THE ROCK GARDEN 127

July 2011

SUBSCRIPTIONS FROM 1st OCTOBER 2011

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

Subscription rates from 1st October 2011

	UK	OVERSEAS
Single annual membership	£16	£22
Junior membership *(Under 18 on1st October 2011)*	£3	£7
Family membership *(Two adults and up to two children under 18 on 1st October 2011)* *Each additional adult or child*	£19 £3	£24.50 £7

A three year membership is available at three times these annual rates.

All payments to the Club must be in GB Pounds Sterling.

Cheques should be made payable to 'The Scottish Rock Garden Club' and must be drawn on a UK bank. Unfortunately, due to the high commission now charged, we are unable to accept cheques or credit card payments in US dollars or Euros.

Where subscription payments are made by Visa or Mastercard they can only be accepted if all the following information is given: the number on the card, the name of the cardholder as shown on the card, the address of the cardholder as recorded by the credit card company, the card expiry date and the cardholder's signature.

Visa or Mastercard subscription payments can also be made via the secure order form on the Club's website at **www.srgc.org.uk**

No card details whatsoever are retained by the club after a transaction.

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

Graham Bunkall, 145 Stonehill Avenue, Birstall, Leicester, LE4 4JG, UK

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

The ROCK GARDEN

The Journal of the
Scottish Rock Garden Club
July 2011

Number 127

Cover: May in Perthshire (Margaret & Anton Edwards)

Printed by Wyke Printers, Hull.
www.wyke-printers.co.uk 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

Anton Edwards
Duguid's Wark
Manse Road
Caputh
Perthshire
PH1 4JH
01738 710774
antonedwards@aol.com

The Editor welcomes articles, photographs and illustrations on any aspects of alpine and rock garden plants and their cultivation. Authors are encouraged to submit material electronically but articles may also be submitted in manuscript, preferably double spaced. Digital images are particularly welcome but 35 mm slides, high quality prints or drawings may also be submitted for professional scanning.

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 should be made to:
Christine Boulby
10 Quarry Avenue
Acklington
Morpeth
NE65 9BZ
01670 761423
boulby@coniston.demon.co.uk

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

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

The Best Form of *Daphne arbuscula*

Zdeněk Zvolánek

Daphne arbuscula is a lovely low-growing shrublet from the foothills of the Eastern Carpathian Mountains. Because of the vagaries of European history, it has a very international behaviour: it was first Hungarian; in 1918 it became Czechoslovakian; and for the last twenty years it has been Slovakian. It was exported to cultivation in British gardens from the Bulgarian Royal Rock Garden in the Rodopi Mountains and has been a very popular rock garden plant in the Czech Republic during about eighty years of its cultivation. During the last forty years Czech pioneers have introduced different forms of this species, described by the Czech botanist Ladislav Čelákovský in 1890. Robin White published six forms in his book *Daphnes: a Practical Guide for Gardeners.*

The main purpose of this article is to tell the story of the introduction of the best form, the one that our well-known Czech writer Josef Halda named *Daphne arbuscula* f. *albiflora*. The name is botanically correct but, because other quite distinctive white forms were found, it is good to give a cultivar name to the very distinct form that is established in cultivation.

The story of this *Daphne* princess awaiting the kiss of a cultivar name goes back to the end of 1960s when the Czech rock gardener František Holenka travelled from Prague to the Muráň Hills to find the

Above: *Daphne arbuscula* f. *albiflora* (Photo: Vlastimil Braun)
Left: Ladislav Čelákovský, 1834 -1908

famous *Daphne arbuscula* in nature. Holenka is better known for his breeding and selecting of saxifrages: *Saxifraga* x 'Golden Prague', *S.* 'Karel Čapek', *S.* 'Galaxie' and *S.* 'Jupiter' are some of the names of his many named hybrids. At that time he had no idea where to go because these hills, formed of dolomitic limestone and conglomerates, are 15 km long, 6 km wide and the altitude is from 700 to 1100 metres. So he asked some Slovaks in the village of Muráň if they knew where he might find this *Daphne.* He was lucky to be told the name of a local priest who not only knew the best localities but who also showed him the unusual white form. At that time it was permissible to take cuttings from the wild although today the site is within the well-guarded National Park of Muránská Planina, where you must now have a permit and be accompanied by a guide. Holenka grew one particular plant in Prague for nearly a decade. I remember this mother plant as sitting in a flat bed in a partly shaded corner of his rock garden. He treated it in a classic British style in watered humus-rich soil and many people asked him for cuttings. The plant was visibly over-watered and became weak from the wounds of taking many cuttings. This holy mother died quite soon from the force of pathogens but some lucky growers in Bohemia and Moravia had been able to establish plants from this white form. Another facet of this story is that the lovely original albino plant in Muráň soon met the same cruel

Rosettes of *Daphne arbuscula* f. *albiflora*

end as the *Daphne petraea* 'Tremalzo' from Mount Tremalzo: criminal murder with a shovel or blunt spade - they were dug out!

This particular form is prostrate and about seven cm high if grown in full sun with a lean mineral substrate free of humus. I protest against any description of the leaves as being dull green! This form has leaves so densely pubescent in a dry and sunny position that they look matt grey-green. The older bark is grey-brown. The very fragrant flowers are of a good size (15 mm) and are brilliant white when fresh, later aging to a pale pink flush. This superb brilliance comes from a crystalline structure of the flower lobes; the flowers themselves glisten in the sun like snowflakes. The plant has a very noble habit and is also lovely in bud when its creamy yellow tubes are visible. Flowers are produced again later in summer.

I only once saw another white flowering *Daphne arbuscula* (a clone exhibited but later lost by Josef Jurášek) and its leaves were glossy green. However, other white clones may be discovered so we must name this particular and distinct clone. I suggest naming it *Daphne arbuscula* f. *albiflora* 'Czech Crystal'.

This alpine gem is not so easy to propagate from cuttings as other *Daphne arbuscula* clones. When planting, always bear in mind that this is a true saxatile plant: plant it into a crevice with all-day sun-bathing. My own mineral volcanic soil is slightly alkaline. I do not water my plant but I remove old dry leaves from the bottom of the shrublet merely for security, because I have only one plant here in my garden in the Czech Karst.

Daphne arbuscula f. *albiflora* 'Czech Crystal'

Sweet Daphne from Bohemia

Zdeněk Zvolánek

Once upon a time, one rock gardener ran a one-man nursery close to the river Labe (Elbe). He distributed unusual rock garden plants and also one decently variegated *Daphne cneorum.* The man's name was Zückerstein and his distinct clone was in those days unnamed. This clone has grown in my rock garden for seven years in full sun in an artificial crevice with a mineral doleritic (diabase) soil. The growth of the plant is compact, about 12 cm high and 40 cm across. The leaves are of size 15 mm x 2 mm and their edges have narrow creamy-coloured margins. The flowers are arranged in heads (twelve to fourteen per head), have red buds and a pleasant rose-pink colour. The garden is 220 metres above sea level in a south-facing slope of stony steppe in Czech karst near Prague with precipitation at most about 400 mm per year. The rule of this garden is ... no artificial watering of established plants. So this small shrub had to survive two months in summer (2009) with no rain and no watering. During tropical days, temperatures go above 30°C and the dark rocks are hot enough to cook eggs, but inside the deep crevices the temperature stays low enough with balanced moisture. Some leaves were lost in this summer but 75% of them were not even burned and merely showed a decorative reddish tint in the late autumn.

There are two clones in cultivation with variegated leaves: *Daphne cneorum* 'Argentea' with a cream edge to the leaf but its flowers sparse in number; and *D. cneorum* 'Variegata' with a yellow leaf edge and pale pink flowers. Both clones can be 25-30 cm high by 60-90 cm wide. Robin White, the *Daphne* specialist, does not rate them very highly.

Because our variegated clone is suited to cultivation and is distinct from the above-mentioned clones, we decided to name it in honour of the late nurseryman as *Daphne cneorum* 'Sweet Rock' (a somewhat poetic English translation of Zückerstein). We sent some material to Chris Brickell and he supports the naming of this clone. We also asked Dr Cyril Lafong for his opinion and he wrote: '*Daphne cneorum* 'Sweet Rock' is a very good plant with small leaves. To me it

looks distinct and I think it should be named. I am not aware that there is another similar-looking plant but I have not grown that many different varieties.' The named clone was propagated and then distributed by our own Czech *Daphne* enthusiast Jiří Papoušek from Roztoky u Prahy.

Daphne cneorum grows in Bohemia (the western part of the Czech Republic) only in two small localities. One of them, with only about fifty plants, is on a northern slope exposed all day to the light, ten kilometres out of my garden. The soil here has plenty of yellow clay (slightly alkaline or neutral in its reaction) and the habitat is dense populated with grasses, mosses, *Thymus* and *Helianthemum. Daphne cneorum* runs through this carpet of plants with some kind of sociable pleasure but it must of course be protected from grass cutting. I strongly recommend not using peat or leaf mould in the substrate; a crevice with loam, sand and grit is always preferable.

Daphne cneorum

Rievers Group Discussion Weekend

23 – 25 September 2011

It's all change for the Discussion Weekend in 2011. A new team, a new venue and a new date. In a unique cross-border collaboration, groups north and south of the Border have laid aside old cattle-rustling rivalries and combined as the Rievers Group to organize the weekend. For the next two years the Reivers will run the discussion weekend at the Cairndale Hotel in Dumfries. So please put it in your diary now!

Dumfries has excellent transport links: it is close to the major motorways (M74 and M6); it is served by a railway station close to the hotel; and it has direct connection with the ferry terminals at Stranraer, Cairnryan and Troon. The list of attractions in and around Dumfries is mind-blowing, so whether your taste is for Rabbie Burns, the Red Kite, mountain biking or Beltie Country, Galloway has something for you.

The Cairndale is a town centre hotel with the full range of facilities – a large function suite where registration, showing and sales are on one level, a swimming pool and other leisure facilities. There is one bedroom fully equipped for major disabilities and there are lifts to floors in the main hotel only. Please let us know on the booking form if you have any special needs such as a room near lifts, or other facilities.

A good number of twin or double rooms has been made available for us but the number of single rooms is very small. If you wish to share a room please indicate the other person's name on the back of the form. We will help you find a sharer if you need one. Extra nights are available at the rates quoted on the booking form.

John Massey, who is speaking on Sunday, will have no plant stall but is happy to accept orders from members for delivery at the show.

The registration secretary: Mrs Gill Lee, Inglenook Cottage, The Neuk, Belford, Northumberland, NE70 7NF, 01668 213925.

RESIDENT (per person)

Friday dinner - Sunday afternoon tea, double	£198
Friday dinner - Sunday afternoon tea, single	£258
Saturday morning - Sunday afternoon, double	£140
Saturday morning - Sunday afternoon, single	£170

NON-RESIDENT

Saturday - morning coffee, lunch, afternoon tea	£42
Saturday - morning coffee, lunch, afternoon tea, dinner	£69
Saturday - dinner	£28
Sunday - morning coffee, lunch, afternoon tea	£42

PROGRAMME

Friday 23rd September

1600	Registration
1600 - 1730	Plant Staging
1800	Dinner
1945	President's Welcome Address
2000	The Jim Archibald Bulb Lecture: Kevin Hughes - 'Trilliums'
2130	Small Bulb Exchange

Saturday 24th September

0800 - 0900	Plant Staging
0830	Registration Visit to the Garden of Cosmic Speculation
1300	Show opens
1330	Rick Lambert - 'Dianthus'
1435	The John Duff Lecture: Stan da Prato - 'Coastal Flowers of Scotland'
1545	Ger van den Beuken - 'Kacker Mountains of Turkey'
1900	Dinner
2100	Anton Edwards - 'Making the Rock Garden'
2130	Plant Auction

Sunday 25th September

0830	Registration
0930	John Massey - 'A Garden For All Seasons'
1100	Rick Lambert - 'Slovenia'
1345	Ger van den Beuken - 'Ger's Way of Growing Tricky Plants'
1440	Maggi Young - 'Joining the dots ... connecting gardeners around the world'

SRGC Tour to Eastern Turkey – early May 2012

If you would love to explore the mountains of Turkey but are uncertain where to start, why not join this SRGC trip to some of the country's most biodiverse areas, led by botanical experts Professor Adil Güner, his daughter Basak and son-in-law, Chris Gardner?

We will fly initially to Istanbul for a visit to the Nezahat Gökyiğit Botanic Garden, subject of Adil's fascinating presentation at last year's Late Bulb Show, before a further flight to Trabzon on the Black Sea coast, whence our mountain explorations begin.

In travelling for overnight stays at hotels in Bayburt, Erzurum, Erzincan, Kemaliye, Malatya and Karamannmaraş, we will be travelling south-west through Anatolia from the Black Sea to the north-eastern corner of the Mediterranean. We will explore the Palandöken, Otlukbeli, Subatan and Doğanşehir mountain ranges and botanize many passes: Zigana, Köse, Kop, Kolcekmez, Sakultutan, Kubbe, Karahan and Puren, offering wonderful opportunities to find numerous choice plants, a high proportion of which are endemic.

In steppe and rocky habitats we hope to see *Iris sari, I. kirkwoodiae, Tulipa armena, Fritillaria imperialis, F. persica, Arnebia densiflora, Eremurus spectabilis* and the curious brassica, *Tchihatchewia isatidea.* In woodland we expect *Dactylorhiza flavescens, Orchis punctulata, Cephalanthera kotschyana, Cyclamen pseudibericum* and *Helleborus orientalis.* The main focus, however, will be the mountain habitats: *Corydalis wendelboi* and *Silene ruscifolia* on lower slopes; *Saxifraga kotschyi* on cliffs; *Pulsatilla albana, Crocus biflorus* ssp. *taurii* and *Draba bruniifolia* in Alpine turf; and *Fritillaria aurea* with *Corydalis henrikii* in limestone areas. We anticipate the snowmelt plants to include *Colchicum szovitsii, Corydalis rutifolia, C. oppositifolia, Cyclamen parviflorum, Gentiana verna, Eranthis cilicica, Muscari azureum, M. aucheri, M. armeniacum, Scilla melaina, S. sibirica, Fritillaria armena, F. pinardii, F. alburyana, Iris reticulata, Primula auriculata, P. elatior, Viola altaica* and many more.

Minibus transport will give us access to remote mountain areas, some of which have never before been fully botanically investigated. To benefit the most from this trip, participants should be fit and energetic.

Border: *Fritillaria armena* habitat

Below: eastern landscape

Arnebia densiflora
Tchihatchewia isatidea

Muscari azureum
Fritillaria persica, black form

Fritillaria aurea
Iris sari

The ground only price will be approximately £1700 per person sharing a double or twin (single supplement to be confirmed). A group flight will be booked from Scotland (approximately £400) but members may also join the tour in London or Istanbul.

To receive further details, please register your interest in this trip as soon as possible by contacting David and Margaret Thorne at craigurd@hotmail.com or at Craigurd House, Blyth Bridge, West Linton, Peeblesshire, EH46 7AH.

(Photographs, courtesy of Chris and Basak Gardner)

Border: *Muscari azureum* habitat

Below: *Onosma alborosea*

Nairn April 30th 2011 ...

The 42nd Highland Rock Garden Club Show took place on 30th April 2011 in Nairn Community Centre. The sun shone and the crowds flocked to see the show and to buy from the plant stalls. The Askival Trophy for Best Bulb in Show was awarded to John Owen for his *Lloydia* species, the judges commenting that it was rare to see this bulb in cultivation and that this was an exceptional example. It was good to see John taking the trophy home to Askival. The Culloden Cup for the best primula in show went to Olive Bryers for her *Primula ellisiae.* Carol & David Shaw won the Weir Shield for Best Plant in Show with an extremely well grown *Rupicapnos africana;* they also won the Highland Trophy for most points in Section I. First time showers Mike Kendall & Margaret Somerville won the George Roslyn Shirras trophy for most points in Section II and, almost needless to say, will be showing again next year!

Rupicapnos africana

I end this report with a tribute to the Stirling Show series, now ended. For thirty years, Sandy Leven has been show secretary. I and other club members can only applaud Sandy's hard work and efforts in making the Stirling Show the huge success we have all enjoyed so much. But as the Stirling shows come to their end, we may now look forward to ...

... Nairn 2012: The Highland Show Goes National!

So now for the big change: next April will see the Highland Show becoming a National SRGC show, taking the place of the Stirling Show. Members who make the journey north will find themselves at a state-of-the-art community centre opened only four years ago with ample room for a show, plant stalls, Joint Rock Committee deliberations and various other activities which we are already planning. Nairn itself has many things to interest the visitor, including two golf courses (have you got room for your clubs along with your show plants?), a great beach to walk along and some serious retail therapy on the High Street.

A corner of the 2011 show - please act now to prepare your plants for 2012!

David & I are proud to have seen our group show grow over the past seven years to the point that we can now step up to the plate and become a National Show. All members are most cordially invited to this exciting new venture in the history of the Scottish Rock Garden Club.

Carol Shaw

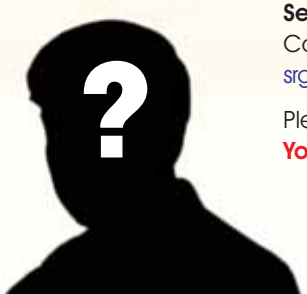
Will **YOU** support these SRGC members and possible future members? Will **YOU** help keep the club together & maintain the membership? The club urgently needs a new

Subscription Secretary

when Graham Bunkall retires in October. This vital job maintains the existing membership list and deals with new memberships. These two roles are essential to the smooth running, the finances and the growth of the club.

The Subscription Secretary is a member of the SRGC Council, plays a crucial role and has some contact with every member. Because the Subscription Secretary handles members' payments, he or she must be UK resident.

Graham and your Council have set up a very efficient system to help you do the job, so all you need is enthusiasm and modest computer competence.



Please help to keep the club in motion by seeking more information about this job from:

Graham Bunkall
subsec.srgc@ntlworld.com
or phone 0116 221 4883

President,
Liz Mills
liz.saline@hotmail.co.uk

Secretary,
Carol Shaw
srgc.sec@googlemail.com

Please volunteer today …
Your club needs you!

The Seed Exchange

Stuart Pawley (Seed Reception Manager)

First – a reminder of our procedures. Seeds for the Exchange, all scrupulously clean and dry please, should be sent to me by October 31st, at Acres of Keillour, Methven, Perth, PH1 3RA, UK. This closing date is as late as possible so that we miss nothing waiting for ripening. On November 1st the list is finalized and emailed to the printers. The worst part of my job then starts as more donations, often of considerable value and quality, land on my doormat. I urge overseas members with less than a week to go to email me a list at gsp.srgc@tesco.net so that their donation may be included. US members, if they wish, may include their essential APHIS permits and labels when sending seed. Please send the seed as soon as you can, or otherwise it will miss the journey to Ian Pryde who organizes the packeting.

I encourage more UK non-donors to apply for a list, as there is usually plenty of seed. Please send me a stamped addressed envelope before December 15th; the correct C5 (229 mm x 162 mm) rather than the larger size that has mistakenly crept into our literature simply needs an ordinary second-class stamp. Lists should be posted out about 10th November, so email me if you think yours might have gone astray. The current web password is 65list65.

Requests from the list should go to Alan Hayes at 31 Liberton Brae, Edinburgh, EH16 6AG, UK or alan.hayes31@blueyonder.co.uk before 15th January, with payments as detailed in the list. Australian, NZ and US members should remember to send a list of names of requested seeds unless ordering on-line. We aim to post the main orders by 21st January, and the surplus seed by 11th February.

Some members might wonder why their donation has not appeared in the list: this is usually my error! Errors increase considerably when my routine is interrupted by things like re-labelling a packet clearly or reducing packet size to fit into our system. I often plead in the list notes to avoid this extra work but donors need to remember for almost a year! However, I know that some of you read these notes, that also allow me to communicate both important and trivial things. Last year, one of the trivia was the near loss of all my *Trillium ovatum* seeds while waiting for the capsules to open - and then I caught the thieves red-handed. In our first spring at Acres of Keillour we found in our

Trillium ovatum

The Great Thaw

Primula maximowiczii

derelict woodland a single white flower that must have been planted by an itinerant wasp as seed from the famous Keillour Castle garden of the Knox-Finlays. Our Canadian member who told me of the role of ants in dispersing trillium seeds was quite delighted to see the note about our wasps doing likewise. He asks to know the species of wasp, so to be sure I'll have to catch them at it again in the fall. I was concerned that the trillium might not survive the winter, but all is well, as my picture shows.

