July 2010

THE ROCK GARDEN 125

SUBSCRIPTIONS FROM 1st OCTOBER 2009

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

Subscription rates from 1st October 2009

	UK	OVERSEAS
Single annual membership	£16	£22
Junior membership *(Under 18 on1st October 2009)*	£3	£7
Family membership *(Two adults and up to two children under 18 on 1st October 2009)* *Each additional adult or child*	£19 £3	£24.50 £7

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

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

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

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

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

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

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

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

Although every effort is made to minimise costs, they continue to rise. These new rates therefore reflect the decision of the club's annual general meeting of November 8th 2008 to increase the annual subscription during the course of 2009. Allowing for inflation, the new subscription is about the same as at the end of the last millennium. The support of members in this matter is both vital and much appreciated by the club's council.

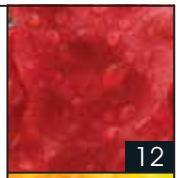
SRGC email - *info@srgc.org.uk*

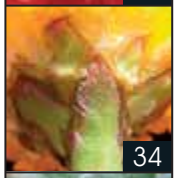
The ROCK GARDEN

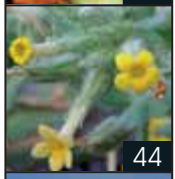
The Journal of the
Scottish Rock Garden Club
July 2010

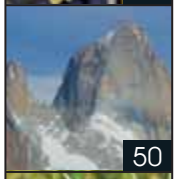
Number 125

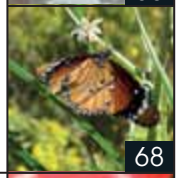
Cover: *Cremanthodium brunneopilosum* (Gordon Rae)

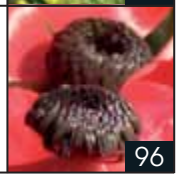












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The Editor welcomes articles, photographs and illustrations on any aspects of alpine and rock garden plants and their cultivation. Authors are encouraged to submit material electronically but articles may also be submitted in manuscript, preferably 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.

Enquiries about advertising should be made to:
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glassfordsprunt@aol.com

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

Online - *The International Rock Gardener*

The Scottish Rock Garden Club's website at www.srgc.org.uk has become a very popular place for anyone interested in plants to visit. A dynamic website is essential for our club to progress and fulfil our aims of encouraging an interest in rock garden plants. It has also become the main source for recruiting new members to join and help support our work. We are optimistic enough to believe that folk enjoying the website with its many features and its lively Forum will be inspired to join the SRGC in its work; with five out of every six new members joining the club via the website, in a time when recruitment is not generally easy, it seems that our belief is vindicated.

Ian Young has written a weekly Bulb Log since January 2003 and this has become the most popular feature of the site, attracting a very large number of visitors. At our invitation, Paul Cumbleton of the RHS started a Wisley Log that is updated every second week and also has a large following.

The Forum is the most interactive part of the site with well over 1200 registered members and a great many more daily visitors and readers. We view the Forum as the largest and most active 'Group' of the SRGC, where hundreds of people from all around the world gather at any time of the day and night to share their experiences, trips & plants as well as to have some fun and chat, particularly encouraging the feeling of inclusiveness for overseas members. The Forum is full of the most wonderful pictures of plants both in cultivation and the wild. The daily postings are equivalent to some of the excellent talks we have in our Groups and Discussion Weekends or indeed to the contents of the journal in your hands, *The Rock Garden.*

Corydalis hamata graces the March 2010 cover, thanks to Harry Jans

Narcissus cantabricus in the wild in Spain, exemplifying the fine habitat shots that we enjoy in the Forum: photo by Rafael Diez Dominguez

It has long been the aim of the web team to develop a monthly online magazine to complement the long-established journal you are currently reading, but worries about maintaining a high quality stream of content to justify such a venture kept it on the back burner. Then along came Zdeněk Zvolánek, who happened to say that he too had a dream of publishing an online magazine; he had a different problem – he had good material available but had neither the technical capability nor the facility to carry it through. One of those great moments, where two halves joined neatly and the *International Rock Gardener* was born!

Our aim is to look primarily at plants in mountain habitats and in gardens, as a celebration of our world of rock plants and its people. We published the first *International Rock Gardener* at the end of January 2010, edited by Margaret Young, Zdeněk Zvolánek and Ian Young, together with a host of international contributors. This and following issues have been very well received and we have a growing readership.

Olga Bondareva's online offering of *Gentiana szechenyii*

The magazine is posted online in the *pdf* format (which anyone can open and read with the free-to-download Acrobat Reader); this allows everyone to see exactly the same layout and to print the magazine should they so wish.

The editorial team is very grateful for the response from

contributors and for offers of future submissions. As with any such project, its continuing success depends on participation ... **from you!** If you would like to send some photos or a short article for IRG, please email it to info@srgc.org.uk with the subject line 'IRG E-Magazine'.

Online - Saxifrage Cultivation on the Forum

The Forum provides fertile ground for many things. Here is an abridged part of an online discussion about saxifrage cultivation:

I ordered ten botanic saxifrages for a trough. What is the best soil mixture for growing saxifrages?

We use the same mixture for our saxifrage troughs as for others with alpines ... our general bulb mix, by volume: two parts gravel (6mm grit), one part leaf mould, two parts sand, and we find many plants are very happy in this mix.

My own variation would be 1 part loam, 1 part leaf mould and 1 part (or more) grit. Some saxifrages like lime to encourage silveriness of the leaves. My soil is so neutral that we can grow anything in the garden without having to worry too much about pH. You probably need to check your own pH to make sure that it is near neutral before mixing your plants in the one compost. If you are going to get serious about saxifrages then Malcolm McGregor has a book out.

Does it matter what kind of leaf mould? I assume it is finely chopped? I primarily have maple leaves, but they are very well chopped and semi-composted.

... really surprised that no one mentioned limy grit. Many encrusted saxifrages love the stuff.

I have found red porous volcanic rock quite good and have finely crushed 3 mm limestone You can also add powdered agricultural limestone on top if you want to enrich the mix.

I guess it's only granite that is more neutral. You have a nice looking topping similar to a three-coloured limestone which I use.

An Editorial Plea to Dirty Finger Nails

Dear readers, the journal you are holding parallels our online activities to some extent but it is clear from the Forum, as in the above discussion, that many members would welcome more articles on the dirty finger nailed aspects of cultivation of specific plants. Those of us who are at the heights of alpine gardening or exploration sometimes forget the dazed perplexity of the beginner.

Are there any readers who will help by contributing more articles to *The Rock Garden* on the practical aspects of plant choice, cultivation, construction and maintenance of the rock garden? If so, **please write!**

Stirling Group Discussion Weekend

1 - 3 October 2010

Following last year's pattern, the 2010 event will again be held at the conveniently central Macdonald Inchyra Grange Hotel, Polmont, just off the M9, Junction 5. With easy access by road, the hotel is close to Polmont railway station and Edinburgh Airport. Edinburgh, Falkirk and Stirling are within twenty minutes drive while Linlithgow Palace, the Falkirk Wheel, the Pineapple and other attractions are nearby.

The hotel is an extended country house on the landward side of Grangemouth. The facilities are modern and spacious and there is a heated pool for delegates to use. The registration area, lecture room, plant areas and restaurant are all on the ground floor. Accommodation is in double, twin or single rooms. A few rooms on the ground floor will be reserved for disabled delegates. There are lifts to the upper floors where there are more rooms for any delegates with disabilities.

A booking form is enclosed with the Secretary's Pages. Please indicate on the back of the booking form if you require special facilities. If you are sharing a room with someone please indicate the person's name. We will help you to find a sharer if you need one. Extra nights are available on the Thursday and Sunday as per the booking form. Please return the form and booking fee to Liz Mills as soon as possible, but not later than 6th August 2010. After this date bookings will incur an extra charge of £10.

The registration secretary: Liz Mills,
Upper Kinneddar House, Saline, Fife KY12 9TR;
Telephone 01383 852321;
e-mail liz.saline@hotmail.co.uk

RESIDENT (per person)

Friday dinner – Sunday afternoon tea, double occupancy	£195
Friday dinner – Sunday afternoon tea, single occupancy	£255
Saturday morning – Sunday afternoon, double	£137
Saturday morning – Sunday afternoon, single	£167

NON-RESIDENT

Saturday – morning coffee, lunch, afternoon tea	£40
Saturday – morning coffee, lunch, afternoon tea, dinner	£66
Saturday – dinner	£26
Sunday – morning coffee, lunch, afternoon tea	£40

Programme

Friday 1st October

16.00	Registration
16.00 - 17.30	Plant staging
19.45	President's Welcoming Address
20.00	The Bulb Group Lecture – Ian Young – '*Erythroniums*'
21.30	Small Bulb Exchange

Saturday 2nd October

08.00 - 09.00	Plant staging
08.00	Registration
09.00	Optional activities
11.15	The William Buchanan Lecture – Finn Haugli – '*Alpines at 70° North; Sixteen years with the Arctic-Alpine Botanic Garden in Tromsø*'
12.30	Show opens
14.00	The Harold Esslemont Lecture – Dave Toole – '*Alpines of Southland, New Zealand; Flowers, Foliage and Form*'
15.45	Brian Mathew – '*Cyclamen in Nature, Art, Science and the Garden*'
19.00	Dinner
21.00	Plant Auction

Sunday 3rd October

08.30	Registration
09.30	Dave Toole – '*Gems of South Island, New Zealand; my favourite NZ alpines*'
10.00	Finn Haugli – '*Alpines on the top of the World; Native Alpines of Troms County, North Norway*'
11.00	The John Duff Lecture – Maureen and Brian Wilson – *'Shooting the Natives'*
14.00	David Millward – '*Limestone Landscapes and their Plants*'

8th International Rock Garden Conference 2011

A flier giving full details of this ten-yearly event is enclosed with this distribution. The organisers have put together an exciting programme of speakers and a selection of useful practical workshops. There will be a number of pre- and post- conference tours associated with the Conference, together with a one-day plant show. Book before 31st August to reserve your place at the discounted 'Early Bird' price.

The conference tours go to England, Scotland and Greece. For all these tours please contact AGS Centre, +44 (0)1386 554 790 or www.alpinegardensociety.net for more detailed information.

Pre-conference tours to English gardens

Two pre-conference tours are offered, both to be led by Chris Bailes, curator of the Royal Horticultural Society's (RHS) Garden at Rosemoor.

Tour 1 - Gardens in the South-West is from **Monday April 4th to Sunday April 10th**. It will start from Bristol and visit many of the great gardens in the South-West, finishing at the RHS Garden at Wisley to look behind the scenes and enjoy the 50th Anniversary Rock Garden. Travel will be by coach with bed and breakfast at comfortable hotels: one night each at Barnstaple Hotel, Moorland Hotel, Pier House Hotel, the Guildford Holiday Inn and 2 nights at the Falmouth Hotel.

Gardens to be included in the tour will be RHS Rosemoor, Marwood Hill, The Garden House, Wildside garden & nursery, Tregrehan, Trewithen, Trelissick (National Trust), Glendurgan (National Trust) and RHS Wisley.

The cost will be £600. Single supplement: £25 per night.

Tour 2 - Gardens of the South-East and East Anglia is from **Sunday April 10th to Thursday April 14th**. It will leave from Wisley on April 10th and visit mostly private gardens in the South-East and East Anglia before heading north to visit the AGS Centre Garden at Pershore and another private garden and nursery before driving on to the conference in Nottingham on April 14th. Travel will be by coach with bed and breakfast at comfortable hotels to include 2 nights at the Guildford Holiday Inn, one night at the Holiday Inn, Colchester and one night en route to the AGS at Pershore.

Gardens to be included in the tour will be RHS Wisley, Robin & Sue White's Daphnetum & garden, Peter Erskine's Vale Cottage, David Hazelgrove's Pelham House, Rod & Jane Leeds's Chestnuts, Beth Chatto's garden & nursery, Kit Grey-Wilson's Red Lion House, AGS Pershore and John Massey's garden & nursery at Ashwoods.

The cost will be £440. Single supplement: £25 per night.
For persons wishing to book both tours the cost will be £1000.

