# THE ROCK GARDEN 120



January 2008

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

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

Mr G Bunkall, 145 Stonehill Avenue, Birstall, Leicester, LE4 4JG, UK

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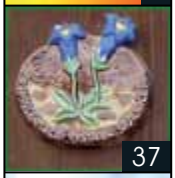
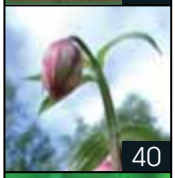
**The Journal of the Scottish Rock Garden Club**

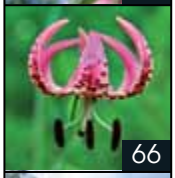
**January 2008**

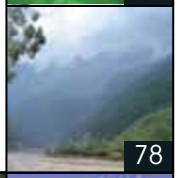
Number 120





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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.

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# Important: Credit Card Subscriptions

Hello to all members, especially those overseas who pay by credit card. Your contributions are vital to the continuing life of this club. Please read the following appeal from our membership secretary and act on it immediately.

A number of Members pay their subscriptions to the club by recurring authority on their credit cards. This has worked well in the past but, unfortunately, credit card fraud has led to increased security measures by banks, such that this system is no longer an option.

In future we ask Members who have used RTA to pay us annually
- by use of our updated secure payment pathway on the website, www.SRGC.org.uk
- or by posting the usual credit card details to our Subscription Secretary
(see inside front cover for details).

The Club offers special membership renewal rates to members who are willing to pay several years in advance, thus avoiding subscription increases. This will save both the member and the club money by reducing card transaction and currency exchange rate charges.

| **The Special Rates are:** | | |
|---|---|---|
| Overseas | - 3 years for £54 | *or* 5 years for £90 |
| UK | - 3 years for £42 | *or* 5 years for £70 |

If you want to take up this offer please tick the relevant box on the website or state this in your letter to the Subscription Secretary.

We do appreciate your support and hope that you will take a minute to renew your subscription so that you continue to enjoy the benefit of being a member of the SRGC.

## Editorial Prize

Celebrate in 2008! ... buy more wine in 2009 ... and again in 2010? – those members who enjoy the fruits of the vine as well as the delights of the rock garden are invited to scour the present edition for yet more editorial goofs. We often don't or won't see mistakes because we see what we're wont to see or we see what we want to see. So, if you smiled wryly at *"Goodyeara repens",* scowled at the wrongly captioned *"Corydalis erdelii"* and winced at *"Fritallaria",* now is your chance to get your own back: the editor offers a prize of a complementary bottle of his Taittinger, Heidsieck, Veuve Clicquot or Moët et Chandon Champagne to the sharp-witted and sharp-eyed reader who submits the most amusing or most numerous list of errors in this issue by April 30th 2008.

To emphasise the importance of the credit card information on this page to the smooth running of the club, please read it again. To start you off, you are guaranteed **at least** one mistake on this very page!

# "The Invincible SRGC" is 75

## Sandy Leven

Anniversaries are traditionally named after precious stones and metals. The greater the number of years, the more precious the metal or the jewel. A diamond anniversary was traditionally 75 years but became associated with 60 years during the reign of Queen Victoria, who celebrated her 60th Jubilee as a Diamond Jubilee. Thereafter, high society celebrated 60 years as a diamond anniversary. The SRGC must be "high society": we "Jubileed in 93" on our Diamond Jubilee when the club was 60 years old. Perhaps rather few marriages reach 75 years and, if they do, no-one needs any more jewels. Most likely, like the SRGC, a 75th anniversary is so precious that no price can be put on it. However, I did read that "*Diamonds are still acceptable for 75th anniversaries".* Diamonds are appropriate, as the word is derived from the Greek "adamas" which means invincible – a word that describes the Scottish Rock Garden Club very well.

I was taken to my first SRGC meeting, in Inverness, in 1970. I joined the club a few years later. I had tried to join immediately but the Membership Secretary's secretary in Haddington kept returning my Direct Debit form. Jim Sutherland was convener of the vibrant Highland Group. His enthusiasm for plants, their habitats, plantsmen and their gardens ignited a spark and lit a fire in me which has never dimmed. I was especially interested in the story behind the plants: where they come from; who discovered them; who brought them into cultivation; who grows them; how they grow; where can I get one?

Jim invited speakers like Jack Drake, Bob Brian, James Aitken (both of them!) and Margaret & Henry Taylor to speak to the group. I learned about bears in British Columbia, heathers on St Kilda, Scottish native plants, building a proper rock garden, penstemons, flowers and mountain passes in the Alps. The Inverness group held an annual show in the College of Agriculture and every member was expected to participate - at least that is what I was told. I showed my first pots of rock plants in Inverness. The judge, Jack Drake, must have recognised them - most came from his nursery. It was at Inchriach that I first met Ron MacBeath, when he had red hair and mine was brown. My first rock garden was a raised bed filled with rubble from the building of my Wimpey house; its inhabitants were saxifrages, primulas and dianthus raised in the foothills of the Cairngorms by Jack. Gentians and *Rhodohypoxis* came from Aberchalder Gardens by Loch Ness

Through the SRGC my hobbies of gardening, travelling and photography have combined into a passion for plants and the wild places

where they originate. Family summer holidays were and still are taken in alpine towns and villages, better known to the wider public as ski resorts. I can boast that I have been in most of the top alpine ski resorts in Europe and some in North America & Canada - just that we were there in summer instead of winter.

Our shows bring the world's best small hardy plants to towns throughout Scotland and northern England. Nowhere else, other than at the RBGE, may these be seen to such perfection. The first show I went to was in Edinburgh. I remember the crowd lining up in front of Mr Ponton, the nurseryman, who lifted flowering bulbs of *Iris* 'Katharine Hodgkin' from a wooden fish box and wrapped them up like sweeties. Kathleen Simpson-Hall, then president, on recognising a newcomer, engaged me in conversation and for a good twenty minutes accompanied me round the show hall, answering questions and pointing out special plants. She introduced me to James Aitken, the show secretary, who was equally friendly. Seeing plants on the benches made me curious to know more and to try to grow more myself.

The next weekend we drove to Ponton's Nursery near Earlston to buy rock plants and rhododendrons. We discovered that Miss Izatt had a small nursery in Auchterarder and we visited it regularly. Many more rhododendrons came from Glendoick. Early on I had been given good advice: "*Whenever there is a lack of colour or interest in the garden, visit a specialist nursery and buy a few things which are in flower".* A great strength of the shows is the diversity of plants grown by members. Each show report I have compiled for the web site contains different plants. Together, members grow treasures to fill Aladdin's cave several times over. David Livingstone - of the SRGC, not Africa - told me that interesting and enjoyable plants in the garden should be taken to shows and shared. He believed firmly that the shows were primarily shows and only secondly competitions.

I was well used to local and national shows - dog shows. My father bred and showed cocker spaniels & Irish setters so we travelled to halls all over the place. Dog shows are much like plant shows. People with similar interests meet in different venues around the country to look at dogs. They compete in various classes, meet old friends and make new ones. Because of shared interests, conversation is easy, even among strangers. Friendships, once made, last a lifetime. Another similarity is that, once the judging is over, we are free to discuss the decisions to our hearts' content.

Not only can we all see plants in our shows but we may also buy many of them. The plants in our own Dunblane garden are, as in most Scottish Rockers' gardens, a mixture of gifts from friends and purchases at shows & specialist nurseries. I recently assembled a collection of pictures of our garden plants for a lecture and soon realised how generous people had been. As our interest developed, the area of grass reduced and the area under glass increased.

Once I discovered the plants, I needed to know more. No trouble there! Going to talks in Stirling at my local group, I was also a regular visitor at the Glasgow meetings. Because of a road accident, I was late for my first Glasgow meeting but was still determined to attend. Don Stead sat at the door, glanced at Anne and me, decided we were too young and must be in the wrong place. I still remember his sharply whispered sentence, *"This is the Rock Garden Club!"* (meaning: *'You two are in the wrong place!')*. I said *"Good!"* and he let us in to hear Roy Elliott talk. Don found us afterwards and was most solicitous when he heard about the accident. After that we were regulars at Glasgow. I contracted Don's love of bulbs and am delighted that *Narcissus* 'Don Stead' does well for us.

Talks on a huge range of subjects related to rock gardening inspire us each month. Our lecturers are also expert photographers. No other organisation matches the quality of our speakers or their slides. Interest and expertise in photography clearly grows with interest in the plants and, more recently, the SRGC has taken a lead in the use of digital media. Through local groups, members become firm friends. Plants, cuttings, books and even cakes & mince pies are shared.

Bill Ivey was the first to ask me to give a talk. I think the subject was "Holidays in the Alps" but I do remember worrying that I would mess it up and forget the plant names. Bill said *"not to worry"* and pointed out that the Ayr people were quite friendly. The meeting was in a school. It was hot. All went well until a lady fainted, clattered off her seat and fell noisily onto the floor. The lights went on, she was carried into a science lab and laid on a bench. Someone stayed with her and everyone else returned to hear my finish. Ayr might just not be lucky for me: another time the projector only worked backwards; a third time I forgot my slides - the audience was very kind to me that evening!

I enjoy collecting and arranging slides for a talk. It is always an opportunity to remember holidays, shows, gardens and people. With digital pictures it is now easier to flick through collections. The digital advantages are: the same image may be used in several talks; distractions may be trimmed; close-ups may be included; and the name may be shown on-screen, so everyone can read it. SRGC audiences are very supportive and a pleasure to talk to but I tend to mumble, so I try to imagine Joyce Halley in the audience and I speak to her! If not for the SRGC, I doubt I would have used digital cameras and computers as much as I have.

In 1979, Joan Stead asked me to be show secretary for an early spring show in Stirling. She pointed out that Edinburgh had held the first show of the year but had moved to a late date and that there was then no show in Scotland till mid-April. Luckily, Jean Wyllie was convener and just as enthusiastic as I. The first Stirling show was held on 28th March 1981: Bette Ivey won the Forrest Medal with *Dionysia aretioides;* I won the trophy for most points in Section 1; Lyn Bezzant wrote the show report. Through

shows I made friends with many famous people in the alpine plant world - Harold Esslemont, Jack Crosland, Eric Watson, Wilf Kirby, Sheila Maule, Duncan Lowe and Alf Evans. I was even invited to dinner with Sir George Taylor at Belhaven House in Dunbar. Through him I learned about Frank Kingdon Ward, Ludlow & Sherriff, and Reginald Farrer. We were lucky to visit Ascreavie with the Glasgow group and met Mrs Sherriff.

Plants of mine as diverse as *Pulsatilla vernalis*, *Erinacea anthyllis*, *Paraquilegia grandiflora*, *Cyclamen africanum*, *C. hederifolium* and *C. graecum* have been awarded Forrest medals. I am the proud recipient of a Silver Forrest Medal.

In 1989 or thereabouts, Lyn Bezzant and David Mowle encouraged us to hold an Early Bulb Show. I agreed, so long as it could be in Dunblane. The format of a non-competitive plant display with two lectures proved successful and continues to the present day. Top growers like Brian Mathew, Lyn herself, Jim Archibald, Margaret & Henry Taylor, Ian Young, Fred Hunt, Rod Leeds, Jimmy Person, Henrik Zetterland and Janis Ruksans among others accepted our invitations to Dunblane. For many, Dunblane is now synonymous with spring bulbs. The Bulb Group was formed and in time the autumn bulb day followed. At the Discussion Weekend we started the Bulb Exchange and the Friday evening Bulb Lecture. Many of us grow lots of plants raised from freely exchanged bulblets and cormlets.

My first Discussion Weekend was surely in Glasgow. I don't think I missed one in 25 years: it is like a family gathering. We have made friends all over the UK during these weekends and look forward to meeting up again each year. These annual conferences bring gardeners and experts together in a unique and sociable way: they are now part of our annual holiday routine. Plants are discussed and members return home excited, fired up with even more plants for their gardens. Anne and I have helped in organising four such weekends.

International conferences, arranged jointly by the SRGC and the Alpine Garden Society, are every ten years. I have been to Alpines 81, 91 and 2001. At the first, I - like all other show secretaries - was invited to be a steward; for the others I was on the organising committees. Not everyone likes sitting on committees and organising events but I do. It lets me give something back to the club that has filled my life. Alpines 81 was in Nottingham, 91 in Warwick and 2001 at Heriot-Watt in Edinburgh. Alpines 2011 is to be in Nottingham again. Make sure you attend - it is a great venue.

Many members live overseas and maintain contact with the SRGC through "The Rock Garden". I have contacted overseas members who then helped me plan trips in Switzerland and the USA. Now in its 70th year, "The Rock Garden" keeps us in touch with recent ideas; it takes us to distant mountains; it describes specific genera and species and - most

importantly - it continually re-enthuses us. The first article I wrote was on *Pulsatilla vernalis:* I was thrilled to see my words in print. Each issue is full of interesting articles but, taken together, the volumes offer a unique window into Scottish gardening, past and present. I always look forward to the thud when the journal drops through the letter box.

Our seed exchange offers an unparalleled range of goodies to grow. Through the exchange, wonderful plants have been introduced to Scottish gardens. I admit to being a poor seed sower; I never seem to have time. However, you needn't sow the seeds yourself, because plants grown from SRGC seed are on sale at our meetings and shows. Like all members, I am indebted to those who collect, sort, pack and distribute the seed. It is a wonder that, although rules and regulations are ever more complicated, our seed managers navigate their way through all of them.

For many years I have been one of 11 SRGC members on the RHS Joint Rock Garden Plant Committee. It meets at SRGC, RHS and AGS shows throughout the country. Sir George Taylor brought the committee to Scotland and was responsible for its unique make-up; he chaired meetings in the Guide Hut in Stirling. Mrs Knox-Findlay, John Duff, Major Murray-Lyon, David Livingstone, Shiela Maule and Bobby Masterson were some of the members. I was a very timid committee steward that day! Alf Evans was the Scottish vice-chairman when I joined in about 1990 and was followed by Harley Milne. Under Alf and Harley, the Scottish end of the Joint Rock Committee prospered. In 2007 I followed in these illustrious footsteps. Jack Elliott, Peter Erskine and now Rod Leeds have been chairmen of the committee during my time.

There is a perk to being a member of the Joint Rock - the Chelsea Flower Show. The committee always has a 10 a.m. Monday meeting at Chelsea Flower Show. The Scottish contingent usually flies down from Edinburgh, Glasgow and Aberdeen at the crack of dawn. It is great to meet the other 22 members and to wander round the show ground while the exhibits are being finished. There are relatively few people there. The president's lunch is a grand affair; guest speakers have included Margaret Thatcher, John Major, Ken Livingstone and Michael Portillo. I met Rolf Harris, Judith Chalmers, Susan Hampshire - and saw countless other famous faces. Thanks to Fred Hunt I found out who they were! He is particularly good on members of the Royal Family - they visit the show in the afternoon.

In 1993, the Diamond Jubilee Year, Anne was asked to source and sell SRGC jumpers. The range has expanded and, 15 years later, she still takes sweatshirts, body warmers, polo shirts and much more to various shows. Members wear their SRGC stuff everywhere. In 2005 we visited Janis Ruksans in Latvia and he greeted us in his SRGC sweat shirt. It might be good to set up a web page to see just how far they travel. A new supply has just been delivered so that everyone may stock up in the

spring. My first green sweatshirt, now 15 years old, is dull and paint-spotted but still keeps me warm in the garden. I am not allowed to wear it in public but regularly sport an SRGC jumper to work or on holiday.

I have been a member of the SRGC for half of its life and it has been in my life for more than half. One thing more than any other I have found out is that, the more I participate, the more pleasure and enjoyment I get. My garden is full of interesting plants to remind me of members past and present and I have friends all over the country.

Thanks to the SRGC, we may all look forward to a future full of shows, meetings, holidays, seeds and journals. Above all, we look forward to finding out about new plants and ways of growing them. Congratulations and thanks to the Scottish Rock Garden Club members who for 75 years have developed the club into the wonderful organisation it is today!

We can all help the future health and growth of the club by telling our friends about it and by taking them to meetings and shows. Most of all, we can share our plants and gardens with them; they will benefit and so will we. Remember the old adage: *"The best way to save a plant is to give it away".*

Few organisations offer such a wide range of interests and possibilities to their members. I hope I am as welcoming to new members as the oldies were to me.

So, let's all "Celebrate in 2008"!

# Celebrate in 2008

## ... the SRGC 75th Anniversary Year.

**Saturday 16th February**
"A Celebration of Bulbs"
Early Bulb Show in Dunblane with 4 SRGC speakers
SRGC President Ian Christie on "Trilliums"
Ian Young on "Narcissus"
Susan Band on "Early Bulbs"
Sandy Leven on "Later Bulbs"
Details are in the show schedules

**Sunday 17th February**
Snowdrop Event at Brechin Castle (see page 32)
Sandy Leven on "Snowdrops"
Ian Christie on "Other Bulbs"

**April till October**
Douglas Pavilion at the Explorers Garden in Pitlochry
Photographic Display "75 years of the SRGC"

**Friday 13th June**
75th Anniversary Reception at the Royal Botanic Garden Edinburgh for members from all SRGC groups, Council members and invited guests. Garden tours guided by RBGE staff; a cold buffet in the Caledonian Hall. There will be a small charge.
The club is making a special donation to the RBGE towards the cost of the new alpine house.

**Saturday August 23rd**
Trough Day at the Explorers Garden in Pitlochry
Full details in the next issue of "The Rock Garden"

**75 Free Student Memberships of the SRGC**
Details are being sent to all horticultural colleges and gardens.
Contact Ian Bainbridge,
3, Woodhouselee, Easter Howgate, Midlothian EH26 0PG

**Special prize at all SRGC shows for Best Plant in a 6 inch pot**
Anne Chambers has been commissioned to paint *Cyclamen repandum peloponnesiacum*. Prints will be awarded at every show to the exhibitor of the best plant in a 6 inch pot. The original painting will be auctioned at the Glasgow Discussion Weekend.

**Throughout the year**
Members' Gardens - Open Weekends
Areas and dates will be on the website
For detailed information send a large SAE to
Cathy Caudwell,
Abernyte Farm Cottage, Abernyte, Inchture, Perthshire PH14 9ST

**The SRGC "Style Collection"**
The range of styles and colours in our Rock Gardeners' sweatshirts, piquet sweats (with zip), gilets, fleeces and polo shirts is constantly changing. Normally available in Small, Medium, Large and Extra Large (other sizes may be ordered). See the pictures on the web site.
Contact Anne Leven, 2, Leighton Court, Dunblane, FK15 0ED 01786 824064

**Anniversary Edition Gardeners' Mugs**
Choose between ceramic or Melamine in two styles. The Melamine is designed to keep your drink warm while you are in the garden.

# Newcastle Show 29th September 2007

The autumn show is always a joy, allowing as it does the meeting of old friends, both people and plants. The organisation was, as usual, impeccable thanks to Mike & Pearl Dale and all the helpers; even the weather cooperated, giving a pleasant day after what had not been a good summer. It may have been expected that the show plants could be a little different because the show was a little earlier than usual but one would have been hard-pressed to see any difference to the usual: cyclamens, gentians and foliage plants provided the coloured backdrop, with the other genera adding appropriate highlights.

One of the first plants to greet visitors as they entered the Newcastle show was a magnificent pan of *Colchicum speciosum* 'Album', part of David Boyd's six pan entry which gained the AGS Medal; it certainly had the "Wow! factor" and could not have been better placed. Having started with David's entries it is worth continuing: he won the Ponteland Bowl for the most first prize points in the open section and he was awarded the Ewesley Salver for the best cyclamen in a 19 cm pot with *Cyclamen hederifolium* 'Ruby Strain' in class 41.

While still on a *Cyclamen* theme, Jean Wyllie from Dunblane brought an incredible pan of pink *C. hederifolium* which must have had a hundred flowers, though it has to be admitted they were not counted. It was judged to be the best plant in show and was awarded the Forrest Medal. Jean also won the large three pans of *Cyclamen* with three entries of *C. hederifolium:* 'Red glow', 'Alba' and an unnamed plant. Where

1 - *Merendera attica*

2 - *Merendera montana*

would we be without the Dunblane contingent?

Stan da Prato should be congratulated on winning the "Inner Eye" for the most points in Section B. He caused considerable discussion by entering *Mammillaria plumosa* in Section 81 - a rock plant with silver or grey foliage, though no one seemed to know definitely if it was hardy or not or if *Mammillaria* had any foliage. The general consensus was "No" to both questions but this was apparently based on no evidence; nevertheless it has to be said it was a very attractive plant.

The winner of the Newcastle Vase for most points in Section C was Robin Pickering of Goole who won Section 109 - a bulbous plant - with *Merendera attica,* a plant not often seen on the show bench. Robin won the Newcastle Trophy for the best plant in Sections B and C with his plant of *Microcachrys tetragona.* He was also awarded the SRGC Bronze Medal, so we look forward to seeing his entries next year.

The Millennium Trophy for the best foliage plant went to Ian Leslie of Bangor for his plant *Celmisia semicordata* ssp. *aurigans;* he was awarded a Certificate of Merit for the plant and won Class 13 with a pan of about 15 flowers of *Merendera montana,* which was also awarded a Certificate of Merit.