Why should the trillium not survive? One night at the end of November we had 45 cm of snow, lasting until a sudden thaw in mid-January. This made a river a metre deep in places right across the woodland, churning out into the road and down the hill. I feared for more than the trillium, as in the middle of the river was my new raised bed with *Meconopsis* and lots of my beloved *Primula maximowiczii*. Luckily it was just sufficiently raised to escape.

This primula had been out of cultivation for decades until Ron McBeath had a new collection for sale in the year 2000. My purchase contained two fine specimens, a pin and a thrum, giving lots of seeds and a regular entry in the list.

With about a hundred plants in the garden I am doing my bit to keep this beauty in circulation, easy to grow in rich moist (not boggy) soil in partial shade, but I couldn't do this without the Club and the Exchange; so there's your challenge – if you have a unique plant worthy of a future, please be sure to let me know so that I can alert everyone through the notes in the list.

Dianthus superbus

worthwhile form distinct I put it in the last list as *P. sikuensis*, which is the most probable match. Maybe a taxonomic error, but it would be a mistake to lose its purity!

As I finish writing, the wasp's trillium has turned a plum colour!

Primula sikuensis

Here's a possible future example: wild-collected seed of *Dianthus superbus* from the Pyrenees gave this surprising pure white specimen, so donor, grower and some others are now investigating whether this is a sustainable form.

The wild collection of *Primula* cf. *polyneura,* offered as number 5511, 57th list, gives plants smaller than the usual *P. polyneura,* and flowers a month earlier. To keep this

Trillium ovatum, now purple

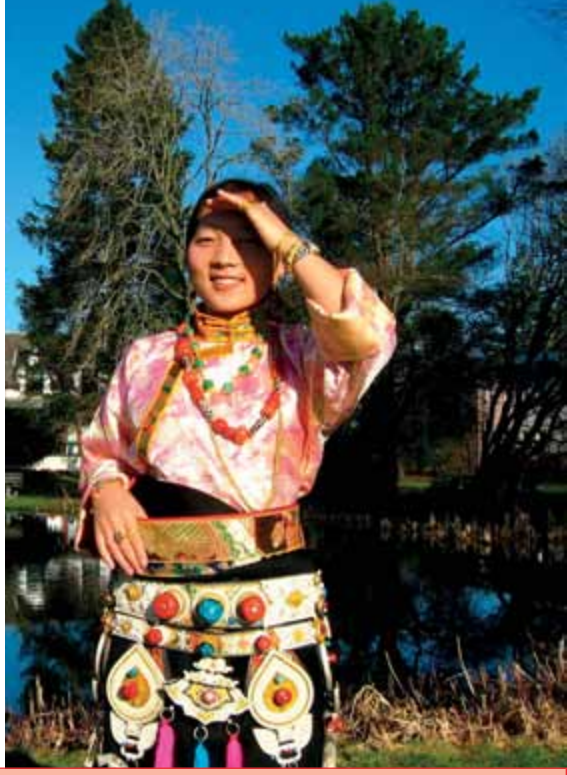
Does this mean it is pollinated? I'll get there before the wasps, and pack the seeds moist, following the procedure that the New Zealand *Trillium* Group uses, which is to rinse the seeds in 10% chlorine bleach solution to prevent fungal attack and pack it in a sealed plastic pouch. This is the way this seed will be sent to members, so please let me know of any success.

ROKPA

Helping Where Help Is Needed

Droni Amcho

'I will try to use my knowledge and skills to make a difference to the environment and for the benefit of everyone'



In his recent article (The Rock Garden Issue 124), Paul Egan described the medicinal uses of some of the plants dear to the alpine gardener's heart. Traditionally, doctors in Tibetan areas have used up to five hundred different ingredients; some of these plants have now become extinct and others are endangered. In the past, only certain parts were harvested - allowing regrowth - but because pickers are paid by weight, many pull up whole plants including the roots, unaware that in so doing they are destroying them. In the coming decades ROKPA (a charity; the word is Tibetan for *'to help'* or *'to serve'*) plans to foster the re-cultivation of medicinal herbs through a large scale project in Tibetan areas, so as to ensure sustained provision of medicines for the population, which presently suffers from lack of medical care.

Tibet is a large geographical region and is one of the poorest areas in the world. In contrast to some other developing countries, the winter is extremely harsh and consequently a substantial part of income must be spent on heating. The proportion of qualified doctors is very low compared to western Europe and it can be very difficult to obtain or provide access to clean water.

ROKPA has been concentrating its efforts in rural eastern Tibetan areas: traditionally known as Kham and Amdo. These now extend over

five provinces: the Autonomous Region of Tibet, Sichuan, Qinghai, Yunnan and Gansu. In project areas, many of the population are of Tibetan ethnicity. The land is on a high plateau and the average altitude is around 5000 metres (3000 in the east). In the sparsely populated north-eastern areas, small-scale agriculture and animal husbandry are the principal occupations. There are often no roads and some parts are only accessible across the steppe by jeep or on horseback.

In 2007 ROKPA brought four Tibetan doctors - all of them former ROKPA children - to Europe, so that they could acquire the necessary specialist knowledge at the renowned Royal Botanical Garden in Edinburgh, as well as learn on an organic farm in northern Germany.

Three of these doctors, one of them Droni Amcho, went home in 2010, two for the summer and one to stay. Droni and Tenpa returned to Edinburgh in the autumn to continue their studies. In Europe they not only improved their academic qualifications but also gained practical experience. They have practised the generation and cultivation of medicinal herbs (even those already extinct in their native habitat) from Tibetan and Himalayan regions, partly using Tibetan plants that have been preserved in Europe. In the future, their valuable knowledge and skills will contribute to the work of the ROKPA plant nurseries. In a pilot factory being built by ROKPA in Nangchen, they will be able to pass on their knowledge to other Tibetan doctors and train a new generation of more careful plant pickers.

In 2006, the SRGC Aitchison Fund gave £1500 to help Droni's study at RBGE and her Scottish practical work and in 2009 gave her £1000 towards her RBGE time and course. Members who attended the club's Annual General Meeting in October 2010 were much moved by Droni's modest and graceful presence and the account of her experiences; it stood in such a contrast to the easy life of many European plant lovers that we repeat a version here so that all members may share in this poignant story and continue to help the work:

Research into safflower (*Carthamus tinctorius*), Lhasa; identifying medicinal plants; and packaging prescriptions

Cultivating academic success in Scotland

'When I was three years old, my mother died. I was separated from my brother and sisters and brought up by different aunts. Their living conditions were very poor; also we had health problems and couldn't pay for a doctor. When I was thirteen I was told I was going to the ROKPA Orphans School in Yushu, many hours away. I didn't know then what a school was, or what study was, and I couldn't read or write. But I had learned to work hard as a young child and I did well at school. I liked the Tibetan language, Tibetan medicine and English. Sometimes in the summer, we went with our teachers (who are doctors of traditional Tibetan medicine) to the mountains to pick herbs. We studied them, learned their names and cleaned and dried them for medicinal use. I was at that residential school for ten years along with forty nine other students and we all became close. They are like my brothers and sisters. But three of my classmates have died, two from illnesses and one in a road accident. We also had foreign teachers who came every year from 1995 onwards to teach us English. Then in 1998, groups of doctors from Canada started coming to give free medical clinics and they asked us to be their interpreters. We loved learning from these foreigners. In 2002, the ROKPA Canadian doctors helped six of us to go to Vancouver to study English for three months. That was our first experience of the West. It was amazing to see trains, aeroplanes, ferries and a big modern city. On the other hand we missed our own food and families quite a lot.

Then ROKPA paid for us to go to college for three years to get a qualification in Tibetan medicine. Soon after our graduation as doctors of Tibetan medicine, we learned that some of the plants are becoming extinct. So Akong Rinpoche asked some of us if we would like to learn how to grow our own plants - which we had never needed to do before; the Tibetan land is so vast that nobody ever thought that the plants could become extinct. Four of us were chosen to come to study in the Royal Botanic Garden in Edinburgh. After the first year, I realised how much easier it is to do things in the West; you have everything you need, or you can just go and buy it. In Tibet, we can't just go and buy compost, or greenhouses or even pots. There is so much to learn. I've studied plant

identification, learning hundreds of names of plants in Latin, which is difficult as it is a fourth language for me. I've also studied garden design, conservation, genetics and plant protection and developed my own student plot. A big problem for us in practical horticulture is trying to avoid killing insects and worms; as Buddhists we believe that all living things want to stay alive, just like us, and that life is very precious.

At the end of that first year, I was awarded the RBGE Student Achievement Prize and agreed that, as there was so much more to learn, I should stay and improve my English to get accepted to do a degree in Horticulture with Plantsmanship. So Jewel & Esk College gave me a free place. During that year I also did a part-time management course and I got a part-time job for the first time in my life. Although it was really hard cycling around Edinburgh helping elderly people in their homes with dressing, food and medicines, I was happy to be helping them, learning social customs as well as earning an income. That year, I went to Germany for a month and learned a little about biodynamic agriculture - growing plants using animal energies and the astrological calendar.

Now I have entered the third year of the BSc course at the Scottish Agriculture College and have far too much study to be able to do part-time work. The course has been very demanding and I have needed a lot of extra help to understand assignments but so far I have passed all the tests and am looking forward to finishing my degree in 2012 when I will return to Tibet to work in hospital and teach some of what I learned here.

Westerners often talk about their own plans and ask us what we plan to do in the future; it is difficult for us to feel that we can plan. There are many things I would love to do but I know I will try to use my knowledge and skills to make a difference to the environment and the benefit of everyone.'

(Droni Amcho) སྒྲོན་ཆོ།

SRGC members who wish to donate to this crucial work of education and conservation of the plants that we love so much may do so at www.rokpauk.org/donating.html, or email charity@rokpauk.org – mentioning this particular project, or telephone 013873 73232 Ext 230.

Five Favourite Native Alpines of North Norway

Finn Haugli

Join me on five flower hikes in the County of Troms

This is a personal account of 'A Top Five' native alpines in the far north of Norway. For the past forty years I have been a resident of Tromsø, the 'capital' of northern Norway, at almost 70 degrees north. Together with my wife, Kari, I have hiked the wonderful alpine landscapes of Troms County extensively, always enjoying the wildlife and the exquisite flora of this exotic land. Sometimes called the 'Land of the Midnight Sun', here the sun stays below the horizon for two months, from 21st of November until 17th of January. This is often called 'The Dark Season' (Norwegian Mørketida). But then, in the summer, the sun never sets; it remains above the horizon for more than two months, from 15th of May until 27th of July. This is the period of the 'Midnight Sun' (Midnattsola). I invite you to come with me on five hikes to selected sites in the vicinity of Tromsø, to enjoy five of my favourite native alpines.

Diapensia lapponica (Fjellpryd - Mountain Pride)

The Hike: The city of Tromsø lies on an island between the mainland to the east and the large island of Kvaløya to the west. Surrounded by fjords and ocean inlets on all sides - and with towering mountains rising in all directions from sea level - it prides itself with catchy characterizations such as 'Paris of the North' or 'Gateway to the Arctic'; the latter may be more appropriate. This is where many of the most famous arctic explorers, Nansen and Amundsen among them, often had their take-off. Tromsø these days is home to the Norwegian Polar Institute, The Norwegian Institute of Nature Research (NINA) and the 'World's Northernmost University'.

Clumps of *Diapensia lapponica* on the City Mountain at Tromsø

While Tromsø's location on the coast gives rise to an oceanic rather than a truly arctic climate, due to the Gulf Stream ocean current, it still has a strong flavour of the far north. The thirty year average temperature at sea level in January is -4.4˚C while the July average is +11.8˚C. This translates to relatively mild winters and cool summers (well - some would say *cold*). This means that many alpine plants grow all the way down to sea level and the shoreline. However, some of the plants I have selected for this personal account of alpine favourites would never consider mingling with less 'aristocratic' plants of the lowlands. Our Fjellpryd (meaning Mountain Pride) is one of those that never, ever, descends from its lofty places.

If you visit Tromsø around the last half of June you will have a wonderful opportunity to enjoy this gem. Come with me to the city mountain of Fløya, Storsteinen and Bøntua, about four to six hundred metres above sea level. You can make it a moderately strenuous climb up

Diapensia lapponica (Photo © Egil Michaelsen)

through the birch forest until you emerge above the tree line, or you can chose the lazy way and take the gondola lift up there. Then you are free to roam for hours among alpine meadows and slopes and to ascend some accessible higher mountains. You will have spectacular views of the mountains on the island of Kvaløya to the west, the impressive peaks on the peninsula of Malangen to the south, the majestic alpine ranges on the island of Ringvassøy to the north and, finally, Mount Tromsdalstind to the east. The Norwegian word 'tind' means a high mountain, so Mount Tromsdalstind is actually a bit redundant. Here you can enjoy numerous alpine plants such as: *Potentilla crantzii*, *Veronica fruticans*, *Dryas octopetala*, *Phyllodoce caerulea*, *Cassiope hypnoides* (probably not yet in flower in June), *Viola biflora*, *Viola palustris*, *Pinguicula alpina*, *Arnica angustifolia* (rare), *Silene acaulis and Loiseleuria procumbens.* If you climb higher, you will also encounter *Ranunculus nivalis* with its relatively large

Diapensia lapponica (Photo © Egil Michaelsen)

and bright yellow flowers. Even higher up, and probably not flowering until July, you may also come across *Ranunculus glacialis*.

Diapensia lapponica grows almost exclusively in the most exposed and barren places. It will be quite abundant. Its tight, small mounds or cushions with minute leathery leaves are tightly pressed to the ground. The choice flowers have short stalks and sit close to the cushion – chalices of glistening white or ivory with yellow anthers and with a wonderful substance. It is a true alpine specialist and in my opinion one of the most beautiful of all mountain flowers.

The Botany: Family Diapensiaceae; Genus Diapensia; Number of species probably four to six. These are most often listed as *Diapensia himalaica* (eastern Nepal to south-western China), *D. lapponica* (circumpolar), *D. obovata* or *D. lapponica* ssp. *obovata* (north-east Asia and north-west America) and *D. purpurea* & *D. wardii* (south-western China and Tibet).

In the Garden: *Diapensia lapponica* is a choice but difficult species in most gardens. The most important consideration is that it tolerates neither a really warm summer nor a long mild winter. In its native habitat it grows in extremely exposed sites with an almost horribly harsh climate; not easy conditions to mimic in an ordinary alpine garden! In Tromsø it is not difficult to maintain in the garden, provided it can grow exposed and with little competition from other plants. It appears that the subspecies *D. lapponica* ssp. *obovata* may be more amenable to cultivation.

Loiseleuria procumbens (Greplyng)

The Hike: There are so many places I could take you to experience this extremely charming alpine plant. It is virtually ubiquitous in exposed places here: high or low, and usually on more acid ground than its frequent neighbour, *Diapensia lapponica*. You can find its delicate mats of tiny leathery leaves spreading out on peaty ground, or you can equally often find it in gravelly fairly moist places. But let's decide to head for Nordtind (North Peak) out on the island of Kvaløya outside Tromsø, around the last half of June or first half of July. An amazing and beautiful drive out to Skulsfjord will give you the bonus of breath-taking views and landscapes along the road, combining high and barren mountains with

A collage of *Loiseleuria procumbens* above Tromsø. The island of Kvaløya, where the Nordtind is located, is in the background

Loiseleuria procumbens (Photos © Egil Michaelsen)

gorgeous views of the North Atlantic Ocean and islands westwards. Arriving in Skulsfjord we head north up the low valley. We soon start the ascent to Nordtind, westwards along the steadily sloping east side of the mountain. You will enjoy multitudes of choice alpines and soon be above the tree line: *Empetrum nigrum*, *Arctostaphylos alpina*, *Betula nana*, *Salix herbacea*, *Juniperus communis*, *Calluna vulgaris*, *Vaccinium vitis-idaea*, *V. myrtillus* and *V. uliginosum* cover the ground. Higher up, among the wonderfully sculpted landscapes of enormous granite boulders, in cold seepages, ittle ferns create the most exquisite 'Japanese' gardens. Prominent among them will be *Cryptogramma crispa* and *Athyrium distentifolium.*

A major joy will be the *Loiseleuria procumbens.* It forms small spreading mats with minute leathery leaves. It is always attractive, and spectacular when in flower. Although flowers are very small, they are usually produced in masses, covering the plants profusely with tiny azalea-like flowers in all shades of pink from almost white to deep rose (one can also find plants with pure white flowers). You will be able to enjoy this attractive, prostrate and mat-forming plant most of the way up to the summit. There will be lots of it as soon as you cross the tree line. In the most barren places higher up it might be a bit scarce but you will have its company almost all the time. In the end, after a moderate and extremely nice and interesting ascending hike of two to three hours, you will be rewarded with a splendid view of the North Atlantic Ocean – provided it is a clear day. If it is foggy (not often) you should be most careful in your descent. While the hike is generally safe and easy, there are some vertical, very tall and dangerous cliffs on the south face of the mountain.

The Botany: Family: Ericaceae. Genus: Loiseleuria. Just one species of circumpolar distribution and on mountain tops in the Alps. The English name of Mountain Azalea (or Trailing Azalea) is suitable indeed: it certainly looks like a miniature rhododendron.

In the Garden: Since *Loiseleuria procumbens* is one of those alpines which, in North Norway, may be found from high mountain peaks all the way down to sea level, one might assume that it would not be a very difficult plant to grow in lowland and more southern gardens. It certainly is quite easy in gardens in Tromsø (although hardly anyone grows it; there just are not many alpine plant enthusiasts here), provided it is planted where it has no competition from other plants and where the soil is gritty and generally keeps moisture well. In places where summers get quite warm I suspect that summer heat will be a problem. In warm climates one should probably plant *Loiseleuria* north-facing. This, however, is likely to reduce its ability to flower well, presenting the grower with a dilemma.

Cassiope tetragona (Kantlyng)

The Hike: Here again is a plant which never descends to the lowlands. It is a truly arctic species of circumpolar distribution, to be found in Greenland, Alaska and the north of Canada – as well as in the high mountains in the north of Sweden and Norway. Thus, one has to travel far inland and to higher mountains to see it. Therefore we now embark on a much longer trip than the two previous tours. Starting out in the morning

Cassiope tetragona (photo © Bjørn Erik Sandbakk)

on a beautiful day in the last half of June we head inland to one of the great inland valleys. Let's chose the valley of Dividalen and drive up to the end of the road, about two and a half hours drive from Tromsø. Here we start our hike further up the valley towards the cabin of Dividalshytta, run by the local branch of the Norwegian Tourist Association. It is not manned and is run on a self-service basis; you need to obtain the keys and pay a small fee to stay there.

We soon enter the National Park of Dividalen and find ourselves in virgin pine forest, a rare treat in modern Norway. Apart from the wonderful pines and old fallen giants of this species *(Pinus sylvestris)* you will enjoy being in a relative wilderness where brown bear, lynx and wolverine are as common as they get in Norway these days. You are extremely unlikely to encounter any of these shy animals of prey, of course, but just the thought that it is not impossible is thrilling. You are a lot more likely to encounter a number of wonderful birds such as the Black Grouse (Orrfugl), the Western Capercaillie (Storfugl), the Northern Hawk Owl (Haukugle), Willow Grouse (Lirype) and various wading birds, ducks, finches and the snow bunting - not to mention the Northern Goshawk (Hønsehauk) and the Golden Eagle (Kongeørn).

Wonderful as these animals are, we have set out on this spring day to enjoy the flora. We have to hike up the valley for a couple of hours before nearing the realms of the *Cassiope tetragona.* On the road we can

Cassiope tetragona and habitat (photo © Bjørn Erik Sandbakk)

enjoy lush ferns in the lower parts, masses of *Trollius europaeus* all along the path, *Phyllodoce caerulea* probably just now starting to flower, and wonderful carpets of *Cornus suecica*, recently renamed *Chamaepericlymenum suecicum* (just to make it simpler for us laymen, I suppose?).

Dividal

Well, as Juliet says: 'What's in a name?' She must have been unaware of the importance of taxonomy but, whatever you want to call it (Norwegians call it Skrubbær, which translates as Wolfberry), this smashing little beauty wins everyone over as it carpets the ground with its gorgeous white bracts, surrounding the rather plain blackish flowers. In the autumn it has visually attractive red berries which are not edible.