Sue & Robin White's garden

Post-conference tours to Scottish gardens

Two tours are offered, giving an insight into the very different climatic conditions of each side of Scotland.

Tour 1 - The Western tour - is from **Monday April 18th to Saturday April 23rd**. It will leave the Nottingham Conference Centre and head north to Edinburgh, visiting fantastic west coast gardens for four days before returning to the Royal Botanic Garden, Edinburgh. Travel will be by coach with bed and breakfast at comfortable hotels, with 2 nights in Edinburgh and 3 nights at Inveraray.

Gardens to be included in the itinerary include Glenarn, Crarae, Torosay Castle on the Isle of Mull, Arduaine, An Cala, Benmore and Eckford. It is also hoped to visit one or two alpine nurseries in the Borders *en route* from Nottingham to Edinburgh.

The cost will be £620: Single Supplement £25 per night.

Tour 2 - The Eastern tour - is from **Saturday April 23rd** to **Thursday April 28th.** It will leave the Royal Botanic Garden, Edinburgh, to visit many large and small gardens on the eastern side of Scotland before returning to Nottingham. Travel will be by coach with bed and breakfast at a comfortable hotel in Perth for four nights and one night in Edinburgh.

Gardens it is hoped to include in the itinerary are those of Cluny, the Explorers Garden, Glendoick, Margaret & Henry Taylor, Cambo, Evelyn Stevens, Sandy & Anne Leven, Cyril Lafong, Branklyn and Kevock garden & nursery. It is also hoped to drop in at Edradour, the smallest whisky distillery in Scotland, to sample a wee dram.

For both of these tours it is important that participants are comfortable with walking reasonable distances each day with some uphill sites included.

The cost will be £615. Single Supplement: £25 per night.
For people taking both tours, the cost will be £1190.

Cyril Lafong's garden, Glenrothes

The temple of Nemean Zeus

Post-conference tour to Parnassos and the northern Greek Peloponnese, 29th April to May 9th 2011

We are delighted to offer this eleven-day tour to Parnassos and the northern Greek Peloponnese, to be led by John Richards, former President of the Alpine Garden Society and author of *Mountain Flower Walks – The Greek Mainland*, published by the AGS.

The tour starts at the magical town of Delphi, *'navel of the world'*, on the lower slopes of Parnassos. Beautiful plants occur on walls throughout the town, and we shall visit *Daphne jasminea* in its most accessible site. Driving up the mountain on good roads we shall see *Tulipa australis, Bellevalia ciliata, Iris attica*, three crocuses, three corydalis, two fritillaries and quantities of other bulbs. Delphi is a good orchid site and we will also visit the classical ruins.

Driving to the Peloponnese, we aim to stay in the small town of Kalavrita and then move on to a superb hotel at Zarouchla, close to the source of the Styx. In this region, *Cyclamen peloponnesiacum* & *Asperula arcadiensis* are widespread, and many rare alpines are washed down the Styx onto river gravels. Bulbs and alpines high on Chelmos are rich, and we will see *Crocus sieberi* 'Tricolor', *C. olivieri, Colchicum triphyllum, Gymnospermium albertii* and much else. One excursion will take us to see the almost mythical *Adonis cyllenea* and we will visit the lake and ancient monastery of Pheneos. On the way to our last stop in the beautiful once-Venetian port of Nafplio we shall take in the little-known and superb ancient site of Nemea, full of orchids, and visit a site of the little-known *Biarum spruneri.*

The cost of this tour is expected to be £1100. Single Supplement: £150.

Explorers garden, Pitlochry

The SRGC Seed Exchange 2010-2011

Ian Bainbridge (Seed Distribution Manager)

As I write, it's the end of May and the *Meconopsis delavayi* and *Phyllophyton complanatum* that we got from last year's SRGC Seed Exchange are germinating. We saw both in Yunnan last year, so it was a real pleasure to get them from the seed exchange, and from the kind donors who sent them in to the benefit of other members of the club. We are also in the swing of collecting seed: *Corydalis cava* and *Tristagma patagonica* are already ripe and collected; some for us and some for the Exchange, to be sent to Stuart Pawley in good time.

To donate seed, please send it before 31st October to our Seed Reception Manager: Prof. Stuart Pawley (gsp.srgc@tesco.net), Acres of Keillour, Methven, Perth, PH1 3RA, Scotland.

The Seed List is prepared on 1st November, so if you think your own donation might be late, please post your list to Stuart separately and early, or send him an e-mail with the list in the text – not as an attachment please, so as to reduce the risk of computer viruses. Your seed should be clean and dry and in paper envelopes, with the seed's name and your own put clearly on the packets.

The Seed List will be available from around 10th November. Overseas members and home donors will all receive it automatically but home non-donors should request it from Stuart Pawley, sending a C5 (24 cm x 17.5 cm) envelope with a second class stamp. The last date for requesting a list will be 14th December. The Seed List will also go online at the same time; you can browse and order online as well as by post. The seed password for 2010/11 will be *rock2010*. You will also need to enter your membership number, which is on the envelope in which this issue of *The Rock Garden* arrived!

Paeonia obovata alba

Phyllophyton complanatum

Seedy beauty of *Papaver rupifragum*

Seed packeting will be done by Ian Pryde's volunteer army in November and the first half of December. Seed requests should be sent to our Seed Request Manager: Dr Alan Hayes (alan.hayes31@blueyonder.co.uk), 31 Liberton Brae, Edinburgh, EH16 6AG, Scotland.

Requests should be sent before 15th January. Overseas members should send payment for surplus seed, and home members for all seed requests. Full details will be in the Seed List.

The Seed Distribution Team volunteers will be setting up to start distributing seed in early January. We hope to send out main orders by 20th January and surplus orders by 10th February. Any queries about late orders should go to Alan Hayes, please.

Finally, to our American friends, please remember to send us your APHIS 'small lots of seed' permits and labels, and check they are still valid, as many of the first issues will now have expired. If you wish, you may send your permits with your donations, rather than waiting for the order form to arrive. For American, Australian and New Zealand members, we still need you to send a list of names of requested seeds, unless you order online, when the computer will do that job for you and us.

Full details of ordering information will be issued in the Seed List, so please donate some lovely seed, order some gems, and certainly get the real benefit of the SRGC Seed Exchange!

A late Austrailian seed order but ... Yes, we did fulfil it!

Mugecuo Lake, Kangding

'A Plantsman's Paradise' Through Sichuan

Gordon Rae

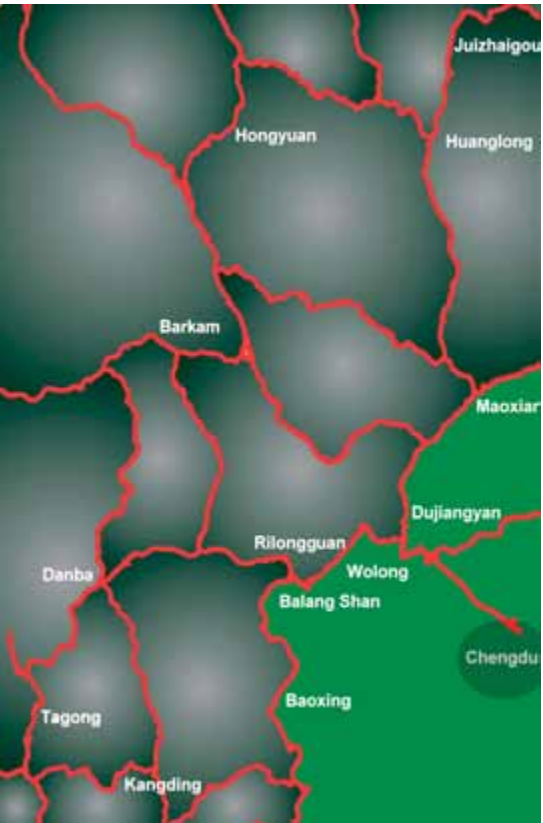
Patience has never been my strong suit; to have waited nearly fifty years to fulfil a personal ambition has to be a first for me. It all started when, as a young man with a boyhood interest in plants, gardening, farming and botany, I chose to study temperate and then tropical agriculture. I came upon a picture of the Red Poppywort (*Meconopsis punicea*) in Sichuan and decided that I had to see it growing in the wild. The wish receded, and stagnated for four decades until I saw my first and only live *M. punicea* exhibited by the Alpine Garden Society at Chelsea a few years ago. My long-forgotten desire was rekindled and added to my 'to do' list.

A chance glance at the back of the RHS *Garden* magazine showed me a trip to Sichuan organised by *Naturetrek*; by then I was already halfway there. As something I really wanted to do (and time might be running out), my wife generously offered me the trip as a 70th birthday present. There are no prizes for guessing my response! Time was well spent in preparation, obtaining maps, reading about the flora of Sichuan and Yunnan, visiting Tony Kirkham at Kew, reading Roy Lancaster's travels in *A Plantsman's Paradise*, and taking E H Wilson's classic *A Naturalist in Western China*. By then I had *Meconopsis*, *Lilium*, *Rheum*, *Primula*, *Gentian* and orchid species well and truly fixed in my sights.

Because of the devastation of the Sichuan earthquake of May 2008, *Naturetrek* had to abandon its first trip and it was not until well into 2009 that the local agent decided that it would be possible to travel. I finally met up in Chengdu in late June with a group of ten from the UK, Belgium, Holland and New Zealand, with three Toyota Land Cruisers and three Chinese drivers, for a memorable journey of three weeks through what Roy Lancaster calls '*A Plantsman's Paradise*'.

After a long and delayed flight from Heathrow we landed in mid-morning at Chengdu, a modern, bustling metropolis of some ten million people, plagued by traffic jams. That lunchtime, sitting at low tables in an open-air kerbside restaurant, we were introduced to the wide range of the highly spiced Sichuan cuisine which we were to dine on and relish. In the evening we sampled *Sichuan Hot Pot*, where plates of meat, fish, leafy green vegetables, mushrooms, lotus root, tofu and more are cooked in a steam boat of simmering spicy stock, eaten with rice and washed down with a light beer. One thing was very noticeable - we were the only Europeans amongst many million Chinese. After a seven year gap I was back in China.

Our planned route was from Chengdu west to Wolong and the Balang Shan Pass (4487 m), south to Baoxing & Kangding, across the Tagong Grasslands, and north to Danba & Barkam. The route followed large parts of the journey made by E H '*Chinese*' Wilson from 1908-10. As in Flanagan and Kirkland's recent book, *Wilson's China, A Century On*, some areas have changed little; others have been rendered totally unrecognisable by the breakneck speed of Chinese development. For me, travels through Sichuan were as much about the countryside, people, culture and photography as the plants - and I was not to be disappointed. In twenty days, we were to cover over 1000 miles of endless fascination and interest on all fronts.



Chengdu to Wolong

Chengdu, like many Chinese cities, is blanketed by greyish-white early morning smog. When this

combines with a temperature rising rapidly into the high 20s, a quick exit is the best option. The traffic was horrendous as we crawled out towards Dujiangyan and passed into the open farm land of the *Red Basin*. The mountains come upon you suddenly; one moment an intensively cultivated plain, the next a climb through steep tree-clad hillsides. It was a welcome and pleasant transition until chaos hit us as we turned towards Wolong. This was earthquake country, with the devastation of 2008 before us - buildings flattened, the school on its back, blocks of flats deserted with empty windows staring through black and eyeless sockets, irreparable gaping cracks down walls of the few remaining half-standing buildings. Bulldozers, lorries, mounds of earth and rock were haphazardly piled everywhere and dust choked everything.

We drove a short way up the valley of the Min Jiang to seek *Lilium sargentiae* but the whole hillside had slipped away, taking all the bulbs with it. Stunned into silence and massively disappointed, we headed for Wolong. It was stop-go all the way as endless opposing lines of construction and domestic traffic made their tortuous way along the reclaimed but unmade road. In places the dust was so thick it was near impossible to see the way ahead. On the few occasions we could stop we found species of *Rosa*, *Impatiens* & *Clematis*. At Wolong we faced another heart-rending sight and more disappointment. The Panda Reserve, hit by the earthquake, had been closed and the pandas moved. The town centre and the hotel were razed to the ground; the main buildings were derelict and empty. Temporary blue-roofed buildings had

Gentiana rubicunda

been erected to help a near helpless situation. Chinese resilience is impressive.