Probably because of the time of the show, the crocus classes were poorly supported. Fortunately, Jean Wyllie entered both classes; her three-pan entry included *Crocus vallicola* but if you want to see the grey stripes inside the flower go the SRGC bulb blog. Her entry into Class 49 - grown from seed by the exhibitor and showing some variation of form - was a small pan of *Crocus banaticus trajanus.*

Brian Russ of Ormskirk benched a beautiful plant from Tasmania,

3 - *Aruncus aethusifolius* 'Noble Spirit'

4 - *Cornus canadensis*

*Trochocarpa thymifolia* in full flower, to win the dwarf shrub class 16; red flowers glowed against dark foliage and it won a well-deserved Certificate of Merit.

5 - *Trochocarpa thymifolia*

The green of foliage plants is always prominent at an autumn show, conifers are always a favourite and Ivor Betteridge took the three-pan dwarf conifer class with some conifers in beautiful condition. Local man George Young won the three-pan rock plant for foliar effect, silver or grey foliage, with *Raoulia eximia* x *petriensis, Celmisia semicordata* and x *Leucoraoulia loganii.*

It is impossible to do justice to all the beautiful plants at the show but some that caught the writer's attention included two nerines entered by Ivor Betteridge of Ashby de la Zouche: *Nerine masonorum,* winner of Class 51; and *N. filifolia,* winner of Class 46. The judges do not always choose the plant that you like: the writer was attracted to *Saxifraga fortunei* 'Early Ruby' entered by Brian & Shelagh Smethurst but it only came third in Class 3, although it has to be admitted that the competition was fierce. At this point it suddenly strikes me how many good plants have been missed: for instance, Keith & Rachel Lever won the three-pan Gentian Class 3 with three well-grown pans of *Gentiana* 'Silk Giant', 'Blue Silk' and 'Serenity'; Alan Spenceley's *Pterostylis coccinea* won in Class 2; Ian Leslie's *Merendera montana* in Class 13 was, I believe, considered for the Forrest medal. Finally, it should be remembered that the North-east England AGS local group was given a Gold Award for its outstanding display stand.

I am indebted to Glassford Sprunt for his photographs.

*Raymond A Fairbairn*

6 - *Colchicum speciosum* 'Album'

7 - *Crocus banaticus trajanus*

# Aberdeen Show 2007

**Light and bright: is it the folk or the radioactivity?**

The sun shone as usual in Aberdeen for the SRGC show. Having left dull wet weather behind in central Scotland, we found that the closer to the North-East we got, the better the weather became. The show hall is easy to find, just off Anderson Drive as you approach from the South. If coming from Inverness, you see much more of the granite city on your way to the hall. Like all Scottish cities, Aberdeen has always been linked by trading and commerce with countries overseas.


8 - Fermi de Sousa

How fitting it then was that one of the judges was Australian Fermi de Sousa. Having been at the Prague conference, Fermi came to Aberdeen to see one of our shows; his arrival even made the Diary column of The Press and Journal. Fermi is well equipped to judge: he has eyes like a hawk and is very knowledgeable about plants. I can't say if this has anything to do with his being Australian or if he just learned a lot in Prague.

Despite the fact that many of the plants we would expect to see at Aberdeen had already flowered and been exhibited at earlier shows, there was plenty left to delight and fascinate visitors. If you look carefully you can see that there was a rainbow inside the hall.

Cyril Lafong won the Forrest medal with his superb *Silene hookeri* ssp. *bolanderi*. Cyril had other plants in the running for the medal and we

9 - The hall transformed

judges discussed the merit of two pots of fabulous cypripediums. I favoured *Cypripedium parviflorum* and others the hybrid, *C. 'Sebastian'* (*C. montanum* x *parviflorum*). Both were awarded Certificates of Merit. Still, when it came to the vote for the Forrest medal, the decision was unanimously in favour of the *Silene:* this insight into the judges' minds is privileged - so don't tell anyone!

Stella & David Rankin's *Polemonium pulcherrimum* was in fabulous condition and it too gained a Certificate of Merit. Stella & David had a great day; their *Primula* 'Postford White' was judged "Best *Primula"* - winning the Craig Cup - and they had most points in Section One so also took home the Walker of Portlethen Trophy. I make special mention of their pan of *Primula cockburniana* 'Yellow Form' which they have been breeding true from seed for several generations. *P. cockburniana* is normally bronze-orange in colour.

10 - Ferns and hostas (Stan da Prato)

As the show was held in a church hall it was not surprising that the light of heaven shone from time to time on one particular plant or another. When it did, I photographed it. Especially favoured by divine illumination were lewisias, primulas and a fabulous *Tiarella* in Section 2. Here, shown lit by flash, Bob Maxwell's *Lewisia cotyledon* pipped 'John's special' for the first prize. Stan da Prato exhibited a nice collection of ferns and hostas in a fish box trough and Brian Hammond excelled himself with a fine collection of sedums, all carefully annotated with interesting details. Brian's exhibit was awarded an SRGC Silver Medal.

Some plants are Aberdeen regulars. One of these was Ian and Carole Bainbridge's *Zaluzianskya,* a species which usually opens its flowers in the evening. This form opens its flowers all day long. It was recommended for an Award of Merit by the Joint Rock Garden Plant

11 - *Lewisia cotyledon* (Bob Maxwell)

12 - Zaluzianskya


13 - *Erinus alpinus*

Committee. Carole told me that "they" dropped it when they got back home. I wonder which of them she meant? There used to be a lot of *Phlox* 'Chattahoochee' about. Jean Wyllie showed it in Aberdeen years ago and she still grows it well. Why do the rest of us lose it?

A plant does not have to be rare or difficult to grow to look good. Here is humble *Erinus alpinus* looking as good as an *Androsace.* And sometimes you come across a plant and say *'I used to grow that ... where is it now?'* One such is *Penstemon roezlii.* I bought it 30 years ago from Jack Drake and grew it in my garden in Inverness ... and left it there. The folk who bought my house built a garage on it. So I know where it is but that does not help me much!

Brian and Maureen Wilson

15 - *Briggostemon*

14 - *Ramonda myconii alba*

showed more fabulous Gesneriads. This time a favourite was *Ramonda myconii alba.* Here it is winning the "Grown from Seed" Class. And how about their fabulous Connie? No - not the one playing Maria in "The Sound of Music" but *Haberlea* 'Connie Davidson'. *Briggsia aurantiaca* x *Ancyclostemon humilis* gives a sumptuous hybrid seedling called x *Briggostemon*. The notes say that the cross was made in May 2005 and the seed was sown in July. It was kept frost-free and this is its first flowering. Well done B & M! And if you think that's good, what about this cross made in 1996? It is x *Ramberlea* 'Inchgarth': *Ramonda myconi* x *Haberlea ferdinandi-coburgii.* I mentioned penstemons and here is a great wee wonder, *Penstemon absarokensis.*

As judging proceeded, Bob Maxwell kept count of the points. When judging was finished and the points counted there were lots of award cards for the judges to sign. There were lots of good plants to see and photograph. Thank you to all the exhibitors!

*Sandy Leven*

16 - x *Ramberlea* 'Inchgarth'

17 - *Penstemon absarokensis*

18 - Points mean prizes ...

19 - *Androsace studiosorum* 'Doksa'

# Glasgow Show, 5th May

April 2007 was the warmest since records began and was followed, in Glasgow at least, by a hot and sunny week during the run-up to the show. It was therefore no real surprise when entries were somewhat lower than usual. However, quality remained high, and good numbers in both section II and the rhododendron classes provided a display both attractive to the public and interesting to members.

This year the Forrest Medal was contested by five wonderful and very diverse entries. Cyril Lafong provided two magnificent androsaces - the dome-forming *Androsace hirtella* x *cylindrica* and the flatter but perhaps more evenly-flowered *Androsace studiosorum* 'Doksa' as well as a fine example of the rosulate *Viola dasyphylla.* This Andean species is of course very tricky even to grow but it is once again testimony to Cyril's skill that his plant was not only in character but had a good number of scented yellow flowers. In complete contrast to the previous plant's modest appearance was Anthony Darby's excellent pan of *Cypripedium* x *ventricosum,* containing well over a dozen flowers. Anthony had grown this cross between *C. macranthos* and *C. calceolus* from a single "nose" planted in 1998. Completing this superb group was Stella and David

20 - *Paris quadrifolia*


21 - *Paeonia obovata alba*

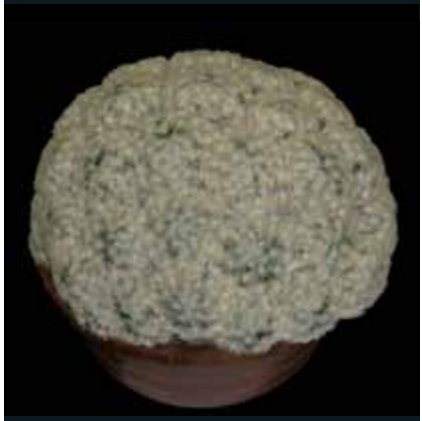
Rankin's beautiful *Daphne aurantiaca,* covered in its delightful yellow flowers. After considerable discussion the judges decided that *Androsace studiosorum* 'Doksa' should receive the top award at the show for the second year running. Each of the other four plants was awarded a Certificate of Merit.

The Crawford Silver Challenge Cup for most points in section I was won by Stella and David Rankin with a wonderful selection of fine plants including *Primula pulverulenta, Trillium rugellii* and *Arisaema elephas.* The Rankins also won the Diamond Jubilee Award with six beautifully

22 - *Cypripedium* 'Emil'

23 - *Lewisia cotyledon* (R Meadon)

24 - *Silene acaulis* 'Frances' (G Butler)



25 - *Mammillaria plumosa* (S da Prato)

presented Primulas in class A, and the Don Stead Prize. Mike Hopkins won the Henry Archibald Challenge Rose Bowl in class II with pans of *Erigeron aureus* 'Canary Bird', *Lewisia* 'Joyce Halley' & *Fritillaria pontica* while Cyril Lafong presented *Penstemon uintahensis, Aquilegia scopulorum* and the above-mentioned *Viola dasyphylla* to win the William C Buchanan Challenge Cup in class III.

Bob Meaden won the Ian Donald Memorial Trophy - for a plant native to Scotland - with *Orchis mascula;* Jim Sutherland won the Joan Stead prize with the rare yellow-flowered *Primula szechuanica;* and *Cypripedium* x *ventricosum* won the Charles M Simpson Memorial Trophy for Anthony Darby.

In section II, both Stanley da Prato and John di Paola had large entries of fine plants. Amongst Stan's plants were *Primula modesta* var. *faurieae, Mammillaria plumosa* and *Raoulia australis,* while John's pans included *Trillium luteum, Fritillaria camschatcensis* and *Rhododendron* 'Ruby Hart'. In the end, Stan proved the more successful, winning the bronze medal and the James A Wilson Trophy. We look forward to seeing more from both Stan and John when they move up into section I.

The *Rhododendron* classes were once again contested by Jamie Taggart from Cove and Mike & Sue Thornley from Glenarn: their magnificent

blooms were a wonderful taster for a visit to these two great gardens. This year Mike & Sue triumphed, winning both the Urie and Rhododendron Challenge Trophies.

Other plants to catch my eye were Anthony Darby's *Cypripedium* 'Emil', Cyril's two-pan entry of *Daphne petraea* Clone G & *Daphne petraea* 'Lydora' and a particularly wonderful *Arisaema taiwanense* from Anne and Viv Chambers, with leaves that trailed away into threads and deep-mahogany spathes - perhaps not conventionally beautiful but nonetheless fascinating.

*Steven McFarlane*

26 - *Arisaema taiwanensis*

27 - Weel-kent faces

28 - *Coronilla minima*

29 - *Daphne alpina*

30 - After a good lunch

# Discussion Weekend October 5-7 2007

On the outside it might seem that there could be no greater contrast between a Victorian turreted palace, surrounded by trees and hills only a few miles from the high tops of the Cairngorms, and a modern hotel complex near an old shipyard and only a few miles from the heart of the great city of Glasgow. On the inside however, the venues for last year's and this year's Autumn Discussion Weekends had much in common. Both had a wonderfully welcoming atmosphere, a great programme of stimulating lectures and a show of autumn growing rock plants which was both colourful and fascinating.

The best plant in show was clearly Jean Wyllie's magnificently flowered *Cyclamen hederifolium* which won the Jim Lever Memorial Trophy for best *Cyclamen* and was awarded a Certificate of Merit by the judges. Unfortunately it could not be given a Forrest Medal since it had achieved this at the previous week's show in Newcastle. It was perhaps due to this plant's pre-eminence that the judges chose not to award a Forrest on this occasion.

31 - Clydeside

Jean also won the Mary Bowe Trophy for most points in section 1 but was edged out of victory in class 1, with the East Lothian Trophy going to Sandy Leven's fine trio of *Cyclamen graecum, C. hederifolium* and *C. africanum.* Sandy also won Diamond Jubilee class A with *Allium thunbergii* & *A. callimischon, Cyclamen mirabile* & *C. hederifolium* along with *Scilla lingulata* and *Polyxena odorata.*

Class 2 for plants new, rare or difficult in cultivation was won by Alan Furness with *Saxifraga sediformis* CLD 990 but - although it was not a winner on this occasion - much comment was made on the appearance on the show bench of *Primula kingii* presented by Anne Chambers. In Class 27, Glassford Sprunt's excellent plant of *Cyclamen rohlfsianum* was awarded a well-deserved Certificate of Merit.

32 - Among the benches

The Peel Trophy for 3 pans of Gentians was won by Ian Christie with beautiful pots of *Gentiana:* 'Limelight', 'Angus Beauty' and an unnamed seedling. The Logan Home Trophy for miniature gardens was won by Stanley da Prato of whom more will be said later. Other fine plants in section 1 included *Origanum dictamnus* shown by Tony Rymer, *Saxifraga crustata* from Carol & David Shaw, *Spraguea umbellata* from Margaret & Henry Taylor and the two beautiful ferns *Gymnocarpium*


33 - *Gentiana ternifolia*

plants won him the Bronze Medal for most points in section 2, Diamond Jubilee Class B and the J L Mowat trophy for best conifer. The wide range of plants that he has shown has added so much to Section 2 over the last year. He will be a hard act to follow but we can only hope that his successes have inspired others. We look forward to seeing Stan and his plants in Section 1 next year.


35 - *Cyclamen mirabile* (Sue Gill)

*dryopteris 'Plumosum'* and *Polystichum setiferum* 'Herrenhausen' from Harvey Shepherd. Section 2 was dominated, as has often been the case this year, by a wonderful selection of plants shown by Stan da Prato. Stan's


34 - *Aeonium tabuliforme*

The East Lothian Cup for the best plant in section 2 was won by Sue Gill from Northumberland with a wonderful specimen of


36 - *Oxalis massoniana*


37 - *Colchicum cupanii*

38 - Class 31 gentians

*Cyclamen mirabile* that was also awarded a Certificate of Merit. Sue tells me that she originally received the plant from a local grower, David Boyd, and described it as one of David's "rejects". I can only say that if this was a reject his best plants must be quite something.

The Holiday Photographic Competition was a closely fought affair with the winner being "Andalucia, Spring 2007" from Mike Hopkins of Kemnay.

This was my first Discussion Weekend & Show but it certainly won't be my last. If you want to be transported to the mountains, surrounded by wonderful alpine flowers and have the company of other friendly rock gardeners you should head for the Beardmore Hotel in Clydebank next October.

*Steven McFarlane*

39 - Ian Christie & Fred Hunt, with Jean Wyllie stealing the show with *Cyclamen hederifolium*

40 - *Daphne caucasica* (Zdeněk Řeháček)

## Glimpses of Czech Rock Gardens: The First Czech International Rock Garden Conference

Early May 2007 saw the Rock Garden Club of Prague organize the First Czech International Rock Garden Conference in Beroun, south-west of Prague. The theme of the three day conference was "Gardens in the mountains and mountains in the gardens", looking at alpines in the wild and in cultivation, and included a visit to the annual Prague alpine plant display garden and show. The speakers were truly international with Czech speakers such as Vojtěch Holubec & Zdeněk Zvolánek and a number of speakers who have spoken in Scotland: Finn Haugli (Norway), John Page (England) and Gerben Tjeerdsma (Sweden), whose lecture was sponsored by the Scottish Rock Garden Club. Several SRGC members (also from all over the world) were among the hundred and twenty or so participants. Just as important for many, the four-day post-conference tour of Czech rock gardens was wonderfully organised and a tribute to the many gardeners who helped to make it possible.

Having seen photographs of some of the gardens during the lectures, and heard about several from other rock gardeners, we couldn't wait to experience them for real. Czech alpine gardeners are the masters of crevice gardening and their use of rock is truly amazing. Whole gardens are turned over to growing superb alpines in rock crevices constructed from whatever rock is locally available. The tour covered four areas on its four days, visiting four or five gardens per day in and around

41 - In Bohemia's Woods and Fields

East Bohemia, Prague, the Czech Karst and Central Bohemia.

We visited sixteen gardens and saw alpines in every type of crevice from limestone to amazing grey and pink granite. Each garden had particular highlights, giving us new ideas, and many sold plants for our own rock gardens at home.

In East Bohemia, high in the Eagle Mountains, we saw alpines growing in a natural setting on a 30 metre rock face in Jaromír Grulich's "garden" - in some ways not so much a garden as a piece of the wild with wonderful rock garden plants in it. Seen by many as the father of Czech rock gardening, Jaromir plants his crevices and rock terraces while hanging on a rope from the top of a vertical cliff. This large garden challenged some, as a steep mountain path wound its way to the top of the cliff to give the best views of the plants in what was tantamount to a natural setting. The crevices contained lewisias, dwarf dicentras and *Asarina procumbens,* to name only three plants growing out of the cliff. A broken leg, crutches and a wheelchair meant that Carole had to scan the higher slopes using binoculars. Lower down, the aethionemas and dwarf irises provided interest.

42 - *Edraianthus serpyllifolius*

The other three gardens on the east Bohemian tour provided a real contrast. Smaller and more intimate limestone rockworks of raised beds in Zdeněk Řeháček's garden held superb daphnes, as did many gardens, but a *D. caucasica* really caught the eye, as did *Phlox covillei,* and *Haplocarpha rueppellii* from Mount Kilimanjaro. Dr Oldrich Maixner's

43 - Admiration in Vojtěch Holubec's garden

44 - Jaromir Grulich's garden

weekend cottage garden had superb rockwork in a more traditional style, with fantastic *Daphne arbuscula,* while Jiří Novák's small garden showed wonderful use of stone troughs planted with little gems, including flowering plants of *Eritrichium nanum,* and a wonderful tiny *Myosotis alpina* - the same baby blue, even if it lacks something of the cachet of the former. Czech rock gardeners clearly rely so much more on growing from seed than we do in the UK, and this means that many more plant species are displayed, many from west Asia and the western Himalaya which are rarely seen in the UK.

45 - Crevices (Jiří Papoušek)

46 - *Salvia argentea*

Vojtěch also has a superb collection of dwarf conifers, many of them witches' brooms collected in the Czech Republic. In contrast, Jiří Papoušek's garden had slate crevice areas, with the slate "escaping" from stone troughs into surrounding raised beds; Ota Vlasák's long-established granite crevice garden completed a

47 - Zdeněk Řeháček

One of the foremost exponents of "grow it from seed" must be Vojtěch Holubec and his new garden provided a series of contrasts – a huge limestone outcrop, filled with plants from Turkey, China & the USA, smaller and delicately finished crevice areas in the garden and in troughs lining the steps to his front door. For those of a different persuasion,

48 - Karel Lang's *Saxifraga* collection

superb day. The careful alignment of the granite slabs and the meticulous planting of a huge range of crevice species, from gentians to eriogonums and *Haberlea rhodopensis* with huge, ancient cushions of *Arenaria granatensis* made a truly wonderful garden.

The Czech Karst tour showed smaller scale gardens which were no less interesting. Karel Lang had a treasure trove for saxifrage lovers: he is well known as one of the foremost

*Saxifraga* cultivators. His garden contained a crevice area, a pool, *Pulsatilla albana* and carefully candled dwarf conifers, but the alpine house at the back held row after row of pots of beautiful and unusual saxifrages; it seemed like almost every saxifrage that has ever been grown - and many for sale. The tour buses groaned under the weight of the plants we purchased. Zdeněk Zvolánek's garden was a contrast: a quarry-face garden on a steep slope, with the expected rock and crevice work, bright with aethionemas and mertensias, studded with rarer treasures, with a fabulous collection of daphnes. Milan Halada also showed us his quarry garden – actually inside the quarry - using the spoil to create screes and raised beds; the scutellarias were particularly admired.

Stanislav Čepička and his brother Milan have developed two separate and quite distinct gardens using local limestone. Stanislav's garden sits high above his house on a steep south-facing hillside. He has carried tons and tons of limestone and tufa up hundreds of steps to create an amazing garden growing *Daphne, Convolvulus,* eriogonums, many cushions, and the yellow *Mertensia lutea* next to a blue relative, *Paracaryum racemosum.* Milan's garden is easier of access but also crammed full of limestone, beautifully laid out in dry valley style, growing beautiful *Edraianthus serpyllifolius,* arenarias, *Dianthus,* and a dainty soapwort, *Saponaria pulvinaris.*

The last day didn't disappoint either. With an intermission in Dvořák's house (he didn't have a rock garden!), we visited three more gardens. Jiří Sládek showed us a garden more typical of Scotland – rockwork, water and rhododendrons, with a collection of troughs to die for, in an area with wetter soils, and a plant of *Junellia azorelloides* in flower in the tufa bed in the alpine house, next to carefully sown pots of SRGC seed! Vladimír Staněk presented another huge limestone crevice garden, troughs, and a collection of seed-grown plants second to none - many from trips to the East with Joseph Jurasek.