We finally reach the cabin. A short rest there, maybe, before we start the ascent towards Jerta, the tall mountain massif to the north-east. A steep climb of around an hour takes us past masses of flowering *Dryas octopetala* and other alpines up to 'Paradise': a place where at this time of year *Cassiope tetragona* flowers wonderfully, as if great drifts of snow lay on the ground. This mass effect of flowering can be quite amazing but this plant is of such delicate habit that a closer scrutiny is warranted. Then we can enjoy its delicate stems neatly covered in small leaves arranged to make an almost perfect square cross section (hence *tetragona*). Topped with the perfect 'lily-of-the-valley'-like flower it is a true wonder. Few plants are more beautiful than this gem. And to experience it here in this grand wilderness with a backdrop of snow-covered mountains is a memory for life (particularly, I should add, if the weather is nice; in these regions the conditions may also be quite nasty, so you must be prepared).

The Botany: Family: Ericaceae. Genus: Cassiope. About twelve to fourteen species, most of them in Asia. *Cassiope tetragona* has a circumpolar distribution. It is a truly arctic species, hardly growing anywhere south of the northern polar circle. In Norway it can be found in the northernmost counties on limestone in the high inland mountains, often associated with *Rhododendron lapponicum.*

In the Garden: There are numerous hybrids of *Cassiope* species that will be easier to grow in the garden than *C. tetragona.* In Tromsø it does quite well in gardens. However, even with us it is shy-flowering compared to some of the hybrids based on Asian species such as *C. fastigiatum* and

Rhododendron lapponicum

others. *Cassiope tetragona* needs limestone and a gritty soil with some humus. I use dolomitic limestone (containing Magnesium) as this seems to be advantageous.

Rhododendron lapponicum (Lapprose - Lapland Rose)

The Hike: *Rhododendron lapponicum* is a rare and exquisite plant of circumpolar distribution. In Norway it grows almost exclusively in the far north, although it is also found at two very limited sites in the mountains in the south. Not many people have seen it in flower since most hikers come into the mountains after the show is over. Still, if you find the right place and are up in the inland mountains of Troms County no later than the end of June, you may find carpets of flowering rhododendron.

Vuomajokka

Rhododendron lapponicum

We could choose any of several destinations for our search, but we head for Vuoma. This means that our starting point will again be at road's end in Dividalen but our hike will take us in another direction and to other natural wonders en route. We follow the river of Dividalselva, impressive now when the snow is melting up in the mountains. Some kilometres up the river a suspension bridge, courtesy of the Tourist Association, allows us to cross and from now on we are heading up the tributary valley of Anjadalen. The pine forest hangs on for a little while yet but open birch tree forest soon becomes dominant. After another kilometre or two a very impressive sight appears: the river coming down the Anja valley plunges into a canyon in an

Anjadalen foss

enormous vertical cascade of water. Mist from the river as it hits the canyon bottom swirls in the air. In the very steep slope down towards the river one can already spot the purple flowers of the rhododendron. However, it is much too dangerous to descend, as there are about thirty or forty metres of vertical cliff down towards the roaring river. Better to sit down on the edge and take in this awesome sight for a few minutes.

A few kilometres on, we encounter another grand river: Vuomajokka ('jokka' is the Sami word for river, so this means 'the river coming out of Lake Vuoma'). This river also may only be crossed on the suspension bridge set up by the Tourist Association of Troms County. The crossing is safe but a bit scary and you have to be very careful at the bridge heads. The hike further up the valley is easy enough, but with the massive Blåfjell (Blue Mountain) up to the left as we enter the valley there is a lot of water from melting snow at this time of year – so be prepared with good boots.

After a few kilometres we cross one of the many marshy areas along the path. This particular one, however, is sweetened from underlying limestone, which is all that is needed for the *Rhododendron lapponicum* to show up; there will be several good plants, flowering well even here at this relatively protected site. But ambition spurs us on, so after a little rest we rise again, eager to find out what waits ahead. We still have several kilometres to cover before the path bends southwards on a gentle climb up to drier ground and the shoulder of the Blåfjell. Here there is limestone in the ground again. The first sign is that *Salix reticulata* shows up, then *Dryas octopetala*; you know you are on to something exciting! You soon see the *Cassiope tetragona* and your expectations rise. This is a place where, in a good year, the purple flowers of *Rhododendron lapponicum* really become impressive, in some areas almost covering the ground. You will enjoy the flowers so much – but you could also add flavour to your excitement by sitting down and gently rubbing some of the tiny leaves of the 'Lapland Rose'. This rhododendron has an absolutely delightful aromatic fragrance.

It may be late in the day now, perhaps even night-time. But you do not notice. The sun is blazing in the sky (hopefully) since this is around the peak of the two months of midnight sun. We could pitch a tent near some water - or we could walk on another couple of kilometres to the cabins at Vuoma. Here you will be very comfortable (remember that you need keys to get into the cabins) and there will be a splendid view over the large lake, famous for its trout and arctic char. The next day, if you have it to spare, you could leave your heavy pack at the cabins and make a

Opposite: *Dryas octopetala* (photo © Egil Michaelsen)

wonderful day hike in this area to enjoy peak flowering time for just about everything that belong in the Norwegian alpine flora. This area is very beautiful, and offers extensive day hikes in many directions.

The Botany: Family: Ericaceae. Genus: Rhododendron. Approximately 850 species, mostly in Asia. In North America, around fifteen species. In Europe about eight to nine species and in Norway just two species *(R. lapponicum and R. tomentosum)*

In the Garden: While a number of high-alpine rhododendrons may be grown quite successfully in gardens in Tromsø, our own 'Lapland Rose' is a very difficult plant to cultivate. You typically find it in very high and exposed places with limestone in the ground, often with glacial meltwater percolating the rock, and the plants grow in a relatively scarce layer of gravel and humus. It can be grown, of course, but you do need to go a long way to try to meet its demands.

Dryas octopetala (Reinrose - Reindeer Rose)

The Hike: My final selection of a star alpine plant is of course one of the most commonly encountered. It is very widespread and found in the Alps, North America, Greenland, Svalbard and Siberia. Around Tromsø and in North Norway it is very common from high mountains down to the shore, although exclusively on limestone. Thus we could head out in many directions to find it, and you certainly will have it as a bonus on almost any of the hikes I have described above (except the quest for *Loiseleuria procumbens* to Nordtind, which is purely acid ground). Still, part of my purpose in writing this is to let you experience not only the

Dryas octopetala habitat on Karlsøy, looking toward the island of Vanna

plants but also the scenery and the nature in which these plants make their northerly home. Thus, off we go on this last quest, trying to make it a particularly interesting excursion. Since it is one of those alpines which, in this part of the world, just as happily makes its home all the way down to the shores of the North Atlantic Ocean, we will aim for one of the islands which can be reached - albeit with some difficulty - from Tromsø.

We set out on a day with easterly winds, which makes for a clear day on the coast. We also make sure that it is a day when communications, in the shape of a ferry, make it possible to reach, and return from, the island of Karlsøy (literally: Charles's Island). This taken care of, we first have an hour driving to Hansnes on the island of Ringvassøy. On this beautiful drive we start out by crossing the bridge to the island of Kvaløya, then head north along the coast, and next dive down in an undersea tunnel to Ringvassøy. Then a very nice drive on to Hansnes in time for the ferry to the island of Vanna, with a stop at Karlsøy.

Disembark - and you find yourself in a remarkable setting. This used to be the administrative centre of the region of Karlsøy until after the second world war. Modern times came and the place was virtually deserted until the Seventies when hippies, various other 'flower' children and a group of muslims settled here. Some people started goat herding - and they still do. Leaving the little group of picturesque houses behind, we start the walk around the island, heading first easterly, more or less following the shore. After passing a few old farm houses, now vacation homes for Tromsø people, we soon find ourselves in what I often

Dryas octopetala group (photo © Egil Michaelsen)

describe as a place 'as close to heaven as I will get'; I speak for myself! – you may belong in a group which believes you have better prospects.

This is a designated natural reserve, so the land is protected from any kind of development and it is unlawful to disturb wildlife or pick flowers. The eastern part of this small island is pure white dolomitic limestone. In consequence the flora is extremely rich both as to the number of species and also the masses of plants within each species. In mid-June and on into early July (and actually all summer, although the *Dryas* will have flowered over) this is an amazing and wonderful sight. An example: of about thirty species of orchids found in Norway, Karlsøy has almost fifteen. And remember: this is 70° North! But now to what we have come here for: *Dryas octopetala.*

You come close to disbelief when you experience the masses of *Dryas* here, growing everywhere and almost down to the shore. To see the best part of the flowering you have to be here rather early in the season; the middle of June rather than the later part, or – if spring is early - perhaps even the first half of the month. At these early times you will have the treat of seeing one of Norway's rarest orchids flowering profusely (in a good year) with deep purple flowers among the *Dryas*: this is the northernmost site in the world for *Orchis mascula.* Not only will there be

Goats help to keep the meadows open for the wonderful flora of Karlsøy

an impressive amount of *Dryas,* but the flowers on some of the plants are very large. I do not think I have seen better flowers on this species anywhere.

The Botany: Family: Rosaceae. Genus: Dryas. Probably around four to six species. This is a species that in North Norway can be found growing from sea level to high mountains, always on limestone. It forms loose mats, sometimes of considerable size.

In the Garden: *Dryas octopetala* is of course well known and easy in cultivation. It needs an open, exposed site and a well-drained gritty soil with incorporated limestone.

Acknowledgements

The club and the author are indebted to Egil Michaelsen from Sarpsborg in Østfold and to Bjørn Erik Sandbakk from Tromsø, who each allowed the use of their excellent pictures.

To see more of Egil's work, visit his website at www.markblomster.com, where you will find a wonderful collection of high quality photographs of a significant part of the Norwegian flora.

To see Bjørn's work, visit http://svalbardflora.net, which offers an authoritative and finely illustrated account of the flora of Svalbard (Spitzbergen).

Both sites are well laid out to allow an appreciation of the floral beauties of the species of west and northern Norway.

The old church on Karlsøy

Celmisias

Jeff Irons

While looking through some copies of the former magazine *Irish Gardening* I came across a little piece which said that although celmisias did not usually set seeds in Ireland, it was possible to make them do so. It told the reader how to make celmisias set seeds. Something that is not widely known today was known a hundred years ago!

To understand how celmisias set seeds we need to consider the botany of the daisy flower - for celmisias are daisies. What we think of as petals are actually flowers, each one with a single strap-shaped petal. Called ray florets, they are usually female. The central disc is a mass of fully functional (having male and female parts) petal-less, flowers; they are called disc florets.

Daisies are usually pollinated by insects but in semi-arid areas they are often wind pollinated. Studies have shown that insects are attracted by large masses of colourful flowers, rather than small patches. Bees prefer yellow or blue flowers, while moths prefer white or cream flowers. In the garden, as in the wild, successful pollination depends on the viability of pollen, abundant insects or frequent winds, plants growing close together and all flowering at the same time.

The daisy flower has stamens in a circle, fused together, so that they form a ring with pollen-bearing anthers. In many daisies the anthers ripen

Above: *Celmisia spectabilis* © Brent Hine, E H Lohbrunner Alpine Garden, B.C.

Left to right:
Celmisia semicordata, New Zealand South Island
Celmisia petiolata, New Zealand South Island
Celmisia pugioniformis

before the stigma is mature. Pollen is shed as the immature stigma pushes up through the ring of anthers, carrying with it the sticky pollen from the corolla. Much of it is carried away by insects or wind, to be deposited on other flowers. During this process the style arms are pressed together so that any remaining pollen does not touch the stigma. As the stigma matures the style arms separate, so exposing their inner surface, which then becomes receptive to deposits of pollen from other flowers. In some species, if pollination does not occur the style arms bend down and cross over so that they are able to pick up any remaining pollen and ensure self-fertilization.

So that's it - to make our *Celmisia* plants set seed all we need to do is take a newly opened flower (the one with dark pollen) and rub its disc against the disc on a fully mature flower (one with paler pollen) on another plant. When mature, fertile seeds can be recognised because they are plump. Infertile seeds are thin and skinny.

Nevertheless, even though we can induce garden plants to set seed, wild seed is recommended as the normal means of replacement. This is because most daisies need a large number of parents in order to maintain vigour. Continued propagation from a small number of parents, as in the garden, will gradually result in less vigorous plants. Seed from cultivated plants should be regarded as a fall-back.

Left to right:
Celmisia hybrid
Celmisia asteliifolia, Tasmania
Celmisia saxifraga, Tasmania

Nerine sarniensis

Cultivation of South African Bulbs

Terry Smale

I base this article on my experiences in gardening in Surrey in England; gardeners in the colder parts of Scotland may need to make changes to my methods. I use the term 'bulb' in a general sense to describe true bulbs, corms and tubers; a more accurate but less familiar collective name for these plants is 'geophyte'. Plants that live in climates with seasonal or unpredictable rainfall must develop special strategies to survive through the dry periods. The most familiar of these are the succulent life style where plants have fleshy above-ground water storage organs, and the geophytic lifestyle where they can disappear below ground when conditions are adverse. The other two principal strategies for life in an unpredictable climate are to have extremely deep roots, or to be annual plants that survive as seeds; not many plants of these two types are of interest to gardeners. A bulb is both a gene bank and a food store that enables flowering and reproduction when conditions are favourable during the wet season.

Sparaxis tricolor

Romulea sanguinalis

Cyrtanthus obliquus

Cyrtanthus falcatus

Bulbs may be found growing wild over much of South Africa and thus it is not easy to generalize about growing techniques. The most fundamental division into two cultivation groups is based on whether the bulbs are from the winter-rainfall areas of the western and northern Cape Provinces or from the summer-rainfall areas of most other parts of the country. There is an in-between band that may experience rain at almost any time of the year but the bulbs in this zone tend to be winter-growing. One needs to consult reference books, plant catalogues and seed lists to determine whether a bulb is winter or summer-growing. The greatest diversity of geophytes has developed in the winter-rainfall areas and these are by far the commonest in cultivation. Frequently encountered summer-growers include *Clivia*, *Cyrtanthus*, *Crinum*, *Eucomis*, *Zantedeschia*, *Gloriosa*, *Nerine*, *Ledebouria* and *Rhodohypoxis*, but even in certain of these genera there are some winter-growers.

There is often confusion in people's minds about growing periods of South African plants, because the seasons in the southern hemisphere are six months adrift from our own. A plant that is winter-growing in South Africa will be winter-growing in the United Kingdom; it is programmed to come into growth with falling temperatures and the start of the rainy season in autumn. A problem therefore occurs when you buy bulbs directly or indirectly from South Africa and they have to adjust their growth phase by six months; it requires very careful observation and

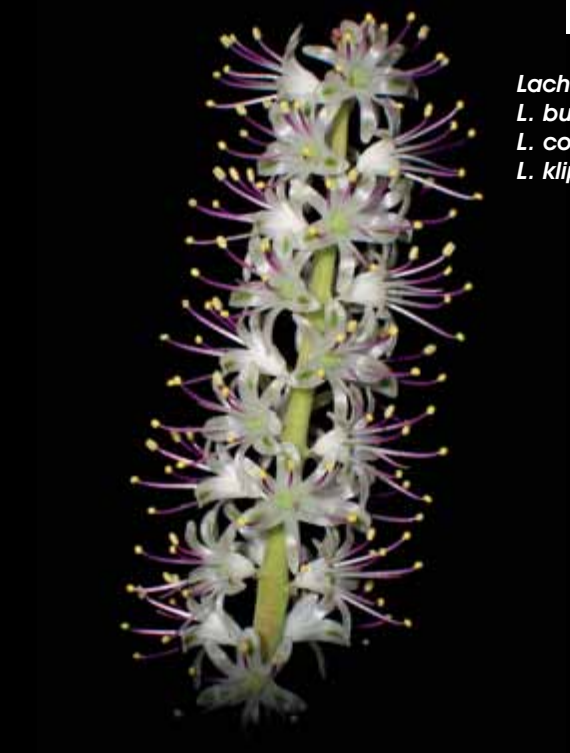
Oxalis massoniana

Polyxena ensifolia

circumspection with the watering can. The requirement of winter-growing bulbs to have a warm dormancy is also an important consideration. It is worth checking with European bulb suppliers as to whether their stocks are home grown or South African grown.

Watering

Summer-growing bulbs are treated like many of the more familiar greenhouse plants. Most are kept dry over winter although those with evergreen foliage appreciate a little water. Start watering when temperatures start to rise in March and continue until about October when yellowing of foliage often indicates the end of the growing season. Allow the compost to dry out partially



***Lachenalia*:**
L. bulbifera
L. comptonii
L. kliprandensis

between waterings and feed occasionally with a tomato-type liquid fertiliser. In many cases the pots of bulbs may be stood outside on the patio for the summer and stored under the greenhouse staging or some other frost-proof area during the winter.

Winter-growing bulbs require a warm and dry summer rest; without this they sometimes fail to produce growth in the autumn. Start watering at the beginning of September and continue through the winter until foliage starts to die in April or May. Watering in mid-winter should be cautious and it is advisable to wait until a slight limpness in the leaves indicates that water is required. During the main

***Lachenalia*:**
L. convallarioides
L. latimerae
L. elegans* var. *suaveolens

spring flowering season, watering needs to be frequent. Since the bulbs could originate anywhere from the relatively wet Cape Peninsula to the dry Richtersveld, a little research about your bulbs will help you to tailor the watering to their particular needs. I give very little feed to these bulbs once they are of flowering size because under our poor British winter light levels the foliage and flower stems tend to elongate too much if growing conditions are not sufficiently austere.

Light

Bulb habitats in South Africa are situated somewhere around 25˚ to 35˚ latitude with many clear sunny days occurring between the passages of winter Atlantic fronts. Contrast this with Scottish gardens at latitudes

***Lachenalia*:**
L. namaquensis
L. mutabilis
L. mathewsii

above 55˚ and with a high proportion of cloudy winter days and it is obvious that low winter light levels are likely to pose a problem. During winter, growing bulbs will therefore need all the light you can provide if they are to keep their typical characters. It may be worth considering the provision of artificial lighting unless you are worried that the police might think you have started a cannabis factory! Some shading towards the end of March will help to keep plants in growth for as long as possible and therefore to produce large flowering bulbs for the next season.

Light levels are not going to be a problem for summer-growing bulbs, which might even benefit from some

***Lachenalia*:**
L. zeyheri
L. reflexa
L. rosea

Amaryllis belladonna *Gladiolus brevifolius*

shading if grown under glass through summer. *Clivia* and *Scadoxus* are plants of open woodland and need to be particularly well shaded.

Temperature

In the main, the hardiness of South African bulbs in Britain has not been tested, although a few examples such as *Nerine bowdenii*, *Amaryllis belladonna* and *Rhodohypoxis milloides* have been shown to be happy in the open garden - at least in the south of England. I am sure that they would be equally happy in Gulf Stream gardens on the Scottish west coast. Lacking hardiness information, it is advisable to grow most South African bulbs in a frost-free greenhouse until there are enough to experiment with. In the wild, many montane species from areas such as the Drakensberg, Cape mountains, Kamiesberg and the Roggeveld plateau experience significant frost at times and may be expected to be temperature hardy. Therefore, try growing spare bulbs in a cold frame or unheated greenhouse with either a free root run or in pots buried in a plunge; as the last two British winters have reminded us, even Eurasian bulbs may sometimes be killed if their roots are frozen. I successfully grew some *Lachenalia*, *Tritonia*, *Oxalis* and winter-growing *Gladiolus* species for

Ferraria crispa *Gladiolus uysiae*

Moraea calcicola

Strumaria truncata

several years in an unheated Access frame but the cold of the 2009-2010 winter killed or badly affected most of them. Overhead glass enables control of watering, and resting seasons can be respected. Ventilate greenhouses or frames whenever possible during the winter; a good air flow helps to keep plants compact and healthy. In summer, maximum ventilation is needed to stop the temperature becoming too high; certainly try to keep it below 35˚C.

Potting

Enthusiasts for Eurasian bulbs know that they often grow in nutrient-rich soils such as *terra rossa* and benefit from regular feeding in cultivation. In the wild, South African bulbs grow in a range of different soils, almost all well-drained and relatively low in nutrients; try to reflect this in the potting medium. Furthermore, alkaline soils are uncommon, most soils being neutral to appreciably acidic. My current mix consists of two parts 4 mm quartzite grit, one part John Innes Compost No 2 and one part ericaceous compost but other free-draining mixes are suitable. I normally use plastic pots for bulbs in the frost-free greenhouse but use clay pots or aquatic-plant baskets for material plunged in the cold frame.

