves, and weaves into that memories and thoughts of people who've worked with her and people she has corresponded with or from whom plants have come. And like the rest of us Nancy Goodwin can never resist a good plant.

This is a nice book with excellent production standards, which is very lavishly illustrated with the delicate pencil and wash illustrations of Ippy Patterson. There are picture of an enormous range of the plants in the gardens of Montrose as well as some drawings of the gardens and of the various animals; dogs, cats and mice that are around. I found the illustrations of plants varied – the best show a decisive command of structure and form, of irises, magnolias or clematis, which clarify the subject, although in others the muted washes of colour left me wanting more solidity. In general terms smaller subjects seem more decisively and accurately dealt and, while her approach to trees is somewhat schematic, her drawings of *Euphorbia* x *martini* and *Iris foetidissima* show her at her best. Although the illustrations are not to my taste, if you want a sense of what grand gardening is like in the southern States this is a good read.
Malcolm McGregor

The Crosland Prize

Since 2001, the **Crosland Prize** has been awarded annually by the Aberdeenshire Group in memory of the late Jack Crosland for the best contribution in *The Rock Garden*. Writers, photographers and illustrators are all eligible. The award for 2005 (made in conjunction with the Borders Group) is to Malcolm McGregor for his article 'Spring Jewels' in issue 114 of *The Rock Garden*.

THE GENUS SORBUS
Mountain Ash and other Rowans



Hugh McAllister
114 colour photographs, 115 b/w drawings
20 colour paintings by Josephine Hague
ISBN 1-84246-088-9
The Royal Botanic Gardens, Kew £32.00

This book, the first definitive treatment for over a century, will rapidly become the touchstone for anyone with an interest in the rowans. The genus, which provides the gardener and the taxonomist with equal delights, has within it one of the most beautiful of mountain trees in Britain. Other species are found right around the northern hemisphere from the high Arctic as far south as Madeira, North Africa, and Burma. This is a wonderful taxonomic account of the 72 species, 28 of which are described formally here for the first time (and many of these are highly desirable). But it is much more, engaging the interest of the non-specialist as much as the dedicated specialist. It has very readable chapters on the place of Sorbus within the Rosaceae, the phylogeography (distribution and fossil records), the ecology, and for many of us the most important, the cultivation, in which the author deals with issues as disparate as bird predation, fungal pathogens, and seed extraction, cleaning and germination.

At the heart of McAllister's revision lies his study of the genus for over 25 years, which has revealed fascinating new insights into the way in which apomixis, asexual seed production, has led to confusion among taxonomists but has also provided wonderful opportunities for gardeners and nurserymen. As always with Botanical Magazine Monographs produced by Kew this is a sumptuous book with outstanding illustrations. The colour photographs of trees in the wild, particularly those of Tibet, are invaluable as are the close-ups. There are extensive drawings and there are a series of 20 botanical paintings by Josephine Hague which capture the decorative qualities which make the rowans such wonderful trees for small gardens.

Only the fact that this book only arrived in the middle of proof-reading stops it being a leading review in this issue (and more thoroughly reviewed). And only because it is such a good book does it demand a place here immediately. *Malcolm McGregor.*

THE DAVID LANE AWARD

The David Lane Award is a new annual award (decided on by the Stirling Group) for the best photograph in the journal, and this first award has been to Marijn van den Brink for his digital photograph of Sternbergia sicula published on page 10 of *The Rock Garden* 115. David Lane, a member of the Stirling Group who served all too briefly on the SRGC Council, died suddenly on 9 January 2005 in Kerala, South India. Although his name may be unfamiliar, you might well recognise his face: he was a constant presence on the SRGC stand at Gardening Scotland. He was a gentle, considerate, modest man always willing to lend a hand; but those who knew him also valued his lively intelligence, sound common sense and wicked sense of humour, all of which would have enhanced Council discussions.

A flavour of the man is perhaps best conveyed by the excerpt from the pen portrait he wrote when he joined Council: *"…. anyway, I am a miniaturist rather than a landscape artist: much though I love Crathes, the pattern I would dearly like to follow is that of the garden at Broughton House, Kirkcudbright. Retirement has unexpectedly brought more overseas commitments, so a town backyard with pots and troughs and an auricula shelter is all that it is realistic to envisage. But Strathclyde brought SRGC to my attention, and here I found plantsmanship (plantspersonship?) of a very high standard, coupled with a real sense of sheer enjoyment in the growing and staging and sharing of alpines. Being allowed a walk-on part at Ingliston over the last four years has been a sort of homecoming: thank you for having me."*

In his professional life he was the Rev Dr David J Lane, and a well-known academic theologian who had spent much of his life in far flung places, including Barbados, Toronto and latterly South India. Shortly after his death, the SRGC received a generous donation from Mrs Helen Smith of Toronto to be used to keep his memory alive and this has led to the establishment of this award.

JACQUES AMAND
International

Below are photos of just a few of the plants and bulbs available from our two full colour catalogues published in January and July each year. See us in Edinburgh in June at Ingleston Showground. Visitors welcome to the Nursery. Many treasures not listed also available. To obtain our catalogues write to:

The Nurseries, Clamp Hill, Stanmore, Middlesex. HA7 3JS
or phone 020 8420 7110 or fax 020 8954 6784
or e mail bulbs@jaquesamand.co.uk or www.jacquesamand.com

Arisaema asperatum

Cypripedium formosanum

Arisaema elephas

Asarum splendens

Nomocharis meleagrina

Trillium stamineum

Trillium pusillum

EXPLORERS

THE SCOTTISH PLANT HUNTERS GARDEN

2006 Workshops

Held by the SRGC, in conjunction with the Explorers Garden at Pitlochry Festival Theatre.

April 9th	**Asiatic Primulas** John Mattingly
May 14th	**Fish Box Troughs** Ian Young
June 18th	**Meconopsis** Ian Christie
July 9th	**Crevice Gardens**
August 13th	**Propagation** Graham Butler
Sept 10th	**Bulbs**

Also: Monthly exhibitions in the David Douglas Pavilion, including Spring Bulbs, European Alpines, Cypripediums, Himalayas, China and Laurence Greenwood paintings.

Workshops £10 (SRGC Members £5)
For more information contact
Julia.Corden@pitlochry.org.uk,
visit www.explorersgarden.org.uk
or call 01796 484600.