The finale was perhaps the biggest rock garden of all: Milan Odvarka has created a huge garden next to his carp pond, using local sandstone and shales, some randomly placed in screes, some in block crevice style and some in rock walls, growing American alpines, even hardy cacti, eriogonums and the like, and with the largest and best flowered *Matthiola fruticulosa* anyone had ever seen. One last tour of the sales frame, and a bus to take us home, happy and full of ideas gleaned from what is, surely, the leading nation in true rock gardening. Four days of visits had shown us the best of Czechs' rock gardening, with their aesthetic and natural use of rock coupled with their love of growing alpine plants in true character.

*Carole and Ian Bainbridge*

# RHS JOINT ROCK GARDEN PLANT COMMITTEE

**Recommendations made at SRGC Shows in 2007**

**Dunblane – 17th February**
**Awards to Plants**
**Award of Merit** (as a hardy flowering plant for exhibition)
To *Narcissus* 'Betty Mae' exhibited by J Wyllie, Dunblane
**Certificate of Preliminary Commendation** (as a hardy flowering plant for exhibition)
To *Crocus tommasinianus* 'Lyn's Pink' exhibited by J Wyllie, Dunblane
**Recommendation for AGM assessment**
To *Galanthus* 'Brenda Troyle' exhibited by D Boyd, Powburn
**Awards to Exhibitors**
**Certificate of Cultural Commendation**
To C & I Bainbridge, Easter Howgate, for a pan of *Ranunculus calandrinioides*

**Blackpool – 17th March**
**Awards to plants**
**Award of Merit** (as hardy flowering plants for exhibition)
To *Saxifraga* 'Coolock Gem' exhibited by G Rollinson, Holmfirth
**Certificate of Preliminary Commendation** (as hardy flowering plants for exhibition)
To *Narcissus* 'Twin Stars' exhibited by J Wyllie, Dunblane
To *Iris willmottiana* x *bucharica* exhibited by J Almond, Shrewsbury
**Botanical Commendation**
To *Primula petelotii* exhibited by A J Richards & P Cunnington
**Awards to Exhibitors**
**Certificate of Cultural Commendation**
To G Rollinson, Holmfirth, for a pan of *Saxifraga* 'Coolock Gem'

**Edinburgh – 14th April**
**Awards to Plants**
**Award of Merit** (as hardy flowering plants for exhibition)
To *Primula maximowiczii* Red flowered group exhibited by S & D Rankin, Lasswade
To *Fritillaria acmopetala* 'Lamplight' exhibited by C Lafong, Glenrothes
To *Anemone* x *lipsiensis* 'Pallida' exhibited by S & D Rankin, Lasswade
**Certificate of Preliminary Commendation** (as hardy flowering plants for exhibition)
To *Jancaemonda vandedemii*, subject to cultivar epithet, exhibited by B & M Wilson, Cults

**Botanical Commendation**
To *Muscari macbeathianum* exhibited by the Regius Keeper , Royal Botanic Garden Edinburgh
**Awards to Exhibitors**
**Certificate of Cultural Commendation**
To A Newton, Ponteland, for a pan of *Haastia pulvinaris*

**Perth – 17th April**
**Awards to Plants**
**Certificate of Preliminary Commendation** (as a hardy flowering plant for exhibition)
To *Androsace villosa taurica* exhibited by A Newton, Ponteland
**Recommendation for AGM assessment**
To *Erythronium* 'Joanna' exhibited by D Boyd, Powburn
**Awards to Exhibitors**
**Certificate of Cultural Commendation**
To S Band, Pitcairngreen, for a pan of *Primula maximowiczii*

**Aberdeen – 19th May**
**Awards to Plants**
**Award of Merit** (as a hardy flowering plant for exhibition)
To *Zaluzianskya ovata* exhibited by C & I Bainbridge, Easter Howgate
**Certificate of Preliminary Commendation** (as hardy flowering plants for exhibition)
To *Penstemon absarokensis* exhibited by C Lafong, Glenrothes
To *Paris polyphylla yunnanensis alba* exhibited by S & D Rankin, Lasswade
To *Polemonium pulcherrimum* var. *pulcherrimum* exhibited by S & D Rankin, Lasswade
To *Primula cockburniana* Yellow, subject to cultivar epithet, exhibited by S & D Rankin, Lasswade
To x *Ramberlea* 'Inchgarth' exhibited by B & M Wilson, Cults
To *Allium falcifolium* exhibited by M Hopkins, Kemnay
**Botanical Commendation**
To *Ancylostemon humilis* exhibited by B & M Wilson, Cults

**Discussion Weekend – 6th October**
**Awards to Plants**
To *Rupicapnos africana gaetanus* exhibited by C & I Bainbridge, Easter Howgate
**Awards to Exhibitors**
**Certificate of Cultural Commendation**
To J Wyllie for a pan of *Cyclamen hederifolium*

50 - Brechin Castle

# The SRGC Snowdrop Walk

As part of the Scottish Rock Garden Club's 75th year celebrations we have organised a Snowdrop Walk at Brechin Castle at 11.30 a.m. on Sunday 17th February, the day after the Dunblane early bulb show. Tickets will be £25 per head, to include a superb lunch in the castle dining room - a wonderful opportunity to dine in a room full of interesting treasures. The castle will be open only for the SRGC.

Two digital presentations will be given: Sandy Leven will give an illustrated talk on *"Snowdrops"* followed by Ian Christie with a talk on *"Life after Snowdrops"*. Some pot-grown *Galanthus* will be on display, with a few selected bulbs for sale.

Brechin Castle is owned by Lord & Lady Dalhousie who will most likely welcome us on arrival - they are excellent hosts. The family can be traced back for many generations and it was, I believe, the 7th Earl who went to the Crimea during his time as Minister for War. Being a very avid gardener, he collected some snowdrops from the Crimea to bring home to Brechin: these multiplied and still survive in excellent colonies today. A few years ago I was given a tour around the estate by the head forester to admire the tree plantation and it was purely by chance that we came across the wonderful plantings of snowdrops. He introduced himself as Ian Christie - and he too has now become a dedicated galanthophile. Ian drove me on this first tour, stopping on request to admire the snowdrops which carpet the ground in large numbers. Imagine my surprise as I looked closer at one incredible colony of *Galanthus plicatus* alongside *Galanthus nivalis*. The *G. plicatus* are - I believe - descendants from the Crimean collection. I was really excited that several superb hybrids were evident: it was obvious that the two species had been up to mischief!

I have been observing the plants annually since my first visit and the Dalhousies have allowed me to remove some bulbs to bulk up for sale.

51 - Maulsden

52 - Maulsden and the River South

We intend to sell them as the 'Castle' Group and within it we will name some especially good forms.

The Snowdrop Event will start in Brechin Castle with the two presentations each lasting about half an hour. Lunch will then be served. After lunch we will depart for Auldbar Den where millions of *Galanthus nivalis* grow in a superb natural setting. Within the den and among the snowdrops stands the ruin of a small church that was built for the family who owned Auldbar many years ago. The whole story about this area is of great historic interest. We will then drive a few miles to Maulsden, another fine location, where we will see carpets of *Galanthus plicatus*, *Galanthus nivalis* and a wonderful mixture of singles, doubles & naturally occurring crosses between the two species. The magnificent setting amongst large mature beech trees on the banks of the River South Esk will add a special atmosphere to the day.

Time is important and we should be heading home before darkness falls at around 4 p.m. Remember that you will need good strong footwear and plenty of warm waterproof clothing for the day, which is being run exclusively for SRGC members.

Cheques should be crossed and made payable to SRGC at a cost of £25 per person and sent to Ian Christie, "Downfield", Main Road, Westmuir, Kirriemuir, Angus DD8 5LP. Any further details required may be had on 01575 572977.

*Ian Christie*

# West of Scotland Discussion Weekend

## 3-5 October 2008

Following on last year's very successful Discussion Weekend, the event will again take place in the Beardmore Hotel, Clydebank, adjacent to the River Clyde and north-west of Glasgow. The Beardmore is a spacious modern hotel with beautifully-appointed rooms & public areas and a high standard of cuisine. The hotel was built as a conference venue and lectures are in a comfortably-seated tiered auditorium. The leisure facilities, including a heated pool, are available for the use of delegates. It is easily accessed by road and rail (Dalmuir Station) and there is ample parking in its grounds.

Glasgow, Scotland's largest city, has many attractions for the visitor. These include an impressive architectural heritage and a lively social and cultural life. The newly refurbished Kelvingrove Museum and Kibble Palace glasshouse at the Botanical Garden are great attractions. The city centre, with the best shopping outside London, is 20 minutes away by train from nearby Dalmuir Station.

Accommodation is in double, twin or single rooms. There is no ground floor accommodation but there are lifts to all floors. It is very important to note that no smoking is allowed anywhere in the hotel or its grounds. If you wish to share a room please arrange this before booking and indicate the name of the person you wish to share with on the booking form, otherwise we will use our judgement. Extra nights of accommodation for Thursday 2nd and Sunday 5th are available at £40 per person sharing, £70 single. Please indicate on the booking form reverse if you need either. A booking form is included in the Secretary's Pages; please ensure that the form and remittance reach the Registration Secretary not later than 13th September 2008.

The Registration Secretary: Anne M Chambers, Suilven, Drumore Road, Killearn, Glasgow G63 9NX. If you require further information write to Anne at this address, e-mail annechambers730@btinternet.com, or telephone 01360 550537.

RESIDENT

| | |
|---|---|
| Friday dinner – Sunday afternoon tea, double occupancy | £187 |
| Friday dinner – Sunday afternoon tea, single occupancy | £210 |
| Saturday morning – Sunday afternoon | £135 |

NON-RESIDENT

| | |
|---|---|
| Saturday – morning coffee, lunch, afternoon tea | £45 |
| Saturday – morning coffee, lunch, afternoon tea, dinner | £71 |
| Saturday dinner | £26 |
| Sunday – morning coffee, lunch, afternoon tea | £45 |

Programme

Friday 3rd October

| | |
|---|---|
| 16.00 | Registration |
| 16.00-17.30 | Plant staging |
| 19.45 | President's Welcome Address |
| 20.00 | The Bulb Group Lecture<br>Brian Duncan – *"Narcissus – from species to modern hybrids"* |
| 21.30 | Small Bulb Exchange |

Saturday 4th October

| | |
|---|---|
| 08.00-09.00 | Plant staging |
| 08.30 | Registration |
| 09.00 | Optional activities |
| 11.30 | The William Buchanan Lecture<br>David Rankin – *"The Fourth River – Forrest's Legacy"* |
| 12.30 | Plant Show opens |
| 14.00 | George Sevastopulo – *"Burren: a stony place"* |
| 15.45 | The Harold Esslemont Lecture<br>Robert Rolfe – *"Notable Anniversaries: some significant plant introductions from the past 75 years"* |
| 19.00 | Dinner |
| 21.00 | Plant Auction |

Sunday 5th October

| | |
|---|---|
| 08.30 | Registration |
| 09.30 | Gerben Tjeerdsma – *"The Flora of the Kurds"* |
| 11.30 | Robert Rolfe – *"Encounters with the Mile High Club"* |
| 14.00 | The John Duff Lecture<br>Andrew Fraser – *"On Scotland's Hills"* |

# The Cover

Jiří Novák

53 - Not everything is saxifrages...

The cover on this issue highlights a small part of the Czech national *Saxifraga* collection. I am one of three Czech growers who all collect saxifrages (section *Porophyllum*). I became interested in saxifrages in 1972 and my first were from Mr Kotek in Pardubice. The collection I cultivate now owes to Dr Radvan Horný and my friends Mirko Webr & John Byam-Grounds; John was particularly helpful in supplying saxifrages and in describing the plants; their book "Porophyllum Saxifrages" was published in 1986. I had part of this collection from 1982 but Radvan eventually gave up on saxifrages and passed all his collection over to me.

The collection now has over 470 saxifrages. I have gradually expanded it to over 847 plants, some of botanical significance. For example there are *S. burseriana, S. marginata, S. scardica, S. sempervivum, S. pulvinaria, S. hypostoma* ... etc. With over 50 plants from Nature, there are many hybrids collected locally from the wild. At the beginning of the nineties, many growers started to cross saxifrages: wild with wild; wild with garden hybrids; and hybrid with hybrid. Many hybrids were cultivated but, because they were mostly for sale, they were not well described, although they certainly extended the collections.

In the last ten years my collection was much expanded by hybrids from Karel Lang. These plants are very interesting because they derive from controlled crosses and are well described. But keeping such an extensive collection is not easy! I succeed through the help of my friends.

You are all very welcome to visit my saxifrages!

54 - *Eritrichium nanum* at Pardubice

**Reference**

Horný, Radvan, Webr, Karel Mirko and Byam-Grounds, John, Porophyllum Saxifrages, with illustrations by Eva Zoulova. Stamford: Byam-Grounds Publications, 1986. 372 pp


55 - Ceramic mementos of Czech Shows

# The Best *Campanula?*

## Zdeněk Zvolánek

Before a campanula can be designated "Queen of the Genus" for rock gardens there are five aspects that must be considered. They cover aesthetic and practical matters:

- Size and colour of flower and flowering ability;
- Ability to withstand hot and dry periods, wet periods and severe frosts;
- Longevity in the garden and willingness to set viable seed;
- Non-invasive tendencies and small elegant shape;
- Resistance to attacks by slugs.

Candidates from the Caucasus do not tolerate really hot and dry conditions as is the case with true alpine bellflowers from the Alps. Both groups are delicacies and magnets for molluscs of all descriptions. The Balkan and American species cannot compete. Graham Nicholls has called *Campanula choruhensis* "one of the best campanula introductions in recent years" but, in my opinion, it is the best because it gets top marks under the above five aspects. Let me tell the story of its introduction.

In summer 1992 a small party of Czech rock gardeners (Jurasek, Pavelka and Halada) crossed that magic bellflower triangle in north-east Turkey (historically, Armenia). They travelled in an old Romanian Dacia car driven by a Czech dentist who also served as the cook. The poor car constantly overheated so they stopped to rest at the bottom of a steep hill. When they climbed out of the car, Milan Halada - observing the closest rock outcrops - saw an interesting white object. It was our campanula in its full oriental charm. No seed was available so they collected some living botanical samples (Milan, intelligently, pushed them into an empty can of Efes Pilsen beer). The following year another party (Czech-Canadian: Jurasek, Holubec, Zvoláněk and Joyce Carruthers) stopped at the same locality, north-east of Tortum. This lovely saxatile campanula was in seed and still showed some of its delicate white flowers. I was delighted too, to see some plants with red buds and pale rose-coloured flowers. The rock was volcanic - probably basalt - and most plants preferred an aspect out of the scorching Turkish sun, keeping themselves cool in crevices. However, some brave ones were sunbathing near the base of the rock. On our return, my seed was immediately posted to Panayoti Kelaidis in Colorado. Josef Jurasek and Vojtěch Holubec offered it in their catalogues that year.

This species is perennial, like *C. betulifolia;* why for forty years did Britons - Daddy Farrer and his followers – consider this latter as a biennial? *C. choruhensis* is a member of a first class club – Section *Symphyandriforme* - together with *C. troegerae, C. kirpicznikovii, C. seraglio* and *C. betulifolia*. They form nice compact tufts and are completely non-invasive. The main central part of this species is the crown of the root system based on a few strong rock-drilling roots. The crown must be hardened in dry heat so as to be pretty woody. As I write at the end of October, the crown is covered with a dozen tiny rosettes prepared for the spring rush. Leaves are not too variable, usually up to 5 cm but larger in good garden soil. They are hairy, cordate and serrate, but in full sun are greyish in appearance. The blade is firm ("like tin" as Jurasek puts it) and not juicy for slugs.

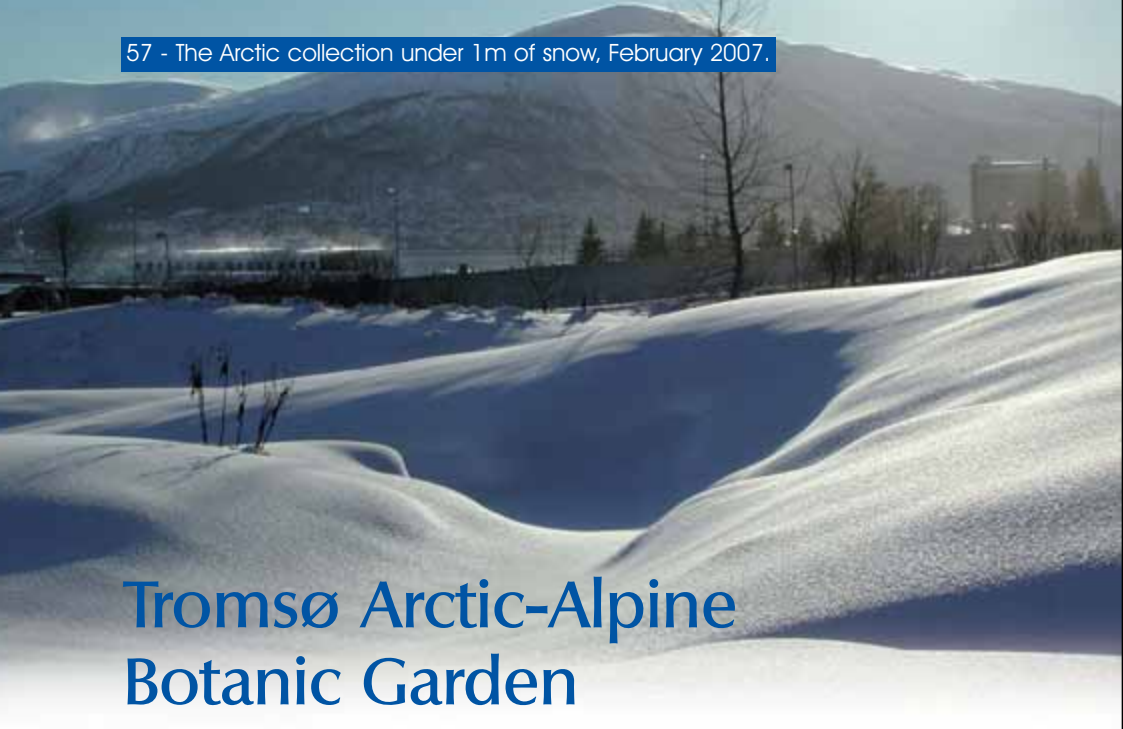
The great variability is in the size and shape of the flowers. The smallest flowers are 35 mm in diameter with more open bells while the medium ones are broadly tubular or campanulate, about 45 mm in diameter. All plants have rich clusters of flowers and in cooler weather bloom for four weeks. In a hot and dry April they flower for about two weeks. The biggest flowers open into saucers up to 65 mm in diameter. They are close in shape (with erect style - what a symbol of fertility!) to flowers of *Campanula troegerae*, which are practically flat. All have nicely coloured buds, sugar-rose to claret-red. The rose flowers are lovely but most impressive are the huge white flowers resembling the 'White Rings of Purity', symbols of the prairie Indians. These divine flowers speak to me in some transcendental way, pushing me to worship them in a kind of

secret cult. Frankly, this campanula – named after the river Çoruh in north-east Turkey – when in flower, reigns supreme over the inhabitants of my steep steppe crevice garden.

*Campanula choruhensis* grows to perfection in the crevice garden of Joyce Carruthers in Vancouver Island with dry summers and mild permanently wet winters. There it is happy in a partly shaded position, blooming throughout July. For cultivation in Irish conditions where you may get rain all year round, the best place would be in a raised sand-bed covered with creviced stonework. I grow them in local heavier (clayish) alkaline mineral soil, watering pricked-out seedlings only when they put out their first true leaves. Once they are established, I never water them. This species can stand full sun between my volcanic rocks (diabase) during a month of scorching days when you cannot keep your palm on the heated surface of the stone. This nice baking and no artificial watering keep dangerous fungi and slugs at bay. I usually have three plants planted in a social group: it helps to boost the mood of the individuals and encourages the setting of fertile seed. Seed is tiny (dust-like) and, when you have good amount of it, you can try to blow it from your open palm into a suitable site, as Harry Jans does with his alpines in Holland.

I like to tame wild alpines with help of the principle of adaptation of the individual to different biological conditions. In a few generations of seedlings you get a happy new society of choice campanulas colonizing your rock garden in their own way, usually seeding into offered crevices. But to have them all in the best proportions you must discard plants with smaller flowers and collect seed only from the strongest and most attractive mothers. I feel that *C. choruhensis* has exceptional inherited qualities and so is a very flexible species suitable for careful selection of the best performing individuals and breeding.

56 - *Campanula choruhensis*



57 - The Arctic collection under 1m of snow, February 2007.

# Tromsø Arctic-Alpine Botanic Garden

Arve Elvebakk

Tromsø is a city of about 63,000 inhabitants in North Norway. It is situated between mountains and fiords at 69° 41'N., well north of the Arctic Circle. However, the patterns of land and sea and the resulting sea currents dominate the latitudinal effect. At similar latitudes in Greenland a coastal meteorological station has a mean July temperature of 2.8°C and the landscape is barren tundra - almost a polar desert - due to a prevailing northerly sea current. In Tromsø, thanks to the Gulf Stream, the equivalent temperature is 11.9°C and the landscape is generally afforested by birch *(Betula pubescens)* up to altitudes of about 400m. Promoters of tourism increasingly label Tromsø as 'arctic', as opposed to "The Gateway to the Arctic", which was much used previously, but climate is much more important than light for biology, not to mention human activity. The combination of arctic light in the form of midnight sun over a landscape dominated by birch is actually the most exclusive aspect of northernmost Fennoscandia.