Nerine bowdenii 'Wellsii'

Wachendorfia parviflora

Boophone disticha

Sparaxis villosa

Repotting should be carried out during the dormant phase; I try to repot my bulbs every two years. Old roots and tunics should be cleaned away and the bulbs in most cases may be put back in the pots quite close together: for example, fit 25 *Lachenalia* bulbs into a 13 cm square pot. The only exceptions are bulbs with broad prostrate leaves such as *Massonia* species, which need room for the foliage to develop naturally. Most Eurasian bulbs grow deeply buried in their habitats - tulips and colchicums may be thirty centimetres below soil level. A majority of South African bulbs grows more shallowly, often because they are in rock pockets. Therefore, plant South African bulbs quite shallowly in the first instance: Amaryllids (members of the family Amaryllidaceae) with their nose at soil level and others with it about three centimetres below the surface. When you subsequently repot certain species such as, for example, *Babiana*, you will notice that they have pulled themselves deeper in the soil by means of contractile roots; these bulbs should be put back at the depth they have indicated they want to grow. The flowering of most amaryllids is inhibited by repotting and therefore, when you think that these bulbs are close to flowering size they should be left well alone. Finally, a few amaryllids such as *Boophone disticha*, *Cyrtanthus obliquus* and *C. falcatus* grow with their bulbs above the soil.

***Haemanthus crispus* (leaves and flower)**

Freesia viridis

Strumaria watermeyeri ssp. *botterkloofensis* *Massonia pygmaea*

Pests & Diseases

Viral diseases are common among commercial bulb stocks and usually manifest themselves as pale streaks on the leaves and – perhaps – distorted flowers. There is no easy cure and infected material is best destroyed. Aphids carry viruses between plants; any such infestation should be immediately eliminated using a suitable insecticide. Red spider mites are not normally active during the winter months but they often attack the leaves of summer-growing bulbs. They reveal their presence by a yellowing of the leaves and a very fine web, usually on the undersides of the leaves; the mites themselves need a magnifying glass to be seen. They easily become pesticide-resistant but preparations containing Bifenthrin have been effective. Mealy Bugs sometimes occur among old scales around the tops of bulbs; this is one reason to clean away dead scales and tunics when repotting. Mealies used to be treatable with a suitable insecticide such as a drench containing Imidacloprid. It is unfortunate, if only from the bulb grower's point of view, that both Bifenthrin (which can affect aquatic life) and Imidacloprid (implicated in bee problems) will disappear from our garden centres. A possible 'green' alternative is SB Plant Invigorator, much used by horticulturists at RHS Wisley. However, it controls only adult bugs by a contact effect and has to be used frequently. Finally, flowers that appear during humid weather in autumn and early

Drimia marginata *Haemanthus albiflos*

Bulbinella graminifolia

Geissorhiza aspera

winter are often infected by *Botrytis* as they die. If the dead flowers are not removed, the *Botrytis* can transfer to the leaves and eventually to the bulb, with fatal consequences.

Vegetative Propagation

Many geophytes produce underground organs that divide or produce tiny offsets. These can be separated at repotting time, thus building stocks of a single clone. Where this does not happen, true bulbs such as nerines can be forced to produce offsets by twin scaling or removal of the base plate; the grower should refer to a specialist manual before trying these techniques. An easier technique is to take leaf cuttings, which have been shown to work for some *Lachenalia*, *Eucomis* and *Haemanthus*. Cut off half a leaf as soon as it is well developed - but fairly early in the growing season - and insert the cut end into gritty compost. If all goes well, it will root and produce a number of bulbils by the end of the season. However, any virus infection will be transferred during vegetative propagation, which is why seed is generally preferable.

Seed

I sow seed just a few millimetres deep in the same compost as used for adult plants. A packet of 25 seeds will go into a deep seven centimetre square plastic pot. Summer-growing bulbs are germinated in gentle heat during early spring. Many seeds of winter-growing bulbs seem to need a warm dormancy after being shed from the plant if they are to germinate well. Seeds purchased during our winter (when they become available from

South African suppliers) are best stored unrefrigerated until September. Seed harvested in spring or summer from one's own plants may be kept in the greenhouse until September. Winter-growers germinate when temperatures are falling; these are therefore sown in early September and placed in a shady cold frame. Kept moist, they usually germinate by the end of October at which time they are brought into the greenhouse. Occasionally, seeds will not germinate during the first year; any empty pots should be dried off and then watered again at the start of the next growing season. Space bulblets out during their first dormancy and many will flower at two or three years old; feeding during the early stages shortens the time to flowering. Growers of Eurasian bulbs will be pleasantly surprised at how quickly South African bulb seeds germinate and at the speed of increase in size. Seeds of all South African amaryllids except *Cyrtanthus* lack any hard seed coat and remain viable for just a few weeks. Even if the seeds originated in South Africa (and consequently are available at the wrong season for northern growers), they must be sown as soon as available in conditions mimicking those that would prevail at their normal germination time. Seedlings of winter-growers therefore need to be kept cool and shaded through the summer. There are a few British suppliers for seeds, but the most comprehensive sources are in South Africa. For example, Silverhill Seeds www.silverhillseeds.co.za and Gordon Summerfield, by email only (summerfields@telkomsa.net), both produce very good lists.

Ornithogalum hispidum
Ornithogalum osmynellum

Ixia viridiflora

Elspeth MacKintosh

The stunning Turquoise Ixia *(Ixia viridiflora)* is one of Nature's beauties. Commonly known in their native South Africa as corn lilies, there are about fifty species of *Ixia,* occurring in an area characterized by winter rainfall and summer dryness. They belong to the Iridaceae family and are cormous perennials. Introduced to Europe by Francis Masson in the 18th century along with a host of other bulbs such as *Gladioli, Gardenia* and *Babiana,* ixias have been grown ever since for their brightly-coloured and star-shaped flowers.

None however, is as beautiful as the Turquoise Ixia, which takes its name from the luminous sea-green colour of its flowers set off by the satiny purple to black blotch in the centre of each bloom. Interestingly, the green of the petals derives not from the greenness of chlorophylls but from refraction and, presumably, the interference of light in the striations and structures of the cell walls and sap.

The unusual colours of *Ixia viridiflora* are believed to attract Monkey Beetles, which pollinate the blooms during their several days of opening. The spread of pollen is consequently rather slow, determined by the restricted range and activities of the beetles. Upwards of twelve flowers are grouped on wiry stems about half a metre long that emerge from clumps of narrow strappy leaves in May and June (in the northern hemisphere). The resultant seeds fall only locally, limiting the speed at which the species has been able to spread in the past.

It is possible to grow *Ixia viridiflora* outside in a sheltered, well-drained and sunny position but, because many people have found it prone to rot in poorly drained soil, in our unreliable climate it is better grown in containers in a frost-free greenhouse. The corms are winter growers, should be planted in autumn in a gritty compost and then watered sparingly during their growing period. Temperatures between 4˚C and 27˚C suit the corms, which require sunny conditions. Protection from frost is essential.

After flowering, the foliage dies down and the corms should be kept warm and dry for their summer dormancy. *Ixia viridiflora* can produce viable seed and also produces cormlets which may be separated off at repotting time.

Sadly, *Ixia viridiflora* has become increasingly rare in the wild, with the remaining population on slopes around the Tulbagh in Cape Province, South Africa. Despite a wider distribution in the past, over-harvesting and more recent habitat destruction have led to its decline and it is now classed as an endangered species.

Opposite: *Iris viridiflora* at the Royal Botanic Garden Edinburgh

Enthusiasm and Experience ... *Cyclamen graecum* in its own home and mine

Sandy Leven

Most of us grow a wide range of species of rock plant in our gardens. The variety provides interest, colour and form in the garden and alpine house throughout the year. We often tell others that an advantage of rock garden plants is that so many different species and varieties can be accommodated in the small area of modern gardens. It is equally true that many of us at the same time indulge in a form of rock plant monoculture. We have favourite genera and species and over a period we collect - perhaps unconsciously at first - more and more plants of one kind or one genus. This is where I have to hold my hand up. When my sister saw the number of pots of bulbs in my frames she asked if all members were as 'fanatical' as I was. I told her the truth: that many others were much worse.

In my garden I have a disproportionately large number of snowdrops and *Rhodohypoxis* in pots and probably 'too many' autumn flowering cyclamen in my alpine house. Previously my devotions were given to penstemons, fritillaries, pleiones and *Primula allionii*. My changing enthusiasms probably reflect the popularity of genera exhibited at our shows or offered for sale over the last thirty years. Lecturers at our local group and at the Discussion Weekends must also have influenced me.

Leven and Lever with *Cyclamen graecum* & the Jim Lever Memorial Trophy

By growing a lot of one thing you more easily appreciate the extent of variation within the species or genus. Another factor is that, having once provided the conditions to make a plant grow happily, it is relatively easy to grow its cousins alongside; similar plants like similar conditions. The down side is that pests and diseases may spread through a collection of similar plants more easily than through a variety. Viruses are a disaster for *Primula allionii*. My pleiones suffered because in my enthusiasm for variety I would buy plants wherever I saw them. Being careless about the source of a plant, I think I introduced the pest *Brevipalpus oncidii*. This led to diminishing strength from year to year and to eventual extinction. The other reason is my holiday absence during the summer months, when pleiones don't like a check in their growing.

Because snowdrops flower during our inclement winter, when there are few other plants to distract our attention, they have an enhanced value in early spring. Enthusiasts have time to study the flowers, collect lots of varieties and appreciate the sometimes tiny differences between clones. The ultimate is to identify a completely new variation, grow it on and offer it to friends. My excuse for growing so many snowdrops - as well as their beauty and delicacy - is that they provide a nucleus of plants for the Early Bulb Display in February. *Crocus* with their myriad combinations of colour and *Narcissus* with their innumerable varieties can distract a galanthophile from the 'true path'. Snowdrops also vary but sometimes you have to look quite hard. They open their flowers on warm sunny winter and spring days, usually about lunch time. This alone means that when you go out to look at snowdrops, the sun is usually shining and the two become linked in your brain: *Snowdrops = sunshine; Snowdrops = good*!

In building a collection, the gardener gathers bulbs of recognized clones from amongst the hundreds on offer, so that many collections merely contain different permutations from the same plants. Even I can see and appreciate the differences between the flowers in my collection of snowdrops but I have no intention of running down every named plant there is. I am an opportunistic galanthophile. If I see a plant for sale and it is different from those I grow, I will buy it. It's nice to enjoy these new variations the next spring. However, I have found that all snowdrop varieties do not thrive equally and a bit of trial and error is necessary. Common sense says '*Concentrate on those which enjoy your conditions'*.

Snowdrops = sunshine; Snowdrops = good!

Cyclamen graecum 'Glyfada'

Cyclamen in Dunblane

Unlike snowdrops, *Cyclamen* are difficult to propagate vegetatively; each one is a unique plant. However, growing them from seed offers an even better path to a collection with lots of variation in flower and leaf. Features like silver leaves or white flowers may be replicated in some cases, in successive generations, by sowing seed from selected strains such as *C. hederifolium* 'Bowles Apollo' and *C. coum* 'Maurice Dryden'. I have sown seed from individual plants and even from individual capsules on a plant; many of the seedlings resemble the parent quite closely. By allowing open cross-pollination and mixing up their genes, you are likely to get the biggest variation in your seedlings. It all depends on what you want. Seed of open pollinated *C. graecum* 'Glyfada', a silver-leafed selection, will give about 25% silver seedlings. Careful selection of the parents will increase this percentage.

I grow mainly autumn and winter flowering cyclamen in the garden, starting with *C. hederifolium* flowering in August, then *C. purpurascens* in September. Later in autumn but under glass, *C. cilicium*, *mirabile*, *africanum* and *graecum* continue the flowering season, which carries on till Christmas. Early spring sees tiny flowers of *C. coum* brighten up sunny winter days. All these species offer flowers in various shades of pink, white and magenta and ever more complicated colours, designs and patterns in their leaves, from plain deep green to pure silver and with patterns of rings and Christmas trees.

A white form of *Cyclamen graecum*. The central flower is just opening out and its petals are not yet reflexed. This is when they look like Primulas!

Of all cyclamen species, my favourite is *C. graecum*. This probably owes to the wonderful specimen that won several discussion weekend Forrest Medals for Mrs Alice Spencley in the 1980s. This plant had fabulously patterned rich velvety leaves with a touch of red when the light hit them. The reverse of the leaves was also red. I believe it was collected as a seedling in the 1960s. The plant was kept in a porch and exposed to all the sunshine that was available. One year I was happily successful in the discussion weekend plant auction and came home with a seedling of this fabulous plant. On a later occasion I was given a sister seedling as a present. Both plants and seedlings have superb leaves but one is paler than the other in flower.

My next *C. graecum* plants were bought as seedlings at AGS Wirral shows, in which our then SRGC treasurer Ian Aitchison was also involved. He recommended these plant sales as good sources of bulbous plants because many were donated by Bob & Rannveig Wallis who now run the 'Buried Treasure Nursery'. One has particularly large pale-green round leaves and others very good patterns. At the same time I sowed seed from the Cyclamen Society. I chose seed from mixed sources and some from 'ex Crete' plants.

All cyclamen seed seems to be ready for sowing in autumn, although I can't be sure about all the spring flowerers. Some, like *C. hederifolium* and *C. purpurascens*, self-seed around their parents in the

sand plunge or in the garden. With *Cyclamen graecum*, I collect and sow the seed when it is ripe in late summer after flowering in the previous autumn. At the time the seed capsules are ready, the new flower and leaf buds are often just swelling on top of the tuber and a few weeks later the new flowers start to appear, so be careful not to damage precocious new buds when pulling off the old capsules. I usually just split the capsules open over a three or four inch pot filled with a John Innes No 1 compost, peat and grit in equal parts by volume. When there is enough seed in the pot I start another. I cover the seeds with flint hen grit bought from the local agricultural merchant. After watering they are put in a sand plunge under the bench. This is not as drastic as it sounds because the greenhouse has glass down to the floor. I keep this house frost free with a thermostat set at 3˚C half way up one wall. When the temperature drops below this, the fan heater on the floor starts up. It doesn't cost too much over a winter, especially if there is snow on the roof to insulate from the severest cold. Inside, the glass may be covered in frozen condensation but the air and soil temperatures remain above freezing. This is important as *C. graecum* dies if frozen.

The seed often germinates within a few weeks. If not, it waits till the next autumn. I move the pots of seedlings in their second or third season into a lighter but not scorchingly hot place, water and liquid feed them. Sometimes I replant the whole pot of seedlings into a bigger pot without disturbing the individual plants. I do not disturb them until I can see the wee tubers swelling the top of the pots. I believe that cyclamen are social plants and like company when they are small. I then plant three or four small tubers together in four inch pots and grow them on until the tubers are big enough to deserve their own three inch pot. The important thing to note about *Cyclamen graecum* is that the tubers develop tap roots which in turn have finer roots at their tips. You mustn't damage or break these tap roots or allow them to dry out and wizen. All my older plants are grown in clay pots plunged into sand. Young plants are happy in square black plastic pots, especially those which are quite deep. The plunge is never allowed to become bone dry. During the hot summer months the tops of the pots are exposed to as much sun as Dunblane can manage but the plunge is kept just moist so that the roots do not dry.

Cyclamen: the varieties and beauties of leaf forms

As the plants age they are grown in deeper pots, and I think that if I had enough they would all be in long toms.

When re-potting older plants I use a stronger version of the seed compost. The tuber is placed so that the compost comes up to its base and the pot is topped up with flint gravel that keeps the corms from rotting. I use flint gravel because it does not soak up water. The tubers flower at about five years old. At first the leaves are much of a muchness. They are velvety, telling you they are *C. graecum*, but their wonderful intricate patterns do not show properly until their third or fourth years. Big differences - such as all silver leaves - show beforehand but you still don't know if a pattern will develop or not. This is the tantalising feature of *C. graecum*. On coupling the possibilities of flower colour, shape and size with the possible leaf variations you may begin to appreciate the infinite combinations that are possible. I sow and grow on as many seeds as I can, always seeking better and better forms.

In September when it is warm in the alpine house, hoverflies are busy pollinating and some cyclamen flowers drop quickly. These should be removed immediately, otherwise they may be trapped in the curling stems of fertilized flowers. In our damp winters, dying flowers may lie on the leaves and cause botrytis; good housekeeping is the best way to deal with this. I regularly look over the plants and collect any dropped flowers. Any leaves that look infected should be removed. If botrytis becomes widespread on a plant, it attacks the flowering trunks where they leave the tuber and may even destroy them. Water dripping from the roof can cause rot in tubers. As with all cyclamen, vine weevils can be a real pest. Nevertheless, the biggest danger we face is cold; *Cyclamen graecum* must be kept frost free!

Cyclamen in its Home

I have long wanted to see *C. graecum* in its native habitat but until quite recently our family holidays were restricted by school timetables. Autumn 2010 was special because we took a holiday in Antalya on the southern Mediterranean coast of Turkey, flying direct from Glasgow. Antalya has a fabulous situation on a large bay at foot of the Taurus. It is surrounded by a semicircle of steep and sharp mountains. To the west, the mountain ranges run with a narrow coastal strip, in places right down

to the sea. The highest peak at 2365 metres is Tahtali Dağı, topped by its cable car station. The region is poetically and comprehensively described in Rupert Scott's 'Turkish Coast' (Eland Press, 2008).

We drove south-west in our hired car along the splendid highway between the mountains and the sea. A heavy rain shower made driving hazardous for visitors like us. We stopped on a side road in a wood of mixed oak and pine until the rain passed and here we found our first *C. graecum*. As I slowed the car, I spied a pink plant on a slope under the oak trees; I reversed and sure enough there they were! Not just the one plant I had glimpsed but thousands of pink flowers stretching up the hillside. Once 'you got your eye in' spotting them was easy. They were abundant, like the pink primroses I remember from childhood. Each plant was in its own space, neatly separated from its neighbours; there must be a mathematical formula for this distribution. In this part of Turkey the 25th of October 2010 was peak flowering day. 99% had yet to put up leaves and I suppose that over the next weeks the spaces between the plants would be filled with leaves almost touching.

Once I got my breath back, I began to see differences in flower colour. All seemed to have a magenta nose, with pink lines running up into the petals, whose colour ranged from white through palest pink to a solid pale pink with a few deep pink individuals. The ratio of petal width to length varied and some had especially narrow long petals. Since they varied the most from those I grow at home I spent a long time looking for those plants with long thin flowers. Whereas at home I give the corms as much sunshine as I can, to encourage them to flower, here in their own home they were woodland plants. Scraping away the two or three inches of leaf mould through which the flowers peaked, we found sticky and clay-like ground underneath. Mind you, it had just been raining but nevertheless they obviously preferred situations lightly shaded from the intense summer sun.

Nearer the sea amongst the Roman ruins of Phaselis, *C. graecum* grew in coastal pine litter. Years of lecturers' slides had led me to expect abundant cyclamen between the stones and pavements. They were

Cyclamen graecum in leaf litter

indeed in such places but the best were in the woods. I believe they tolerate growing between stones but prefer the woods. The tubers are deep by the stones, their roots protected in the cool damper soil. Like leaf litter, stones protect tubers from drying out in summer. To make the counter argument, a few tubers grew wedged into tiny holes in big lumps of ruin stone where their roots must have run deep into cracks. Such tubers were exposed to all the sunshine but only on one side. Who knows how big the tubers were inside the stone? The foliage of plants growing between slabs of rock and stone is protected from grazing by goats, whereas many plants growing near villages in the open would be munched. The deeply penetrating tap roots anchor the plants to the substrate. As long as the tubers are protected by soil or stone it is obvious that the tap roots reach down into cooler damper soil; this feature must be remembered in cultivation.

The ruins at Phaselis include an aqueduct, cisterns and a well preserved theatre. Acorns covered the ground near the theatre. Hadrian visited in 129 AD and it is sobering to think that the same Romans

Cyclamen graecum in stones and rocks

who settled in southern Turkey might also have travelled to Perthshire, to their forts at Ardoch near Braco or Inchtuthill by Dunkeld. Phaselis had a Hadrian's gate, as did other ancient sites near Antalya, and Hadrian's Wall still separates us from England.