Beyond the town we drove to the Yinglong Valley, with a fast flowing tributary racing through it. Serious botanising began as we marvelled at the treasure trove of plants: *Gentiana, Sedum, Pedicularis, Lonicera, Fragaria, Arisaema, Hydrangea, Cardamine, Corydalis* & *Actinidia* to name but a few; it was magic! The group quickly split into the *woody men* and the *herbaceous group*. The latter, including me, was more seriously photographic. Below the tops of the near-sheer sides of the narrow ravine wheeled small flocks of swifts and martins. That afternoon was a memorable introduction to Sichuan – *A Plantsman's Paradise*.

Wolong and the Densheng Valley

We retraced our steps through earthquake-ravaged Wolong about 20 km past Yinglong Valley to Densheng Valley through which the Pitao river runs, stopping to admire *Cladrastis* in full flower and - alongside the river - *Rodgersia, Acer, Salix, Pterocarya* & *Deutzia*, whose species were sometimes difficult to confirm. Even our botanists, nurseryman and dendrologist could not always agree. As we drove higher, the vegetation changed, with far more conifers and *Tsuga* completely clothing the mountainsides. We spent the day in the Densheng Valley, oblivious of time and even of place: *Phlomis, Quercus, Anemone, Veratrum, Orchid, Paris, Euphorbia, Iris, Daphne, Polygonatum, Spiraea, Berberis, Caltha, Arisaema* and ferns to die for. What a great day!

Pedicularis oxycarpa

Primula sikkimensis

Everyone was ready for another spicy dinner, which numbed our lips, tongue, cheeks and the roofs of our mouths until the following morning. It was after this dinner, in my room, that disaster struck. Tired and late, editing my digital images in dim light, I accidentally deleted some 200 photographs of Chengdu, the trip to Wolong and all the plants from the Yinglong and Dengsheng Valleys! I could have cried.

Towards the Balang Shan Pass

The crowing cockerel that started at 4 a.m. should have its neck rung. Our plan was to drive to the Balang Shan Pass (4487 m), but bad road, repairs, machinery and one-way traffic blocked our way to the top that day. We stopped wherever we wished and were rewarded with massed clumps of *Primula sikkimensis*. At 3500 m we reached an area packed like Jacob's coat of many colours with such gems as *Cypripedium tibeticum*, *Omphalogramma*, *Fritillaria* & *Lilium lophophorum*. Unfortunately for the *woody men*, most of the many rhododendrons had finished flowering.

At another point, in heavy mist, we fanned out over the mountainside and found the one plant for which I had travelled nearly ten thousand miles and waited fifty years to see in the wild. Hanging its crumpled scarlet petals and weighed down with heavy dew was *Meconopsis punicea*, the Red Poppywort - an iconic alpine if ever there was one. In the same area were the lemon-yellow *Meconopsis pseudointegrifolia*, *Lloydia*, *Primula* species & *Ligularia*. My day and my trip

The road to Balang Shan

had already been made. That night in Wolong I edited my photographs, taking great care not to delete the Poppywort.

Wolong to Baoxing *via* Balang Shan Pass

A herb omelette for breakfast rather than egg noodles was quicker and left more time to photograph the locals before leaving. We retraced our route for the third time to get to the Balang Shan Pass (4487m), winding around the tight hairpin bends ever onwards and upwards, passing hillsides carpeted with *Caltha* and, on the forest-clad gorge sides, masses of *Meconopsis* and *Primula*.

At the pass - some 4500 metres - trying to move quickly was a mistake; at that altitude you take it all very slowly! For once, the mist had cleared to provide spectacular views. With such poor roads, little travelled that way, certainly few tourists and no other Europeans. Within a few years, this will be a tarmac rat-run for the world to travel in ease and comfort. We were privileged.

On the descent to Rilong were *Pedicularis*, *Meconopsis*, *Daphne*, *Rhododendron*, *Geranium* and *Primula*. We stopped at various spots and at one we found *Paraquilegia anemonoides* in perfect condition clinging to a vertical rock face.

By the time we turned south to Baoxing before Dawê it was Friday evening but the road men and women were still hard at work. The road, freer of traffic in the dark, was pot-holed, dusty in some places and a quagmire in others, with the remains of some nasty accidents along the

Meconopsis punicea

way. We reached Baoxing late, tired and hungry, to enjoy barbequed skewers of meat, vegetables, eggs, some rice and - of course - beer.

Baoxing to Kangding

After breakfast in a Baoxing kerbside noodle bar, we left on the easy drive to Ya'an and on to Kangding - a five hour journey. How wrong can you be? The road mostly followed the valley of the river, the Qingyi Jiang.

The gorge, probably 300 m deep, has sheer sides clothed in vegetation of the darkest green. Above the road, another gem, *Lilium sargentiae,* grew from the over-hanging rock face, in full flower and perfect condition.

In the red soil around the houses grew a wide variety of crops, vegetables, rice, maize, beans, peppers and potatoes. Soon after lunch we hit another major traffic jam - a serious accident. An articulated truck had crashed through the barrier and tumbled some sixty metres into the river below; a recovery crane blocked the road. The attempt failed, the crane moved and we passed through. Soon after, we learned that a local had backed his truck into the side of one of our vehicles. Those involved had to go to the police station; we continued; they had a long delay; such procedures move slowly in rural China. We drove through the Erlang Shan

Lilium lophophorum

tunnel and on to Luding. All went well until there was a nasty smell and a loud *ping*. One rear wheel axle was now 30 cm outside the rear side wheel; the vehicle limped late into Kangding and was taken to the *car hospital*. Few flowers and a frustrating day ... but this was Sichuan and China.

Around Kangding

Kangding nestles in a steep-sided valley at the confluence of the racy Zheduo and Yala rivers that sweep down a canalised cut through the centre of the town. In Kangding it's *all change* ... from Chinese to Tibetan. It is an historic trading post where two cultures stop and start.

Our first expedition led south towards the lower slopes of Gongga Shan (Minya Konka) at 7556 m, at this time of year unfortunately shrouded in its misty blanket. We passed large development areas that two years previously had been virgin countryside. That said, they teemed with plants - *Iris chrysographes*, *Primula bulleyana*, *Quercus aquifolioides*, *Arisaema*, *Syringa*, *Picea*, *Daphne*, *Rhododendron souliei*, *Primula* & *Ligularia* alongside the river. In the mist at about 3800 m we explored a boggy area and were rewarded by *Rheum alexandrae* with their statuesque pale yellow conical spires, orchids, *Caltha*, *Trollius*, *Cassiope*, *Pinguicula*, *Primula* ... the list went on and on. In the afternoon we circumnavigated a lake in thick mist and rain, inhibiting the enjoyment of botanising or any serious photography. However, a hot shower, another *Sichuan Hot Pot* and the odd beer soon restored our flagging spirits.

Incarvillea mairei

Trollius farreri

Rheum alexandrae

Mugecuo Lake

Mugecuo Lake lies north-west of Kangding. The entrance to the park has been rebuilt and commercialised ... but I was delighted that people over seventy enjoyed free entry. The notice at the entrance made me smile: it read '*Thanks for your corporation*'. As cars may no longer enter we took a *Green Bus* from the entrance (2900 m) up the 18 km surfaced road to the lake (3900 m). Shrouded in mist, it was as beautiful as it was serene. Alongside the pathways was an abundance of plants, all in flower: *Primula, Lancea, Ajuga, Corydalis, Meconopsis, Morina, Iris, Rheum* and some fine *Abies*. Having descended to the hot springs we followed the park alongside the river in deeply shaded woodland, finding *Viola, Chrysosplenium, Oxalis, Smilacina*, lichens, ferns, and fungi.

The Chinese visitors were even more interested in us than we were in them. They always ask how old you are. One lady thought I was fifty. I liked her very much!

Jiarong farewell from the hotel in Danba

Kangding to Danba

Leaving Kangding we soon hit the inevitable traffic jams, road works and muddy quagmires on unmade sections. Fantastic scenery, but it was too difficult to stop until we reached the Zheduo Pass at 4296 m, giving some superb views. A newly opened piece of tarmac road to Kangding airport and Tagong soon ran out and reverted to dirt. However, at about 4000 m we were rewarded with huge areas of *Incarvillea*, *Gentiana*, *Stellera*, *Rheum* and more *Primula*. We were soon into the Tagong grasslands - vast open spaces with scattered villages, yaks and summer grazing camps; China had been left behind. This was Tibet, with its hardened, weather-beaten and bronze-faced people along the roadside selling delicious yak yoghurt to be mixed with honey.

We made good progress to Tagong but this is China ... the road onward to Danba was blocked by a temporary barrier and there was no way we were to be let through, even for real money! We could see the roof of the *Golden Temple* but visit it we could not. The only way ahead was to turn back and, once out of sight, *'do a runner'* to the east across ditches and pasture, through the river and back on to our road to Danba. The drive across the grasslands was fascinating

Lilium davidii

The realities of botanising: in the mist

except for the *woody men* – not a tree in sight. For those interested in the people and local culture the frontier town of Bamei proved to be a photographer's dream as we sat waiting for our lunch in a road-side noodle bar.

Beyond Bamei we climbed through pasture to the Zhedou Shan, with birch woodland, *Paeonia* and *Clematis* at about 4000 m, and great views of the snow-capped peak of Mount Zhara. Alongside the river within the narrow tree-lined gorge before Danba were *Spiraea*, *Sorbaria*, *Saxifraga*, *Aquilegia*, *Epilobium*, *Thalictrum*, *Indigofera*, *Lilium*, *Ramonda* & *Crassula,* to name but a few. We arrived in Danba, late, tired but very happy to be welcomed by the young female staff, all in their local Jiarong costume, who sang to us as we sipped cold beer.

Polygonum species

Around Danba

Outside Danba we found a side valley where the *woody men* were immediately in seventh heaven. At about 3000 m were *Arisaema*, *Leontopodium*, *Anemone*, *Daphne*, *Aralia*, *Ophiopogon*, *Crassula*, *Phytolacca*, *Incarvillea*, *Rosa*, *Saxifraga*, *Papaver*, *Gentiana*, *Betula*, *Acer*, *Quercus*, superb *Tsuga* and a range of ferns. On our return we found *Actinidia*, *Tetrapanax*, *Tamarix*, *Viburnum*, *Datura* and the

infamous Sichuan Pepper Tree, *Zanthoxylum*. This had been a memorable day indeed.

Danba to Barkam - but not to Zöigê

Beneath leaden skies, drizzle and heavy mist we left Danba and drove to the Shuopo Watch Towers - grey-black brick-built stacks appearing and disappearing in the swirling mists of the hillside. Nobody seems sure why they were built. Very little of the day was spent botanising; the objective was to reach Barkam. In the Tibetan borderlands we were being closely tracked and the police always seemed to know exactly where we were. The next leg was planned from Barkam to Zöigê, northward following the Gar Qu river. We never made it - the police and the army saw to that. At Shamalukou we headed north, out of the mountains and along the river, with hills to the west and open grassland to the east. On the screes we found *Phlomis*, *Astragalus*, several *Pedicularis*, tubular gentians and *Clematis*. At about 3500 m in a swampy area was a mass of lemon–yellow *Cremanthodium brunneopilosum* (shown on the cover of this issue), *Paeonia* and *Pedicularis*.

Cypripedium tibeticum

Paraquilegia anemonoides

At 4100 m on the pass called the *Watershed of the Chang Jiang and Huang He* (Yangtze and Yellow Rivers) we found the very pretty dark-red *Primula tangutica* and *Fritillaria*. We sped along a good tarmac road alongside the grasslands, many covered in pink carpets of *Primula* and asters, through Hongyuan to Gashuangma. It was here, at a road block manned by armed soldiers and police, that our little convoy was stopped. The road to Zöigê was closed and we must turn back. For two hours, negotiations continued with telephone calls to high officials in Chengdu but no one would countermand local orders. We were forced to return to Hongyuan. On the way we stopped at a small hotel where we checked in and ate a late dinner; partway through our meal the police arrived and told us to move out and drive back to Hongyuan. We arrived late at a hotel where, it seemed, rooms had been booked for us, probably by the police. They would then know where we were. One of our more frustrating days!