From Tromsø it is one hour's drive to the outermost coast and a little more than two hours to Finland. Proximity to the coast explains why winter temperatures are never very low: our absolute minimum record is as modest as -18.9°C. Precipitation is reasonably high: 1000 mm is the annual mean. For alpine gardening, our winter snow is a blessing and it is

encouraging to realize that our awfully long winter has advantages for some kind of activity other than winter sports. Winter normally lasts from late October to early May. Generally it is stable, but typically has a 1 to 3 week snow-free period after a lot of rain. Direct transition to frost without snowfall leads to ice sheet formation - a real challenge to alpine gardening. The best protection against such ice damage is having hilly rock garden landscapes with well-drained top dressing.

As our botanic garden is the northernmost in the world, it was natural to give it an arctic-alpine profile. As these plants mostly grow in rocky and gravelly surroundings, we try to simulate their habitat conditions by having the garden dominated by rock landscapes. In our garden these are mainly of three types. One has moderately convex hills with scattered boulders and good space for plants between them. The second is in

58 - The Porphyrion collection, with *Saxifraga* x *eudoxiana* 'Haagii', 110 cm across; *S. marginata* in the background.

59 - *Polemonium boreale,* with a restored old house

60 - *Dianthus superbus*

"Czech style" where flattened rocks arranged vertically with crevices simulate laminated rock outcrops; the largest in the Primulaceae collection was made by the Czechs David Holubec and Petr Hanzelka. The third type (in the Caucasus, Africa, Himalaya, Arctic and *Primula* collections) is composed of more densely and dramatically set rocks, including large boulders, most with a lichen and moss cover, to which we are lucky to have access. The nicest are the new Caucasus and Africa collections established in September 2007 and constructed by Bjørn Thon. We hope to continue this style into more of the Arctic and South-American collections in 2008.

I took over as leader of the garden following Finn Haugli, who retired almost two years ago. What I find most inspiring in alpine gardening in Tromsø is the number of local dedicated plantsmen. Finn Haugli is well known internationally; Bjørn Thon and Ivar Johnsen run very exciting alpine plant nurseries (our most important sources of plants as we do not yet have our own nursery). Ole Olsen has been an enthusiast for years and has presented cremanthodiums in this journal, while Dagfinn Brønnlund Nilsen is a local expert on rhododendrons and lilies. A bit further to the South is Magnar Aspaker, famous for his nice website (www.aspaker.no), and a bit south of Bodø are another two specialist nurseries run by Trond Steen and Stig Lundmo. It is striking that gardening, which used here to be strictly a woman's business, has been conquered by men in the case of alpine plant gardens. But then - the horse business has been taken over by girls and women!

We have six collections where our international ambitions are high and we give them priority in future developments. These are dealt with more thoroughly below: let us start in the North.

## The Arctic

We define the Arctic as areas north of the polar tree line, and we use a "draft" catalogue of arctic species accepted and discussed

61 - *Taraxacum arcticum*

thoroughly by the international collaborative Panarctic Flora Project (PAF); only a small part of the species have yet been dealt with on their homepage. We are not attempting to bring in as many species as possible; many are too aggressive here, either by seeds or by subterranean runners. But we believe our collection already has many plants not often seen in gardens.

*Polemonium boreale* is a striking arctic plant. We have plants both from Svalbard and from its only Scandinavian locality in northeasternmost Finnmark. *Dianthus superbus* also grows in this area and has been given liberty to cover totally one part of a slope. The Arctic Poppy *(Papaver lapponicum)* has a similar privilege, although actually too weedy, but our plants originate from one of only two Scandinavian populations. The predominantly white-flowered Svalbard poppy *(Papaver dahlianum* ssp. *polare),* on the other hand, is less aggressive. We also have a vigorous population of a rose-coloured form of *Papaver radicatum* from Iceland.

Among Svalbard plants my favourite is the white dandelion *Taraxacum arcticum.* It flowered three times in 2007 and finds Tromsø too hot but it has survived. *Cassiope tetragona* is our own emblem plant, but we also concentrate on the emblem plant of the SRGC - we have 8 species of *Dryas* at present, the most uncommon one the Siberian *Dryas grandis* with strange, nodding, white flowers.

*Ranunculus glacialis* is established at the bottom of a north-facing slope near a miniature pond but flowers quite early in June before the tourists arrive. However, the plant dominates the upper parts of our city mountain, 1236m high. Near our *Ranunculus* we grow common species (but not common garden plants) such as *Diapensia lapponica, Loiseleuria procumbens,* and *Harrimanella hypnoides,* along with the strange cushion-forming and evergreen West Arctic lily *Tofieldia coccinea,* with

inconspicuous flowers. *Ranunculus arcticus, R. sulphureus* and *Arnica angustifolia* are other arctic species in our collections.

## The Saxifrage collection

We have good collections among three sections and supply species from other sections as well. The Porphyrion saxifrages are very beautiful from late April and just on into June. I think practically all species and cultivars tried so far have fared well. We experience a few space problems because

63 - *Saxifraga longifolia* in the Silver Saxifrage collection

64 - *Saxifraga matta-florida* (included by some in *S. subsessiliflora*) from Himalaya & China

some specimens established in the early 1990s, when our garden was established, now measure 1m across. They show no winter damage and we really wonder how large they intend to become. *Saxifraga lowndesii* from Nepal is normally the first one to flower, a couple of days before *S. oppositifolia.* Several Himalayan species do well and small plants established from cuttings have now been assembled in a small Czech-style rock hill.

During mid-June the Mossy Saxifrage collection is at its nicest. It is dominated by cultivars in all colour transitions from red to white and attracts much attention. The late Peter Smith of the International Saxifrage Society visited us almost annually and brought numerous *Saxifraga* cuttings from the British National Collection - a contribution we appreciate very much.

During the last part of June the Silver Saxifrage collection is at its best. A BBC team spent quite some time there shooting for "Around the World in 80 Gardens", a most ambitious project, which is planned as a 10-program series in early 2008, with our garden as the last one.

We also include other sections. *Saxifraga cernua* & *S. sibirica* of section *Mesogyne* tend to be too weedy. *S. purpurascens* (in *Micranthes*) increases a lot, and our largest specimen now measures 55 cm across. *Saxifraga sakhalinensis* of the same section is an elegant species, with a very beautiful autumn colour to the leaves. Species of the section *Ciliatae* have strong potential in gardens with our type of climate and we try to introduce as many as possible of this very species-rich group centred in China (165 species in Flora of China!). *Saxifraga hirculus* ssp. *compactum* from Svalbard does very well, is attractive, self-seeds and appears different from plants originating from more southern sites. *Saxifraga flagellaris* is very easy, as opposed to its arctic cousin *S. platysepala.* At present we also grow *S. hirculoides, sublinearifolia, moorcroftiana,* an unnamed related species with long-ciliate leaves, and the cushion-forming *jacquemontiana.*

65 - *Primula* sp. aff. *pumila*

## The *Primula* collection

Tromsø is a good place to grow primulas originating from moist and cool situations, which most of them do. We try to establish as many species as possible and our ambition is to have a research collection. This involves a focus on plants from wild-collected seeds and on maintenance and vegetative propagation of the first generation of such

67 - *Primula macrophylla* ssp. *moorcroftiana*

the priority of this name - it is mostly known as *eximia*) is represented by more than 400 individuals and we also have a clearly deviating type from seeds collected in

68 - *Primula*: *P. macrophylla* complex, Ladakh, 5200 m (Navinder Singh)

plants. My favourite section is *Crystallophlomis.* They are also showy and we try to have quite a number of most species. The Amphi-Beringian *Primula pumila* (PAF argues

66 - *Primula* cf. *bhutanica*

Alaska. *Primula macrophylla* ssp. *moorcroftiana,* originating from high altitudes in western India, is so different from *P. macrophylla* that I believe it deserves specific status. The same is the case with a mauve-coloured form from 5500m in Ladakh whose

69 - *Primula denticulata*

70 - *Primula reptans*

71 - *Primula tanneri* ssp. *strumosa*

picture was taken by Navinder Singh in the same area at 5200m. Both differ from *macrophylla* in characters other than flower colour. We have an unidentified yellow-flowered species in this section and two or three small taxa similar to but different from *P. brevicula. Primula chionantha* ranks in my opinion among the "Top Ten" of alpines here but clones need cross-pollination from other clones to produce seeds, and plants are not often offered for sale.

The first primulas in spring are the sky-blue *Petiolares* species. There is one problematic taxon in Tromsø, referred to as *P. sonchifolia,* but much dwarfer and with tepal characters similar to *bhutanica.* We are now in search of confirmed material of *P. bhutanica. Primula tanneri* ssp. *strumosa* is a strongly-smelling species which also flowers early. Among difficult *Primula* species we should mention *P. reptans,* which has grown with us for a number of years. The Czech-style hill is planned as a future home for *Androsace* species, in particular. The picture of *P. denticulata* also shows the pond, which is situated below the Primulaceae collection.

## Himalaya

The blue poppy *Meconopsis* 'Lingholm' is probably our most attractive single species or cultivar. It is a common garden plant but we grow it tall and in large quantities together with other *Meconopsis* species. During the dry and warm summer of 2007 I

could see that it was much more poorly developed in an exposed garden site further to the South in Norway and we have heard of its declining performance elsewhere, so climate warming might really affect alpine gardening. We are struggling to establish the exclusive *M. delavayi,* although it has been well-grown for years in at least two private Tromsø gardens.

The genus *Cremanthodium* has species which are more intolerant of high temperatures and even in our garden the plants were smaller than usual this last, relatively warm, summer. Among species grown with us we mention *C. reniforme, rhodocephalum, ellisii* & *pleurocaule.* Finn Haugli

72 - *Meconopsis betonicifolia,* white form

73 - *Cremanthodium pleurocaule*

believes the latter does not grow in other gardens, although it is now on its way to Scotland. *Nomocharis* is another genus that does very well here.

## South America

It may come as a surprise that plants from such distant areas are a speciality with us, but it is fun to cultivate exotic plants and both Bjørn Thon and I have visited Chile on several occasions. Some coastal Chilean species are slow and need to reach a certain size to survive the first winter, and a widespread species such as *Calceolaria tenella* fails to grow here. On the other hand, surprisingly many species (e.g. *Ephedra frustillata* & *andina, Alstroemeria patagonica, Satureja darwinii*) from the Patagonian steppes - so dry during summer but cold in winter - tolerate our conditions if given very well-drained sites. Several *Oxalis* species are very easy, as well as *Olsynium biflorum, Perezia recurvata, Azorella trifurcata, A. fuegiana* and *Bolax gummifera. Lobelia oligocarpa* (= *Pratia longiflora*) and

74 - *Cremanthodium reniforme* & *rhodocephalum*

75 - *Nomocharis mairei*

76 - *Calandrinia rupestris*

*Leptinella scariosa* have become almost threatening. We have all the four species in the *Calandrinia rupestris* complex, according to the planned revision by John Watson, who is now very busy with the rosulate violas. All our calandrinias self-seed. We may also have a fifth species - orange but different from *C. 'skottsbergii'*. *Montiopsis acutisepala* is a related, beautiful white-flowered species. *M. umbellata* has the most beautiful flowers, but very small and they hardly ever open under our conditions.

The calceolarias were monographed a few years ago, both by C Ehrhart for Chile and in a volume of "Flora

77 - *Perezia recurvata*

78 - *Calceolaria* cf. *polyrhiza,* Torres del Paine, Chile

Patagonica" for Argentina. Still we cannot determine several plants in the *C. lanceolata/polyrhiza* complex. A plant originating from far to the South is rosette-forming, whereas very different plants with subterranean runners from a bit further to the North form very large colonies. We refer to the southern one as 'cf. *polyrhiza*' and those from the regions north and south of Coihaique in Chile as *'lanceolata* s.l.', but we cannot find literature separating the species according to this important characteristic.

## Old Garden Plants from North Norway

This is a collection that has been developed by my colleague Brynhild Mørkved over 10 years. She travelled extensively and from the gardens of our great grandmothers she has managed to introduce more than 600 accessions, many of them the very last remains of old garden populations. I find this collection extremely impressive: it is planted close

79 - *Auricula* cultivars from old north Norwegian gardens.

80 - *Ranunculus aconitifolius* 'Flore Pleno' (detail)

to a restored 160-year-old house and on the site of a former farmhouse of a woman, Hansine Hansen, who donated her farm land to the county for "teaching purposes" in 1938. Little did she know that three decades later her very land would house the University of Tromsø. Our Botanic Garden is organized as part of the University, and within the Tromsø University Museum. The collection of traditional plants bridges the gap between the two units (Natural History and Cultural History) of the Museum.

This collection features plants with a long history here, such as *Allium victorialis, Lilium monadelphum, L. bulbiferum* ssp. *croceum, Corydalis nobilis,* several *Filipendula* species and a variety of *Aconitum* plants. The 'Flore Pleno'

81 - *Lilium monadelphum*

82 - *Ranunculus aconitifolius* 'Flore Pleno'

83 - Three stages of *Delosperma basuticum*

form of *Ranunculus aconitifolius* has been particularly popular and was hardly missing from any garden in the old days. Now it is in demand but is rarely produced because of the lack of seeds. The *Auricula* collection with 140 different accessions is most impressive during spring. These plants come in absolutely all colours and each plant has its own history of where it has been propagated. Close to these plants there is also a herb collection which is popular with visitors and is much used in teaching.

84 - *Aciphylla spedenii* in the garden of Bjørn Thon

## Other Collections

Close to our "South America", are collections from New Zealand and Africa. Two *Delosperma* species are well established in the latter, along with *Felicia rosulata, Glumicalyx flanaganii* and *Diascia* cf. *anastrepta* 'Sani Pass'. This latter was originally collected by Panayoti Kelaidis and was first propagated here by Trond Steen. It seems to have been lost from American collections but is very stable here. We are eager to test more South African and Moroccan plants but we have one which is politically, if not exactly geographically, from Africa: *Acaena magellanica* from the subantarctic Marion Island belonging to South Africa. We have established more than 10 species of *Acaena* but

this plant, with its very elegant fan-shaped branches, is decidedly different from true *A. magellanica*. It still has not flowered here.

An increasing number of New Zealand species is becoming established. Among them are 8 or 9 *Aciphylla* species. Visitors are always amazed to learn that these extremely spiny and strange umbellifers have leaves adapted to serve as a defence against large flightless birds - including the Moa, which went extinct 500 years ago. There are also several interesting New Zealand *Ranunculus* species. *R. insignis* is present in three different forms, one very large with glabrous leaves, and two smaller ones; we would like to have expert opinions on this complex. *Ranunculus buchananii* has survived one winter well and we do hope it will start producing its large flowers this year.

Plants from the Caucasus do very well here; the climate just below 2000m there is quite similar to ours at sea level. Plants have recently been moved or are newly established and young but future visitors will enjoy beautiful species such as *Pulsatilla aurea, Verbascum atroviolaceum, Paeonia mlokosewitchii, Saxifraga dinnikii* and *Draba bryoides,* a very easy and extremely compact cushion plant.

85 - "Africa in Tromsø"


86 - Glumicalyx flanaganii


87 - *Swertia kingii*

88 - *Anemone trullifolia*

89 - *Lewisia rediviva*

90 - *Iris histroides* x *winogradowii* 'Katherine Hodgkin'

91 - *Rhododendron wardii*

The Alps collection features several *Campanula* species. The yellow and biannual *C. thyrsoides* is allowed to self-seed to a certain degree. *Pulsatilla* species are very beautiful in spring, particularly the more southeastern European *P. halleri.* Many well-known garden plants are found here and in the *Gentiana* collection. *Gentiana sino-ornata* and related species & cultivars flower in October – some years even in November, well after people have stopped visiting. We now also include other Gentianaceae genera and have a number of small plants of species of *Swertia,* but *S. kingii* has been here many years with its characteristic flowers, so attractive to insects. The small and strange *Halenia sibirica* produced yellow flowers with radiating spores for the first time this year but is still not established in our garden.

We have also launched a "Living Fossil" collection, centred around a most prosperous clone of *Equisetum hyemale,* together with *Huperzia, Lycopodium, Botrychium, bryophytes* and newly-established *Metasequoia* & Ginkgo. The Gingko may need special treatment here. The collection will be used to tell the story of early evolution of terrestrial plant life.

Near the pond is the Ranunculaceae collection, one of earliest ones. We would like to make up a collection of *Trollius* species, as they grow very easily here. *T. europaeus* is our county's emblem and is extremely common around Tromsø. However, names given to material we have received are often unreliable and that of garden origin can of course also be hybridogeneous. My favourite is a low-growing orange species that we tentatively call *Trollius pulcher,* but we have no reliable information about this accession. *Anemone trullifolia* is also very easy, self-seeds and is very showy.

From the North-American collection I should particularly mention *Lewisia rediviva.* It is a robust species here and does not require very specialized conditions, despite originating from very dry mountains. We culture about 10 species of *Lewisia,* and several *Penstemon* and *Phlox* species are easy. *Castilleja minima* is vigorous and may divorce from one partner and fraternize with a new one during the course of several years. In my opinion, *Douglasia laevigata* deserves a place among the "Top Ten" of alpine plants in Tromsø, but our plants are situated in the Primulaceae collection.

Among bulb plants, *Erythronium sibiricum, Fritillaria camschatcensis,* and several reticulate irises could be mentioned. We hope to build a dry wall habitat which will house bulbs requiring very dry conditions. More than 20 wild species of *Tulipa* grow outside permanently without protection, if given a steep south-facing and very well-drained habitat.

92 - *Cassiope* 'Randle Cooke'

In between collections and as a border against a nearby road, numerous small trees and bushes have been established. We are particularly fond of the many *Sorbus* species which grow here, particularly *cashmeriana* and *filipes. Cercidiphyllum magnificum* also does well here, contrary to all expectations.

About twenty years ago, Norwegian horticultural authorities claimed that gardeners in northernmost Norway should just "forget about rhododendrons". This statement provoked Finn, Dagfinn and Bjørn, making them even more determined to bring rhododendrons to Tromsø. The key factor proved to be selection of species: those species and their hybrids or cultivars were chosen that originated from altitudes higher than "normal" commercial material available in southern Scandinavia. A second factor was to apply a less acidic and organic soil than normally used for rhododendrons. This agrees with ecological conditions met along the altitudinal gradient in Asia. The Glendoick nursery in Scotland has been our primary source of exciting material and the collection now looks quite attractive to northerners like us, although gardeners from "rhododendron regions" are used to a larger selection, particularly of taller species or cultivars.

Among our specialities we mention *Rhododendron wardii,* represented by three different accessions, and several species of the section *Taliensia.* Among them, *R. adenogynum* has been flowering for many years and *R. rufum* flowered for the first time after 14 years in the garden in 2007. The collection also includes other ericaceous species such as *Kalmia microphylla* and *Phyllodoce nipponica;* and the *Cassiope fastigiata* hybrid 'Randle Cooke' has performed excellently through many years, although it is now in need of revitalization.

We are a botanic garden with a very small staff. When Martin Hajman, previously in charge of the rock garden in Prague's Pruhonice Park, was given a permanent gardener's position in 2007, this category of employees increased by 100 %! With our moist and cool climate we have a feeling that certain weed categories, such as bryophytes and *Equisetum,* are more aggressive here than further to the South. The war on weeds takes most of the attention of a very international summer team every year. We are still lagging behind in the production of permanent labels and our planned new series of written and web-based presentations has not yet started. However, the garden is a great place to work and from our guestbook we can read that visitors enjoy their time here. It is open all days in the year, entrance is free, and during two months of midnight sun you can study plants here 24 hours a day!

# Plant Names

**More help with plant names from HORTAX (www.hortax.org.uk)**

HORTAX, founded in March 1988, is an eminent group of taxonomists and horticulturists working to improve the standard and accuracy of cultivated plant names.

Following its very attractive and informative leaflet, *The Names of Garden Plants*, the Horticultural Taxonomy Group (HORTAX) has now produced a more detailed booklet simply called *Plant Names*, an accessible but in-depth look at how plant nomenclature works. Highly readable, this is an essential guide for students, plant-hunters, breeders and gardeners unravelling their catalogues and Plant Finders. Even if you know the difference between a subspecies and a hybrid, you're sure to learn something new. The examples are fascinating and give an insight into the difficulties presented in creating and regulating this international system.

Plant names are used almost daily by everybody, whether for wild plants, garden plants, or fruit and vegetables in markets and shops. Most people who use common names probably do so with few problems, though they can occasionally be puzzled or frustrated by plants that seem to have several common names: Cuckoo-pint or Lords and Ladies; Aubergine or Egg-plant; and Mock-orange or Syringa – this being particularly puzzling as it is also the scientific name of lilac (*Syringa vulgaris*). Conversely, there are many common names that apply to more than one plant, such as bluebell, laurel, hemlock and cedar. Those who use scientific names, referred to as botanical or Latin names, employ a strictly regulated and much more precise system, governed by two Codes of Nomenclature, whose primary aim is to provide a single "correct" name for every plant. These scientific names are unique & unambiguous labels for each plant and may be used all over the world. Such precision inevitably comes at a cost - the need to understand how scientific names are given and applied. The two Codes of Nomenclature, the *International Code of Botanical Nomenclature* (ICBN or "Botanical Code") and the *International Code of Nomenclature for Cultivated Plants* (ICNCP or "Cultivated Plant Code"), though very carefully drafted, are complex legalistic documents. It takes perseverance to become familiar with them. Having been involved in changing and adding to both codes, the members of HORTAX are aware of the need for an up-to-date concise

digest of the essentials of plant nomenclature. The result, this online booklet, is aimed at those who have more than a passing interest in plant names, particularly of plants in cultivation, and it will be useful to all professional and amateur horticulturists, students in various fields, foresters, plant breeders, conservationists and gardeners.