Natural habitat near Phaselis

Just south of Phaselis we visited Olympus and the flames of Chimaera (Chimera), possibly the first fire used during the ancient Olympic Games. Turkey was then part of the Greek Empire and there are several places called Olympus. Chimaera is a true wonder. A natural underground gas source seeps up through the rocks on the mountain side and ignites on contact with the air so that flames burn out of the ground. I tried to photograph *C. graecum* through one of the flames but with mixed success. Chimera was a fire-spewing monster with the head of a lion, the body of a goat and the tail of a snake. The associated legend is a Greek soap opera ... the very beautiful young Bellerophontes killed someone by accident and was forced to flee his home. He sought refuge from the king at Olympus. The queen fell in love with Bellerophontes but when he rejected her she accused him of trying to seduce her. The King did not kill the young man, who was a guest, but thought up a punishment to get rid of him: he ordered him to kill the Chimera. Bellerophontes captured the flying horse Pegasus and with his help slew the monster with his sword. According to the legend, the flames that have been burning continuously for centuries are the flames of the slain Chimera.

Cyclamen and the Chimeran flames

While everyone else was focused on the flames, my attention divided between them and the cyclamen. *Pinus pinea* (Stone Pine) and *Arbutus* trees grow on the slopes below Chimaera with herbaceous euphorbias. *Colchicum byzantinum* grew scattered alongside the *C. graecum* whose flowering was further advanced. There were more cyclamen leaves, all mid-green with nice patterns. Although I searched at both sites for young plants and newly germinated seed as well as for old seed pods, I found none. Where do they go? If you reply 'ants' - where do the ants take them?

As well as the *C. graecum*, a highlight of my holiday was the freshly squeezed pomegranate juice on sale at roadside stalls and in cafés in Antalya. Once it is poured into a glass it looks like a dark red Merlot wine. When I was small I could not understand why anyone would buy pomegranates but on my return I bought some so as to squeeze juice myself. As well as a fresh, sharp and fruity but not too sweet taste, it holds out the promise of reducing my blood pressure. As is said about beer: it looks good, tastes good and by golly it does you good!

My own *C. graecum* plants, some of which started flowering at the end of September, still have a few flowers as I write in December. The plants are in full leaf and I can enjoy their beauty for the next four months. Perversely, in a group of plants with such fabulous and varied foliage, one of my favourites is the pink-flowered and pure silver leafed form, 'Glyfada'. This sounded Welsh to me but is a form found by Brian Mathew south-east of Athens. I also treasure the white-flowered forms that I bought from Ashwood Nurseries; they seem to have particularly good leaves. When the next seedlings flower, I will be looking for silver-leafed plants with white flowers to appear.

As I sit looking through pictures of Turkish plants I marvel that these woodland beauties from the other end of the Roman Empire can be grown here in central Scotland.

More Information

The Lonely Planet's 'Turkey' (ISBN 174104927X) and two maps by Freytag & Berndt (1:150,000 Turkish Riviera) are useful in these areas. Martin Denney & Chris Clennet (Cyclamen Society Vol 34 no.1) give a good guide to good and wild flower sites in spring – and they are still good and wild in autumn. Peter Sheasby's 'Bulbous Plants of Turkey and Iran: A photographic guide' (ISBN-13: 9780900048777) has many good photos and descriptions of over six hundred species.

In Search of *Trillium kurabayashii*

Larry Neel

Hey Fellers and Gals, having gotten a tip that *Trillium albidum* and *T. kurabayashii* were still blooming at different locations on Bald Hills Road in coastal northern California, I decided to do a daytrip low ride to the area to look for the elusive hybrids mentioned by Fred Case on page 197 of his book 'Trilliums'. This area is three hours from my home in Siskiyou County. Over the last three months four of us, *Trillium* lovers from California, Oregon and Washington, have been trying to figure out the species, forms and hybrids of the western trilliums and have pretty much agreed to disagree with much of what has been published. So ... let's hit the road.

The Bald Hills are a prairie, with islands of Fir, Redwoods & White Oaks and are bordered by Redwood Creek on the south and the Klamath River to the north. After cresting the prairie from the Klamath River side at an

Bald Hills, lupine (lupins)

Trillium albidum

Trillium kurabayashii to the left, *T. ovatum* in the middle, and *T. albidum* to the right

Pink hybrids

elevation of three thousand feet, I drove downhill for a mile or so and passed through a large stand of mature white oaks with lupins blooming in an open area at the edge of the grove.

My picture was taken from the western edge of that stand. Under the oaks was a nice form of *Trillium albidum* with semi-mottled leaves, a wonderful sweet spicy apple scent and flowers much brighter than the off-white form found here in Siskiyou County.

I started doing expanding circular routes through the oak groves looking for *Trillium kurabayashii* or hybrids but gave up after about an hour. I saw several hundred *T. albidum* in about 20% of the area, which makes me think there are several thousand nearby. Many are growing in full sun.

I got back to the truck and headed west towards Orick in California. About three miles down the road I started seeing *T. ovatum* on both sides. They were done blooming and the seed pods were about the size of a dime. Another three miles down the road I found *T. kurabayashii.* I again did the circular thing and about a half mile above the road found all three species growing together. I determined that the white sessile was *T. albidum* by its yellow anthers and because it smelled like *T. albidum* - unlike the previous white sessiles I found with *T. kurabayashii*, which smell terrible. I am now reasonably certain that those plants are a white form of *T. kurabayashii* which the big boys say doesn't exist.

So now that I've found *T. albidum* and *T. kurabayashii* growing together, where are the hybrids? Right here in my pictures. Anyone ever seen a pink *T. kurabayashii*? The only mistake I made all day was not to smell the pink plants. I marked their locations for seed collection in August if some deer doesn't eat then or some sundown poacher dig them up.

Trillium albidum at top left, a hybrid in the middle, *Trillium kurabayashii* to the right

So, regarding these being hybrids, am I fiy'n or am I ly'n? You decide. I also found a couple of plants of the yellow form of *T. kurabayashii* growing a little further up the hill.

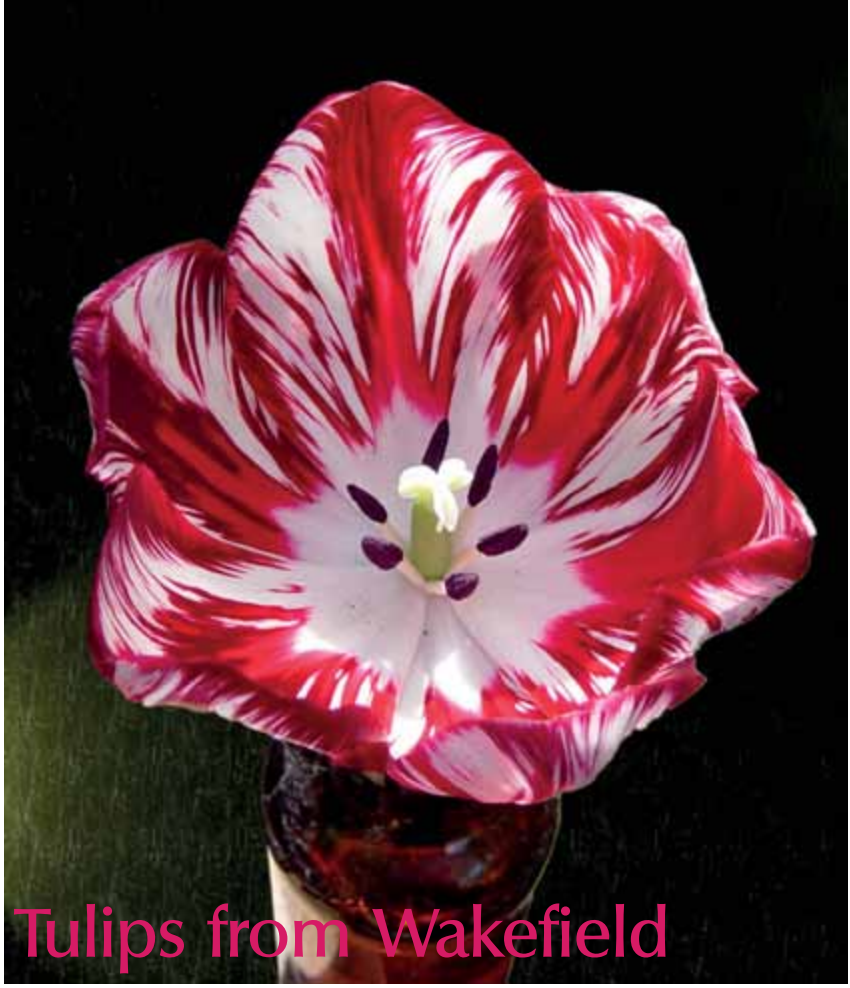
In closing, a few quickies:

After seeing these plants today I now believe that the *T. angustipetalum* plant in my garden is a hybrid crossed with *T. albidum* as the two species were growing only a few yards from each other.

Yellow forms of *Trillium kurabayashii*

In all my three *T. kurabayashii* trips this year the most prolific areas – without exception – had burned naturally, been cleared by controlled burns, or had brush reduction in what I would estimate to be the last three to five years.

Goodnight all, I've had a long day ...



Tulips from Wakefield

Teresa Clements

By the time you read this article the tulip season will be over, but I am writing in March, before the first tulips in my garden have opened. For me, the first to flower will be species tulips and the last of the season will be my English Florists' tulips. They are worth waiting for: their silky petals and exotic colours and patterns are gorgeous.

English Florists' tulips are grown and shown by the Wakefield and North of England Tulip Society, which was founded in 1836 when many florists' societies specialised in flowers such as auriculas, anemones, hyacinths and pinks. There is an excellent little book *'Florists' Flowers and Societies'* by Ruth Duthie (Shire publications, 1988) with a brief history of those that remain. The tulip society's annual show is in May and there are twenty nine classes for English Florists' tulips, only three of them with entries in vases, all the others being staged in beer bottles. This tradition

Above: *Tulipa* 'Wakefield' exhibited in a beer bottle

dates back to the time when all the members were men - mainly colliers and shoemakers - who held their meetings in the pub. The show would be held in an upper room and beer bottles replaced the heavy little stoneware vases that had proved both difficult to fill and to empty. Nowadays the show is held in a village hall; crates of bottles are used by exhibitors to transport their flowers and for display on the show bench.

Beer bottles are perfect for showing the flowers because the bloom sits on top of the bottle and may be viewed from above, as the judge wants to look at the inner surface of the flowers. There are very precise standards for the flowers, in three colours as follows:

- Rose – the petal coloured pink on a pure white base
- Bybloemen – the petal coloured lilac to purple or almost black on a pure white base
- Bizarre – the petal coloured red (but not pink) to brown on a pure yellow base.

These colour types are seen in the 'breeder' flowers, whose petals have an even colour while the base colour shows at the bottom of the petal.

The patterned tulips are referred to as 'rectified'; their colour is broken by tulip breaking virus to give 'feathers' and 'flames'. These terms describe the pattern of broken colour on the base colour of the petal; feathered flowers ideally have an unbroken line of colour at the margin of each petal while the central part of the petal shows the original base colour; flames have the marginal colour together with a central beam of colour and flame-like markings joining the beam to the feathering.

At least five types of tulip breaking virus are known to scientists, but

Tulips arriving at the Wakefield show in crates

The three colour types of Breeder tulips:
Rose 'Mabel'; Bizarre 'Goldfinder'; Bybloemen 'Albert Tear'

it is not known which have infected English Florists' tulips. The virus weakens but does not kill the plants; it can cause yellowish mottling to the leaves and interferes with the synthesis of anthocyanins (a petal pigment), resulting in the familiar flower patterns. Unfortunately most 'breaks' are no good for showing and once a breeder has broken it remains broken, so many a promising start has been discarded as an unfortunate break. Such is the lot of the florist.

Considering the life cycle of the tulip - a new bulb, offset daughter bulbs and completely new top growth every year - the named varieties that have been with us for decades (some since the 1850s and 1860s) are amazingly consistent in the pattern of their flowers. They can be recognised at a glance by our judges. The tulip remains genetically the same, but its association with the virus must be in some kind of equilibrium to give such reliable, recognizable results.

However intriguing the mechanism behind these exotic flowers, their beauty speaks for itself. If you want to see the real thing, your one chance is at our annual show held in Wakefield in May. We hope to put a reminder in this journal with the date and location for 2012, or you could perhaps develop a keener interest by keeping an eye on our website at www.tulipsociety.co.uk.

Tulipa 'James Wild' (Bizarre) - the three stages: Feather, Breeder and Flame

The Native Alpines of Newfoundland, Canada

Todd Boland

Great Northern Pensinsula, Newfoundland • Limestone Bedrock • Limestone Barrens

When most people think of alpine plants, visions of the majestic Rockies, Alps, Andes or Himalayas come into their minds. But what about alpines that grow naturally at sea level? Such an image does not fit the normal definition of 'alpine' but such is the case along coastal areas of Newfoundland's Great Northern Peninsula.

From a typical gardener's perspective, St John's in Newfoundland does not have the greatest climate. It is windy year-round; we have the wettest climate in eastern North America (1600 mm per year); what little soil we have is highly acidic and our growing season is quite short. To top this off, we gardeners are cursed with the Labrador Current, an ocean current that funnels cold Arctic waters (including, in some years, Arctic ice and icebergs) to the coast of Newfoundland. Spring is postponed until May, while frost in June is almost a norm. Summer temperatures in St. John's are relatively cool, with daily average maxima averaging about 20˚C. Perhaps once a year we may hit 30˚C. Snow arrives in December and remains into April with average winter temperatures of about -1˚C. Although our winters are long, they are relatively mild. The coldest I've recorded in my garden in the past thirty years was -21˚C. We are located in

Limestone Barrens, Boat Harbour, with some Newfoundland natives:

Loiseleuria procumbens

Diapensia lapponica

Salix uva-ursi

Vaccinium uliginosum: flower and fruit

USDA Zone 5b. Nevertheless, as a grower of mostly alpine plants, I think our climate is just right.

On Newfoundland's Great Northern Peninsula, where our sea-level alpines naturally occur, the climate is significantly harsher. There, snow arrives in November and remains into May, whereas the ocean is ice-covered from February into May. Winter temperatures may plunge to -30˚C with howling 100 km/hour winds. Summer temperatures rarely rise above 20˚C. With these factors in mind, you can understand how the alpines in this region feel right at home at sea-level.

Several of our native alpines do grow in more typical mountainous habitats. The west and south coasts of Newfoundland contain 'mountains' (really, glorified hills) that reach 600-800 m above sea level. These are the northernmost extension of the Appalachian Mountain chain. These mountains are composed of granite and sandstone and are thus acidic in nature. Here grow *Kalmia* (aka *Loiseleuria*) *procumbens*, *Diapensia lapponica*, our super-dwarf *Vaccinium vitis-idaea* var. *minus*, the delicate pink-fruited *Empetrum eamesii*, *Vaccinium uliginosum* with its glaucous-blue foliage and *Arctous alpina* whose scarlet fall colour is unsurpassed. In late-lying snow-bed areas you may encounter the

Vaccinium vitis-idaea: flower and fruit

Rhodiola rosea

exquisite *Phyllodoce caerulea*, *Harrimanella hypnoides*, *Salix uva-ursi* and *Sibbaldia procumbens*. However, our greatest diversity of alpines grows along the limestone coastal barrens of the Great Northern Peninsula.

Limestone substrates exist throughout the length of western Newfoundland, from the Port-au-Basques northward to Cape Norman. Much of this area is typical boreal forest of Balsam Fir, Black and White Spruce, Eastern Larch and Paper Birch. The limestone barrens occupy only a narrow

Right: *Draba norvegica*
Below & Border: *Salix reticulata*

Silene acaulis

coastal strip from Belburns to Burnt Cape on the Great Northern Peninsula and a small outlier located on the western edge of the Port-au-Port Peninsula. Here, climatic conditions prevent the growth of competing trees and large shrubs, allowing Arctic-affinity plants to flourish. The limestone barrens of Newfoundland look superficially similar to the Irish Burren even though the flora is quite different. The terrain, at first glance, appears as an expanse of broken, jumbled rock. But close inspection of this haunting landscape reveals a surprising assortment of alpine gems. The flowering season begins in mid-May, peaks in mid-July and extends into early September.

Border: *Salix jejuna*

Primula laurentiana

Primula egaliksensis

Saxifraga aizoides

Primula mistassinica

Saxifraga cespitosa

Saxifraga paniculata

Saxifraga oppositifolia

Campanula rotundifolia

Tanacetum huronense terrae-novae

Gentianella detonsa ssp. *nesophila*

Cypripedium parviflorum

Salix vestita
Salix candida

Shepherdia canadensis

Our limestone barren alpines grow in three main microhabitats: rock cracks, natural limestone scree and peaty-sandy accumulations at the base of limestone cliffs. The toughest alpines grow among the narrow limestone cracks in

Amerorchis rotundifolia

what appear to be natural crevice gardens. Here you will find such plants as *Rhodiola rosea*, *Draba incana*, *D. glabella*, *D. norvegica*, *Lesquerella purshii*, several *Oxytropis* and *Astragalus* species, *Silene acaulis*, *Salix reticulata* and *S. glauca*. Here too grow three of our rare endemic

alpines: *Braya longii, B. fernaldii* and *Salix jejuna.*

Most of the limestone barrens are a combination of various sized limestone gravel - in essence a natural limestone scree. The diversity of plants here is quite amazing. The crevice dwellers noted

Pyrola asarifolia

Pseudorchis albida

Rubus arcticus

Pinguicula vulgaris

Bartsia alpina

above are also at home in the barrens. It is here that you may encounter our four native species of *Primula*, including the pink *P. laurentiana*, *P. mistassinica* and *P. stricta*. White flowers are produced by the diminutive *P. egaliksensis* but *alba* forms of *P. mistassinica* are not uncommon. Saxifrages abound here in a variety of colours: purple *S. oppositifolia*, yellow *S. aizoides* and white *S. caespitosa* with *S. paniculata* var. *labradorica*. Notable alpine composites include *Solidago multiradiata*, *S. hispida*, *Packera (Senecio) pauciflora*, *Tanacetum huronense* var. *terrae-novae* and several *Antennaria* species. Other choice species include *Armeria maritima* var. *labradorica*, *Campanula rotundifolia*, *Gentianopsis detonsa* var. *nesophila*, *Sagina nodosa*, *Cerastium alpinum* ssp. *lanatum*, *Lychnis alpina*, *Minuartia rubella* ... and the list goes on! These limestone gravels are home to several Arctic willows such as *Salix reticulata*, *S. glauca*, *S. arctophila*, *S. wiegandii*, *S. cordata*, *S. vestita* and dwarf forms of the silvery-foliaged *S. candida*. Other woodies in the region are *Dasiphora (Potentilla) fruticosa* var. *tenuifolia*, *Shepherdia canadensis* var. *prostrata*, *Juniperus communis* var. *saxatilis*, *Dryas integrifolia*, *Betula pumila* and *Sibbaldiopsis tridentata*. While rhododendrons are generally associated with acidic soils, the delicate *R. lapponicum* is

Erigeron hyssopifolius

Tofieldia glutinosa

Cystopteris fragilis

Woodsia ilvensis

Asplenium viride

Iris hookeri

perfectly at home here. In certain areas grow drifts of the flamboyant dwarf yellow lady's slipper, *Cypripedium parviflorum* var. *planipetalum* and the exquisite round-leaf orchis, *Amerorchis rotundifolia*, but other orchids abound here too including *Pseudorchis albida, Platanthera hookeri, P. huronense, P. aquilonis, P. obtusata* var. *collectanea* and *Dactylorhiza (Coeloglossum) viride.* Alas, these other orchids have greenish flowers that are often overlooked.