Hongyuan to Jiuzhaigou

As the most northerly leg of our trip was now impossible, it was decided to head east to Jiuzhaigou and then south to Huanglong and Songpan. The road cut east across the wide, open and yak-grazed plain, the soil a peaty organic mat above a strong conglomerate substrate. The

Meconopsis pseudointegrifolia

Tibetan nomads' black-skin yurts peppered the landscape, with grasslands spotted with colour from *Spiraea*, vetches, *Ligularia* and *Stellera*. We completed our journey to Jiuzhaigou through the Gongan Len Pass (3200 m) without further incident, arriving in the early evening. I sat sipping a welcome drink, watching the world go by, while hotel accommodation was found.

Jiuzhaigou National Park

There was botanical promise in a valley to the north where we could see a forest of *Robinia* trees, *Lonicera* and *Euonymus* but we were turned back again ... for health and safety! We made for the National Park instead, despite hearing that it had become a hell hole to be avoided at all costs. But on our visit this turned out not to be true; we had a great uncrowded day. Around the *Long Lake* we found acers, birches, *Acanthopanax*, *Sorbaria*, *Lonicera* and *Clematoclethra*. Below the *Bamboo Lake* with its crystal-clear and vivid blue water were *Abies*, *Cornus* and *Phyllostachys*. The *Arisaema* had finished flowering but ferns such as *Adiantum* and *Dryopteris* abounded in the dense shade. The walks through the woods and past the many lakes were well worthwhile, despite recent commercialisation of the site.

Primula dryadifolia

Jiuzhaigou to Huanglong

We retraced our route south from Jiuzhaigou to Chuanzhusi on a good road through a steep-sided pine-clothed valley. Part of the mountain had slipped away in a huge landslide some years previously. It was recolonized firstly by birch and willow and now by conifers just beginning to grow through. To one side at about 3300 m we found various primulas, gentians, clematis, asters and paeonies, all close to the road. South of the Gongan Len Pass the valley opened out and the roadside banks were covered in *Spiraea* in full flower. At Chuanzhusi we turned east off the main road, once more into road works and slow moving traffic.

Near the summit of the pass at about 4200 m, we met - quite by chance - a resident German orchidologist, Holger Perner, whose Japanese wife found the orchids *Amitostigma* and *Galearis* protected beneath low bushes not yet grazed by the local yaks. He recommended us to a quarry near the summit at 4300 m; despite thick mist we found it - and what a find it was. Road works were devastating any local flora in their path but the quarry was an alpine treasure trove - *Meconopsis punicea*, *M. integrifolia* & *M. horridula* higher up the screes, *Sieboldia*, *Alchemilla*, dwarf *Salix*, *Lloydia* lilies, *Primula* species and orchids. Notwithstanding the

Ranunculus platypetalus

heavy mist and cold it was heaven for botanists and photographers alike. Unfortunately, the trucks and carts hauling out the stone were gradually destroying more and more of this unique habitat. Hot chocolate and a nip of Glenfiddich did a power of good to numbed bones but that quarry will endure in our minds for a long time.

Huanglong National Park

It is worth taking the new cable car to 3550 m. From the top, a wide wooden walkway is being built down through the woods. This is a bonus for the tourist but has spoilt the place for the botanist. That said, the woods are packed with plants, ferns and mosses. We found species of *Rosa*, *Cardamine*, *Juniperus*, *Abies*, and *Primula* amongst trees festooned with the lichen, *Usnea*. There were Crested Tits and Tree Creepers in the woodland, although the bird life generally throughout this trip was disappointingly sparse.

At 3600 m we reached the famed Huanglong ponds, breath-taking even on an overcast and misty day. Each pond with its own outer wall of travertine is a different colour from sandy brown, pale blue and aquamarine; the water is crystal-clear in every one. In little glades around the pools were massed scarlet *Meconopsis punicea* with *Fritillaria* dotted amongst the poppies. Below the ponds were other pools and waterfalls where *Cypripedium tibeticum*, *C. flavum* and *Primula* grew on the river

The Sacred Hindu Lotus Lily, *Nelumbo nucifera,* Chengdu

banks. Although more commercialised day by day, Huanglong National Park, its plants and the colourful local people from Songpan are not to be missed.

Danyun Gorge and Songpan

To the south-east of Huanglong lies the Danyun gorge, clothed in thick forest, topped by eerie swirling mist, the road running alongside the very angry and fast-flowing river. The *woody men* loved it; everywhere was another new plant to enjoy - *Ligularia, Pedicularis, Lilium, Actinidia, Hydrangea, Deutzia, Fragaria, Gentiana, Leontopodium, Calanthe, Epipactis, Polygonum*, acers, *Schizandra, Stachyurus, Buddleia, Acanthopanax, Ilex, Clematoclethra, Corylopsis* and cucurbits. We stopped for lunch in Shuanghe where we were of much greater interest to the locals than they were to us. Over lunch we perused Perner's book on orchids and admired a photograph of *Spiranthes*. Two little girls came into the roadside café and presented one of us with a bunch of picked flowers. To our amazement it contained a spike of pink *Spiranthes* but, unfortunately, the girls could not find the spot where they had picked it.

Songpan to Maoxian via the Munigou Valley

Songpan, a favourite town of E H Wilson, dates back some 2300 years and is still protected by an ancient wall and entry gates. Even in the 21st century it retains its mediaeval charm. We were on the last leg of our

Great Panda at Chengdu

Looking out for her yaks

Hotel lobby at Danba

Mount Zhara, between Bamei and Danba

Pools at Huanglong

journey, southward back to Chengdu via the Munigou valley and Mao Xian, heading back towards the epicentre of the 2008 earthquake. More road works impeded us, but the smallholdings along the way growing wheat, beans and a vast range of vegetables certainly retained my interest. In the valley below, new species grew along the road, such as an electric-blue delphinium, *Hyoscyamus niger* (Henbane), *Cuscuta* and *Clematis*.

The Munigou valley park was another paradise. It was tranquil, more or less deserted and free from visitors. From the entrance to the hot springs (3416 m) - past crystal lakes of green, blue and turquoise - to the furthest point, the range of plants, ferns, mosses and lichens was endless. Beneath the mature woodland conifers were *Paeonia*, *Polemonium*, *Aquilegia*, *Thalictrum*, *Pyrola*, *Pedicularis*, *Polygonum*, *Corydalis*, *Cardamine*, *Cynoglossum*, *Ligularia*, *Meconopsis*, a range of *Primula*, *Eriostemon*, *Arisaema*, *Salvia*, *Gentiana*, *Lonicera*, *Podophyllum* (unfortunately not in flower), *Aster* and *Geranium*.

The road to Mao Xian following the Min River was another nightmare but as we descended into warmer areas we started to look for the tell-tale white trumpets of *Lilium regale*, which had so far eluded us. Just short of Mao Xian we spotted the odd bloom high up on the rock faces and next morning we drove back up the valley to the spot (1700 m).

Hyoscyamus niger

Anaphalis nepalensis

We took our lives in our hands by scaling the steep slopes to get closer but finally obtained the photographs for which we had longed. On the road to Chengdu we stopped in Wenchuan, the epicentre of the earthquake; it was a heart-breaking sight of collapse and devastation. We arrived in Chengdu with just enough time to visit the Giant Panda Research Station where the Giant and Red Pandas made a pleasant and interesting change from plants.

The three-week journey through West Sichuan had been a one-off trip of a lifetime, into what can be truly called a *Plantsman's Paradise*.

I am grateful to several people: Naturetrek's tour leader John Shipton; Jason Lees and his staff at Haiwei Trails; Tony Kirkham at Kew; Martyn Rix and Phillip Cribb for their plant identification.

References

Heather Angel (2008) *Green China*, Stacey International

Mark Flanagan & Tony Kirkham (2009) *Wilson's China: a Century on*. Kew Publishing

Roy Lancaster (2008) *Plantsman's Paradise: Travels in China*. Garden Art Press

Ernest Henry Wilson (1913) *A Naturalist in Western China*. Methuen

Opposite: *Lilium regale* near Mao Xian

Craspedias

Jeff Irons

During a trip to New Zealand my tour party was taken to Mount Hutt. On the way up it stopped so that people could see *Notothlaspi rosulatum*. While the others were taking pictures of the 'Penwiper Plant' I wandered off to see whether there was anything else in the vicinity. Not far away I came across a plant with a rosette of gorgeous silvery white leaves and a yellow flower head, shaped like a smaller version of *Primula denticulata.* Neglected by the tour guide and consequently by the party, it was probably *Craspedia lanata.* The visit showed why my efforts to grow this species had been full of difficulties: the mountain was shrouded in dense fog; the area receives about 200-220 days of fog a year. It was also one of New Zealand's 'dry' mountains, with an annual rainfall of about 80 inches. The *Craspedia* was growing in a moist, almost saturated, atmosphere but in very well drained soil. Quite possibly the soil was very open and well aerated near the surface, yet a short distance down it could become dense, with only small air spaces. Creating similar conditions in the rain shadow area where I live would need a deal of effort.

I put this incident out of my mind until I came across Brian Halliwell's article (*The Rock Garden*, issue 64) on craspedias. *Craspedia* has long been a confusing genus and Brian tried to make sense of their names. He gave very sound practical advice on cultivation, based on his experiences of them in the wild and of growing them at Kew. Thirteen species were listed, eight in Australia and six in New Zealand, with only one in common to both. At the time it was known that there were more species, especially in the alpine parts of Australia, but they had not been studied by botanists. Whenever a genus is found in both Australia and New Zealand questions arise about its origin. Sometimes it is an ancient Gondwanan relic; sometimes it is a recent introduction. New Zealand's craspedias have affinities with those of the Kosciuszko region of Australia

Craspedia variabilis, Namadgi, Australia

Craspedia coolaminica (photo: Greg Jordan)

and are believed to result from a single post-glacial introduction from Australia to New Zealand where, finding an empty land, they were able to speciate. In contrast, there appear to have been several introductions to Tasmania from mainland Australia.

Thirty years after Brian's article, the identities of the Australian members of this daisy genus have largely been sorted out. Australia now has seventeen species. Additionally, three Australian species are still to be described and the Tasmanian members need further investigation. Some

other mainland Australian entities are thought to be natural hybrids. In this connection it is worth noting that since grazing in the Mount Kosciuszko area has been banned the number of apparent hybrids has decreased, perhaps because of decreased disturbance of natural areas. New Zealand now has six confirmed species but more investigation is needed. No species is common to both countries and some of those described by Brian have been transferred to the reinstated (1992) genus *Pycnosorus.* The only one of the latter likely to be encountered in British cultivation and seed lists, always in my experience as a *Craspedia,* is the tall-stemmed and not very winter-hardy *Pycnosorus globosus.* It is so different that one wonders why, for a short time, it was called a *Craspedia.* Both genera are annual or perennial forbs; there are large botanical differences in the compound flower heads - by pulling them apart you can see that *Pycnosorus* flowers have a stalk, whereas those of *Craspedia* do not. Craspedias have a basal rosette of leaves and if there are any leaves on the flower stalk they diminish in size and number up the stalk. Their flowers fade when they are dried. *Pycnosorus* have a few tufted leaves at the base with further leaves on the stalk. Most importantly to us, they are grown for dried flower arrangements because, unlike craspedias, their flowers retain colour after drying.