The booklet describes the Botanical Code that applies to wild plants and the Cultivated Plant Code that applies to plants in cultivation. The Botanical Code governs the names of plants in the wild and its rules also apply to cultivated plants as regards ranks such as family, genus, species and subspecies. The Cultivated Plant Code provides two extra categories - Group and Cultivar - to classify plants that are brought into or selected in cultivation. Recognition and documentation of this variation are often of considerable commercial importance in vegetable and ornamental crops. Because of commercial pressures and marketing needs, yet another suite of names has arisen: these commercial names, or trade designations, are not governed by either code, although the Cultivated Plant Code makes recommendations to avoid confusion between commercial names and those governed by the codes. Similarly, the codes are not concerned with the granting or registration of Plant Breeders' Rights or trademarks. As both codes are subject to change, it is very important to consult the most recent edition. Although the Botanical Code is available online, this is not yet the case for the Cultivated Plant Code. Neither of these Codes of Nomenclature has any legal standing.

There are myriad sources of information on plant names, and the members of HORTAX cast their net very widely when gathering information for this booklet. The most important sources were, not surprisingly, the Codes of Nomenclature themselves but much was also gleaned from *The RHS Plant Finder* (consultant editor Tony Lord), *Plant Names* (Peter Lumley & Roger Spencer), *An Introduction to Plant Taxonomy* (Charles Jeffrey), *Plant Taxonomy and Biosystematics* (Clive Stace), and the HORTAX group's own lecture notes and experience.

Anyone who wants a copy of *Plant Names* but lacks access to the internet may contact Dr Crinan Alexander, Royal Botanic Garden, Edinburgh EH3 5LR, 0131 248 2911.

# Wildflowers of the South-eastern United States

93 - The US South-East

## Bobby J Ward

Those unfamiliar with the south-eastern United States might believe that it contains unremarkable flora compared to other regions of the USA. However, there are numerous endemic plants here, some of which are rare, endangered, or uniquely localized. Although there are no true alpines in the South-East, there are many rock garden type plants and natives worthy of attention.

The American South-East is not a finite geographical designation. It is a region, generally considered to extend from Virginia southward to Florida, westward along the Gulf Coast states to eastern Texas, usually including Tennessee and Arkansas. It is frequently referred to as the South, the Southern States or - historically - Dixie. It has strong emotional ties, because these states seceded from the United States in the 1860s to form the Confederate States of America, resulting in the American Civil War.

The South-East has three distinct physiographic provinces: mountains, piedmont, and coastal plain. These shape the landscape and the flora. Discussion of the flora generally excludes peninsular Florida because this part of the state has a much warmer climate, rarely freezes for long, and contains subtropical vegetation. The South-East has mild winters and wet summers (1270 mm of rain per year), much of the rain coming from summer thunderstorms and tropics-spawned hurricanes. July and August receive the highest rainfall and November the lowest. Temperatures regularly rise to 36°C in summer and drop to winter lows of -10°C. During the summer, humidity is high and nights are warm (often 21°C). Except for the mountains, only a few inches of snow fall per year,

often in February and March. The weather is strongly influenced by the Gulf of Mexico and the Atlantic, especially when their moisture spawns violent hurricanes or, in winter, when cold fronts from Canada dip southward and collide with moisture-laden storms that briefly produce snow, sleet, or ice.

Many habitats in the South-East are continually threatened by agriculture, fragmentation, development and conversion - all directly related to human population growth. The original forests that early Europeans gazed on are long gone and have been replaced by urbanization, agriculture, second-growth forests and - in many areas - by monoculture tree plantations. The South-East is the largest producer of commercial timber in the United States, primarily Loblolly Pine *(Pinus taeda)* with its fast growth and its adaptability to a range of sites. Biodiversity is dwindling and many native plant species, particularly wildflowers, are being severely impacted. This account of native plants highlights both widely-distributed (some outside the South-East) and rare plants - some known only at a few locations, some afforded government protection. Other affected plant species lack protection, pending a formal inventory and development of habitat management plans by botanists and natural heritage personnel.

## Mountain Province

The mountains of the South-East are the southern arm of the ancient Appalachian chain, ranging from south-eastern Canada to central Alabama, about 1,500 miles. They are the oldest mountains in North America - once taller than the Rockies - and still wearing down. Within the chain are the Shenandoah Valley in Virginia and the Blue Ridge & Great Smoky Mountains in North Carolina. The South was not glaciated during the last Ice Age, which ended about 10000 years ago. However, many plants from Canada migrated southward along the mountain chain during the colder climate of that era. When the glaciers retreated and the climate warmed, some plants stayed, occupying north-facing slopes and coves at the upper elevations. As a result, plant species in the southern Appalachians may also be found in the American Northeast and southern Canada. The highest mountain in the Appalachians is Mount Mitchell in North Carolina, at 2037 metres the tallest point in eastern North America. In the South-East, almost a score of peaks top 1830 metres but the average height is about 900 metres.

94 - *Rhododendron calendulaceum*

An excellent place to view mountain flora is from the Blue Ridge Parkway in western (not West) Virginia and North Carolina. It connects

Shenandoah National Park in Virginia to the Great Smoky Mountains National Park in North Carolina and Tennessee, a distance of 469 miles.

Some of the best-known plants of the South-East's mountains are the rhododendrons (Ericaceae), about 25 species in all. *Rhododendron calendulaceum* (Flame Azalea) is a deciduous shrub that blooms with scarlet-orange to yellow flowers in May-June. This is the only native species of azalea in the South-East with a tetraploid complement of chromosomes, apparently a naturally occurring old hybrid derived from ancestors of *R. cumberlandense* and R. *prinophyllum.* A Philadelphia naturalist, William Bartram, travelled through the South-East in the 1770s on a botanical survey of the Carolinas, Georgia, and Florida. He wrote in his diary: "This is the most gay and brilliant flowering shrub yet known ... the clusters of the blossoms cover the shrubs in such interesting profusion on the hillsides, that suddenly opening to view from dark shades, we are alarmed with the apprehension of the hill being set on fire."

A rare rhododendron is *R. vaseyi,* a deciduous shrub found in only a few counties in western North Carolina's mountains. Known

95 - *Rhododendron vaseyi*

96 - *Anemone quinquefolia*

97 - *Spigelia marilandica*

as the Pinkshell Azalea, it occurs in bogs and moist slopes but is widely and easily cultivated outside its limited natural range. The flowers are bright-pink and funnel-shaped. There is at least one verge along the Blue Ridge Parkway where it may be seen close up.

*Anemone quinquefolia,* the mountain wood anemone (Ranunculaceae) is common in north-eastern USA, but reaches its southern limit high in the mountains of Georgia and North Carolina. It grows to about 20 cm and is found typically in rich moist forests and grassy balds. Producing a solitary flower in springtime, it has five petal-like white sepals.

98 - *Sedum nevii*

99 - *Trillium vaseyi*

One of the most under-utilized, garden-worthy mountain plants is *Spigelia marilandica* (Indian Pink), found in moist woodland areas from Texas to North Carolina. Indian pink (Loganiaceae) is an erect, clump-forming perennial that grows to about 60 cm. The tubular flowers, about 4 cm long, are scarlet on the outside and yellow-green inside the corolla tube. I rarely see it in gardens and learned recently that, if it is cut back after spring flowering, it will produce another flush of flowers before frost in early autumn. I grow it under high shade in dry tall oak woodland

100 - *Trillium erectum*

(*Quercus* species); thus, it seems to be adaptable to non-moist habitats.

An extremely rare plant is *Sedum nevii* or Nevius' Stonecrop (Crassulaceae), found in only a few mountain locations - usually on gneiss outcrops along river bluffs. *Sedum nevii* is a low sedum that forms grey-green evergreen mats with slightly ascendant stems of rosettes of small linear leaves. The stonecrop produces small white flowers on short pedicels in early summer. It is closely related to *Sedum glaucophyllum,* which has a greater range, extending into the piedmont. The two are confused, even by botanists, who are still sorting out the taxonomy.

*Trillium vaseyi* or Vasey's Trillium is named after George Vasey, the first director of the US Department of Agriculture and first curator of the Smithsonian Institution's herbarium. It has the largest flowers of the trillium species (Trilliaceae), at 10 cm diameter. They hang beneath the leaves and are dark maroon-purple, although some populations are white. This uncommon plant, attaining a height of 90 cm, is found only in four states in the Southern Appalachians. It is closely related to the ill-scented Stinking Dog Trillium, *T. erectum,* found from the North-East and southward to the southern mountains.

## Piedmont Province

The piedmont lies to the East and South of the Appalachians. Its name, from the Italian, means "foot of the mountain" or "foothill". The province consists of rolling hills, top soils of iron-stained red clay, and large fast-moving rivers. This hilly region comprises the eroded remnants of ancient mountains and the last geological event that split Pangaea, separating Africa from North America. The average height of the piedmont is about 210 metres and there is underlying hard rock near the surface. Of our three provinces, the piedmont is the most developed, with large population centres, many having evolved around the development of hydroelectric power at the beginning of the twentieth century.

Scattered throughout the piedmont are open expanses with shallow soils above bedrock - not enough soil to support mature trees. These are termed remnant prairie habitat and vary from a few acres to perhaps 100 acres. These areas are reminiscent of the prairies of the Great Plains of the American Midwest and, like them, contain a mixture of grasses and aster family species.

101 - *Helianthus schweinitzii*

A denizen of piedmont prairies is *Helianthus schweinitzii* or

102 - *Echinacea laevigata*

Schweinitz's Sunflower (Asteraceae), found in only a few counties in the piedmont in North and South Carolina. It grows to about 2.6 metres - hardly a rock garden plant - and flowers from late August until first frost, usually by late October. It grows in prairies along woodland edges and dry roadsides, often among poor and scrubby forms of Post Oak and Blackjack Oak. Some of the largest populations grow under power lines, where ground is periodically mown to prevent encroachment of woody vegetation that might cause electrical arcing and power outages. Schweinitz's Sunflower is classified as "endangered" by the US Department of Fish & Wildlife Service.

Another endangered species is the Smooth Coneflower *(Echinacea laevigata),* which has also found refuge under power lines. It is extremely rare and is known from only four states. This species (Asteraceae) is found typically in open woodlands on calcareous rock such as limestone. The ray petals produced in early summer are pink to pale purple and they

103 - *Clematis ochroleuca*

104 - *Solidago plumosa*

105 - *Trillium pusillum* var. *pusillum*

droop strongly. Occasionally, near-white and creamy flowers are found. The largest population of several thousand is under a transmission power line: when I first visited this particular site, the horizon was pink with the glow of smooth coneflowers.

*Clematis ochroleuca* or Curlyhead Clematis (Ranunculaceae) is uncommon. It is a non-vining bush clematis found from Virginia to Georgia, with a disjunct population in New York. It grows in dry open woodlands and woodland borders, generally over mafic and other calcium-rich rock. Curlyhead reaches a height of 60 cm and blooms in late spring with cream-coloured, urn-shaped flowers. It is available commercially from several sources.

106 - Longleaf Pine before burning

Goldenrods (Asteraceae) are common in the South-East, particularly along roadsides, fields and open abandoned areas. A rare species is the Yadkin River Goldenrod *(Solidago plumosa),* known only from a type locality in the Yadkin River of central North Carolina, where most of the wild population was lost during construction of hydroelectric dams and inundation of its habitat. A robust plant growing to about 75 cm, it blooms in early autumn in a loose panicle of yellow flowers.

The smallest trillium in the South-East is *Trillium pusillum* (Trilliaceae), *"pusillum"* signifying "least or dwarf". The flower, white but aging to pale pink, is about 2.5 cm across. It is found in scattered locations from east Texas north-eastward to Virginia. There are several varieties; one form - var. *pusillum* - in North Carolina occurs in seasonally flooded forests at the

107 - Longleaf Pine after burning

108 - *Baptisia arachnifera*

edge of the lower piedmont and upper coastal plain. It grows in fist-sized hummocks in deciduous forests a few inches above the water line. When the tree canopy closes over and the water recedes, the plant goes dormant till the following March.

## Coastal Plain Province

The coastal plain is the widest of the provinces. It has a near-flat topography, deep sandy soils, swamps & river bottomlands, open savannas, bogs, and slow-moving, wide rivers to the Atlantic or Gulf of Mexico. Historically, it has been an agricultural area, dominated by peanuts, cotton, corn, soybeans, tobacco and the raising of beef cattle & hogs. The elevation varies from sea level to about 90 metres.

109 - *Herbertia lahue*

When the Spanish arrived in the early 1500s, large stands of Longleaf Pine *(Pinus palustris)* covered 150 million square miles of the plain from the James River in south-east Virginia to northern Florida and westward to south-east Texas. The species grows about 30 metres tall. The forests had developed since the last Ice Age and were probably only 5000 years old. Heavy deforestation provided resin, turpentine and timber for European navies. Now, less than 2% of the Longleaf Pine forest remains - a decline of 98%.

Longleaf pines are resistant to fire. Periodic natural wildfires from lightning don't harm them but kill other species, resulting in areas of open grassy savannas. It is estimated that, in the past, thousands of acres would burn every three to seven years, sometimes for weeks or months until heavy rains stopped the advance. Many native wild flowers

110 - *Lilium pyrophilum,* under power lines

evolved in the fire-regime areas and became fire-dependent for germination and removal of competitors. As wildfires came under control in the early twentieth century, many species declined and a few adaptable ones retreated to power-line rights of way, where regular mowing and maintenance remove shrubby competitors, mimicking the openness produced by wildfires.

The Woolly Wild Indigo, *Baptisia arachnifera* (Fabaceae), is a rare plant found in sandy soils in only two counties in Georgia. It has grey eucalyptus-like leaves with cobweb markings and grows to about 45 cm. The plant emerges late after other baptisias and produces small yellow flowers in leaf axils. The native wild population is classified as "endangered." However, it is traded legally and commercially by growers who, because of the federal Endangered Species Act, are not allowed to ship it across state lines.

The coastal savannas of Louisiana, Alabama and Texas provide habitat for Herbert's Iris, *Herbertia lahue* (pronounced "law-way"), a

111 - *Lilium catesbaei*

112 - *Lilium pyrophilum*

diminutive member of the Iridaceae. There are disjunct populations in Argentina, Brazil and Uruguay, which are probably the sources of the population in the South-East, whose bulbs were perhaps carried in by Spanish missionaries. Herbert's Iris grows about 12 cm tall and produces flowers almost 8 cm across. The petals are lavender-blue but you have to see them early in the morning because they wither soon after the morning sun strikes them. *Herbertia lahue* is easily propagated by seed and is frequently available in rock garden seed exchanges.

The South-East's coastal plain is home to several species of lily (Liliaceae). The Pinewoods Lily, *Lilium catesbaei,* is an uncommon plant usually found along the edge of open wet woods or savannas. It has single upright orange-red flowers, perhaps the largest of any North-American lily. It blooms in mid- to late-summer on slender stems no more than knee-high. The specific epithet honours Mark Catesby, who first published an account of the flora and fauna of the southern British colonies, based on his travels in the South-East after 1710.

The Sandhills Bog Lily, *Lilium pyrophilum,* is a recently identified species (2002); extremely rare, it occurs in a few counties of the upper coastal plain of North and South Carolina. It occurs in sunny *Sphagnum* seepage bogs at streamheads. The Bog Lily is a Turk's-cap type that grows to 1.5 metres. The specific epithet *"pyrophilum"* means "fire loving", as it evolved in areas swept historically by natural fires. The inflorescence may contain up to six red-orange or, occasionally, yellow pendent flowers. The species is closely related to *L. superbum,* as which it had earlier been

113 - *Hexastylis speciosa*

improperly identified. The largest populations are found under cleared power lines and on a nearby military base which burns the site, usually in late winter to early spring, for this fire-dependent lily. In my pre-retirement job as a power company's environmental scientist, on one site visit I

114 - *Zephyranthes atamasca*

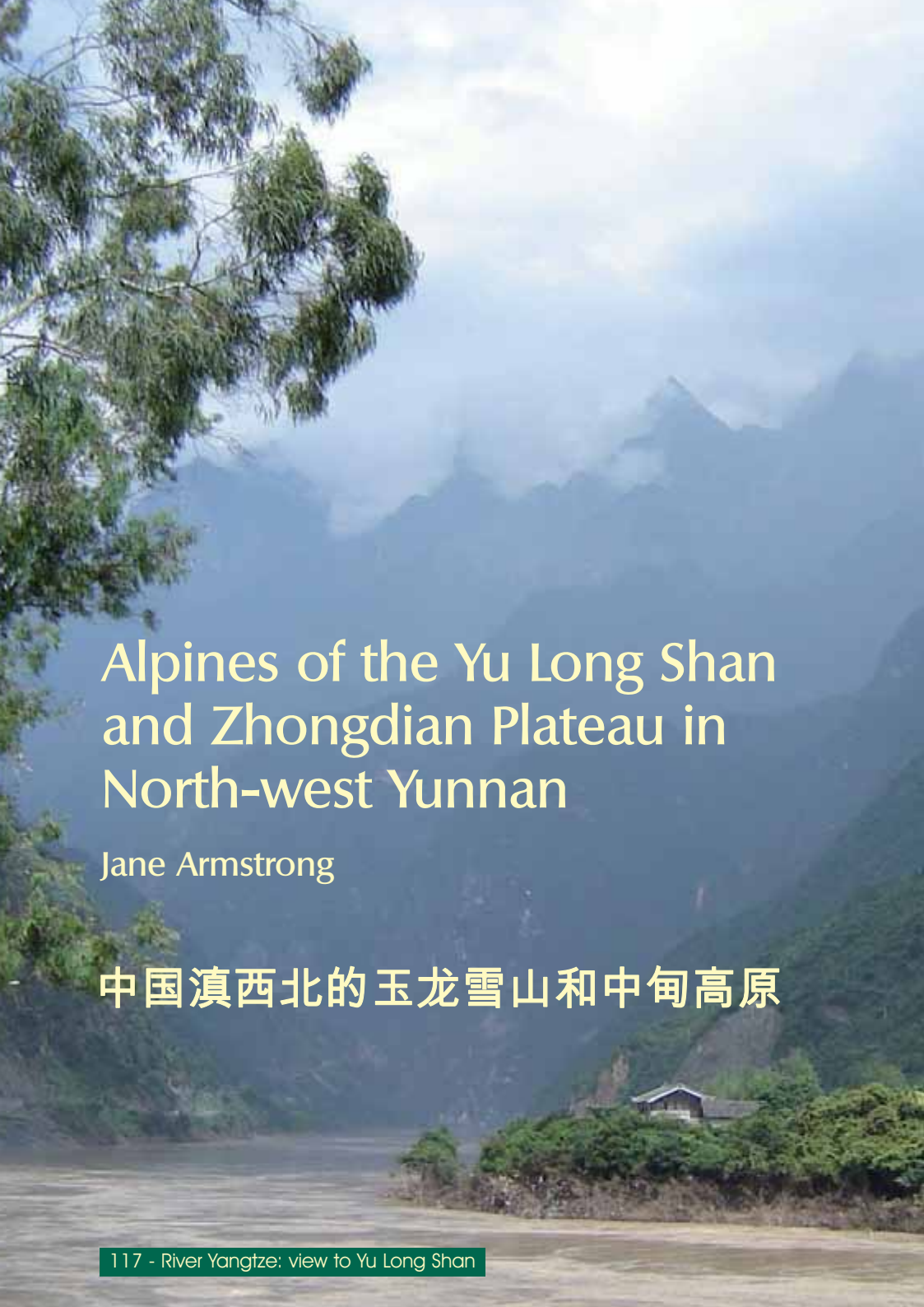
counted 52 flowers. The lily has no protection status at the time of writing and it is in commercial production. However, it may not adapt easily to the garden because of its restrictive habitat requirements.

115 - *Zephyranthes atamasca,* runway end

One of my favourite natives is the Atamasco Lily, which Englishman John Parkinson, in his great herbal published in 1629, called the "Virginia Daffodil." *Zephyranthes atamasca* (Amaryllidaceae) is native to the coastal plain from southern Virginia to Louisiana. The genus name means "flower of the West Wind" and is the New World equivalent of the Old World genus *Narcissus.* The specific epithet, *atamasca,* is derived from the Algonquian Native American name. Of all the rain lilies in North America, this has the most north-easterly range. The flowers, produced in late March, are pure white, upright, funnel shaped and 12 cm wide. Sometimes called the Wild Easter Lily, it inhabits wet meadows, bottomland edges and roadsides; it goes dormant by early summer. The largest population that I know is at the end of a rural airport runway in eastern North Carolina, where thousands may be viewed each spring sitting atop their 25 cm scapes.