Along much of the western coastline of the Great Northern Peninsula, the limestone barrens end abruptly as low cliffs, generally three to six metres in height, although this drop may exceed thirty metres in the Cape Norman region. At the base of the cliffs accumulates a mix of fine limestone gravel and peat. The shelter provided by the cliffs is a Shangri-La for many alpines and results in a kaleidoscope of colour throughout the summer. Pink, purple and blue hues are provided by *Pyrola asarifolia*, *Rubus arcticus* ssp. *acaulis*, *Viola palustris*, *Iris hookeri*, *Bartsia alpina*, *Pinguicula vulgaris* and *Gentianella propinqua.* White-flowered alpines include *Anemone parviflora*, *Parnassia palustris*, *P. glauca*, *Polygonum viviparum*, *Cornus suecica*, *Stellaria longipes*, *Tofieldia glutinosa* and *Erigeron hyssopifolius.* Yellow-flowered *Potentilla neumanniana*, *P. nivea*, *Alchemilla minor*, *Arnica lonchophylla* and several dwarf *Solidago* complete the picture. The cracks among the limestone cliffs are home to several charming ferns: *Asplenium viride*, *Cystopteris fragilis*, *Woodsia alpina*, *W. ilvensis*, *W. glabella* and *Polystichum lonchitis.*

How well can these native Newfoundland alpines be cultivated? As it happens, I work as a research horticulturist at the Memorial University Botanical Garden in St. John's. One of the major components in our collection is our native Arctic-alpines. We cultivate them in several areas of the garden including our standard rock garden, limestone scree, alpine house and especially our crevice garden. Our plants are grown from wild-collected seed, cuttings and rescued plants from construction sites. Although the sea-level alpine regions of Newfoundland are easily accessible by car, they are located some ten hours drive away from St John's, the main tourist destination within the Province. Visitors certainly appreciate being able to view these native alpines in our botanical garden, sparing them a long and arduous drive.

I have often been amazed how robust some native species become once they are moved to a more amenable location. In the wild, *Iris hookeri*, *Packera pauciflorus*, *Solidago multiradiata* and *Rhodiola rosea* are usually under fifteen cm but, in cultivation, both have exceeded thirty cm. *Salix jejuna* barely puts on a few millimetres of growth per year in the wild, yet plants in our crevice garden have grown fifteen cm in a single season. *Cypripedium parviflorum* is a show-stopper in our limestone rockery in early July. *Antennaria alpina* has become downright weedy and requires judicious thinning. I expected prostrate forms of *Dasiphora fruticosa*, *Larix laricina* and *Shepherdia canadensis* to become more upright yet they appear to be genetically prostrate, retaining their flat habit after ten years in cultivation.

Our crevice garden was constructed in 2008, thanks in part to a grant we received from the North American Rock Garden Society. There is no doubt that this small garden elicits the most comments from visitors. Our native Arctic-alpines seem most content in this garden. The crevices

Crevice garden June 23rd 2010

with deep root-runs seem ideal for our natives (as well as most of the alpines planted here). Those alpines known to dislike hot sun have been planted up against the south side of the flat vertical rocks where they are shaded from the hottest afternoon sun. The list of natives we grow in the crevice garden is long. Perhaps the most noteworthy are the native dwarf ferns grown, among them *Woodsia alpina, W. glabella, W. ilvensis, Cystopteris fragilis* and *Asplenium viride.*

As a rule, we have had less luck in growing native tap-rooted types like *Oxytropis* and *Astragalus* species. They are reticent to grow in areas outside their natural range. We managed to keep *Diapensia lapponica* alive for five years but alas, it withered during an unseasonal hot spell this past summer. Most native, fibrous-rooted alpines grow quite easily in cultivation. Our rock garden soil medium is equal parts topsoil, peat, sand and 10 mm chipstone. All but the true scree species do fine in this mix. We increase the chipstone component for those species that demand extra drainage. A few species only seem to survive under alpine house conditions such as *Kalmia (Loiseleuria) procumbens* and *Phyllodoce caerulea.* The unfurling leaves of *Salix vestita* are covered in silky hairs that

are quickly lost when grown outdoors. In the alpine house, they retain these hairs for most of the season, adding to the charm of this dwarf, mounding willow.

If you have the chance for an extended visit to Newfoundland, I highly recommend a trip to the limestone barrens of our Great Northern Peninsula. If only a short trip is allowed, then a visit to our botanical garden can give you a taste of what our local alpine flora has to offer the alpine enthusiast.

Crevice garden June 23rd 2010

A Botanical Tour Survival Guide

Mike Hopkins

For those of us not privileged to be part of that élite and select community that embarks on seed collecting or botanical exploration sorties around the world, the only way open to seeing plants in the wild is the Botanical Tour. If you partake of or are contemplating such trips you may be interested in my Botanical Tour Survival Guide that I have collated over many years of travelling abroad, not only botanically but also in the oil industry. The title sounds as though you will be embarking on an Outward Bound course; this is not so - the botanical tour is a wonderful experience, a cleansing of the soul, a freeing of the mind - you will not forget it. That is not to say that you won't have a bad day now and again: it could be the weather; it could be that you aren't feeling 100%; it could be that you have had an uncomfortable night - such things happen. The main thing is to be a boy scout or a girl guide and *be prepared.* Being prepared does not mean taking everything but the proverbial kitchen sink – it means analysing where you are going, the climate, the type of terrain, the sort of accommodation, and deciding on a list of essentials.

Start preparations a couple of months ahead when you are sent notes about your trip by your tour company. These will answer most of your questions about such matters as visas, clothing and climate. Visas can sometimes take time and any of several companies will sort this out for you for a small fee. This is invaluable if you live in Aberdeenshire and the visa can only be obtained by visiting the embassy in London. Inoculations are the next thing, and included with your tour notes will invariably be a recommended list, so visit your doctor to ensure you are up to date. Some inoculations need to be taken some time ahead. Malaria is a case in point as some of the older anti-malarial preparations require you to start courses a couple of weeks beforehand. If you are travelling within Europe make sure you have your European Health Insurance Card. If you are not already walking fit, start an effective training programme.

Your next task is to make a kit list – list absolutely everything you will be taking. If you start now, two months ahead, you can add and remove items as you progress and learn more about the area where you are going. You should keep your kit to a minimum although, having said that, I still take things I never use. There are occasions when you have to hump

your own luggage, so a set of wheels on your bag or case is essential. Your smaller case should be cartable on your back so a rucksack, which you need anyway for day outings, is a good choice. However, after many different combinations of cases, bags and rucksacks, my favoured method is a large wheeled soft bag which contains, amongst everything else, my filled rucksack - ready to go. This goes in the airplane hold and I carry into the cabin only a small shoulder bag with my camera and a few essentials. I wear my one set of respectable clothes while travelling. This arrangement ensures minimal problems at airport security and least stuff to cart around. To save space and weight in their luggage, some people travel in their boots and many take their rucksacks and wear their mountain gear (sweaters and anoraks) for travel; I find this too uncomfortable, especially for a long flight, and security checks can be a nightmare. However, it is entirely up to yourself to decide whatever you find comfortable and convenient.

As you will be walking most days, your boots are crucial. Most trips do not involve more than three or four miles a day, occasionally longer (unless you go with the Alpine Garden Society, in which case you may often walk much further). Although this is not a great distance, the terrain is invariably up and down and ranges from grass, mud and scree to large rocks. You will wear the boots all day so it is important that they are comfortable and well broken in. Some tour guides suggest that trainers will suffice – take my advice and don't even consider it! In addition to the walking, you will be constantly stooping, bending, kneeling and lying on your stomach, sometimes in a few inches of water, snow, gravel or very prickly shrubs, taking photographs of, or at least looking closely at, the flowers. Add to this the ambient conditions, which may be too hot or too cold, and all this exercise can be quite tiring; I for one have usually had enough by the end of the day. On the subject of kneeling and lying on one's stomach, a kneeling pad, such as can be found in garden centres for weeding, is a very good accessory; it is light, takes up almost no space in your rucksack and is a boon in prickly shrub country and gravelly sites.

You may spend a good deal of time in buses or four wheel drive vehicles and, occasionally, trains. This is not so bad in a bus with lots of room on non-mountainous modern roads and it has to be said there are increasingly large numbers of such roads in the most surprising places. Particularly within Europe, be comforted that your personal contribution to the European Union has made this possible. However, not all roads are non-mountainous; being packed sardine-like in a Land Rover or equivalent for some hours over twisting and bumpy mountain tracks can prove wearisome to parts of the anatomy. If you are lucky like me you can sleep just about anywhere, a knack developed over many years in the oil

industry in all manner of moving and noisy habitats and conveyances. Sleep is one way of dealing with this aspect of the trip, so an inflatable pillow is a good idea, but that's not to deny others. Some people eat (not too many drinkers though) and the passing round of sweets, chocolates and other titbits is very popular. Reading is largely out of the question but of course there is always the scenery which, provided you can see it through the cloud, mist and rain, may be spectacular. Banter amongst your fellow travellers often goes a long way to pass the time but being driven on unfenced mountain roads at breakneck speed by a local driver with a few thousand feet drop only inches from your wheels tends to concentrate the mind and dull the conversation.

One very important piece of equipment is your camera. Unlike your boots this is not absolutely essential; certainly you can manage quite well without it and there are often participants who don't have one. A camera may range from your £50 Tesco special to a kit financed by a second mortgage. The digital camera is king and long gone are the days of lugging thirty or more rolls of film around in lead-lined bags, but there remain people who swear by and still use film. It is your own choice and I offer only the following suggestions. Firstly, keep equipment and weight to a minimum – remember you have to carry it most of the way. Secondly, ask yourself what you will do with several hundred photos when you get home. If you just want to show holiday snaps to friends and relations an expensive camera is not necessary. If on the other hand you want to select a few good pictures and enlarge them for display then you need something a bit better, such as a digital SLR with perhaps a couple of different lenses. To the seasoned photographer I say nothing – you probably know more than I do - but don't forget the battery charger. The same sort of thinking can be applied to telescopes and binoculars, which are particularly essential for the birders.

I mentioned sweets and other goodies. I find such things quite essential: boiled sweets, glucose tablets and chocolate are all useful comforters when the going gets tough, and there is another reason, to be revealed later. At high altitude your appetite declines and sweeties may help to keep you going. I always carry them not only for myself but to share around. Included here must be water. Tour companies are usually excellent at providing plentiful supplies of bottled water; it is essential to maintain hydration especially in high ambient temperature or at high altitudes. It is not always possible to carry all the water you need and so it is necessary to use natural sources around you. Higher mountain streams and natural springs normally provide perfectly safe water to drink but if there is any doubt you must iodize it before drinking. If this proves necessary, small containers of iodine tablets may be found in all good outdoor equipment suppliers and you

can even get tablets that neutralize the iodine taste. You need a good water bottle with a tight cap. Fill the bottle with water and add two tablets, or as directed. Give it a good shake and wait at least half an hour before drinking. The taste isn't that bad and you may get used to it. When using iodine, you are often at high altitude and must make lots of sterilized water so it is advisable to have two water bottles - one in use and the other being processed. *'Water sterilizing tablets'* are available: I don't know exactly what these are and have never tried them but you can be absolutely sure of the well tried and tested iodine method. I have one last point to make on iodizing: the water bottle will almost certainly be unusable after your trip, so don't spend a lot of money. Cheap plastic or even an 'empty' is perfectly satisfactory.

Food varies so much. On the whole it is acceptable and there is always sufficient if not plenty. The quality can vary: in a lowland Mediterranean hotel it may be excellent whereas the food in an African mountain hut may be a little suspect to the Western palate. All in all there isn't much you can do about it - you either eat what is offered or you go hungry. Occasionally you may get opportunities to supplement the rations and you certainly should take advantage of them. Indeed, some trips oblige you to buy your own lunches; you should be sure you check this before departure so as to cover your needs with sufficient funds.

If, like me, you like a little something extra and revivifying at the end of the day, it is best to take it with you unless you are in Europe or the USA. If you do this, it is best to take additional precautions if entering a predominantly Muslim world. I have never had any difficulties but others have.

Maps are very useful although not essential. They vary considerably depending on the part of the world. Hopefully, you will not be called upon to navigate your way over a mountain pass so it is not really necessary to have ordnance survey detail or a compass. Many present day road maps are sufficient. The American armed forces have mapped most if not all of the world and their maps are sometimes available. Google Earth is also readily accessible beforehand and can give useful insight into the type of terrain to expect. In recent years, the satellite navigator has come of age and many tour leaders now use satellite fixes to pin-point plant sites and check routes. It's only my generation that still knows how to find its way with map and compass; I still carry a compass – as some sort of comfort thing I suppose.

A torch is vital, as even in Europe you may experience power cuts and the further into the unknown you venture the more likely they become. Don't forget that in some circumstances there will be no electricity at all and, what's more, no natural light. The nearer you are to the equator or to winter in whichever

hemisphere, the longer the nights; picture yourself waking in your sleeping bag in a mountain hut desperately needing to be elsewhere: it's always cold in the mountains at night and we all know what cold does for the bladder. There is no light at all, literally pitch-black, you can't find your boots or your coat, you can't even remember where the door is. What do you need? You need a torch. The headlight device is the most useful, leaving both hands free to protect yourself when you trip over whatever it is that you encounter, be it a hole, a rock or friendly mountain lion.

Whether or not you intend to make a fashion statement you need a hat and perhaps sun glasses. You need a hat to protect your thinning hair from the fierce sun and the UV in sunlight, which is much stronger the higher you go. You need a hat to protect your head from the rain and snow. Many people favour the *'British Abroad'* look with a white sunhat or woolly pompom. I prefer the more professional style of the cowboy hat or, more precisely, the Australian bush hat (*sans* corks). Such a hat may have several other uses: a wind shield when trying to photograph a slender plant in a high wind; to collect and carry all manner of items including water; and to shield your eyes from the glaring sun if you don't have shades (sunglasses). The only time I have found sunglasses essential is where bright sun and snow occur together, a very rare occurrence.

You may have to wash either yourself or your clothes or possibly both. My routine is as follows. At every hotel I shower or bath myself together with the three items of daily clothing change (ladies may have four). This is straightforward if there is a bath but baths are rare in the sort of places that we go to; more often it is just a shower or sink. Now, to wash clothes you need a quantity of water to soak them and this can prove very difficult without a sink plug. Foreign hotels rarely offer plugs either in sinks or showers. A most essential piece of equipment, therefore, is the universal sink plug, available in all good hardware shops. This allows soaking, soaping and rinsing to proceed normally. Items once washed are wrung out and hung on one of three wire coat hangers that I always take for precisely that reason, either in the shower or outside if you are in a warm climate. If, in a three or four star hotel, you see pairs of socks, shirts and other items hanging from the balcony you know where the botanizers and birders are. For soap, I always use concentrated liquid soap such as that from any camping shop. It is amazing stuff, only needing a very small amount to lather in all types of water - no matter how hard - and even in sea water.

Very handy things to have with you are polythene bags and small brown envelopes. You will find myriad things to put in these along the way; include a pen and pencil to mark what is in them.

I have never had many problems with native wildlife. Most wild animals are with good reason very wary of humans. You may occasionally glimpse something but you will always see tracks and spoor. Some tours specialize in wildlife but the techniques are quite different from hunting plants. More of a problem is posed by insects, particularly the biting sort, and midges & mosquitoes immediately spring to mind. Take *Anopheles* and malaria as an example. About twenty different species are important around the world, and the important ones bite nocturnally. They breed in shallow water such as puddles, rice fields and wet hoof prints. Disease transmission is more intense where the mosquito lives long enough for the malarial parasite to complete its development inside the mosquito and where it prefers to bite humans rather than other animals. In malarial areas, the best defence is not to be bitten. Outdoors, this is quite difficult to achieve; other than greasing yourself up with a mosquito repellent and keeping covered up there is not much you can do – and keep taking the tablets. Indoors, use a mosquito net, a repellent burner or both.

Mosquito problems are not restricted to malaria prone areas. The worst I ever experienced were in Yosemite in the USA, so protection is not just to prevent malaria; mosquito bites are very itchy, uncomfortable and can easily become infected. Midges can be horrendous, as can myriad sorts of flies and other flying insects. Many preparations are available to protect or soothe insect bites with varying degrees of success. I suspect that it has something to do with the individual, as some preparations work for some and not for others. I have never found anything that works entirely for me and in any case most require you to anoint yourself *prior* to being bitten, which can be difficult to predict or impractical to carry out.

My medicinal paragraph covers a whole range of problems. Firstly, tour leaders invariably carry a comprehensive first aid kit, some more comprehensive than others it has to be said. Nevertheless, I still carry a small personal kit of sterile wipes, sticking plasters, bandages, ointment, aspirin and others so as not to bother the very busy leaders with relatively minor complaints. Add to this the inevitable daily medication that many of us require plus items for sun protection, Ibuprofen for inflammatory complaints, rehydration salts and pills to guard against Delhi Belly, and you end up with quite a medical kit. I add one slightly more serious item to this - a sterile needle kit. If you were caught in the middle of Africa and needed an injection, would you seriously allow a bush hospital to give you that injection without a sterile needle? A range of such kits can be bought at all good camping and outdoor shops. One further word: we would not bother too much about

a slight scratch at home or indeed in most of Europe but, out in the wilds in high temperatures and countries where hygiene is not to European standards, even the slightest scratch needs attention. I repeat the need for sun protection. Some form of UV screen is absolutely essential for a number of reasons. Firstly, you will be exposed for much longer than normal and may be outside for six, seven or eight hours. Secondly, in many places the sun will be around much longer and stronger. Finally, at any sort of high altitude the UV is very much stronger than lower down.

Related to the previous paragraph are some topics regarding inoculations. I mentioned such things earlier and assume that you have all the usual things covered. Two others that are not normally mentioned should be considered, especially if travelling to some of the more remote areas: these are tetanus and rabies. If you live or work in the country you will almost certainly be covered for tetanus, it being something that country doctors are very aware of. If you live in the city it is unlikely that you will be covered so it may well be worth considering. Rabies is altogether something else. Rabies is relatively unknown within Britain and Europe but not in the rest of the world. If you are venturing into remote areas, local people live in isolated communities with their flocks and herds that are always guarded by dogs. Such dogs aren't your friendly neighbourhood pet; they are not rabies free and will attack if they feel they that their charges are in danger. The rabies inoculation can't be obtained on the national health and it is fairly expensive. It is a course of three and is not the end of the story as far as being bitten is concerned. As I understand it, the inoculation only buys you more time to get the full treatment once you have been infected. A hospital can easily be a day or two away in such situations. So stay away from any herded animals and their concomitant guard dogs - and don't get friendly with any bats either.

On occasion, you will need to walk in the rain, indeed some people even carry on photography in the rain. There is only one solution and it is still a mystery to me why more people don't embrace it. The plastic poncho is light, takes up no space and keeps you, your camera and your rucksack perfectly dry from head to (not quite) foot. A slight addition is needed in the heaviest conditions and that is calf length plastic leggings. If you are walking steadily, the rain drips off the bottom of the poncho onto your legs. Why, at the slightest sign of rain, do people still don their cagoules, anoraks and full length plastic trousers that then become saturated in no time during heavy rain? Some people have umbrellas and these can be useful. Indeed, in East Asia everyone seems to have an umbrella but they don't really protect you to any great extent.

In contemporary Britain, you might well get into trouble for carrying a penknife. In countries where a Kalashnikov or machete constitute proper dress, a penknife is not likely to be a problem. So it is worth taking one, as long as you remember to pack it in your hold luggage. Mine is a Swiss army knife and has been with me a good number of years. It's not the ultimate but it has many useful functions: a main blade, now with broken tip as a result of digging some years ago – I forget why – but useful for general duties, sharpening pencils, peeling fruit, opening plastic containers and, in dire circumstances, the spooning of the contents of a tin; a secondary blade, pristine condition, never used; not so the corkscrew - now broken off completely; the bottle opener - virtually worn out; and the can opener - similarly well-worn but still functioning. The little plastic thing that I always used as a tooth pick is now missing. The thing for getting boy scouts out of horse's hooves is still there and has been useful on occasions, but the ultimate tool is a fine pair of scissors that still cut reasonably well.

When arriving at some remote location, you will invariably be joined by locals, especially children; they can and do appear from nowhere. You will be settling down to take some photographs or just about to start eating your picnic when up they pop. In many instances the children will be hungry or at least be looking for 'bonbons'; the least you can do is to oblige, revealing my second reason for taking lots of boiled sweets or packets of sweeties such as fruit gums or pastilles. Or of course you may share your lunch. You will be rewarded by being brought rare and exotic plants plucked from the ground! Once, in Turkey, a whole school turned out to 'help' find flowers. Talking of schools, on several occasions I have been asked for writing paper, pencils and pens. For this reason I always take some small notebooks and writing items.

Finally, security: security of the four vital items that you need, whatever may happen. Everything else is dispensable but your money, your passport, your tickets home and possibly your life-giving medication are vital. I keep these four items with me at all times either on my person or in my rucksack. In many countries you need ready access to your passport to show at military and police check points: this is not to alarm you, as these events are fairly routine and I have never experienced a problem with such stops.