I can do no better than quote Brian's description of craspedias. He wrote: '*Plants form a loose rosette from a perennial rootstock of more or less oval or pointed leaves. These can vary from being glabrous, even sticky, through varying degrees of hairiness to being covered with white wool. From the rosettes flower stems arise, usually with a few leaf-like bracts, to support a single globular flower-head of the bachelor button type (a common Australian name for members of the genus is Billy Buttons). The flower colour varies from white through cream and shades of yellow to gold and may verge towards orange. Mostly plants would be grown for their flowers; whilst at least three species have attractive foliage, in one the flowers are vastly inferior.*

The small compact forms from high altitudes of most, if not all, species are desirable plants for any rock garden. Plants are easily raised from seed, although there is always a high percentage of infertile seed in any sample; under English conditions good seed is rarely produced. It should be sown on a lime-free, well-drained compost in gentle heat and following germination seedlings should be potted singly into small pots as

North from Mount Kosciusko, Kosciusko National Park

soon as big enough to handle. All I have grown have proved to be hardy out of doors under dry winter conditions but they are intolerant of winter wet. Plant in full sun, in a lime free soil that is gritty or even in a scree and cover the hairy ones in winter with a sheet of glass. Even the non-hairy ones benefit from such protection in wet districts. They make good plants for the Alpine House for while their main flush of flowers is produced in the late spring, in most species flowers can be produced erratically at other seasons. As many have thick, rather long roots, they are better grown in pots than in pans. Under pot culture they should never be allowed to dry out and a watch kept for aphis which congregate in the base of the crown where they are difficult to reach with sprays.'

Wild-collected seed is usually sent out unclean, a mixture of fertile and infertile seeds. Often, many once-fertile seeds have been attacked by borers, so that an apparently full packet contains very little viable seed. The paucity of seed from British gardens stems from the small populations usually grown by gardeners. They collect seed from a small number of plants; fertility is consequently low and, over a few generations, viability declines almost to zero. I try to grow at least ten specimens of any herbaceous plant. Although this is more than most amateurs, it is below that in the usually recommended 25 m^2 for daisies - even those that are self-compatible. In gardens, the young of most *Craspedia* are often eaten by slugs and should never be planted out in their first year. Oddly, this problem comes only with first-year plants; second and subsequent years see no problems. Pot-grown plants are not attacked, even when the pot stands on the ground. I have found that in my English north-western garden the Australian species are much less troublesome than the NZ species and that all I tried have been winter deciduous. However, if grown in the ground few of them survive winter. When grown in a container on the ground all overwinter with no problems.

The daisy flower has an interesting way of avoiding self-pollination, which affects what we must do to maximise the amount of seed. The stamens have united anthers that open inwards. The style grows up through the anther tube, collecting pollen on special sweeping hairs for distribution in various ways such as insects and wind. About two days later the style end opens into two lobes, displaying the receptive surfaces of the stigma, which can then receive pollen from another flower. In some (but not all) daisies, if they are not fertilised these lobes cross over each

Craspedia alpina

other or curl back, so reaching their own pollen and causing self-fertilisation. In the case of craspedias the pollen on newly opened flowers makes them much darker than the others. It is good practice to dab a newly opened head against an older one on another plant. This helps to ensure pollination and a good seed set.

In describing individual species I've used a mixture of Brian's observations and my own, without ascribing statements to either one of us. When visiting an area the geographic location in which a species is seen will give a good clue as to its identity. In Britain the descriptions should be sufficient for identification of garden-grown plants.

C. alba is a rare species found only on the Bogong High Plains of Victoria and a few alpine parts of New South Wales, in moist depressions and alpine bogs, often growing with the leaves partly submerged. It has both narrow silvery leaves with undulate margins and white flowers. *C. leucantha* is the only other Australian species with white flowers - and that species has long green leaves over 5 mm wide, whereas those of *C. alba* are no more than 5 cm long. It is species A (no. 336) in the book *Kosciusko Alpine Flora*.

C. alpina can form extensive drifts in alpine grass on Tasmania's mountain plateaux. There is little variation, with leaves invariably narrow and covered with white cotton. The flower heads, on stems up to 250 mm, are quite large for the size of plant, being some 25 mm in diameter and always a creamy white. Brian wrote that it benefits from scree conditions and a sheet of glass over it in winter. I find that *C. alpina* will overwinter in a raised bed filled with 'ordinary' garden soil and that when several specimens are grown together in a 30 cm pot they will overwinter without any covering.

C. aurantia has pale green leaves covered with stiff hairs and orange flowers more than 20 mm across. It is species F in *Kosciusko Alpine Flora*. This species often hybridizes. It affords a good example of how even the very knowledgeable can make mistakes. Seed collected by an Australian daisy enthusiast and sent to me as *C. aurantia* produced seedlings that

were clearly not that species and I decided that they were *C. crocata*. On examination, my initial identification proved wrong, for their flowers had characteristics of both *C. crocata* and *C. jamesii*. Unusually for a *Craspedia* grown in Britain, a group of five single stemmed plants produced over 700 fertile seeds, another indication of their possible hybrid origin. Their long flower stems (about 80 cm) made them unsuitable for the alpine garden.

C. canens is a low-level summer-flowering species in grasslands in the Australian States, Victoria and New South Wales. I have not grown it.

Craspedia variabilis

C. coolaminica is another Australian species from New South Wales, Victoria and Tasmania, in sub-alpine areas among grasses on stream flats and in woodland (the term *woodland* does not have the same meaning as in Britain - it signifies treed areas with a canopy cover between 10% and 30%). Another species with long narrow silvery-grey leaves, it has smaller flower heads than the other sub-alpine species. On smooth hairless stalks up to 20 cm long, they are 1 to 2.5 cm across. In a gritty soil this has proved to be long-lived and reliable in cultivation; it thrives on neglect and in soil 10 cm deep atop a metre-high wall it is reliably perennial. It hybridizes with other species and silver-leaved plants grown from seed collected on Lankey's Plain appear to have characteristics of both *coolaminica* and other species. Plants grown in a mixture of three parts grit and one soil, kept wet all winter, have lived for as long as 15 years, giving a bountiful crop of seed only in the year they died.

C. costiniana is found in the drier parts of alpine and high sub-alpine grassland of New South Wales. The very hairy greenish-grey leaves can be up to 12 cm long and the handsome globular golden yellow flower heads are 1.5 to 3.5 cm across, on a cream to red stalk covered with long hairs. It is species D (340-1) in *Kosciusko Alpine Flora* and is found in exposed grassland, often in the drier parts.

C. crocata occurs in moister parts of the lower sub-alpine grasslands of the Southern Tablelands of New South Wales. A handsome species, its basal spoon-shaped green leaves have sparse woolly hairs and a long

Craspedia and *Stylidium*

reddish coloured stalk which, in cultivation, differentiates it from *C. aurantia* when not in bloom. The flower heads are 1 to 2 cm across and reddish orange in colour, a little paler than those of *C. aurantia* and usually only about 10 to 15 mm across.

C. glabrata is a rare Tasmanian alpine species found in a few parts of the island's Central Plateau. Summer visitors may see it near Ben Lomond ski village. Unlike those of *C. glauca*, its V-shaped leaves are green, either narrowly linear or larger at their ends. The small flower heads, on a purplish stalk up to 30 cm high, are at best only about 12 mm across, with white ray florets. In the *Flora of Tasmania* (1963) it is called *C. glauca* var. *glabrata*.

C. glauca is a widespread Tasmanian species, found from sea level to montane parts and needing botanical revision. The greyish or green leaves can be up to 25 cm long, sometimes with a long stalk, and the almost spherical yellow flower heads are up to 3.5 cm across, on stalks up to 1 metre high.

C. haplorrhiza grows in damp spots, on heavy soils in all of Australia's eastern States except Tasmania. Another non-alpine species, it has spoon-shaped to oblanceolate leaves with hairy margins. There can be many of the golden yellow flowers, on reddish stalks, 7 to 15 cm. tall. It is the only *Craspedia* with a single tap root.

C. incana is found on screes of the eastern mountains of New Zealand's South Island from central Marlborough to Otago. The smallest of the country's craspedias, it is also probably the most desirable. Its leaves, up to 10 cm long, are proportionately much wider than those of *lanata*. They and the flower stems are both covered with white woolly hairs. The 2 to 3 cm wide flower head is borne on a short stem, 10 to 30 mm long. Initially yellow, the flowers age quickly to white.

C. jamesii is another species from the lower sub-alpine grasslands of Victoria and New South Wales. The bright green spoon-shaped leaves have a drawn-out base, shorter than that of *C. crocata* and the golden yellow flower heads are hemispherical rather than spherical. This feature serves to identify it when in bloom and is much more reliable than trying to separate it from *C. crocata* by flower colour. The stalk is cream to crimson.

C. lamicola is found in high, wet, alpine parts of Kosciuszko National Park in New South Wales (*lama* means bog or fen and *cola* means *dwelling in*). It has green drooping leaves 4 to 25 cm long and a golden-yellow flower head up to 3.5 cm across, hemispherical rather than globular. The stalk is often red and woolly. It is species E (No.342) in *Kosckiusko Alpine Flora*.

Craspedia aurantia

C. lanata is a plant of the alpine regions of the drier parts of New Zealand's South Island, from Marlborough to Otago. Winter deciduous, it has greyish leaves pressed closely to the surface of the leaves, which can be up to 10 cm long and taper towards the petiole. Sometimes the hairs disappear from the upper surface as the leaf ages, though a vestige usually remains. The yellow or white flower heads, 1 to 3 cm across, are on stems up to 30 cm long. There are two sub species, *elongata* and *lanata.*

C. leucantha is found in wet areas near snow patches and stream banks; this species flowers in midsummer in the Kosciuszko region. It has bright green leaves with just a few hairs on the margins. Basal leaves are spoon-shaped and cream to red at the base, those on the reddish flower stalks are lanceolate. As the name suggests, the flowers are a creamy white and often there is more than one flower stem per plant.

Craspedia at Mount Buller

C. major is found on lowland parts of the west coast of New Zealand's South Island. The rosette of large elliptic to ovate (10 to 20 cm) leaves makes it quite distinctive. The flower head is white to creamy white.

C. maxgrayi is widely distributed in alpine (and sometimes sub-alpine) grasslands in New South Wales and Victoria. The largest of the silvery-leaved Australian craspedias, it has leaves up to 15 cm long and a globular yellow flower head up to 4.5 cm across on a reddish brown stalk. In *Kosckiusko Alpine Flora* it is species C (339).

C. minor (ssp. *minor* & *viscosa*) is a New Zealand endemic that forms small rosettes of spoon-shaped leaves about 25 cm long and covered with bristly hairs. The yellow flower heads are produced on stems up to 25 cm long. One of the smallest species, it is an easy one for cultivation and is quite showy.

C. paludicola is a lowland species from swampy areas in New South Wales, Victoria, South Australia and Tasmania. It is also found at Lake Mountain in Victoria and on Tasmania's Mount Wellington. A robust plant, it has narrow dark green oblanceolate leaves with a few woolly or septate hairs. The bright yellow flower heads are on stalks up to 75 cm high.

C. preminghana is a Tasmanian endemic restricted to Mount Cameron West (Preminghana) near Marrawah. The leaves are oblanceolate to spoon-shaped, dull green above and light green below, with purplish bases. Each plant produces one to three white flowers on greenish purple stalks.

C. robusta (has var. *pedicellata*) is restricted to coastal regions of New Zealand, being found mostly on cliffs. Its leaves are very variable and may be narrow and linear, spoon-shaped, oval or almost round with the tip elongated to a point. The underside of the leaf is shiny, sometimes silvery, with prominent veining; the upper surface is usually glabrous but may retain some hairs along the margins when mature. Substantial flowers

are produced on long flower stems, which can reach 600 mm. Mostly too large for all but the bigger rock gardens, they are easy to grow. There are two subspecies, *robusta* and *pedicellata.*

C. uniflora (var. *uniflora*, var. *grandis*, var. *maritima*). is a species often confused in cultivation with *C. glauca* and can be distinguished from it by the margin of fine hairs around the leaf edges. Though older books described this species as also being found in Tasmania, current botanical opinion is that it is confined to New Zealand.

C. variabilis is widespread in forest, woodland and grassland in Queensland, New South Wales, Victoria, Southern and Western Australia, but never in alpine areas. Plants grown from seed collected on high level grassland in the Australian Capital Territory have proved winter hardy in Britain; their yellow flower heads, to 4 cm across, appear in early summer on 75 cm stems. This species will almost certainly be split into several new ones. A paddock of this species makes a grand sight - looking just like a field of English buttercups.