*Hexastylis speciosa* (or *Asarum speciosum*) is Harper's Heartleaf or Harper's Wild Ginger (Aristolochiaceae). It is endemic to a small area in central Alabama, north of Montgomery, where it grows in shady locations. The Heartleaf has evergreen leaves. Its flowers, at least 4 cm across, are produced in April-May. One selection in the trade is called 'Buxom Beauty.' Some botanists no longer recognize the genus *Hexastylis* and have subsumed it into *Asarum.* Southern botanists tend to make a distinction between the two genera, reserving *Hexastylis* for gingers with glabrous, evergreen leaves that are not paired, and *Asarum* for gingers that have pubescent, deciduous and paired leaves. By these criteria, there are ten species of *Hexastylis* in the South-East.

116 - *Hexastylis speciosa* at close quarters



# Alpines of the Yu Long Shan and Zhongdian Plateau in North-west Yunnan

Jane Armstrong

# 中国滇西北的玉龙雪山和中甸高原

117 - River Yangtze: view to Yu Long Shan

Do you ever wonder what happens to the SRGC Exploration Funds? In 2005, an opportunity arose for me to participate in a three week expedition by the University of Edinburgh and the Kunming Institute of Botany (KIB) to north-west Yunnan. Their aim was to study rhododendrons. Professor David Rankin and Maria Kaisheva were to investigate rhododendron growth on limestone, while Professor Zhang Changqin (**张长勤**) and her Chinese students were looking at fungal associations. This would inevitably take them into alpine areas where I could study the growing conditions of the plants, some of which I was then cultivating at Kevock Garden Plants - a nursery specialising in unusual alpines.

My aim was to study the alpines in relation to the soil, climate, aspect and associated flora. In particular, I wanted to focus on ten key genera: *Arisaema; Codonopsis; Cyananthus; Daphne; Gentiana; Meconopsis; Pedicularis; Primula; Rhododendron;* and *Saxifraga.* I also wanted to understand how a local nursery, Yunnan Gesang Flower Company (Gesang), grew its alpines.

These objectives provided a focus for my participation and helped me secure funding from the SRGC Exploration Fund. As plant hunting is expensive, I secured additional funding from the Merlin Trust, a Blaxall Valentine Bursary and a Mary Helliar Travel Scholarship. In return, I agreed to share my findings

in a report, which forms the basis of this article. The illustrated report with plant list is held by the Exploration Committee.

## So why north-west Yunnan?

Yunnan is a huge and geographically diverse province ranging from the eastern fringes of the Tibetan Plateau to semi-tropical rainforests on the Vietnamese border. In European terms, it lies south of Cairo and is over one and a half times the size of the UK! The north-west corner is dominated by the massive Hengduan mountain range, dissected North-South by the upper reaches of three mighty rivers: the Salween, the Mekong and the Yangtze.

These rivers cut deep gorges, such as the famous Tiger Leaping Gorge, where the river may only lie at 1500m but the neighbouring snow capped peaks can exceed 6000m (Ben Nevis is only 1,343m). This great vertical difference enables the locals to claim that, within 5 km, their mountains are divided into four seasons under different skies. The prevailing westerly wind brings the warm wet monsoon from the Bay of Bengal through Burma. The moisture-laden clouds are forced to shed rain to pass over the mountains and therefore it is always wetter on the western slopes, with rain shadows on the eastern slopes. This is particularly true east of the highest peaks near Diqin, where the valley bottoms are hot and dry with a Mediterranean feel. Further south, the mountains are lower and fewer, the rain shadow is less and the humidity rises, enabling bananas to grow happily by the Yangtze.

118 - *Gentiana atuntsiensis*

The double bend in the Yangtze separates the glacial peaks of the Yu Long Shan from the rest of the Hengduan range and, being predominantly limestone, it is geologically different. This combination of geographical factors has led to evolution of a hugely diverse flora. David Paterson of the Royal Botanic Garden Edinburgh (RBGE) believes that of the 3000 species on the Yu Long Shan about 25% are endemic - a staggering figure given that Scotland only has 800 indigenous flowering plants! So you can see why this corner of Yunnan is so exciting for botanists, conservationists, horticulturalists and – of course – alpine enthusiasts...

## Lijiang

Our first destination was Lijiang, where we based ourselves at the headquarters of Lijiang Alpine Research Institute (LARI). It took us about 24 hours to fly directly from Edinburgh, in sharp contrast to early plant hunters such as George Forrest who, on his first expedition in 1904, took nearly three months to reach Yunnan using ship, rail, paddle steamer and mules.

In 1996 a huge earthquake destroyed much of the "old" city; reconstruction was spurred on by its designation as a World Heritage Site. It is now a mass of little tourist kiosks and cafes, fuelled by the deluge of tourists eager to spend the new wealth of China's booming economy. The old market squares are filled with locals in modern versions of their traditional clothes, performing dances for and with the visitors. The adjacent modern city is a rapidly expanding grid of tree-lined boulevards, grand offices, shops and hotels. A statue of Chairman Mao stands somewhat lost amongst such vibrant capitalism.

On our first evening we were taken for a delicious meal by our hosts from the LARI. A plate full of *Lilium davidii* served with pork stuffing was not quite how I had imagined meeting my first native plant. In the UK it retails at about £4 for a single bulb!

## The Yu Long Shan

Early the following morning we crossed the Lijiang Plain to the Jade Water Village at 2650m at the foot of the Yu Long Shan. After leaving the vehicles we soon disappeared into *Pinus armandii* forests – we even found a seedling germinated in its cone – the peanut-like seeds are another local delicacy.

119 - *Lilium davidii*

120 - Wenghai lake

121 - Among *Rhododendron roxieanum*

Progress along a steep and twisty path was slow and we soon became breathless. We were very grateful that our luggage was taken to the Lijiang Field Station by pony. The station is part of a joint project between the RBGE, KIB and LARI. An ideal centre for the Yu Long Shan, it is linked to a new Botanic Garden under construction at Jade Water Village.

Once on the Yu Long Shan we spent three days experiencing the vertical change in vegetation: from low open plains up through temperate woodland to the alpines on rocky outcrops; and onto open moorland covered in heather-like dwarf rhododendron. We completed a circuit around one of the lesser peaks at about 3400m which clearly demonstrated how vegetation changed with aspect. As we went west the lichen-covered conifers such as *Abies forrestii* and *Picea likiangensis* became more dominant, with evergreen oaks and rhododendron, particularly *Rhododendron rubiginosum.* The verdant undergrowth included *Smilacina, Arisaema, Panax* and *Paris.* The eastern slopes were drier with fewer conifers, more deciduous shrubs such as *Viburnum* & *Philadelphus* and larger patches of alpine meadow.

During the day we walked and looked at plants. David and Maria studied plant material and soil to help them analyse the chemistry of the rhododendrons and neighbouring plants. Field notes were written up in the evening by candle-light! The Chinese students also kept field notes and collected herbarium material. I knew they were studying fungal associations of the rhododendrons but was amazed at the wide variety and size of the fungi and even more amazed when I discovered they were also our supper. Unsurprisingly, the Edinburgh contingent had a disrupted night's sleep.

It was exciting to spot plants which I knew but it was also confusing to see them in their native habitat, even those I had cultivated at Kevock. When confronted with such variety of

122 - Clockwise from top: David Rankin: *Gentiana crassicaulis, Rhododendron hippophaeoides,* Field notes

plant life and habitats, it was difficult only to focus on the ten genera I intended to study. I also enjoyed discussing botany with the Chinese students and Maria – she, having trained in chemistry rather than botany, was keen to learn more about the physical structure of plants.

## Identification

Identification was not always easy and sometimes there were debates about naming. As a group we relied on Zhang for identification. She was very familiar with the area and knew botanical, Chinese and local names for the majority of the plants. The Chinese students were familiar with many Chinese names but often shy about using botanical names.

The dark form of *Allium wallichii* was pretty straightforward. The *Aconitum* was unmistakable ... but which species? I later discovered that *A. hemsleyanum* is the only climbing species recorded in Yunnan. The *Gentianopsis* was identifiable as a

123 - *Aconitum hemsleyanum*

124 - *Gentianopsis lutea*

gentian relative but was only properly identified later by Eona Aitken, the RBGE *Gentiana* expert, who was excited to see a photo, as it is not represented in the herbarium. There were several different oaks, both deciduous and dwarf evergreen – I am still not sure of the exact species but, surely, dwarf oaks should be more widely grown in our own rock gardens?

## The importance of conservation

The uniqueness of Yu Long Shan has been recognised by the Chinese government and much of it is protected as a National Reserve. However, the alpines are still threatened. Most plants are vulnerable to over-grazing; only a few, like the semi-parasitic *Pedicularis* are poisonous and therefore able to colonize more freely. Tourism provides cash for isolated rural communities in the area through little cafes, pony treks and the like but also brings litter and erosion.

We met a man collecting *Saussurea,* the 'Snow Lotus', a valuable medicinal plant which is becoming rarer through over-harvesting. David Paterson believes some species of this genus may be down to only 100 plants on the Yu Long Shan. Instead, RBGE encourages local people to

125 - *Allium wallichii,* dark purple

126 - *Saussurea gossipiphora*

127 - Old and new riverbeds 128 - *Primula pulchella,* limestone silt

grow medicinal plants in addition to their traditional crops in return for its support for the nature reserve and the new botanic garden.

## Gang Ho Ba

At the base of one of the eastern slopes of Yu Long Shan is Gang Ho Ba. Here, the valley floor is white from the limestone silt washed down by glacial melt and caught behind the terminal moraine as the water disappears underground. Sections of the valley floor have eroded to reveal alternate layers of silt and gravel. The greyish-white surface silt has a pH of 8.4 – the limiest soil possible!

*Primula pulchella* grew happily amongst meadow species of *Aster, Adenophora, Cynoglossom, Sangusorba* and reddening *Euphorbia.* There were carpets of *Halenia elliptica,* a wonderful biennial with aquilegia-like spurs. During the trip we saw many versions ranging from dark-blue to turquoise, white and even pink. Walking up the valley we were soaked by a couple of sudden downpours and the men (why only the men?) were bitten by leeches. Luckily, salt removed them easily. Further up the valley at 3260m we found *Rhododendron telmateium, Daphne aurantiaca* var.

129 - *Androsace bulleyana* 130 - Orchid *Habenaria* cf. *limprichtii*
131 - *Pedicularis longiflora* var. *tubiformis*

132 - Terminal moraine

*calcicola, Gentiana szechenyi* and a saxifrage, growing close together in pH 7.1 on the edges of the old riverbed.

## Tiger Leaping Gorge

From the Yu Long Shan area we moved north towards the Zhongdian Plateau. We stopped at a small roadside café for lunch. It took only 15 minutes for a black chicken which was running around to reach the table! Maria was horrified and spent the rest of the meal worrying about bird flu. After lunch we made a short detour to see the famous Tiger Leaping Gorge. It was breathtaking! Its name is based on a local legend of a tiger that leapt its narrowest point to flee hunters. Even the mob of hawkers and tourist stalls did not detract from the drama of the sheer rock faces and the pounding river, swollen by recent rain. Maria was

133 - Tibetan gateway

134 - Students at the first Yangzte bend

mesmerized and soon forgot the poor chicken. Zhang was particularly motherly because careless tourists are regularly washed away. The steep descent demonstrated the fascination of changing ecological zones. As the altitude drops, temperature and humidity (also from the spray) rise and plants such as tender *Incarvillea arguta* colonize freely.

## Zhongdian Plateau

From the gorge we continued north to the Zhongdian Plateau, where colourful Tibetan architecture reflects the brightly-coloured flowers: yellow *Pedicularis longiflora* var. *tubiformis;* red *Androsace bulleyana;* and blue *Gentiana atuntsiensis.* However, the houses were often surrounded by *Cosmos bipinnatus* - from Mexico! Zhongdian has an old city of meandering alleys and squares, rather dwarfed by the wide boulevards of the new town and the expanding suburbs. The name refers to its position as the "middle plain" on the historic route from central China to the Tibetan Plateau. In 2001, it was re-branded as "Shangri-La County" to promote tourism and attract the disposable income of the new Chinese wealthy.

## Shika Shan

Our first trip was to Shika Shan, a mountain to the West of the city, where a chairlift was being constructed from a new temple - cum - souvenir shopping centre to the Tibetan prayer flags on the summit. Up the narrow

135 - *Delphinium,* dwarf

136 - *Gentiana hexaphylla*

137 - Annual *Gentiana* sp.

valley the path became more like a stream. The dampness obviously suited the primulas and we found several, including *Primula sonchifolia, P. polyneura, P. sikkimensis* and *P. sinopurpurea.* Sadly, none was in flower and I consoled myself by eating wild strawberries.

David was keen to get to the rocky summit but a misunderstanding between the guides meant we became stuck in the valley. We tried to get up the steep side but progress was virtually impossible because of the density of rhododendrons and fallen trunks. However, it was a good insight into what the early plant explorers must have endured and we encountered at least 14 different species of *Rhododendron,* primarily *R. roxieanum* and *R. oreotrephes.*

Having given up on that mountain, the party split. One group returned to the vehicles while mine went up the easier slope on the other side. East-facing, it was more open with grassy areas between the rocky outcrops covered with *Paraquilegia* and *Codonopsis.* The top of the ridge was covered in *Rhododendron* heath including *R. impeditum,* one of the few that we saw in flower on the whole trip.

## Hong Shan

Next day we set off for Hong Shan, to the East of Zhongdian. On a previous trip here, David had helped identify a primula as a new species; it was

subsequently named after the mountain it was found on. He was excited to see it again, though not in flower. I was excited at a tiny blue flower – less than 1 cm across. I wondered if it too was a new species ... but searches in the RBGE herbarium revealed it to be *Cyananthus hookeri.* George Forrest's herbarium sheet even had little sketches that matched my photos exactly, albeit from a different part of Yunnan as he and other plant hunters of the early 20th century did not explore the Hong Shan.

After the communists took control, foreigners were banned from here until 1996, perhaps because of huge iron (Fe) ore reserves, increasingly vital for steel production. "Hong Shan" means "Red Mountain" but our guides referred to it as "Fe" mountain. Although, unfortunately, the vast mountain is being eaten away, dramatic road improvements have increased accessibility for botanists.

We parked near the summit at 4230m and explored the surprisingly grey and rocky limestone area below. Within a couple of metres, we were delighted to find *Primula brevicula, P. bella* and *P. amethystina* growing on a mossy bank amongst unidentified species of *Codonopsis* and *Cyananthus. Maria* spotted leaves of *Rheum delavayi* from the scree above. She regards it as a useful indicator of high concentrations of lime. There

138 - *Cyananthus hookeri*

139 - *Delphinium tsarongense*

140 - *Corydalis calcicola*

141 - Prayer wheels and the Kawa Karpo mountains

were also various *horridula*-type *Meconopsis* and a more easily identifiable *M. pseudointegrifolia* – with its distinctive three parallel veins. Just around the corner on the west-facing, and therefore wetter, side of the summit, the vegetation was completely different - with dense covering of *Rhododendron balfourianum* and *R. roxieanum.*

## Bai Ma Shan – east of the pass

Our next jaunt investigated north of Zhongdian, particularly a mountain range called Bai Ma Shan on the Mekong-Yangtze divide. As the journey was long, we decided to go further north to Diqin after the first day and to have a second day on the mountain on our way back. Here the mountains are higher and more numerous, creating a greater rain shadow to the East: the vegetation had a much more Mediterranean feel, such as at the first Yangtse bend. We finally left the vehicles at 4235m beside a mass of Tibetan prayer flags marking the pass, from which the road dropped to Diqin. The west-facing slopes of Bai Ma Shan are dominated by iron-rich screes. Advice from John Mitchell of the RBGE Alpine Dept to *"make sure you see the gentians*

142 - *Saussurea leucoma*

143 - *Primula dryadifolia*

144 - More than 40 genera in one hummock, 4600m

145 - *Gentiana wardii* var. *emergens*


*on Bai Ma Shan"* was well-founded. There were carpets of pretty but unidentifiable annual *Gentiana* and perennials such as *G. hexaphylla.* We eventually reached a major rocky outcrop at 4645m. Here we could see the adaptations of alpines in search of moisture: *Corydalis* had evolved tuberous roots to survive in the unstable scree; *Saussurea* had tucked itself into cracks; *Delphinium* had sought crevices under rocks. With so many plants and stunning views, we had to run back down to avoid upsetting the driver, who had a long drive ahead before bed.

## Diqin

Diqin's mixed population of Tibetan, Han Chinese, Naxi, Lisu and Muslims reflects its historic position as a border town on the main trade route between China and Tibet. Little of the traditional Tibetan architecture was visible from our hotel room but we stopped for photographs at the official gateway to Tibet for a fantastic view of the Kawa Karpo mountain range. Mei Li at 6740m is the highest peak and still unconquered. As one of the most holy mountains in Tibet there were shrines and prayer flags everywhere.

## Bai Ma Shan – west of the pass

We returned to Bai Ma Shan and tackled the area to the West of the pass. It was a long slog up the lower slopes, mostly covered in dwarf heather-like *Rhododendron* such as *R. fastigiatum* & *R. aganniphum* with other ericaceous plants like *Cassiope wardii.* There were swathes of *Persicaria macrophylla, Gentiana atuntsiensis, G. hexaphylla* and yet more

unidentified annuals. On stonier ground at 4580m we delighted at a large colony of *Primula dryadifolia,* easily identifiable by its striking burgundy calyx that protects the ripening seed capsule. This was also George Forrest's favourite primula. We found lovely pockets of *Gentiana wardii,* its vivid blue flowers tightly closed in the cold wind – it must have known (unlike us) that it was going to snow!

At about 4600m on a shoulder was an amazing hummock of more than 40 different genera, including *Anemone, Saxifraga, Lomatogonium, Spongicarpella, Anaphalis, Arenaria, Androsace* ... sadly, in our excitement we forgot to investigate soil structure or pH. I challenge you to think of this next time you plant an alpine trough!

At the highest point of our trip at 4800m we found *Meconopsis rudis* and *M. speciosa* without flowers but easily identifiable by their distinct leaves. We skirted the face of the rocky scree with great difficulty and began our descent. At 4710m were large patches of *Saussurea velutina* – some still displaying blue florets above their pink bracts. Although Zhang had visited the area many times she had never seen


Above: Conservation banner
Left to Right:
146 - *Saussurea velutina*
147 - *Saussurea velutina*, pink-blue
148 - *Primula amethystina*
149 - In Zhongdian Alpine Botanic Garden

150 - Seed cleaning

these flowers. On a long walk back to the vehicles we even had a flurry of snow to remind us of the impending winter.

## Tianchi Lake

Tianchi Lake translates as "Heavenly Lake" - so named because it is at high altitude - 3800m. After our previous excursions it was a relief to drive up for a gentle walk around the lake. We walked through boggy woodland to a damp and grassy lake-side area. There were carpets of *Gentiana sino-ornata* of every shade from blue to white, through normal stripes to almost pure blue. *G. asparagoides* was the only annual gentian that Eona Aitken from RBGE could identify from my photographed dissection. I was amazed at the size of the *Rheum alexandrae.* We had grown them at Kevock but always sold them before flowering. Similarly, it was exciting to see the tiny but exquisite P*rimula amethystina.* Surprisingly, even under mixed woodland canopy, *Rhododendron* seedlings were only on the northern, and therefore shadier and cooler, side of a log.

## Zhongdian Alpine Botanic Garden

We spent a morning at the new Zhongdian Alpine Botanic Garden. Officially opened in June 2005, it aims to improve conservation through education. I thought the posters on botany were superb and was delighted to see pictures of the RBGE and of David Chamberlain looking at rhododendrons. The garden is based on two sites - this one specialising in *Cypripedium* and the other in *Incarvillea.* Sadly, only a few *Primula secundiflora* were still flowering in the *Primula* meadow, which had been a riot of colour earlier in the year. However, the carpet of blue *Halenia elliptica* was still impressive. It was also wonderful to have labels in botanical Latin, Chinese and English!

## Napa Hai

We spent so long looking at the Botanic Garden that we had only a couple of hours to explore the hills above Napa Hai, a large seasonal lake which is an important feeding ground for migratory birds. Maria and David were excited to see rhododendrons, mostly *R. rubiginosum* and *R.*

151 - Gesang's shop

*vernicosum,* growing where there was so much exposed chalk. Although we saw healthy seedlings, some of the mature plants looked a bit sickly. I was more thrilled by a prostrate *Rubus* with bright red fruit; I wondered if it had potential as a soft fruit.

## Gesang

After the end of the official expedition, I stayed on to visit Gesang - the only Chinese nursery I could find that grew alpines. I spent a day with the nursery manager discussing propagation and cultivation techniques. Their alpines were generally sourced locally from wild seed but a few were collected as mature plants. Stock plants were accumulating in open beds or under shade netting. I saw cultivated *Incarvillea* seed being dried and cleaned, plastic trays of one-year-old seedlings, and a mature plant awaiting seed collection. They did not have facilities for cuttings or other vegetative propagation, although they had experimented with micro-propagation of *Cypripedium.* Gesang has supported the Zhongdian Botanic Garden financially and continues to expand and consolidate its collection of alpines but this is not the real focus of the business. The real focus is mass production of cut flowers. Developed with Dutch assistance, this is highly sophisticated. I saw the lily micro-propagation units which have an annual production target of 300,000! They are also developing their own strains by crossing imported oriental lilies with native species.