Ultimately, it is entirely up to you what you prepare yourself for and therefore what you end up taking. All the things I have listed, I would not be without, and they have all proved invaluable at one time or another. They are all small and light and take up little space, something you need to aim for in everything you take. Happy Botanical Tour!

For the Love of Trees

James Cobb

There are gean trees twenty metres high that my daughters planted as cherry stones when they attended the St Andrews *Junior Hortus,* run by Bob Mitchell for many years, and most of the wood we now burn is from trees I planted more than forty years ago. I have always loved trees and learned much from a professional forester whom I taught to ring birds while at University, and later from foresters who worked for the Ministry of Defence on Salisbury Plain. By this time amenity tree planting was assuming precedence over the unending lines of largely alien conifers planted post Second World War. Later, due to the kindness of the laird in Kingsbarns where I live, I grew many thousands of trees from seed and local farmers were happy for me to plant suitable corners of their land.

It was natural to want to plant trees in my own garden. As I write in early February, my nostalgia for trees has been brought on by sieving half a ton of homemade leaf mould and gently spreading it over 'my garden' where all my treasures grow; this is one of my favourite jobs. I was lucky that for many years I had helped the local game keeper, giving me access to a beech leaf mould mine that had been forming for a couple of hundred years. 'My garden' is about a tenth of an acre and it would have been out of character if I had not over-planted it, particularly in the early years. I regarded trees as needing several lifetimes to grow – not true! First was a great hedge of *Cupressus leylandii* – wonderful as a wind break for about five years and then a nightmare. Fortunately, my neighbour objected to them and very kindly not only cut them down but also took them away. After two happy years spent in Australia I have a love of *Eucalyptus* and had fifteen species planted. A very extraordinary freak frost

Above: *Crocus gargaricus,* snowdrops & aconites under the hazels in spring

Erythroniums under the hazels

killed most of them overnight, including reputably hardy Tasmanian species; in retrospect this was a blessing. Later I realised that some things just would not do: *Davidia involucrata* has absolutely massive invasive surface roots; and many dwarf conifers outlive their dwarfness. Under-planting birch trees works well; they have some lovely bark colours from snow-white to deep pink and their thick canopy is good windbreak, though one needs to pick up masses of twigs at the end of the winter gales. I planted named clones of hazelnut as part of my drive for self-sufficiency. The way these root deeply (as long as they do not sucker) is quite marvellous for all the plants that have evolved to flower in spring before the leaf canopy. Trilliums of all sorts, many spring bulbs - particularly erythroniums - and even the choicest cypripediums love the

Martagon lilies under the hazels

cool shade of summer. Plants grow well underneath my really large *Eucalyptus gunnii* and under the very fastigiate forms of beech and particular conifers, all providing homes for plants that tolerate summer dryness. Having walked in deciduous New England woods in spring, the plants that are adapted to this (such as trilliums and erythroniums) always do well and because many of the North-American plants or seeds are easily available it is easy to stock such areas. The one large tree is a fastigiate (-ish!) hornbeam. Again, plants are happy underneath its deep roots, suiting plants from North America, but surprising things such as *Crocus gargaricus* love this treatment; my clump is a nice reminder of one of the SRGC greats, Harold Esslemont, who gave it to me. The one problem with hornbeams (at least here) is that they shed leaves until late December and it is a waste of time starting to clear until the new year. There are now enough trees in the garden to feed three large compost bins with only dead leaves of autumn-cut vegetation added. Weeds are despatched to the giant compost bins over the road that supply our vegetable gardens. There are still going to be problem trees for my very old age, if I get there, including a large tulip tree and a range of coloured foliage acers. However, I have learnt to keep these pruned to proper tree

Lilium mackliniae

Self-sown *Dactylorhiza* hybrids

shapes with much reduced foliage and, although a long term job like so many things we neglect, it actually takes five minutes twice a year. To date they behave themselves, providing colour and - more important - sifting the wind.

Only top dressing and never turning the soil has allowed *Dactylorhiza* orchids to thrive. An early purchase was a single plant of *D. elata* that has seen at least a thousand-fold multiplication and there are a dozen huge clumps of hybrids that have seeded themselves. One never sees them at a non-flowering size. The white *Dactylorhiza* 'Eskimo Nell' is multiplying nicely (like so many of my choicest plants a gift from Fred Hunt of Invergowrie) and the late pure white *Dactylorhiza fuchsii* ssp. *O'kellyi* thrives in numbers. As long as I never move them, *Cypripedium* increases and my plant of *C. macranthum* had twenty flowers last year.

Lilies too like this treatment. My garden only contains lilies from seed so as to avoid importing lily virus. Many of the dwarf Himalayan and Chinese species form long lived clumps and provide seed for new annual sowings. Lilies from seed are planted out as whole pots, regardless of the number of seedlings they contain, usually in their third summer. Cardiocrinums from seed take up to ten years but produce enormous

Dactylorhiza 'Eskimo Nell'

Cypripedium reginae

Cypripedium macranthum

spikes (four metres was the best); if given good top dressing after the first year they will flower annually from the side shoots since each bulb is monocarpic. American species, particularly my favourite *L. canadense,* are short-lived and less inclined to set seed.

I have watched Branklyn garden (in Perth) for many years. It is to me - by some measure - the finest garden I have ever seen. It has the ideal balance of trees, shade and open spaces. It has room for a perfect rockery and scree garden as well as a lovely range of mature rhododendrons. It has lots of lovely little paths that open up as you progress to show new little beds filled by treasures. For many years it began to look tired and the rarer plants struggled. Some years ago Steve McNamara took it over and it has flourished again in a way I would not have thought possible, giving the lie to the idea that 'old' gardens become irreversibly tired. It is full of wonderful rare and difficult plants and is also the ideal place to grow my beloved *Meconopsis*; there are trial plantings of some of the newly named perennial blue poppies based around *Meconopsis grandis* and its various hybrids.

If you want to think really big with large mature trees then drive from Branklyn a few miles along the Dundee road to Glendoick. Here are the home and gardens of three generations of great plantsmen that began with Euan Cox. The gardens are generously open until June, and *Primula* and *Meconopsis* growing in beds among the world-famous collection of rhododendrons are wonderful. A small stream flows down the hillside plantings. This and the transpiration from the massive tree canopy keep the air cool and moist on hot summer days.

This brings me rather nicely to *Meconopsis,* which still obsesses me. It worries me that we have lost *M. latifolia* (through hybridizing with *M. napaulensis*) and that *M. dhwojii* is close to cultivated extinction - I suspect hybridization with *M. napaulensis* (Chris Grey-Wilson has shown this itself to be a hybrid in UK gardens). Until the cooler last three years

Cypripedium calceolus

many *Meconopsis* had become more difficult in the UK and I am fortunate to be able to plant them in Caithness where many otherwise difficult things thrive. The problem with the evergreen monocarpic species is that they can hybridize. Perhaps the most difficult example we have is *M. superba*; I suspect this only remains in cultivation because it is the only species that regularly sets good seed from a single self-pollinated plant.

I flowered the last three *Meconopsis latifolia* as singles in three successive years and they set not a single seed. The blue-purple evergreen *Meconopsis*, comprising *M. wallichii* in two distinct forms (maybe even species), the long lost *M. violacea* and the newly described Chinese *M. wilsonii* in its various subspecies, are not fertile when crossed with the other group of evergreen monocarpics (at least as far as my evidence is

Lilium lijiangense in the shade

Lilium lophophorum

concerned) and they flower much later. However, I suspect these will hybridize with each other and that correctly named plantings of the species will need to be kept well separated.

The blue '*horridula*' we grow is now correctly called *Meconopsis prattii.* Last summer (2010) large plantings of this and genuine wild *M. prattii* from Chinese seed were totally indistinguishable by any biometric or other measure. The other easily grown '*horridula*' is *M. rudis.* This is totally different as seedling and immature plant, typified by a long petiole. I flowered a large group from wild Chinese seed but at least half lacked the diagnostic purple spine bases on the large glaucous leaves. Certainly on my one visit to China the typical *M. rudis* growing on the higher screes produced a vast range of presumed hybrids with *M. prattii* lower down. George Taylor in his monograph lumped all these under *M. horridula.* There are now at least nine divisions of this species and I think it will need a totally new approach to identifying them in the field since classic keys will be very difficult to devise let alone operate. The purple-flowered relatives of *M. horridula* from China are more difficult to grow in Scotland although the Norwegians are making progress with some; we may need

Lilium nanum var. *flavidum*

to learn how and where to grow them all, because their status in the wild may be more vulnerable than we think.

Although *M. delavayi* is not closely related to the classic purple-flowered Chinese species typified by *M. lancifolia,* some progress has been made. In Aberdeen, Ian Young realised some years ago that it is not a good idea to prick these on in the first year. I now sow three or four seeds to a pot and plant it out whole in spring of the second year. That we have this seed at all in Scotland owes entirely to Finn Haugli in Tromsø; he grows this remarkably well in extreme cold and year after year has sent marvellous amounts of apparently 100% viable seed. Peter Cox of Glendoick had a lovely long-lived planting of this until last year when some dreadful person stole them. I am gradually getting this going in cool Caithness and found a speck of seed last year. It is vulnerable at the seedling stage to a fungal infection. Ian Christie of Kirriemuir kindly recommended a professional fungicide called Octave and I use almost homeopathic doses of this every time I water the seedlings. I also occasionally use a very dilute insecticide for the aphids that like this species. These efforts are important: this exquisite species is very

vulnerable because it grows in a restricted area of what has become a major internal tourist region of China.

This finally brings me to *Meconopsis punicea* – my favourite species. Euan Cox, writing in the cultivation section of George Taylor's monograph, mentions shy seeding and generally gives the impression that it is not easy. Indeed it was lost for many years until his son Peter brought it back from China and generously distributed it widely. I immediately lost it and was rescued by Peter's generosity with seed from his seed bank. To me it is now the easiest of all *Meconopsis* that I grow, simply because I learnt to understand its little ways. First, seed must be sown as soon as harvested. I then keep the seed pans deeply buried and just damp under compost or grit until the end of December when it is stratified for a month before it germinates naturally without heat at the end of January – when a little bottom heat certainly helps. This year I appear to have 100% germination and many hundreds of seedlings, which after a poor seed harvest is good news. They grow on rapidly and without any problems of fungal infection and can be pricked on as soon as the first true leaves develop. They need to go into rich open compost, to grow on as rapidly as possible and, as soon as the roots fill the pot, be planted out into a rich largely sunny bed. They go almost dormant over winter but are back in full growth by late January and all will flower the next summer. I might add that I cover no *Meconopsis* in winter here, without significant losses other than to new species that I am trying to coax into flowering. The biggest plants of *M. punicea* produce the most flowers and these big plants set seed most reliably. Seed set is the other problem as one rarely sees a pollinating

Pink form of *Meconopsis punicea* and *Meconopsis* under the hornbeam

Nomocharis hybrid

insect on them. I don't know the natural pollinator and it would be good if visitors to the wild could find it. In hot sun the flowers open wider but this is rare here. I have always hand pollinated all plants every day if I can, transferring pollen from the best and largest plants as far as possible. Some plants - if you look carefully – seem to have viable pollen but often it is never shed. Ian Christie has produced a perennial plant that is doing well for me in Caithness but every one of the many thousands I have grown eventually proved monocarpic, however much hope they gave in late summer. It would be very helpful if visitors to China could look carefully to see if there are truly perennial plants with evidence of flowering in previous years. I have learnt that many species of *Meconopsis* behave differently in cultivation, especially in areas where they are stressed. In Caithness in summer 2010, a major planting of the blue hybrid 'Lingholm', now in its second year, made no attempt to flower. The plants are massive and multi-crowned while a few from the same batch planted here in Fife all flowered and may - doubtfully - have survived.

If I have learnt anything, it is to be content with things that grow well and to accept the need to experiment objectively with the few difficult plants that are especially desirable. Be as generous as you can with spreading them around and eventually you may learn to do better.

Perth April 9th 2011

The general character of the Perth show was reflected in section 1: fewer fritillaries were exhibited than in some previous years but there was a well-filled class of *Tulipa* specimens including a very large pan of *Tulipa tarda* brought by John Lee (Glasgow) together with a large variety of woodlanders such as *Anemone*, *Erythronium*, *Trillium*, also the delicate *Lathyrus vernus* as well as some large plants of *Tropaeolum tricolor* and *Tropaeolum brachyceras*. Daphnes were lacking on this occasion, although they sometimes feature at Perth and have in the past been Forrest Medal winners. The show day was preceded by a week of good weather that brought on a lot of plants in good time.

The George Forrest Medal was awarded to Cyril Lafong for his *Soldanella alpina alba*, which originates from the Pyrenees and European Alps. Cyril obtained the plant from Aberconwy Nursery about four years ago and has this year grown it outside where it seemed to like being covered with snow (there was no shortage of that in the recent Scottish

Class 24: Lewisias from Dave Millward, Sam Sutherland & Cyril Lafong
At back: *Iris magnifica alba* (Carol & David Shaw)

Narcissus bulbocodium

winter) and has flowered really well. The plant is about five years old and around fifteen cm in diameter.

Pteridophyllum racemosum (John Lupton)

Susan Band, our poster, and *Primula maximowiczii*

A large 75 cm specimen of Rhododendron 'Snipe' exhibited by Stan da Prato (Tranent) and covered with pink 40 mm diameter flowers was the recipient

Rhododendron 'Snipe' (Stan da Prato): the EHM Cox Trophy winner

of the Cox Trophy. Stan also showed another attractive yellow-flowered specimen - *Rhododendron* 'Cream Crest'. He grows his rhododendrons in pots - which this year were buried in snow outside - and later plunges them in the garden to prevent drying of the root ball over the summer. He often turns the hose on them to get them wet. 'Snipe' is a Glendoick hybrid – it's about five years since it came as a youngster from Glendoick.

Androsace vandellii with clear instructions for aspirant growers (Cyril Lafong)

Jim and Janet Patterson won the Alexander Caird Trophy for an exhibit in Class 1 (6 pans) of *Epimedium pinnatum* ssp. *colchicum, Trillium albidum,*

Pleione grandiflora (Graham Catlow)

Lewisia tweedyi 'Lemon' (Cyril Lafong): Certificate of Merit

Scilla italica, *Erythronium hendersonii* x *citrinum*, *Trillium chloropetalum*, *Epimedium brevicornu* f. *rotundatum*, all plants displayed in large pots. Cyril Lafong's *Androsace vandellii* won the Dundas Quaich – a twenty cm diameter perfect cushion plant, covered in flower. This was one of Cyril's impressive series of similar plants; his *Lewisia* 'Lemon' was also flowering as well as it has ever done – almost a show landmark. The Joyce Halley award for the best plant grown from seed went to Peter Semple for his *Ranunculus calandrinioides*: 'this was seed from my original plant bought around 1980 and pollinated with Ian and Carole Bainbridge's plant from about ten years ago'. The seed was sown green, grown in a mixture of John Innes and grit, and kept dry when dormant.

Soldanella alpina alba (Cyril Lafong): Forrest Medal winner

Tulipa tarda (John Lee): The Bulb Trophy

The Joint Rock Garden plant committee made several awards including an FCC to John Lupton's *Pteridophyllum racemosum* from Honshu, Japan. The plant is 25 cm in diameter with numerous spikes of white flowers. John's culture notes on this specimen suggest that it should be grown in humus-rich compost and in the shade. Andrew Radley, Auchterarder, had the most points by a member of the Perthshire Group and was a worthy winner of the Perth Trophy. Nick Boss had some stunning plants growing on rocks, one of them the very blue *Gentiana pumila* ssp. *delphinensis* found on limestone in the wild in the Alps and Pyrenees around 1600 to 2800 metres.

In section 2, Mike Hicks won the Perth Salver and the Bronze Medal. Mike's excellent six-pan display and some wonderful plants from Graham Catlow, including his giant *Lathyrus vernus* and a beautiful pan of delicately flowered *Pleione grandiflora*, were exceptional in this section. Susan Band (Pitcairngreen) won the desirable Murray-Lyon Trophy with a large plant of *Primula maximowiczii*. Contemplation of the future was dampened a little by seeing that there were once again no junior entries.

Cathy Caudwell

Jean Band's posies graced the show tables

Edinburgh & the Lothians April 2nd 2011

We start with the Olympian highlights: the Forrest Medal was awarded to Bill Robinson's *Narcissus obesus* 'Lee Martin Form' and a rarely awarded Professional Medal went to *Iris willmottiana* from the Royal Botanic Garden Edinburgh.

Another smashing day in this wonderful spring of 2011 saw the Edinburgh Show benefit from bright sunshine and a good turn-out: entries and door entrances were up fifteen per cent from 2010. A record entry of fifty nine plants in Section 2 was especially welcome and filled the side bench. A lovely pan of *Pulsatilla vulgaris* won the 'best in section' and the Midlothian Bowl for Ewan and Jeanne Mason, while Ian Pryde's showing debut included a *Narcissus rupicola* that could have graced Section 1, and a good *Primula maximowiczii.* Mike Hicks had a swansong in Section 2 that again won him the bronze medal, with his six-pan entry including three primulas and *Ranunculus alpestris.* Mike also entered *Iris bucharica* in both Sections 1 and 2; practice for next year perhaps?

Jeffersonia dubia alba

Erythronium 'Ardovie Bliss'

Narcissus 'Twin Stars'

Forrest Medal winner, Bill Robinson

Primula maximowiczii

Tecophilaea 'Storm Cloud'
Dionysia zagrica (Alan Newton)
Ian Bainbridge, Liz Mills & Graham Wenham
Townsendia rothrockii (Tom Green)

Wallflowers behind the Club's Plant Stall

Shows should always have 'show-stoppers' and the medal winner certainly provided one. In a small pan, Bill Robinson's *Narcissus obesus* 'Lee Martin Form' shone like twenty little golden beacons, large fat flowers on short stems; a real cracker. In the final judgement this beauty pipped Cyril Lafong's *Jeffersonia dubia alba,* last year's medal winner, and one of several jeffersonias on show. It was a good show for ephemeral-flowered spring woodlanders: *Jeffersonia*, *Pteridophyllum racemosum* from Japan, *Anemonella thalictroides* varieties, including a double pink *Anemonella thalictroides* 'Oscar Schoaf', *Sanguinaria canadensis flore pleno,* trilliums

Erythronium sibiricum (Ian Christie)

Primula auricula 'Mojave'

Haquetia epipactis variegata (Ian Christie)

Arisaema sikokianum

'For me? How agreeable!' - Liz Mills hands over the AGS Ulster Group Quaich for the best New Zealand plant in the show to David Rankin

and several shortias, among them the varieties *Shortia* 'Leona', *S. uniflora* and *S. uniflora* var. *kantoensis*.

Stars among the bulbs were the tecophilaeas; four different colour forms of *T. cyanocrocus* graced the bench, from pale blue to the dark *T. c. violacea*. In contrast, fritillaries were notable for their absence this year although this was offset by good classes of dwarf narcissi.

Other eye-catchers included Peter Semple's huge *Ranunculus calandrinioides,* a wonderful North African buttercup, a large *Townsendia rothrockii* and a lovely *Primula irregularis* hybrid shown by Tom Green. Other primulas included *P. limbata, P. forrestii* and *P. yuparensis alba* which won the Bhutan Drinking Cup for the best Asiatic primula. An unidentified *Paraquilegia* species, *Claytonia nevadensis* and two *Chirita* species, gesneriads from Taiwan, were among the unusual entries.

The Show's competitive entry was well-complemented by a superb gold-winning display from the RBGE, beautifully balanced and including two lovely plants of *Iris willmottiana* in full flower, the better of which was awarded a rare professional medal - fair tribute to the skill and dedication of the RBGE staff who provide such terrific displays at most of our Shows.

Ian Bainbridge

Border: *Pittosporum tenuifolium* 'Tom Thumb'

Stirling March 19th 2011

There is always a buzz of excitement around the first Scottish show of the year, even after the excitement of the Early Bulb Display held in the same venue one month earlier. After the second 'bad winter' (lots of deep snow lasting many weeks with prolonged low temperature) in a row, I wondered about how many, or how few, exhibitors would have enough plants in good condition. I need not have worried, for by half past nine on the show morning the benches were a kaleidoscope of colour. Although there were fewer plants than in some years the quality was wonderful. Thank goodness for bulbs! Presumably because of the season there were fewer primulas but *Narcissus, Corydalis* and saxifrages provided lots of colour.