Sp. 1 occurs in montane and sub-alpine grassland in Victoria. It has a few broadly spoon-shaped leaves which taper to a reddish stalk and have conspicuous secondary veins. The deep orange flower heads are borne in summer and there are one to two per plant.

Sp. 2 is endemic to the drier grasslands of volcanic plains near Derrinallum, Victoria. A small plant, it has a basal tuft of upright spoon-shaped hoary leaves with reddish narrow stalks. The pale yellow flowers appear in late winter and have reddish stalks.

Sp. 3 is a Tasmanian alpine species awaiting a description and publication.

Species B in *Kosciusko Alpine Flora* (and in Kosciuszko) was thought to be a hybrid. However a paper awaiting publication describes it as a good alpine species.

Although not often seen in seed lists, nursery catalogues or gardens, craspedias are worth growing. They add an unusual touch to the early summer scene and merit more attention than has been given to them in the past. Superficially, most are very similar and only the collector will want more than one species.

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Jewel of Oman
In Search of *Dionysia mira*

Klaas and José Kamstra

'It was disappointing to have failed. To have climbed Jebel Akhdar would have crowned my exploration in Oman. I realized that my journeys in Arabia were over.' (Sir Wilfred Thesiger, April 1950).

Some 53 years later it was much easier for us to reach the higher parts of Jebel Akhdar but, with the end of our stay in Oman in sight, we had almost the same feeling as Thesiger. Here is our story. On an earlier visit in December 1998 we already had fallen in love with Oman. In 2002 we had decided to live another life, travelling and living in our campervan for the coming years so as to visit Greece, Turkey and several countries in the Middle East in search of alpines and especially species of the genus Dionysia; Oman was number one on our visiting list.

Starting from Holland in December 2002, we made the long journey overland by car. Travelling through Greece, Turkey and Iran with the threat of bad winter conditions and crossing the Persian Gulf we finally reached

Sharjah, one of the United Arab Emirates, in late January 2003. Enjoying the lovely temperatures at this time of the year after the cold of Turkey and Iran, we made our way into Oman. Entering from the Emirates, one almost immediately gets a view of the western Al Hajar mountains. They extend about 300 km north-west to south-east, about 50 to 100 km inland from the coast of the Gulf of Oman. The central and highest part is Jebel Akhdar (Green Mountain), whose highest part is Jebel Shams (Mountain of the Sun) at around 3000 m.

Large parts of the range are desert-like but at higher altitudes - as in Jebel Akhdar - there is more precipitation: about 300 mm annually; even snowfall is possible! Here it is moist enough to support shrubs & trees and agriculture. The Hajar was formed some 100 million years ago beneath the ocean to the east, and was then forced up by huge pressures on to the edge of the continent. Most rocks are of limestone sometimes intermingled with others of volcanic origin.

One of the wonders of the Jebel is the many valleys and gorges ('wadi' in Arabic), often filled with luscious greenery such as oleanders, swaying reeds and - of course - palm trees & other crops. Most mountain villages are only accessible by following these wadis, which can be dangerous after occasional winter rainstorms. Nevertheless we followed several wadis to get into the Jebel Akhdar and the very heart of Oman.

Despite our not finding interesting plants - or even *Dionysia mira* - during these first Jebel explorations, we very much enjoyed 'wadi-bashing' and meeting the friendly people in the villages. Nor on our first visit to Oman in 1998 had we found *Dionysia mira*, although on that occasion we drove up to Jebel Shams from the bottom in Wadi Ghul; vegetation is dominated by Samar trees (*Acacia tortilis*) and the bright green of Isbaq (*Euphorbia larica*). Near the edge of the spectacular Wadi Nakhr canyon, at about 2000 m, the vegetation has a more open woodland character with wild olives and trees (*Sideroxylon mascatense*) that at higher altitudes are overtaken by mixed juniper (*Juniperus excelsa*) and olive woodlands, giving way to juniper only near the summit.

On the lower slopes winter rains bring new growth but at higher

Wajmar village, with
Jebel Shams in the background

Dionysia mira and its cliff habitat

altitudes the temperatures do not allow it until spring. By October, most plants have lost their leaves but at least two mountain species go on to flower sporadically during winter. One of them is *Dionysia mira*; the other is *Euryops arabicus*, which has bright green foliage and showy flowers. This latter species is one of the most common plants on the mountain, often growing around the juniper trees. The junipers grow very slowly, and stop growing during the winter, forming distinct growth rings. Even small trees may be several centuries old, with some of the largest trees being over a thousand years old! Of course, the environment on the Jebel is fragile and very easily damaged. Wild donkeys are the most common mammal on the mountain and a few gazelles live here; the endemic wild goat, the Tahr, prefers lower altitudes. Footprints of foxes and wolves can sometimes be found, although the animals themselves are rarely seen.

From the edge of the Wadi Nakhr canyon is a 1000 metre, almost vertical, drop to the wadi floor below. According to the information we had, *Dionysia mira* has a very localized distribution, only found above about 2000 m on sheltered rocky ledges along the summit ridge, where it can be quite spectacular. Unfortunately we had no access to the summit zone, this being an off-limits military area; we almost gave up hope of finding *D. mira* in the wild!

We went on to explore most of Oman: crossing part of the Wahiba desert, driving along the edges of the Empty Quarter to the south into the Dhofar region with its frankincense trees (*Boswellia sacra*), and returning to the north along the Arabian Sea coast; we now made a last attempt at our goal. This time we approached Jebel Akhdar from the south, following a graded road into the mountains from the town of Al Hamra. On the 15th of March 2003, crossing the Jebel at about 2000 metres, alongside this spectacular road we finally found *Dionysia mira* (Shajarat al wa'l)!

Many of the plants were already past flowering and all of them were growing on almost vertical cliffs. I had to climb my way up to take pictures and descending was even more hazardous. Happy to be back on firm ground again ... on this same spot we also found *Viola* species with tiny purple flowers. Further down the road we found more plants of *Dionysia mira* growing on a vertical wet rock face together with a fern, probably *Adiantum cappillus-veneris*, and some orchids which had almost died. *D. mira* is the most primula-like of any dionysias and is the only species of the genus to be found so far to the south. It was therefore amazing to see these rather fragile plants growing in such barren mountains.

After this surprising discovery we explored more of Oman and the UAE after having difficulty in obtaining visas for Iran – perhaps because of the invasion of Iraq by American and allied forces. We returned to Iran at the end of March 2003 by ferry from Sharjah to Bandar-Abbas. Here a new challenge started: a three month search for more 'jewels'; you may find the results at www.dionysia4u.com. There is more information and pictures of our 3-year journey at www.iran-omantour.com. Back at home in cultivation *Dionysia mira* is not very difficult and may be easily propagated (see the next article) by cuttings and seed.

العمانيـــة والأشـجار النباتـــــات حديقـــة

Dionysia mira in Oman Botanic Garden

Annette Patzelt, Leigh Morris, Ismail Al-Rashdi and Khalid Abdulaziz Al-Farsi

The Oman Botanic Garden (OBG) will be a new and iconic botanic garden in the Sultanate of Oman, set for completion in the next five years. Oman is home to over 1200 species of plants, with about 80 species

Dionysia mira in full flower

found nowhere else in the world. The garden will display a wide range of its flora, illustrating its variety, beauty and fascination. Displays will include the tiny violet flowers of wild lavender, the majestic juniper and the valuable frankincense tree for which Oman is famed.

Any garden needs plants; but Oman's native and endangered species cannot just be bought. Instead, each has to be found, collected as seeds or cuttings, recorded, numbered, labelled, packed, cleaned, grown and cared for by the garden's dedicated young horticulturalists. Their expeditions to remote areas have discovered new species and plants not previously known in Oman.

From zero plants in 2006, the collection in the nursery has grown to 47000 plants of 320 species in 2008! This is the largest documented collection of Arabian plants in the world. OBG will only contain native plant species and the garden has the unique aim of propagating the complete indigenous flora of Oman and displaying it within seven defined major habitat zones. One of these zones will be a large biome housing the plants of Jabal Al Ahkdar and the Northern Hajar Mountains. One of the many plant species being propagated by OBG for this biome is the rare Hajar mountain endemic perennial herb *Dionysia mira*, which forms dense cushions in crevices of rocks and cliffs.

Dionysia mira germinating in crevices amongst rocks

During the last three years we have made many propagation trials of *Dionysia mira*. We have discovered that each plant produces an average of 14730 seeds, which germinate at high temperatures between 10˚C and 30˚C. This need for higher germination temperatures may be an adaptation to the high altitude habitat - with a shorter vegetation period and germination in the summer following dispersal. However, establishment after germination is extremely rare; these

Dionysia mira in cell trays at OBG

requirements result in suitable localities for *Dionysia mira* being few and far between, so helping to explain its very small distribution range.

Our cultivation has revealed that *Dionysia mira* is extremely sensitive to any kind of root disturbance. The species was germinated in trays and then pricked out in cell trays. Potting-up into small pots resulted in a higher number of losses and therefore repotting events were reduced to an absolute minimum. By reducing potting events and modifying the rooting medium, we now have consistent success. The species is grown within a cooled and shaded green-house, where temperatures are similar to natural conditions on the Hajar Mountains. OBG aims to display all 1200 species of Omani flowering plants within its living collection and our experiences with *Dionysia mira* illustrate the challenges we face in developing protocols for many of these previously uncultivated species.

(Photographs: Annette Patzelt)

Dionysia mira in cultivation in the controlled climate greenhouses of OBG

Viola auricolor

Diamond of the Perito Moreno National Park
Ger van den Beuken

Patagonian travel has always been my dream. Because of a wide interest in the flora and cushion plants of the region, I organized a few tours to the South of Patagonia in 2007 and 2008, repeats of one that my wife and I made about twelve years ago. Fourteen people went in 2007, and in 2008 we repeated it, apart from the Cerro Fitzroy area, with fifteen. There is always a special plant in mind and these tours were focussed on the beautiful species *Viola auricolor*.

Andean Patagonia

In general, the climate is moderate; the seasons are well defined but the autumn and spring are short whereas winters are long. There is great difference between summer and winter, and the temperature varies substantially between day and night. The average winter temperature is about 2˚C and in some places summer temperatures can reach 40˚C. In Tierra del Fuego, temperatures rise to 18˚C and annual rainfall is about 800 mm. A noteworthy characteristic of the Patagonian climate is the wind; it can blow up to 100 km per hour, mainly in the central and Antarctic areas. Overall, the best time to travel safely, enjoy the landscape and see the plants in flower is in spring and summer, between November and January.

Cerro Fitzroy

The Andes play an important role in Argentinean climate: because of them, Patagonia has an arid and semi-desert nature. Polar air from the Pacific deposits almost all its moisture on the other side of the Andes. The sub-polar air contributes to depressions moving from south to north of the country. That is why Andean Patagonia is humid with a rainfall above 2000 mm a year, although it gets drier toward the Atlantic where the average rainfall is only 200 mm.

It is important to mention soil conditions, as there are always questions on how to grow plants from these regions in our completely different European climates and soils. Generally, the steppes are sandy and acidic while the rock formations of the Andes consist mainly of volcanic ash and basalt.

The Plants

On November 15th we flew from Amsterdam to the colourful city of Buenos Aires, staying a night before continuing to Rio Gallegos. Our driver Daniel Denuncio and our guide Guido Vittone were waiting for us; these two men were to be with us for the next three weeks and very quickly seemed the most ideal travel partners. A bus journey of more than four hours then took us along the steppes westward to the Stag River Estancia.

Our first plants were met on the way in very arid conditions. *Berberis empetrifolia*, a nice prostrate and compact yellow-flowering species, was unrecognizable from the plant in our own rock garden. *Nassauvia glomerulosa* – without flowers – was rather invasive everywhere. In wet places near a small river we saw for the first time *Caltha sagittata* and a yellow-flowering *Ranunculus*. Approaching our destination, we found our first *Junellia*, which turned out to be *Junellia silvestrii*; it is one of the many hard-to-determine junellias, later identified by Martin Sheader and Marcela Ferreyra. Many thanks!