152 - New houses

Bulb production is a high priority for Gesang because the cut flower market in China is huge, with large new auction houses in Kunming.

The current economic boom has created new suburbs with street planting, parks and private gardens. Inevitably, demand for trees, shrubs and herbaceous material is growing. To meet that need, I saw florists selling pot plants, garden tools & fertilisers, and street stalls selling *Magnolia, Camellia* and bonsai. However, no one sold alpines – that market has yet to develop. Gesang's alpines are therefore a long term investment.

## Conclusion

It was difficult to obtain as much information as I would have liked on some of the ten key genera: sometimes they were not spotted, or there was insufficient time to study them. Accurate identification was not always possible because, although botanical Latin is international, our shared knowledge only went so far: we did not have botanical keys; plants (particularly *Primula*) were often not in flower; and the taxonomy of some genera, particularly *Rhododendron, Meconopsis* and *Gentiana* is controversial. In retrospect, I wish I had dug up (and re-planted) more plants to examine their roots, particularly the semi-parasitic *Pedicularis*. Language difficulties sometimes hampered discussion of cultivation techniques.

Horticulture in China is inevitably benefiting from the dynamic economy. Gesang's success shows that disposable income is already being spent on cut flowers. The pace of urban development includes parks, street planting and a proliferation of private gardens, and must be stimulating horticulture more generally. The commercial cultivation of

alpines in China may be in its infancy, but it might help save the wild plants as well as generate planting material for new alpine gardens.

I learnt a lot about planning and participating in an expedition to look at wild plants. It is vital to have a good guide with reliable local knowledge of the plants, their whereabouts and accessibility. Good communication between the expedition members and organisers helps to ensure that everyone understands the objectives and what is achievable. Good experience of record-taking and support technology is important as there may only be one chance and conditions are rarely perfect. The data must be relevant and, although digital photos seem quick to take, large quantities are time-consuming to process. If photos are to be used for identification, botanical detail and scale are needed.

Overall, I had a very successful trip to China and left with a better understanding of how alpines grow in relation to soil, climate, aspect and associated flora. Alpine enthusiasts are only able to provide appropriate growing conditions if the provenance is understood. However, there will still be a degree of trial and error because we will never be able to create a complete match. Convincing a plant that it is as happy in Scotland as it was on a Chinese hillside at 4000m remains a challenge!

But ... I only saw the tip of the iceberg. Not only is there much to be learnt from known areas such as the Yu Long Shan but there are many others yet to be explored by alpine enthusiasts. So often, I wondered

153 - Zhang Changqin, and to the East

what was growing on the next ridge or mountain. If only one had more time ...

## Postscript: a few tips about kit

Digital camera and all accessories: be warned - the ease of taking pictures means you are likely to take lots and they still have to be labelled and catalogued if they are to be useful later – I got a bit carried away and took about 2,000 in 19 days!

Clothing: I am a great believer in natural fabrics – you cannot beat silk and wool – they keep you warm when it's cold and cool when it's hot. Silk dries very quickly and compresses well for easy packing. Superfine merino wool is now available as knitted T-shirts and leggings which are excellent base layers.

## Acknowledgements

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I am also grateful to Stephen Blackmore (Regius Keeper RBGE) and Hun Sang (KIB) for supporting the expedition, particularly in granting permission for the use of the Lijiang Field Station. Valuable assistance was also received from the RBGE staff in the Library, Herbarium and Alpine Department.

Several people encouraged me to "get out there", particularly Stella Rankin at Kevock Garden Plants and Kathryn Hart at the Rock Department, RHS Wisley. Without the spark from them and the support of my partner, Sadie Flanagan, all this would not have happened. Maria Kaisheva provided some of these photographs. Thank you all.

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154 - *Gentiana atuntsiensis* & *Persicaria macrophylla* (opposite)

# My Expedition to Svalbard

Johanna Leven


155 - Plant-hunters facing the ice

156 - *Papaver dahlianum* (© Tracey Dixon)

157 - *Erigeron humilis*

July 17th was the first day of my six week British Schools Exploring Society (BSES) expedition to Svalbard, within the Arctic Circle at 78°N. Spitsbergen is the largest of four main and a hundred and fifty lesser islands that make up Svalbard. The island is approximately 62800km$^2$, and 60% is covered by glaciers.

My expedition group was large: sixty young explorers, sixteen leaders and a doctor. The explorers divided into five science groups known as "Fires": Botany, Palaeobiology, Glaciology, Physiology and my group - Structural Geology. Three hours from London to Oslo then another three to Longyearbyen, the capital. With multicoloured wooden housing and a population of 1100, it is a capital city like no other. Although small, it has

158 - *Honkenya peploides* ssp. *diffusa*

159 - *Ranunculus nivalis*
(© Gill Lee)

160 - *Cassiope tetragona*

everything: supermarket, post office, cafés & restaurants, hotels, sport centre, university, even a museum and night club. The mark of mining was clearly stamped on the hillside around Adventfjord.

BSES base camp, across from the Tunabreen glacier at the end of Tempelfjorden, was a 3 hour boat trip. We were excited to sail past the vast, untouched, arctic wilderness. After two years of planning we'd arrived! It looked to us like base camp Everest and it would be home for six weeks. Compared to what lay ahead, it was a resort: pre-dug toilets and glacial pools conveniently situated for washing and water. Camped on top of a large rocky scree beach, we could easily sit outside to cook, eat, build driftwood fires and generally be merry. All the while, thunderous

161 - *Arenaria pseudofrigida*

162 - *Cerastium arcticum*

163 - *Saxifraga rivularis*

sounds of icy chunks broke off the glacier and tumbled into the fjord, stopping us in our tracks to watch.

We climbed a nearby hill. We enjoyed ourselves immensely but the higher we climbed, the more arduous the journey became as the scree became ever more vertical. Alas, we had to turn back before the top because getting down might have proven tricky. We descended in single file over razor-sharp rock that gave way beneath us but in the end we returned to the safety of our snug, green, three-man tents. *Dryas Octopetala, Stellaria crassipes, Melandrium apetalum* and *Silene wahlbergella* all seemed to favour lower slopes around base camp where the ground was drier and gravelly.

164 - *Mertensia maritima*

165 - *Saxifraga oppositifolia*

166 - *Saxifraga caespitosa*

We devoted an entire day to kit distribution, radio, boat safety and first aid. Before we could mountaineer, we were equipped with crampons, harnesses, ice axes, karabiners, prussics, slings and helmets. We had rifle training; with protective glasses and earmuffs we learned to handle and fire the gun safely. Imagining a fierce polar bear, we aimed at our target - a plank of wood! With our mountain equipment we went for ice training. Heading up one of the less aggressive glaciers opposite Tunabreen we encountered our first river crossing and learnt how to pick the best one. We cut steps into steep slopes with ice axes and put ice screws in the ground, then we tested their strength by watching the boys fail to pull one out together. Towards base camp we stumbled on a fine

167 - *Eriophorum scheuchzeri* (Cotton Grass)

168 - Bears are throughout

169 - *Polygonum viviparum*

white specimen of the Svalbard Poppy *(Papaver dahlianum)* growing in a clump amidst the rocky moraine.

We learned to sail safely wearing our red & orange survival suits and cruised out towards the glacier, dodging icebergs and taking photographs. Only when close-up did we appreciate the sheer scale of the glacier: it was easily five storeys high. We learned how to wash in glacial meltwater without freezing to death. There was a lot of social fun. On a beach clean we found a driftwood pole frozen to a slab of ice: our leader placed a rubber glove on top and likened it to modern art. The piece would be symbolic of the meeting of man and wilderness: it was a touching speech but still made us burst out in a fit of giggles.

We went down the coast in good conditions and were able to appreciate the Glaucous Gulls and puffins swooping round the boats. This new place was completely different from base camp. The scenery was very green – perhaps we were still in Scotland? The ground was a very spongy mixture of grasses and moss that was very tiring to walk on, especially when carrying heavy rucksacks and stores. We avoided the areas of Arctic Cottongrass *(Eriophorum scheuchzeri)* because it generally indicated marshland. Mosquitoes overwhelmed us. In our tents, "rain" turned out to be the sound of them as they pelted the tents.

At our next camp at the foot of Marmierfjellet, the mosquito effect lessened and we enjoyed bivvy-bag sledging and racing. We walked to Flowerdalen but the name was deceiving, as vegetation was thin on the ground. However, we saw white and yellow versions of *Draba* (Whitlow Grass)

with very short stems growing in small clumps on moist, mossy ground. *Ranunculus nivalis* (Snow Buttercup) also grew in the same area. The morning trek through mist over snow and marsh was tedious but, after lunch, things improved as we scrambled over rocks to the summit of Marmierfjellet. On our way up we found a clump of iced-over poppies caused by freezing mist. *Braya purpurascens,* protected over all the kingdom of Norway, also grew there. On the shoulder of Marmierfjellet we charted 25m sections of the hillside while investigating the rock type and vegetation. The plant life was much the same, more *Papaver dahlianum* and *Saxifraga oppositifolia.* Two hours of structural geology was rewarded by ice-axe practice at arresting falls. I nearly removed Helen's ankle when I tried jumping over her as I dropped my ice axe: very bad.

At the Sasendalen delta we had a spectacular new camp - we had a toilet seat! But clean water had to be fetched and carried. The flora was plentiful on this stretch of the coast and some new additions were spotted: *Cardamine nymanii* grew in individual clumps on the wet moss areas. On the other hand, *Mertensia maritima,* which apparently tastes of oyster, preferred the sandy sections of the coast.

On a trek, Leo and I built a snowman and spotted some uncommunicative French tourists. On the way we saw rather a lot of

170 - *Saxifraga svalbardensis* with bulbils in each leaf axil

171 - *Saxifraga aizoides*

alpines: *Saxifraga aizoides* which was just past; *Salix polaris; Pedicularis hirsuta* and *Saxifraga caespitosa;* all were growing in dry gravelly earth. Our journey took us to the edge of the fjord cliffs. There were birds flying all around us and an epic, panoramic view lay before us. We had an unexpected surprise that evening when the Botany Fire made its way up the hill toward us for its own 24 hour solo walk.

After phase one we spent two days in Longyearbyen before heading out for phase two in Oscar II Land. We ate real food, had our first shower in four weeks and my hair returned to its normal red colour instead of dirty brown. The conclusion came with our big end-of-expedition meal, balloon games and speeches galore. We had all become so close it was like breaking up a family.

Oscar II Land was entirely different from anything we'd experienced in phase one. It was a vast expanse of jagged mountains and endless crevasses. We camped right on the beach and seemed surrounded by hundreds of miniature icebergs from our new neighbourhood glacier which constantly launched blocks of ice into the sea. On our first day we scouted out the area to find the best way up on to the ice. Our fire, which had been christened the "Mink Bikini Fire", headed up the river

172 - Houses in Longyearbyen

173 - All in the same boat

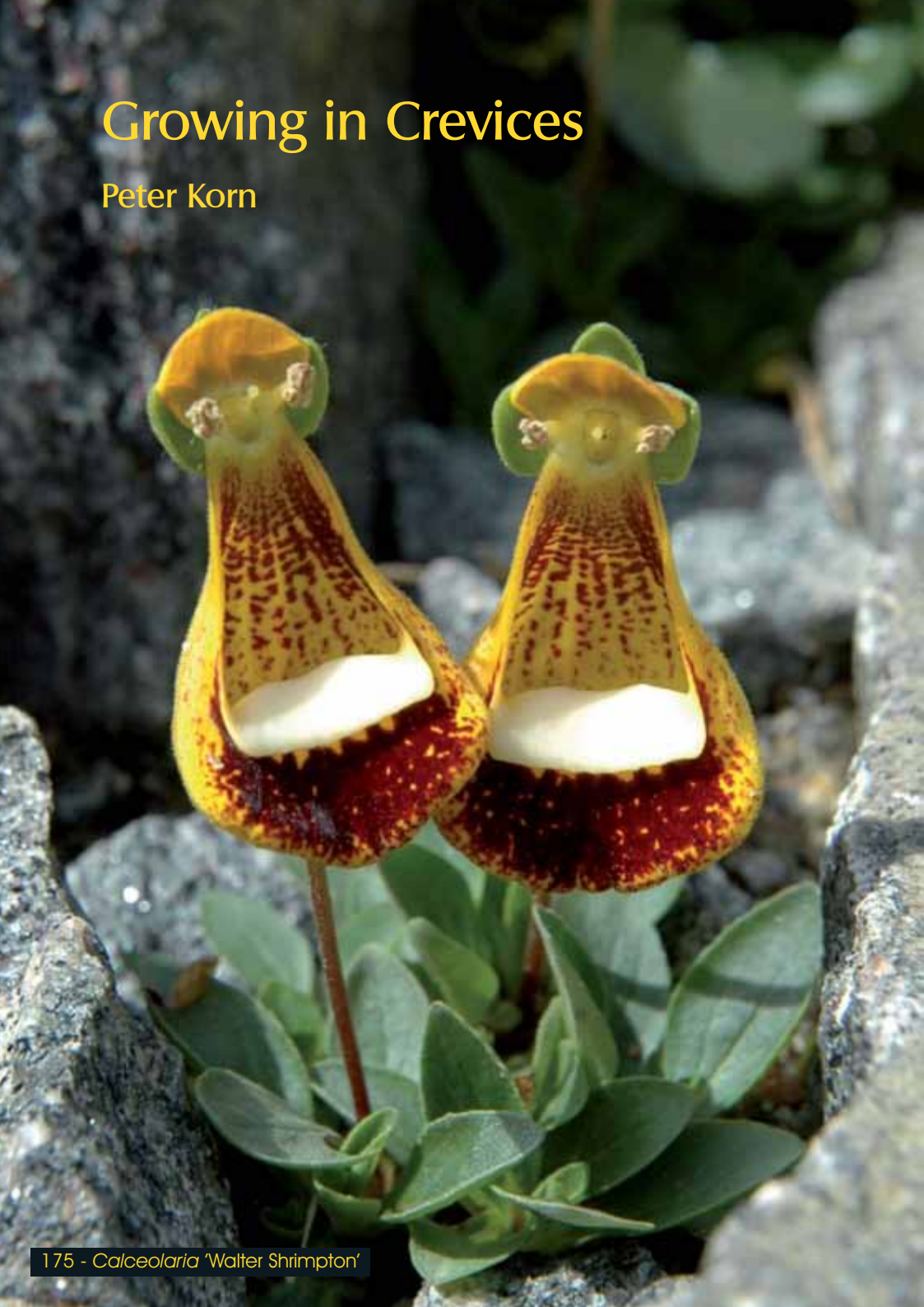
valley and into a heavily vegetated area. This part of the island was more reminiscent of Scotland than ever. We had some intensive botany lessons: sampling Scurvy Grass for its vitamin C properties (it tasted like very peppery lettuce) and examining the local lichen. Some other new species that we stumbled across were *Erigeron humilis* in full bloom on the higher, damp & mossy areas and some *Saxifraga nivalis* that was just past but liked dry rocky slopes. After these discoveries we continued up a very narrow ridge whose sides just seemed to disappear; it was like walking on a knife edge, all very Lord-of-the-Ringsesque. Scree-running was the quickest mode of descent: 350m in about 10 minutes wasn't bad progress. On this particularly exciting day we found a cave under the glacier and explored it before heading back to camp to face a quite different challenge. Beneath the gravel surface ahead of us was a sea of 1m-deep mud in which we stuck, to various depths. And that night, after polar bear footprints had been spotted, we were on bear watch!

Without doubt, my trip to Svalbard was the most worthwhile and rewarding experience of my life. I made many fantastic new friends, learnt so much about surviving in the wild, and revealed a lot respecting my personal strengths. Thanks to BSES, I'm confident I would be able to organize my own expedition in the future and wouldn't hesitate to undertake something of this nature again. The trip furthered my interest in alpines and strengthened my desire to travel to other exciting destinations around the world. Thank you so very much to the SRGC and the Royal Horticultural Society for supporting me in my endeavour. It truly was the experience of a lifetime.

174 - Polar dusk

# Growing in Crevices

Peter Korn



175 - *Calceolaria* 'Walter Shrimpton'

I love all kinds of stones. As soon as I come across a heap I wonder how I might get them home and what I could do with them. Most often it ends there but sometimes it happens that I get my hands on them. It is always reassuring to have a few tons of stones around in case one feels the need to make a stone feature. Thereafter, it may take a year - or only a few minutes - before I know what to do with them.

I have tried many ways of building a rock garden, from rows of round stones to steep piles of tons of stones. Slate, limestone, tufa, natural stone, concrete or rocks from blasting may all be used in a rock garden. Nevertheless, one of my old neighbours claims with certainty that there should be no stone at all in a rock garden ... and it works for her!

Just now I am in my sand period: I cover heaps of sand with coarse gravel and all is then ready - this must be the simplest kind of rock garden. But in a real rock garden I believe the rocks should dominate. The flowers should only be a marginal embellishment. It should look barren and the plants should be there to be discovered, not to take over. As in Nature, at a distance it should look like a bare cliff but, on climbing around, you light on a lot of diverting plants. That is the way I want things to be in the rock garden ... but it doesn't work out like that. Who

176 - Natural crevices in Norway

177 - Rock garden in Örkelljunga

178 - Crevice construction

179 - ... at least slightly natural ...

180 - ... clearly defined edges.

181 - *Convolvulus boissieri*

182 - Youth and Rock

wants to have just one plant per square metre? People want somewhere with thousands, preferably all different. It then often becomes rather messy, with the biggest plants rapidly overwhelming the lesser ones.

To create as many habitats as possible and to grow a lot of different plants on a small area, I try to build high and steep rock features. These give some feeling of a rock wall and the diminutive little plants are level with your eyes so as to be visible.

Natural cliffs are often cracked, with lines going in every possible direction. Frequently, some directions dominate and to recreate that in the garden is to achieve something at least slightly natural. It doesn't have to be done with perfectly straight lines as if drawn with a ruler and spaced at exactly the same distance between exactly equal thick rocks. It is sufficient to point the stones in the same general direction. It may suffice to use a line in the rock, or a slight edge, or let it break off completely so as to emphasize the lines in the other rocks instead.

The simplest approach is to use rocks that are reasonably flat or have clearly defined edges. Limestone or slate are probably the simplest but lead too easily to long rock rows: nice and simple, they work fairly well but are not particularly remarkable. In contrast, quarried gneiss often has good edges, lots of lines and is - in Sweden - quite cheap. There are several quarries near my property and I usually check them after blasting to see if there are any interesting blocks of stone for me to use.

Thereafter it is only remains to order as much as is needed. A lorry load of 12 tons usually suffices for a rock garden feature. It contains all size fractions from dust to 500 kg blocks - a useful mixture. The bigger the stones, the more natural is the result. But they need to be handled ... I bought the biggest brick trolley I could find and with that I can transport most stones.

To make a new rock feature I begin with a large heap of sand (up to 8 mm). On it I place the biggest blocks. I try to line them up in a south-easterly direction so as to create as many different niches as possible. If the crevices run to the South, the midday sun warms them all rather evenly whereas if the openings run towards the South-East the morning sun illuminates the western sides while the eastern sides are in shadow. In the afternoon, things are reversed. It is even more desirable to have a ridge because this creates northern and southern sides to choose from when it comes to planting. In principle, a rock peak provides all different niches within a few square metres. The distance between the stones may well vary from 0 to 50 cm so as to provide wider crevices for the larger plants. In a large rock garden it may be advisable to interrupt the cliff formations with some areas of gravel slopes.

With the biggest rocks emplaced, we move on to the lesser ones. Now, the important thing is to fill in the openings between the big rocks so that the structure resembles a solid cliff. Having placed some of the lesser stones, the procedure is to fill behind with sand or gravel and pack it all till just right - securely but not too firmly. It is important not to leave air space under the stones. It is also easiest to plant during the building. The plants should not be used as binding between the stones because when they eventually die they will no longer hold the sand in place. All kinds of environment are created that may work well with everything from *Cypripedium* to cacti. All that matters is to choose appropriate crevices. But avoid plants that spread by suckers, as they are often difficult to get rid of.

*Peter Korn*

183 - ... resembles a solid cliff.

184 - *Phlox sileniflora*

Once the middling stones and the plants are in place, the time has come to pack all the remaining openings with the left-over smaller stones. Just fill all the openings with the different size fractions and - there is your completed rock garden! Water it once and let the rain take care of it. Any later planting is fairly easy - take out some stones, put in the plants and push the stones back into place.

The whole formation will be very compact, evening out heat and cold but also retaining humidity during the summer. The steep walls

185 - The end results

186 - *Oxalis laciniata*

mean that no water will ever linger. Never use soil as a base because it shrinks with time and the whole rock structure may collapse. Sand is good because it does not break down and it does not move much in the winter when the frost may otherwise move the stones easily.

187 - *Edraianthus pumilio*

188 - *Saxifraga longifolia*

# Dwarf Southern Hemisphere Conifers

## Jeff Irons

The Brooklyn Botanic Gardens "Handbook on Low and Slow-growing Evergreens" defines a dwarf conifer as "one which for a number of reasons never attains the stature that is usual for the original wild species from which it has been derived." Most of our dwarf conifers are sports - a polite name for aberrations. These are exclusively from the northern hemisphere, because the southern conifers lack the genetic diversity of their northern counterparts. However, some southern species are naturally small and, even in the wild, never reach the size normally associated with conifers. Some have small leaves pressed closely to their stems and so may add different appearance and texture to a dwarf conifer collection. Several of these southern conifers have grown in my garden for a number of years, with temperatures down to -10°C. In open ground culture they have been totally reliable.