Most of the trophies went to Glenrothes with Cyril Lafong. The Forrest Medal and Institute of Quarrying Quaich for best non-European plant in the show were awarded to *Trillium rivale* 'Purple Heart'; the Spiller trophy for best primula and the Ben Ledi plants trophy to *Primula* 'Nightingale'; a certificate of merit to *Corydalis popovii.* Stan da Prato held on to the Carnegie Dunfermline Trust trophy for most points in Section I and Gill Lee retained the Fife County trophy for most points in Section II. This year Gill also won an SRGC bronze medal. So the trophies, all nicely polished in case someone else won them, were mostly regained by the same exhibitors as last year and returned whence they came. Tom Green and Bob Meaden ran Stan a close race for most points. Stan's strengths were in the number of foliage and non-flowering classes, as well as both

The following thirty pictures from Sandy Leven illustrate the enormous variety of plants on display at the club shows; these all came from the Stirling 2011 show. The editor offers his usual prize of a bottle of champagne to those who can identify the greatest number of them by the time of the Discussion Weekend!





six-pan bulb classes. Stan showed plants of interest to all members. I liked his wire netting plant, *Calocephalus brownii*, in 'silver foliage'.

I was pleased to see Tom Green's three-pan entry featuring the purple form of *Olsynium* (formerly *Sisyrinchium*) *douglasii.* Named for the plant hunter David Douglas from Scone, it seems to do much better in some gardens than others. Forty years ago I grew the white form from Jack Drake's Nursery easily in Inverness but now here in Dunblane it is more difficult to please. I think it likes cold winters and cool summers. Douglas, whose name is associated with our tallest trees, must have delighted in coming across this delicate wee beauty.

Hybridizing primulas is a rewarding and fascinating hobby. You may start by sowing seeds from your own plants. All the cultivated hybrids have been selected for one reason or another, so any seedling from a 'garden cross' has the potential to become a good plant. You should at least get a variety of flower colours in your seedlings. Cyril's *Primula* 'Nightingale' appears to be *allionii* x *hirsuta*. Its typical *allionii* flowers are rich pinky purple; they erupt from the centre of shiny leathery rosettes, quite unlike typical sticky *allionii* leaves. I am sure it looks good even out of flower. Tom Green showed an older hybrid x *miniera* (*allionii* x *marginata*) 'Joan Hughes' in splendid form. It has lovely pale lilac flowers, each with a wide white eye. Tom's *P. megaseifolia* x *juliae* was an interesting plant: very floriferous, holding its magenta flowers up on six-inch multi-headed scapes (is there name for this feature?) like a refined polyanthus.

The names of eminent rock gardeners from bygone days are preserved with *Primula allionii* 'Anna Griffith', 'Raymond Wooster' and 'Clarence Elliot'. These older selections still hold their own against more modern clones such as *P.* 'Lindum Moonlight', *P.* 'Gabrielle'. *Primula* 'White Lady', shown by James Cobb in a twelve inch pan, was quite superb (the next week it was going to be wonderful and if it held on during a cool






fortnight it was destined to be excellent at the Edinburgh show). This is a plant for every aspiring rock plant exhibitor. Some open garden plants can be coaxed into flower for an early show with just a little protection. Thus we were rewarded at the show with three primroses and a gold-laced polyanthus. I love the gold-edged black flowers of the latter; they seem to have been designed rather than grown. One of the primroses was a delicate white double named *Primula* 'Dawn Ansell'.

Something bad seems to have beset petiolarid primulas in recent years. Many people used to grow and show them but they are now the preserve of the few gardeners who are able to provide the conditions to survive hot, dry summers. Ian & Carole Bainbridge and Tom Green succeed in this and between them showed three beautiful forms of *Primula* x *irregularis.* The 'two doctors' also showed the Chinese *Primula knuthiana,* a sturdy wee beauty with farinose leaves.

In the saxifrage classes Ian & Carole took the honours with *Saxifraga scleropoda, S. cinerea* hybrid TJR 615/01 and *S. clivorum,* another wee Chinese gem. I loved the white flowers of *clivorum*; they looked like a pan of tiny baby birds squawking to be fed. The flowers have white petals that curve backwards strongly, prominent brownish red anthers, and stigmas that erupt from green-yellow mouths. They look a bit bashed about in their irregularity - one of my star plants of the show.

Cyril is growing on a splendid daughter plant of his Forrest Medal multi-winning *Pulsatilla vernalis.* In the morning only a few flowers were open but as the day progressed more and more opened. This strain is one of the most beautiful of all mountain plants.

Another star and one which most people coveted was *Fritillaria chitralensis* grown from seed by Cyril. It is like a small *F. imperialis,* about thirty cm tall with striking canary yellow bells. It hails from Chitral in northern Pakistan. Each stem had two or three flowers and the pan revealed slight variation in the petals of the flowers. Cyril notes that it

needs 'a very gritty loam based compost and is given a dryish summer rest'. Among the seed-grown bulbs, Margaret & Henry Taylor showed two tiny distinct *Narcissus* hybrids, both *N. luteolentus* x *triandrus pallidulus*; one was cream and the other primrose yellow. If these could be bulked up they would be beautiful additions to the range of small narcissi for rock gardeners but you wouldn't want a pan of either to be too crowded. Beside these, Alan & Jane Thomson's *N.* 'Mitzi' (a recognised good doer among wee daffodils) looked positively huge! I love 'Mitzi'; the flowers start bicoloured white and primrose then fade through all primrose to pure white - three long lasting plants in one. Cathy & Barry Caudwell's *Narcissus asturiensis* 'Fuenta De', a four-inch gem, reminded me I should seek a holiday in the Spanish Picos de Europa.

Jean Wyllie's *Romulea atrandra* had the brightest flowers in the show. Rush-like foliage supported ten or twelve blooms in various stages of opening, backed up by several buds. This South African bulb has shiny bright magenta petals with a silken sheen. The flower centres are an equally bright yellow and these two opposite colours are separated by a feathered band of deep navy blue, perfect for party frocks. Quite a stunner! Standing quietly alongside were two large pots of snowdrops shown by our galanthophile *(He is! It says so in the book 'Galanthomania')* past president Ian Christie. *Galanthus* 'Dreycote Greentip' and *G.* 'Cinderella' both had green marks on the outer petals, these being more prominent on the former rather than the latter. Another prominent feature of 'Dreycote Greentip' is the presence of *'scharlockii'* type ears above the flowers, giving the pan a quite distinct appearance - one to look out for.

Next to the snowdrops were two wonderfully neat crocuses from Bob Meaden: *Crocus vernus* x *tommasinianus* (pale powder blue inner with even paler blue outer petals) and *C. vernus albus* (a pure white beauty). Jim & Janet Paterson continue to grow and show *Corydalis solida*






very well. I liked their Hobbit selection 'Frodo' with its pink-edged white flowers complemented by slightly bluish dissected leaves.

I want to thank Jim and Janet for looking after the club plant sales table for far longer than I had a right to expect. Organizing and putting on a show needs the cooperation of a remarkable number of people on the show day – six judges, four stewards, a recorder of results and assistant. Then comes the tiring work for those on their feet all day: plant sales, sandwich makers, kitchen workers, servers, table clearers and table setters, washers up, someone to take the money, workers tidying up at the end – carrying tables and sweeping up, and of course the professional nurserymen. This year, during the judging, members enjoyed a good lecture from Ian Christie, 'The Christies Down Under', about his and Anne's experiences in Australia and South America. Without these essential people and our exhibitors there would be nothing to come for. I was told when I first became a show secretary that the shows are the SRGC's window for the world. Since then I have learned that it takes a lot of people and a lot of effort to get our window display just right.

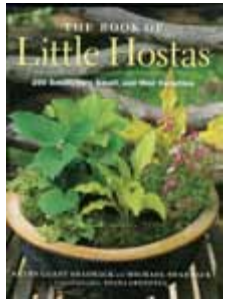
As at any SRGC show, the icing on the cake was the superb gold medal display of rock garden plants and bulbs provided by the Royal Botanic Gardens, Edinburgh. The selection of plants and the copies of 'The Botanics' magazine allow folk to appreciate 'the world of plants' and take an interest in the RBGE's work and the worldwide range of its projects. Our thanks go to the Regius Keeper and to John & Elspeth for transporting and arranging the plants. If I have missed out anyone's plants I am sorry but truly I enjoyed seeing them all. A show is only as good as its exhibitors - so thank you everyone!

Sandy Leven






The Book of Little Hostas:
200 Small, Very Small, and Mini Varieties
Kathy Guest Shadrack & Michael Shadrack
Consulting editor Diana Grenfell
208 pages & 258 colour photos
ISBN-10: 1604690607 ISBN-13: 9781604690606
Timber Press £17.99



Kathy Guest Shadrack is currently the secretary of the American Hosta Society. She and her co-author husband, Michael, garden in western New York where they maintain a large collection of modern hosta cultivars and a garden devoted to small hostas. Michael is also an active member of the British Hosta and Hemerocallis Society and the American Hosta Society. Diana Grenfell is co-founder of the British Hosta and Hemerocallis Society and a life member of the American Hosta Society. Her garden in Gloucestershire is home to a National Plant Collection of miniature hostas. She has worked hard to raise the profile of hostas throughout the world.

With these three authoritative collaborators it comes as no surprise that this is such a beautifully illustrated and very informative book, with its cultivation ideas and many illustrations of individual hostas. It gives a brief history of the small hosta and the species first collected for cultivation from which the cultivars now derive. It describes the varied requirements for individuals and groups and how to get the best out of your little garden treasures.

Hostas are irresistible to many gardeners. Their sculptural leaves and charming textures make it difficult to stop at one, and it is easy to fill a garden with them. Much of the book is usefully devoted to the many and varied situations in which the reader may wish to grow their small hostas, such as woodland, waterside, rock or scree garden, troughs and containers. Each of the individual sections is illustrated with many cultivars suitable for the specific location. The book provides the reader with a detailed outline of leaf size and colour, expected growth size and shape, and ideal growing conditions. It could almost act as a very detailed nursery catalogue, which is very handy for the fifty one nurseries from eight countries listed at the end of the book.

The book is stimulating: indeed, since reviewing it I have been enthused to create my own miniature hosta trough. *The Book of Little Hostas* will inspire the beginner and enthusiast alike, with the latter struggling to contain their insatiable need to own more of these little gems.

Graham Catlow

Phlox, a Natural History & Gardener's Guide
James H. Locklear
ISBN13 9780881929348
340 pp, 230 x 180 mm, 73 colour photos, hardcover
Timber Press £35

It took James Locklear some ten years to write this book, which will now satisfy many *phlox* enthusiasts. With a wide range, sixty-one species spread across the United States, and the distance travelled by him photographing *phlox* in the wild, coupled with the huge amount of research, the delay is understandable.

An overview discusses botanical and horticultural history, from 17th Century discoveries of eastern phloxes to more recent horticultural uses including breeding and selection for cultivars such as *Phlox* 'Chattahoochee' and the 'Eco' range. There is a comprehensive key to that builds on earlier published keys.

The '*Species Accounts*' are arranged under botanical and common names. I love the beautiful introductions that transport your mind miraculously to the habitats. A more thorough key follows, helping to identify phloxes in the wild although this can be nigh on impossible unless you know what species is likely to be growing where. Geography and environment sections follow, describing where the species grows and the nature of its habitat. A plant association list is included, with a final small paragraph on cultivation.

Two appendices usefully (for the plant hunter) cover distribution and horticultural nomenclature, including discussion of cultivars and their origins. The glossary is comprehensive and adequate. There are 72 photographs that fill the centre pages and although not all species are pictured there are some excellent habitat scenes.

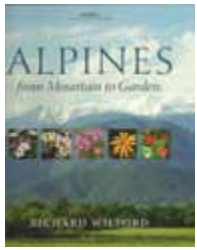
After all the work that went into this tome, it is difficult to criticize but there are a few small weaknesses. The habit of introducing each phlox species by botanical name and then using its common name throughout its account seemed unnecessary and irritated me a little. The sub title '*A Natural History and Gardener's Guide*' is somewhat misleading. Cultivation information is limited with very little on growing or propagation of the genus apart from the occasional mention of siting. A chance has been missed to discuss many of the fine cultivars and hybrids in the trade, none of which has been mentioned. For example, Loren Russell's *Phlox adsurgens* 'Oregon Blush', Rick Lupp's *P. adsurgens* 'Mary Ellen', Lincoln Foster's *P.* 'Tiny Bugles' of unknown parentage, and Betty Lowrey's *P. kelseyi* 'Lemhi Purple'. I would have liked a section to discuss these and others of the same ilk. It would have made the book more interesting to gardeners like me who not only grow many species but also love the easy-going

garden plants including the *Phlox subulata* and *P. bifida* varieties. I realize the publisher has the last word on layout but I would have preferred the photographs to have been adjacent to their species and not all bundled in the middle of the book.

However, with all that said, this is definitely a publication for the true phlox lover to buy, who will happily hunt phlox, identify any species they find in the wild using the keys, and scour the seed lists to find those wonderful species that Lochlear has written about. I know that I will be buying more phlox seed than usual next season!

Graham Nicholls

Alpines from Mountain to Garden
Richard Wilford
260 pages, over 300 colour photographs, 31 colour paintings & 8 maps
ISBN 978 1 84246 172 3
Kew Publishing, £29



Could this be the book we have been looking for? Beautifully produced, packed with fine pictures of plants and their habitats; the sort of book that we could leave on our coffee table, knowing that our visitors would be captivated. They would spend the rest of their lives looking at and growing alpines, and so would share the enormous pleasure we have had. It was such a book (although a poor thing by the standards of this one) that tipped us over the edge many years ago.

Richard Wilford is collections manager for hardy plants for display, at the Royal Botanic Gardens, Kew. With a particular interest in alpines and bulbs, he has outstanding knowledge of the sorts of plants we love to grow in our rock gardens and in this book he has shared some of that knowledge and enthusiasm with us.

The scope of his project is ambitious. He sets out to present the geography, history, and cultivation of alpine plants. However, after a brief introduction, the account of growing alpines is only about two and a half pages of text, so is not of real practical value. So why is it there? Probably as a vehicle for showing some lovely pictures of the way alpines are grown at Kew; if that achieves one of his aims, inspiring other people to grow them, then we should be happy. It would have been nice had he recognized that Kew is not the only place to see well-grown alpine plants!

After these two short chapters, the rest of the book is structured by region, making the good point that mountains are to be found world-wide. The regions are more or less the six continents (excluding Antarctica), but with Asia divided into Japan, China & the Himalaya, and Western & Central Asia. The chapter on Europe, for example, runs to thirty

pages, but about eighteen of these are photographs, a map and diversions from the main text - of which more in a moment. That leaves about twelve pages for text - pages that are packed, and I mean packed, with information. We read about the ranges of mountains and about an astonishing range of plants; the index to the book lists well over a thousand of them. We read about the plant hunters who introduced so many of them to our gardens. We even read that the modern-day plant hunter can see these plants 'armed with no more than a camera, a notebook and a stout pair of walking boots'. Really? Shouldn't one take at least a pencil and a pair of trousers? And this chapter alone has nearly fifty photographs. Those of plants are generally excellent but those of habitats or more widely of mountain scenery are often too small, and many lack contrast. Most are unattributed, so presumably are Wilford's own, and it appears that the others were provided by a single colleague. Perhaps it would have it been better to have used material from a wider range of contributors.

Another theme has been woven cunningly through this extensive material. The publisher, Kew Botanic Gardens, also publishes Curtis's Botanical Magazine, which since 1787 has described plants new to cultivation, illustrated by exquisite paintings. Over thirty of these are reproduced in this book, each on its own page, with an account of the plant's occurrence in the wild, introduction, and cultivation. In the chapter on Europe, we are treated to accounts of *Gentiana acaulis*, *Saxifraga burseriana*, *Androsace pubescens*, *Anemone blanda* and *Crocus sieberi*. There are also special pages devoted to silver saxifrages and cushion plants.

There are few typographical problems or errors of fact, and the taxonomy is up-to-date. Given the vast amount of information, this is a commendable achievement. But perhaps therein lies the problem. Is there information overload? Do I really need to know that 'the rarely cultivated, monotypic genus *Japonolirion* ... is usually placed in the same family as *Helionopsis* (Melanthiaceae) but more recently has been moved to Petrosaviaceae, an eastern Asian family of only two genera, the other being *Petrosavia*'?

If I want encyclopaedic information, in the modern world I search the web and consult books that deal with a limited range of plants, perhaps just one genus. So this book cannot be a work of reference; its scope is too wide. I enjoyed reading it, but I doubt whether there are many people who are sufficiently addicted to alpine plants to follow my example and read it from cover to cover. So who is it for? I think the solution is to place it on your coffee table, allow your guests to browse until they have caught the bug, and then call them through to dinner.

David Rankin

MENDLE NURSERY

Holme, Scunthorpe, North Lincolnshire, DN16 3RF Telephone 01724 850 864
Or visit our website http://www.Mendlenursery.com

ALPINES

We offer a wide range of alpine plants, bulbs and ericaceous plants, many rare and unusual, for the alpine house, raised beds, scree, troughs and tufa.
Opening times - Tuesday - Sunday 10am to 4.30pm

Mail Order All Year.

Please send 3 x First Class stamps for catalogue

ABERCONWY NURSERY

GRAIG, GLAN CONWY, LL28 5TL Tel: (01492) 580875

Visit our scenic hillside site in the Conwy Valley, Tue-Sun from March to Sept, to see the constantly evolving range of quality alpine and rock garden plants grown by the Lever family.

We don't offer a mail order service but you can see us at many AGS and SRGC shows. (Plant list available)

The Welsh Alpine Plant Specialists

SPECIAL PLANT & BULB SALES

Saturday and Sunday
10 & 11 September

Ron McBeath at Lamberton Nursery

No.3 Lamberton, Berwickshire TD15 1XB (01289 308515)
rare & unusual plants for rockery or woodland garden.
Close to the A1 between Burnmouth & Berwick on Tweed with

Rob Potterton of Pottertons Nursery

who will bring along a superb range of some 300 varieties of Dwarf Bulbs and other plants, orders can be collected
and a talk by **Peter Korn from Sweden** on **Saturday**
Extensive gardens to enjoy with free refreshments

OPEN: 9.00am to 4.00pm


Colorado

Rocky Mountain High
Gardens of Colorado

with Julia Corden as Tour Manager

Colorado is noted for its vivid and varied landscape of mountains, mesas, canyons, plateaux and plains. With a climate of seasonal extremes of heat and cold, gardening here can be something of a challenge but on our late summer tour of the Centennial State we will discover some splendid gardens, an array of wild flowers, not to mention monumental landscapes and awesome scenery.

Departs 6 September, 2011 - 10 days from £1895pp

Julia Corden will also be leading a trip to New Zealand in January 2012

To obtain a copy of these and other garden holidays please call Brightwater Holidays on:

01334 657155

brightwater holidays

Brightwater Holidays Ltd, Eden Park House, Cupar, Fife KY15 4HS
info@brightwaterholidays.com
www.brightwaterholidays.com

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 Ingliston 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

Phone: 020 8420 7110 Fax: 020 9954 6784

Email: bulbs@jacquesamand.co.uk

www.jacquesamand.com

Muscari azureum 'Album'

Arisaema kiushianum

Arisaema urashima

Arisaema sazensoo

Arisaema sikokianum

EXPLORERS

The Scottish Plant Hunters Garden

Bhutan Expedition
Photographic Exhibition

Open until 7th November

In 2010, *Explorers* Garden manager Julia Corden and a team of alpine enthusiasts followed famous plant hunters Sherriff and Ludlow by scouring the Bhutanese landscape in search of extraordinary flora. This photographic exhibition features rare and unusual images of plants and landscapes they saw in the beautiful Kingdom of Bhutan.

Exhibition entrance *free* with Explorers entry.
Sponsored by The Scottish Rock Garden Club.

Willow Weaving
Workshop with Trevor Leat

Sat 3rd & Sun 4th September

An ancient craft brought right up to date: participants will learn how to create their own willow structure, such as a garden deer, a ball, even a sheep! Both beginners and improvers are welcome.

Stained Glass
Workshop with Liz Rowley

Sat 3rd & Sun 4th September

Under the expert guidance of contemporary stained glass artist Liz Rowley, learn how to cut glass, apply copper foil and solder it all together to create an individual and decorative stained glass hanging piece.

www.explorersgarden.com

We sell seeds and unusual plants too!