Junellia aff. *silvestrii*

Later in the afternoon we reached Stag River, a much-praised location. Estancia Stag River is managed nowadays by Julia & Mike Tweedie. The welcome was fantastic, with several kinds of pastry and - of course - explanation of how to explore the different areas and where to find good alpines. After this overwhelming tea we enjoyed some spare time in the nearby open fields to discover our first alpines and later were left to a good evening dinner and a fine night's rest.

We woke to an early breakfast and left for a scree to the east at about 800 metres. Mike drove ahead to show us the route to a foot-crossing of a mountain stream. However, Guido felt the water level was too high, so we prudently headed for a western scree. To reach it we walked upwards

Bolax gummifera

Gaultheria pumila
Benthamiella nordenskioldii

Moschopsis rosulata

Nardophyllum bryoides

through *Nothofagus antarctica* and *Nothofagus pumilio* woods where some trees carried parasitic *Cyttaria darwinii*. On reaching the tree line we could admire huge fields with *Bolax gummifera* and *Azorella trifurcata*. In several places we found *Gaultheria pumila* carrying nice dark pink berries. At the summit a fierce wind blew, seemingly a most excellent climate for all those gems we found in bare acidic gravel. *Moschopsis rosulata, M. trilobata* and the nice white crucifer *Onuris spegazziniana* were occasionally to be seen. Very richly flowering plants like *Xerodraba pectinata* and *Benthamiella nordenskioldii* were everywhere. Regrettably,

Nassauvia lagascae ssp. *lagascae*

Azorella monantha

Leucheria hahnii, pink form

we were too early for *Nardophyllum bryoides* and could merely admire its nice compact grey cushions. A beautiful but rare plant was *Azorella monantha* and we later found small rosettes of *Nassauvia lagascae* ssp. *lagascae* – they seemed to be quite rare here. With *Hamadryas delfinii* and *H. kingii* both present, our day was altogether very successful.

On our fifth day, we planned an excursion to the low-level fields around the general Estancia buildings. It was a rather flat grassy open

Hamadryas delfinii, female

Above: *Arjona patagonica*
Right: *Hypochaeris incana*

woodland area with some small hills where, initially, nobody expected to find much; the contrary proved to be true. Quite soon we saw our first bulbous plants of *Olsynium biflorum* and everywhere bloomed the really beautiful *Oxalis enneaphylla* with flowers ranging from white to dark pink. In a few places we saw for the first time the nice white-flowering composite *Leucheria hahnii*. On the sandy slopes of some hills was a huge variety of *Oxalis laciniata* (*The Rock Garden*, issue 124, page 4), ranging from almost white to dark blue and purple colours. All these were mixed up with the fantastic yellow-brown of many plants of *Calceolaria uniflora* ssp. *darwinii* (*The Rock Garden*, Issue 121, page 42) together with *C. biflora*. Other plants we found here were *Armeria chilensis* var. *magellanica*, *Hypochaeris incana*, *Viola reichii*, *Arjona patagonica*, *Lathyrus magellanica*, *Adesmia parviflora*, *Gunnera magellanica*, *Baccharis magellanica* and *Empetrum rubrum*.

Leaving the fine accommodation and food of the Estancia, we left the next day for the mountains of the famous Torres del Paine. A long day's journey was punctuated with several stops for roadside botanizing. As we approached our goal there came a "Stop!" from one of our travellers, who had seen the first red glimpse of an *Anarthrophyllum desideratum*. This region harboured a fantastic range of good alpines so this stop took a very long time indeed. Most interesting for instance were

Calceolaria polyrrhiza

Anarthrophyllum desideratum, yellow form

the hybrids between *Calceolaria uniflora* ssp. *darwinii* and *Calceolaria polyrhiza*. Everywhere along the roadside were large groves of *Adesmia boronoides* and *Junellia tridens*. Most spectacular were the scarlet-red and orange cushions of *Anarthrophyllum desideratum*. There were occasional plants of *Saxifraga magellanica* and *Nassauvia abbreviata*. Others not previously seen included *Leucheria purpurea* and – as expected – extraordinary large spiny cushions of *Mulinum spinosum*.

Eventually we reached the Hosteria Mirador, our home for the coming days. Mirador is an unexpectedly wonderful hotel in this remote wilderness and offers excellent rooms and food. Until now the weather had been very good and we planned a rather hard

Right: *Junellia tridens*
Below: *Adesmia boronoides*

Torres del Paine

walk to the Sierra del Toro for the next day, which once more dawned with a blue sky. We left early with breath-taking views of the peaks of the Torres del Paine over the foreground of an extensive blue lake. The beginning was easy, with wonderful plants along the path like the orchid *Chloraea magellanica* and in many places the scarlet-red flowering shrub *Embothrium coccineum*. Everywhere in the mountainous distance we could see the redness of *Anarthrophyllum desideratum*. In shady places in the *Nothofagus* woods we found the lovely white orchid *Codonorchis lessonii*, while near a small mountain stream *Ourisia poeppigii* showed its red flowers. Another interesting fine plant, completely covered with fine pink berries, was *Gaultheria mucronata*. At

Left: *Chloraea alpina*
Below: *Leucheria purpurea*

Oreopolus glacialis

about 900 metres we left the path and forced our way straight up through *Nothofagus* wood and low shrubs. It was a hard climb but on reaching

Azorella species

the tree line we were immediately rewarded by an overwhelming range of beautiful alpines.

Especially striking was the yellow glow in the near-distance surrounding the summit. At about 1600 metres the soil was pure white sand and everything was covered with yellow cushions of *Oreopolus glacialis*. Other striking plants in the same soil conditions were *Nassauvia lagascae* ssp. *globosa, Nassauvia pygmaea, Senecio skottsbergii, Moschopsis rosulata, Tristagma nivale, Perezia pilifera* and *Leucheria leontopodioides*. Of course, in several places we found some *Azorella* species, and *Bolax gummifera* with cushions larger than a metre across. Descending, just below the summit, we saw some remarkable plants like *Hamadryas delfinii* and *H. kingii*.

Nassauvia lagascae ssp. *globosa*

On our return, two fellow travellers who had previously stayed at the hotel invited me to go with them to a summit just behind it. *Oxalis enneaphylla* grew here in many diverse forms, completely different from those we had seen near Stag River. Very small purple leaves were just appearing above the sand and rubble surface, with stemless flowers ranging from white to dark pink.

The next day – our eighth - we went walking at low altitude but did not see very many exciting plants. The highlights of the day were *Olsynium biflorum, Collomia linearis, Calceolaria polyrhiza, Calceolaria*

biflora, *Codonorchis lessonii*, *Chloraea magellanica*, *Arjona patagonica* and *Saxifraga magellanica*; we later discovered a low scree with very fine specimens of *Oxalis enneaphylla*. Although the day was not especially interesting in respect of its plants, it nevertheless offered us breath-taking views and excellent light conditions for photography.

Another day's journey brought us to El Calafate where we relaxed with bird-watching near a lake, and some shopping. We were ready for our expedition to Cerro Moyano! It is a barren mountain range adjacent to a huge lake. The ridge we wanted to reach was about 1100 metres high and the weather was excellent for walking; this was again a day with good views and excellent plants. Near the roadside in the grass were *Oxalis enneaphylla* that reminded us of the forms at Stag River, and abundant *Adesmia boronoides*. Higher up, the soil conditions changed to mere barren rock and rubble; the climate was completely different, with a fierce and very cold wind. Believe it or not, I was quite happy in these harsh conditions. My wife and I recalled our first expedition to Patagonia twelve years previously as one with the most extreme weather - stormy winds, rain and snow - and we had advised our companions to be prepared accordingly. Now it became very clear why it is so difficult to keep these

Olsynium biflorum

species in character in our climate in the Netherlands. All the plants were very compact. Here for the first time we found *Adesmia salicornioides*, a fine yellow-flowering cushion, easy recognizable with its small succulent-like leaves. It was too early to see *Alstroemeria patagonica* in flower and we could only see its grey leaves lying flat on the sand. Other *Adesmia* species were *A. karraikensis* and *A. parvifolia*. Being with a group is an advantage because many eyes are on the lookout for different species. Highlights on the summit were *Azorella lycopodioides*, *Azorella monantha*, *Bolax caespitosa* and *Bolax gummifera*. For the first time we saw *Benthamiella longifolia*, with cushions more than 20 cm across. *Ephedra frustillata* was abundant everywhere, with cushions more than a metre across. A bit further on at lower level we encountered some unexpected grassy and wet places. By a small stream was *Primula magellanica* with white and pink flowers, together with *Caltha sagittata*. *Benthamiella azorella* grew everywhere in the grass with fantastic green cushions more than 20 cm across, completely covered with small yellow flowers. Back at the summit we were attracted by cushions of *Xerodraba pycnophylloides* and *Xerodraba pectinata*.

Oxalis enneaphylla

Chiliotrichum rosmarinifolium

Embothrium coccineum

In a three week itinerary it is pleasant to include some diversity, so we made an excursion to the Perito Moreno Glacier, one of the most impressive in the world, about an hour's drive from El Calafate. On approaching the glacier the roadside was completely red with *Embothrium coccineum*. The glacier is 30 km long, 5 km wide and towers about 75 metres above the surface of Lago Argentina. Standing close by, you may watch ice blocks of different size detach themselves with a roar, then see them turn into wonderful floating icebergs. After this impressive show of natural violence, there was time to explore the shore of the lake;

Neobaclea crispifolia

Fabiana nana

Junellia azorelloides

we found some specimens of - probably - *Arenaria serpens*. Between low shrubs was *Chiliotrichum rosmarinifolium* and several fantastic yellow-flowering *Gavilea lutea*.

We spent our twelfth day on a long bus drive to El Chaltén, punctuated by stops to photograph all the remarkable vegetation near the roadside. There were amazing yellow cushions of *Fabiana nana* and *Brachyclados caespitosus*; tight cushions of *Junellia patagonica* fading from white to dark pink were abundant; the air was completely filled with the fragrance of *Junellia azorelloides*. Other *Junellia* we found were

Lecanophora subacaulis

J. thymifolia, *J. minutifolia* and *J. tridens*. In the distance the towers of Cerro Fitzroy and Cerro Torre loomed up in the blue sky. The Cerro Fitzroy region is mainly famous for mountaineering and the needle-like Cerro Torre with its ice-covered rock is one of the most challenging for climbers. The extremely unpredictable weather is very hazardous towards the mushroom-like summit and many a mountaineer has come to a sticky end on this mountain. We stayed for two days in El Chaltén, trying on the first day to get onto the screes near the top of Fitzroy. The weather was cold with a fierce wind but the view of the Cerro Fitzroy and its glacier was breath-taking. We could see clearly that the alpine vegetation lasted here only briefly. The snow had recently disappeared and plants such as *Nassauvia juniperina* and *N. lagascae* ssp. *lagascae* were just showing their first flowers. A hundred metres down the mountain the vegetation became richer and in pure rubble we found the most beautiful species, *Oxalis loricata*, with white and pink flowers. Near a small stream in scree was a large flowering cushion of *Hamadryas sempervivoides*.

The next day, we tried to get above the tree line along an unknown path through the *Nothofagus* woods. We walked for hours but failed to reach higher altitude. The vegetation was quite disappointing and there were only two new species to mention: *Philippiella patagonica* and a

Adesmia ameghinoi

splendid flowering *Ourisia ruelloides* near a mountain stream. The weather turned bad on us and we soon experienced our first hard wind with rain. The next day was a long one to the north, to Estancia La Angostura, with several botanical stops. The extremely arid soil harboured an amazing range of good plants, including cushions of *Acantholippia seriphioides* with white flowers and the spiny cushions of *Chuquiraga aurea* covered in yellow. Blue-flowering species are very rare in Patagonia but this day we were lucky: near the road we found the stunning *Malvaceae* species, *Neobaclea crispifolia*, a bush 20 cm tall with hairy leaves and brilliant blue flowers 4 cm across. There was also *Benthamiella patagonica*; with cushions more than 20 cm across it was much bigger than anything we had seen before. Of course I have restricted myself to the highlights, but can never forget *Adesmia salicornioides*.