South America has only two temperate latitude dwarf conifers. One of them, the slow-growing *Pilgerodendron uviferum,* grows in poorly drained sites from 39°S in the Valdivian rainforest all the way down to Tierra del Fuego, being especially abundant in coastal mountains and lowlands. Although reported as "relatively shade intolerant" in the wild, my cultivated specimen has grown in open shade for a number of years and is now 23 cm high. Trouble free, it even survived a foot of water in the very wet winter of 2000-2001. Unfortunately the summer of 2006 proved it not very drought tolerant, for the plant - until then very shapely - suffered extensive dieback.

189 - *Pherosphaera fitzgeraldii*

Found in bogs in the coastal mountains between 40°S and 55°S, mostly in Chile but also in a few sites in the Argentinian part of the Valdivian rainforest, *Lepidothamnus fonkii* is a dwarf shrub not exceeding 30 cm. In the juvenile state its leaves are scattered along the branches and grade into adult leaves pressed closely to the branches. Often found in association with *Pilgerodendron uviferum,* this species appears to be the only one of the dwarf southern conifers not being grown in Britain. That alone makes its introduction desirable, even if it proves to have little horticultural merit. The related *L. laxifolius* hails from New Zealand and, in his book "Rock Garden Plants of the Southern Alps", W R Philipson wrote: "To the collector of dwarf conifers this (then called *Dacrydium laxifolium*) is a rare gem of great worth, but when it becomes familiar as a common mountain plant its merits are less obvious. The name *laxifolium* refers to the juvenile condition, when the leaves are set rather loosely along wiry stems. As the plant matures the foliage becomes denser and smaller and the twigs interlace to form a prostrate mass which trails over rocks in attractive disarray. ... The male cones although minute are attractive to those with good eyesight, for they stand stiffly upright along the twigs like candles on an elfin Christmas tree. Later in the summer the female cones ripen to solitary dark nuts enclosed like a miniature acorn in a succulent red cup." Plants of this species may have flowers of the two sexes on separate plants (dioecious) or sometimes both on one plant (monoecious). I have seen no plant in Britain with cones so, presumably, all are dioecious. After 10 years of persevering, I sold my specimen to someone less critical. For more than half the year it was nothing more than a mess of brown twigs with brown leaves. Other growers report that their leaves turned to a plum-purple hue. In July they turned green, only to be brown again by November. In the ground, it quickly became swamped with weeds that grew between its branches and were difficult to eradicate. In a pot it displayed no charms.

The genus *Pherosphaera* (formerly *Microstrobos*) has just two members. One of them, *P. hookeriana* (*M. niphophilus*), has been

190 - *Diselma archeri,* Lagan

confused with *Diselma archeri;* even though the two are very different, as far as I can tell all plants sold as *M. niphophilus* have been *Diselma.* One nursery now has the true species and in a few years time should have plants for sale. Both species have small overlapping leaves pressed closely to the stems but those of *Pherosphaera* are arranged spirally whereas those of *Diselma* are in opposite pairs, giving the stems a square appearance. Vegetatively propagated plants of both species will not make a new leader but, whereas *Diselma* produces upward-growing shoots, *Pherosphaera hookeriana* makes long and low outward-growing branches, kept compact only by pruning. The other *Pherosphaera* is *P. fitzgeraldii* which, at the last count, had only 306 plants growing at seven sites in the Blue Mountains of New South Wales, all within 9 km of one another. Its overlapping leaves are much more open than those of *P. hookeriana* and it has erect or low-layering stems. Pruning is necessary for a compact habit. Moist acid soil is needed and it cannot stand being inundated in winter. This species responds well to container cultivation, where tip pruning from an early age results in compact plants.

Bought in 1971, my male specimen of *Diselma* archeri is now 1.3 m high and 1.5 m wide. Up to 2.5 m high in the wild, it forms sub-alpine and montane forests in the moist soils of Tasmania's western and southern mountains. Like many other members of the Cupressaceae it has male and female flowers on separate plants. Male flowers have red pollen sacs and in summer they decorate the whole plant, making it very attractive. The tiny scale-like leaves overlap and their pairs are set at right angles along the branches. Coning is rare and, even in the wild, cones are borne

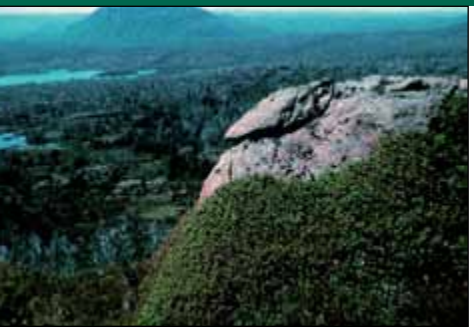
191 - *Diselma archeri*

only once every 8 to 10 years. This species grows equally well in full sun or deep shade. Even old specimens may be lifted and moved to a new site or put in a container for display followed by replacement in their original position. This is an attractive conifer, easily separated from *M. niphophilus* by the downwards droop of the ends of its branches. A selection with a mature height of 60 cm, found on Mount Read by Ken Gillanders, is sold as 'Read Dwarf', an unregistered name. In 18 years my specimen has reached a height of 30 cm and spreads over 60 cm. The pale-green young growth and smaller leaves differentiate it from the typical form.

Most New Zealand conifers are tall trees. Apart from *Lepidothamnus laxifolius* two other NZ conifers are usually shrubby. They are *Podocarpus nivalis* and *Phyllocladus aspleniifolius* var. *alpinus.* Additionally, *Halocarpus bidwillii* - although it may eventually reach 4 m - is slow growing and remains compact for as many years as most of us are likely to want. Like many southern conifers it has two foliage forms and passes suddenly from the juvenile form with sessile linear leaves to the adult form with scale-like imbricate leaves. Since most gardeners do not grow their plant from seed but buy a vegetatively propagated plant from a nursery, this is the form usually encountered. It makes a wide and spreading hummock, with "clumping" branches that give the plant a textured appearance, especially in winter when light and shade are more evident. Juvenile leaves usually turn brown in winter.

*Phyllocladus aspleniifolius* is an extremely interesting plant because it has leaves only in the seedling stage. Quite early on, the branchlets take

192 - *Podocarpus lawrencei*



193 - *Podocarpus lawrencei,* Cathedral Mountain Plateau, Tasmania

over the function of leaves, forming flattened structures called cladodes. So we get the unusual spectacle of flowers on the edges of the 'leaves'! Male flowers cluster at the cladode ends while the female flowers are lower down. They nestle in a cone that turns red as it matures, making the plant very attractive. The species itself makes a tall tree, known in Tasmania as 'Celery-top Pine'. New Zealand has the variety *'alpinus'*. In sub-alpine forest this can be a tree up to 8 m high but above the timber line it becomes a small upright shrub, usually glaucous. Both green and glaucous forms are grown in British horticulture, the green one being more common. They are desirable slow-growing plants for the rock garden. Although found naturally in high rainfall areas, both the species and the two forms of var. *alpinus* indicated their dislike of the excessive wet by dying when my garden was flooded in the 2000-1 winter. In southern England it does not fare well, probably because soil moisture levels are too low. This species has another characteristic, rare in conifers, that when blown over it will self layer and consequently may easily be

194 - *Phyllocladus asplenifolius*

propagated by layering.

*Podocarpus nivalis* may be found trailing down mountain slopes, stabilising their soil. It needs plenty of space and in cultivation is best suited to the larger rock garden, for a single plant may occupy several square metres of ground. Various selections are sold under promotional names and published details about their size relate to pot grown specimens, not to plants in the ground. Brian Halliwell reports that, close to glaciers and moraines, he observed that it had a suckering form but that in more stable ground it became a shrub. Only occasionally did he find the trailing form that Philipson and the *Flora of New Zealand* regard as the commonest. The Essex nurseryman Graham Hutchins has hybridized this species with the Australian *P. lawrencei* (which will be split into about 6 species), resulting in what are known as the 'County Park' Hybrids. The most popular is 'County Park Fire', a female hybrid with young growth in various hues, as bright as those of *Houttuynia* 'Chameleon'. It does not colour well in shade or in a polytunnel. Graham Hutchins does not record whether

195 - Podocarpaceae, *Microcachrys tetragona,* Cathedral Mountain

196 - *Microcachrys tetragona*

these hybrids are fertile, and their ultimate size is unknown. *P. lawrencei* itself makes a small rather undistinguished shrub, with leaves similar to those of yew; the prominent fruits on pollinated female plants endure from autumn to spring. The fruit is a small green nut which sticks out of a bright-red swollen base. Appearing in late autumn, some remain on the plant till late spring. Named selections sold under names such as 'Alpine Lass', 'Blue Gem' and 'Kiandra' will eventually become new species, at which time their current promotional names will lapse.

The Tasmanian endemic, *Microcachrys tetragona,* vies with *Lepidothamnus laxifolius* for the title of the world's smallest conifer. Another prostrate plant, it makes long ground-hugging stems clad with pairs of overlapping leaves. Set at right angles to one another, they give stems a square appearance. Female plants bear bright red cones from late summer onwards. Growable both in fairly dry or boggy soils, this is another conifer that will self-layer. It is easy and trouble free.

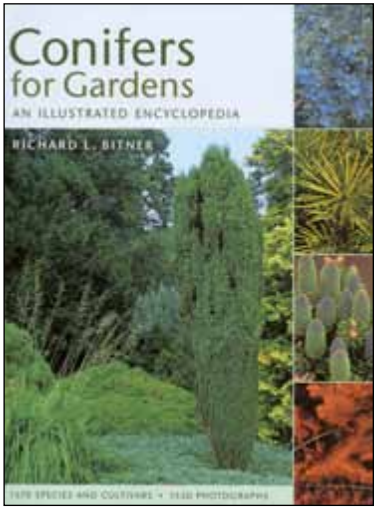
Africa has few conifers; not one of them is dwarf and all are unlikely to tolerate prolonged spells below about –5°C. The shade-intolerant *Widdringtonia cedarbergensis* is slow-growing, although ultimately 5 to 7 m high; it could be considered for gardens in the mildest parts of Britain.

Although few in number compared to their northern counterparts, the southern dwarf conifers are distinctive and are worth collecting. If only one is wanted, the best is probably *Diselma archeri* 'Read Dwarf'.

197 - *Diselma archeri* 'Read Dwarf'

# Book Reviews

**Conifers for Gardens - An Illustrated Encyclopedia**




Richard L Bitner
424 pp, 1550 colour pictures
1370 species and cultivars
20 lists of plants for specific purposes
ISBN-13: 978-0-88192-830-3
Timber Press, £40
July 2007

This large lavishly illustrated book is packed with information. It covers the range of conifers from big forest trees to smaller forms for parks and gardens. The book lists conifers alphabetically, first by Genus and then by Species, under which are listed, again alphabetically, the cultivars. Eight introductory pages cover conifer botany, nomenclature, conifers in the garden & the landscape as well as pests & diseases, so the author gets quickly into his subject. Sections on the large genera like *Abies, Juniperus, Larix, Picea* & *Pinus* include excellent introductory descriptions of needles, cones, bark, native habitats, cultivation requirements, uses, and pests & diseases specific to the genus.

Hardiness zones are given for each species. A world map, with an enlarged inset of the British Isles, shows these hardiness zones in easy-to-interpret colours, allowing all gardeners to determine the suitability of any species for a chosen location. The overall quality of the photographs is very good and some are superb. My favourite is the one with snow on spruces. I was disappointed with the photographs of Coast Redwoods and Giant Sequoias: the chosen pictures do not do justice to the magnificent examples found in California. For many species and selections there are excellent close-ups of foliage, cones and bark. These will help readers to confirm the identity of their own conifers. To establish the identity of an unknown specimen would be much more difficult because, although the text is very descriptive of some species and cultivars, there is no key either for conifers in general or for the individual genera. It is a pity that the photograph captions contain no indication of the height and age of the specimens.

I would have appreciated a more consistent approach in describing the eventual size of the various species and cultivars. Occasionally, yearly growth rates are given but dimensions for mature specimens are mostly

given with no indication of how long the tree takes to achieve these dimensions. The British Conifer Society uses the American Conifer Society's "size category for conifers", encompassing everything from forest giants to dwarf rock garden buns. The four groups are Miniature, Dwarf, Intermediate and Large, depending on growth per year and eventual size. It is simple to use and understand and it is a great pity that the author of this book did not use it. One minor criticism is that the many new selections of *Podocarpus* are poorly represented.

The sections on "Where to See Conifers" and "Specialist Nurseries" are dominated by American addresses but I am pleased that the RBG Edinburgh and its Ben More outpost are included. Westonbirt Arboretum, near Cirencester, has had its address changed to Edinburgh - probably because the Forestry Commission GB has offices in Corstorphine Road.

It is obvious from the start that the book was written for American gardeners but much of the information is applicable to gardens in the UK. It will be most helpful when used in conjunction with nursery lists and catalogues. A lot of work has gone to assembling all the photographs and information. General rock gardeners will delight in the many small cultivars included but the book will appeal most to those who garden on a larger scale: they will find plenty interesting facts and useful information. I now know that Mockingbirds like juniper berries.

Dr Bitner is an anesthesiologist (to those in the UK, an anaesthetist) who has studied and lectured in horticulture at Longwood Gardens in Pennsylvania. How appropriate that he has taken his pen to further our knowledge and enthusiasm for the sylvan treasures he obviously loves. This book, unlike anaesthetists, will not put you to sleep; it will kindle your interest in the many conifers we see in almost every garden and landscape in Scotland. Richard Bitner is to be commended for combining his excellent photographs and easily understood words in such a beautiful book.

*Sandy Leven*

**Buried Treasures**


Janis Ruksans
460 pp
4 maps
ISBN 978-00-88192-818-1
Timber Press, £30 Hardback
2007

When I first flicked through Janis Ruksans's new book "Buried Treasures" my first reaction was slight disappointment at seeing the

pictures grouped into two separate sections. There are no pictures in the text. I am a very visual person and I much prefer it when pictures are included whenever possible on the same page as the text. There are plenty of pictures contained in the two sections but it does mean that you have to flick back and forward to see them when reading and I find that irritating.

Having got over my initial disappointment, I started to read the contents page. There I could see a wealth of information on all aspects of growing bulbs. In this book, Janis describes very well how he grows the bulbs on his nursery in what are often very cold and challenging conditions. He describes various ways of increasing bulbs, from seed sowing to artificial forced propagation like cutting up the bulbs of *Fritillaria raddeana* to encourage bulbil formation. There is a great deal of very valuable and practical information in this section, whether you are growing on a large scale like Janis, or just growing a few bulbs for your own garden.

By far the biggest part of the book is given over to an account of Janis's explorations in search of bulbs in the wild. Different chapters of "Buried Treasures" deal with all the various areas where Janis has collected bulbs; these are not just travelogues with lists of plants but are exciting accounts of the difficulties often faced when plant collecting in remote locations. These fascinating accounts give the book a semi-autobiographical flavour and once you start a chapter it is very difficult to put the book down until you have finished that section. It is fascinating to read the circumstances surrounding the introduction of some of the wonderful bulbs which, thanks to Janis, we now know and grow in our gardens.

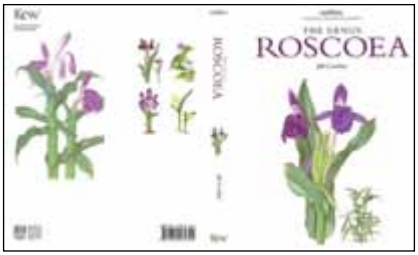
There are plenty of mentions of other great bulb growers such as Arnis Seisums who accompanied Janis on many of his exploits, especially when looking for *Iris.*

Janis is not only one of the great plant hunters but he is also an expert grower, having established a superb nursery. In the chapters on cultivation he freely shares his experiences - good and bad - describing his cultivation methods so that we may all benefit. The chapters on his expeditions are enthralling. I can only presume that the decision not to place the pictures through the text was one of cost but this is a small criticism of what is a fascinating book.

This is an excellent book and it is a must for anyone with even the slightest interest in bulbs; I can assure you that once you have read how these bulbs came into cultivation you will have a much better enjoyment of these fascinating plants, the places where they grow and the people who introduce them.

*Ian Young*

## The Genus Roscoea




A Botanical Magazine Monograph
Jill Cowley
190 pages, photographs, line drawings and distribution maps
ISBN 978-1-84246-134-1
The Royal Botanic Gardens, Kew, £29.70 (SRGC)
2007

The Genus Roscoea, the latest addition to the series of botanical monographs published by Kew, continues the tradition of scholarly excellence. Jill Cowley is an expert in her field, the ginger family, Zingiberaceae, of which *Roscoea* is the hardiest genus, and this work is the culmination of her many years of study, research and travel. Its appearance is timely as more roscoeas are introduced into cultivation from the wild and there is increasing interest in these woodland plants, currently being trialled by the RHS.

The chapters following the introduction deal with the history of the genus including a well-researched biography on the remarkable Liverpool man, William Roscoe, whose name it bears, before moving on to morphology, ecology and conservation issues. In the body of the work, the 20 known species and forms are described, each illustrated with a botanical painting, a page of detailed line drawings and several photographs. The latter show the species both *in situ* and in cultivation with their variations. For the last decade the comparatively high cost of commissioning art work means that photographs have replaced paintings in publications. One of the pleasures of this book is the paintings, mostly by the Kew artist, Christabel King. Although these have been published previously, for most of us it is an opportunity to see them for the first time. The species distribution maps are probably the least satisfactory aspect of the book. They show country boundaries without annotation against a vague topographical background of little help to the reader unfamiliar with this part of the world. The distribution of *Roscoea* is in itself interesting. Unlike other genera in Zingiberaceae they occur only in the Himalaya extending into western China, Assam and upper Burma. But there is a gap in distribution – *Roscoea* has not been found in that area on the Tibetan/Indian border where the Tsangpo breaks through the mountains and becomes the Brahmaputra. As Cowley points out, this gap may be a result of under-recording in that difficult terrain or it may be a true disjunct distribution; other Himalayan examples of such breaks are known.

The book contains a wealth of information on each species and, for those who are familiar with only two roscoeas – the yellow one and the

purple one! – it will be a revelation. That yellow one – and Cowley correctly uses the spelling *cautleyoides* (the name honours Sir Proby Thomas Cautley, an English military engineer in India) rather than *cautleioides* – has a purple form: the latter predominates in Sichuan, the yellow form in Yunnan. *R. purpurea* too shows astonishing variation with a shocking orange-red form from Nepal, *forma rubra,* called Red Gurkha. My own favourite species, *R. humeana,* is rather more modest and ranges from lilac through purple and yellow to white. Ron McBeath introduced a particularly fine white form of it from the Yulong Shan (pictured here in cultivation). It is a dwarf, compact plant with flowers of pleasing solidity and purity. This species was named by William Wright Smith and Isaac Bayley Balfour in memory of David Hume, a young gardener at the Royal Botanic Garden, Edinburgh, killed in the retreat from Mons in 1914.

A chapter on hybrids and cultivars with contributions from the National Collection Holder, Roland Bream, follows the species descriptions and the book concludes with a helpful section on cultivation by Richard Wilford, Curator of Alpines at Kew.

I find myself at odds with the author on two points: in the cool, moist West of Scotland and indeed, probably in most of Scotland, the flowers last much longer than she suggests; she also comments less than favourably on that other Himalayan delight, yak-butter tea. Nevertheless, this is a splendid book.

*Anne Chambers*

198 - *Roscoea humeana alba*

**Beautiful at All Seasons: Southern Gardening and Beyond with Elizabeth Lawrence**

Elizabeth Lawrence
Edited by Ann L Armstrong and Lindie Wilson
2007
239 pp, 10 figures
Duke University Press, $24.95
ISBN-13:978-0-8223-3887-1 Hardback (cloth)

In 1957, Elizabeth Lawrence (1904-85) wrote her first column for the Charlotte, North Carolina, "Observer". Regrettably, the pieces - tossed in Monday morning's trash bin - were lost to further reading till 144 of them were collected in "Through the Garden Gate" (UNC Press, 1990). Now, a new collection of 132 columns is available for a new generation of gardeners in "Beautiful at All Seasons". Here are revealed Lawrence's wide gardening interests - plant culture, lore & literature, flowers of the church calendar, and correspondence with literary luminaries such as Katharine White ("The New Yorker") and authoress Eudora Welty. Elizabeth, as she preferred to be called, corresponded widely with southern "farm ladies" and wrote about them.

Elizabeth Lawrence was a product of the American South and did most of her gardening in North Carolina. She is the author of four gardening books and several posthumous collections, including one on rock gardening in the South. Elizabeth had a graceful writing style - warm, engaging and conversation-like. She wrote 720 weekly columns until new editors at the newspaper thought she was too old-fashioned. They wanted someone with quick, snappy "how to ..." answers.

*Bobby J Ward*

**75th Anniversary Celebrations for Students**

As an early start to its 75th Anniversary celebrations, the SRGC is offering 75 free student memberships for 2007-08. For many members, an interest in alpines and rock gardening was sparked in their student days. The club has therefore decided to offer these memberships to foster an interest in rock gardening and alpine plants in the next generation of gardeners, nurserymen and horticulturalists.

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The SRGC website, the best alpine and rock garden website in the world, is at www.srgc.org.uk. Student or not, why not visit it today and find out more about rock gardening and alpine plants?

*Ian Christie*

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