Despite an unpromising start through dull vegetation near Estancia La Angostura on day fifteen, we pressed on up the mountain. At the summit we were rewarded by the most dazzling plants you can imagine. Large cushions of *Lecanophora subacaulis* grew in several places between the dark brown rocks. This species from the Malvaceae grows with beautiful grey hairy leaves and carries solitary pink to dark pink flowers about 2 to 3 cm across. Further on we discovered another spectacular beauty, an *Adesmia* species making excellent cushions of silvery leaves more than 30 cm across with orange flowers. Martin Sheader thought this to be a form of *Adesmia ameghinoi*; we had seen it several times before but always with yellow flowers. Other plants we found were *Olsynium biflorum* ssp. *lyckholmii*, *Benthamiella patagonica*, *Benthamiella azorella* and perhaps a hybrid *Benthamiella* x *azorelloides*.

Olsynium biflorum ssp. *lyckholmii*

We moved on to the next residence at Estancia La Oriental, in Perito Moreno National Park. After a long drive along the steppes with some botanical stops we finally reached the very isolated Estancia. The nearby steppe was in places coloured yellow with the cushions of *Benthamiella azorella*. The landscape with the snow-covered mountains in the distance was breath-taking. This

was the place to find my objective; this was the focus of my dreams; this should be the place to find *Viola auricolor*!

On the seventeenth day a short bus drive took us to Viola Valley and we continued up the mountain on foot. The first plants we found were very nice compact forms of *Saxifraga magellanica*, one of the very few species from South America. *S. magellanica* can be very variable, depending on its situation. Here, the plants grew on pure rock and were completely covered with flowers. A little further up the mountain we found our first *Viola auricolor*, rather small but in full flower. It was a good time to see this species at its best and we later found our best plant – one we could only have dreamed about – with a cushion about 15 cm across and full with orange–yellow flowers. The species is a bit variable, ranging from sulphur-yellow to dark yellow or even slightly orange. The plants were growing in a mix of sand and rubble. Finally we had reached our goal!

Viola auricolor: Blooms and habitat in Perito Moreno National Park

On our way back we found some beautiful forms of *Oxalis loricata* on a low sandy hill rather close to the estancia. The next day I woke very early and explored a small rocky mountain only fifteen minutes away on foot. Here I found the best form of *Benthamiella patagonica* - a cushion perhaps 10 cm across and nicely covered with yellow flowers. *Calceolaria uniflora* ssp. *darwinii* grew here together with *Saxifraga magellanica*. Not too far away from the Estancia on a low dry river bed in pure rubble and sand we found hundreds of *Viola auricolor*, *Calceolaria uniflora* ssp. *darwinii*, *Calceolaria polyrhiza* and excellent hybrids of the two species.

With only one day remaining, we had a long drive to Lago Posados, a small village at the foot of the Cerro Zeballos, a mountain range much further to the north. The mountains were getting higher and rougher. *En route* we found a fine rare form of *Anarthrophyllum desideratum*. Other plants were *Adesmia salicornioides*, *Leucheria hahnii*, *Perezia lanigera*, *Oreopolus glacialis*, *Junellia minutifolia*, *Fabiana nana* and *Arjona pusilla*, just to mention a few spectacular species. Rather close to our destination we found a fantastic colony of *Alstroemeria patagonica* in pure white sand between low shrubs. We were to see more plants in this area later, but this form had extremely large flowers.

In good weather it is possible to cross the Paso Roballos to Los Antiguos (for our flight home). We were lucky; the weather was clear, warm & sunny and road conditions were good. This is one of the most spectacular and remote roads I have driven along. The chances of seeing another car on this road are very small and we were the only travellers that day – perhaps for a month. In botanical terms I dare to say that this was the summit of the whole trip. Almost at the pass we came face-to-face with the majestic yellow-flowering orchid *Chloraea alpina*. Elsewhere were orange-flowering *Calandrinia caespitosa* ssp. *skottsbergii* and *Astragalus palenae*. On the pass itself a real display of cushion plants awaited us. I mention some of the most spectacular species: *Viola auricolor*, *Viola sacculus* in white and purple, *Valeriana moyanoi*, *Tristagma nivale*, *Oreopolus glacialis*, *Perezia pilifera*, *Hamadryas kingii*, *Hamadryas delfinii*, *Olsynium junceum*, *Oxalis adenophylla* in different forms, *Oxalis squamosoradicosa*, *Oxalis laciniata*, *Plantago sempervivoides* and several *Nassauvia* species. After three weeks, what more could we have wished for than such a leave-taking?

I conclude by mentioning the wildlife. To people whose main interest is faunal, I say it is essential to go to Patagonia to see all those raptors - especially the mighty condors, flamingos, guanacos, the wild fox and others. For us, the only thing remaining was the long return from Los Antiguos to Europe. For the successful conclusion of our expedition, I am grateful that everything was arranged to the last detail by our travel agency and I thank our guide Guido & bus driver Daniel. Without their help we definitely could not have made this Patagonian tour such a success.

In Search of Autumn Bulbs in Morocco

Kees Jan van Zwienen and Marijn van den Brink

After many autumn trips to the western Mediterranean we decided to visit Morocco. We were keen to search for the country's autumn bulbs. Many autumn flowering species in Morocco are not found in botanically more popular autumn destinations such as Turkey and Greece. We flew into Tangiers and made a round trip in the north-west of the country from the 23rd of October until the 1st of November 2009.

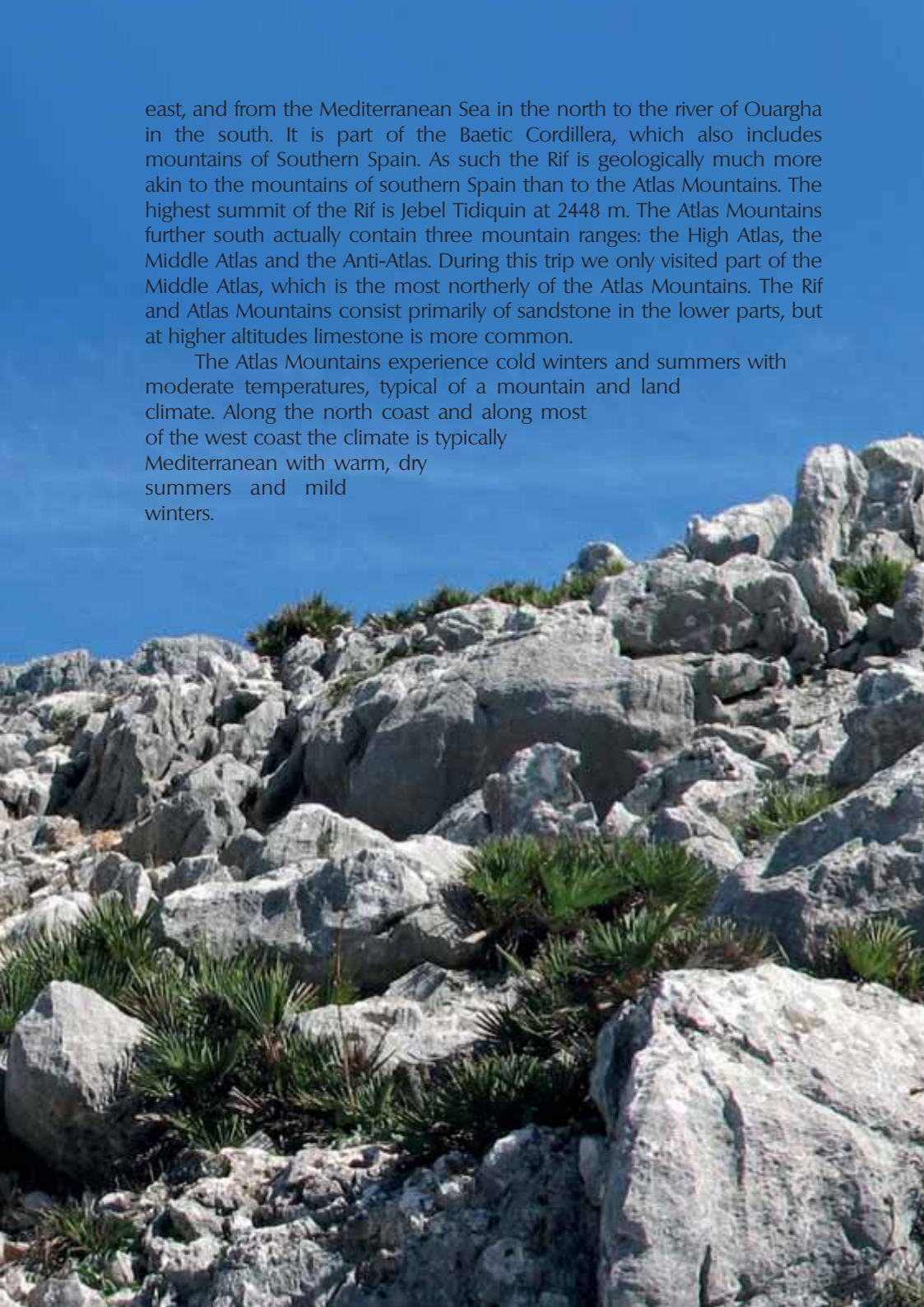
Landscape and Climate

Morocco is a diverse country in the extreme north-west of Africa. It borders the Atlantic Ocean in the west and the Mediterranean Sea in the north. Spain is not far away and is clearly visible from the north coast of the Tangiers Peninsula. The landscape is a diverse mixture of mountains, hills, rivers and deserts and its coastal areas are varied. There are four main mountain ranges. The Rif is a mainly mountainous region of northern Morocco, stretching from Cape Spartel in the west to the Moulouya River in the

In the Rif

east, and from the Mediterranean Sea in the north to the river of Ouargha in the south. It is part of the Baetic Cordillera, which also includes mountains of Southern Spain. As such the Rif is geologically much more akin to the mountains of southern Spain than to the Atlas Mountains. The highest summit of the Rif is Jebel Tidiquin at 2448 m. The Atlas Mountains further south actually contain three mountain ranges: the High Atlas, the Middle Atlas and the Anti-Atlas. During this trip we only visited part of the Middle Atlas, which is the most northerly of the Atlas Mountains. The Rif and Atlas Mountains consist primarily of sandstone in the lower parts, but at higher altitudes limestone is more common.

The Atlas Mountains experience cold winters and summers with moderate temperatures, typical of a mountain and land climate. Along the north coast and along most of the west coast the climate is typically Mediterranean with warm, dry summers and mild winters.



Interesting Habitats and Localities

Because of diversity in both landscape and climate the vegetation of northern Morocco is varied. This section describes some of the more prominent and interesting vegetation types for bulbous species, as well as some good localities. Some plants are discussed but the details of bulbous ones appear later in this article.

Meadows

There is not much grassy vegetation in Morocco, but between cedar woodlands in the aptly named Forêt de Cèdres we came across large grassy areas. These were home to *Crocus serotinus* ssp. *salzmannii*. In these grassy habitats we also found *Crataegus* bushes, some of which were covered with the Red-Berry Mistletoe, *Viscum cruciatum*. This species also parasitizes olive trees, as we saw earlier in the Parc National de Talassemtane in the Rif near Chefchaouen. This is one of many Moroccan plants that also occur in southern Spain.

Arid limestone country

Much of the limestone country is dominated by the low palm *Chamaerops humilis*. In the fertile soil between the limestone rocks we found bulbous species like *Merendera filifolia* and *Leucojum autumnale*.

These areas are usually heavily grazed by goat and are characterised by sparse vegetation.

Viscum cruciatum on Olive trees

Garrigue

Where grazing is less severe or where there is a bit more moisture garrigue may be found. These are discontinuous low scrub communities. In Morocco they often contain the autumn flowering *Erica multiflora*, a pink-flowering heather with tubular flowers and protruding anthers. On the northern part of the Tangiers Peninsula we found *Calluna vulgaris* still in flower, apparently much later in Morocco than in north-western Europe. Owing to the large proportion of Ericaceae these scrub communities are sometimes known as coastal heathland.

Other shrubs that we found in garrigue are *Daphne gnidium* and different species of broom. *Daphne gnidium* grows up to two metres tall; its leaves are narrow and pointed; the flowers are creamy white and in autumn it can be found in flower and fruit. This daphne may also be found in higher scrub communities. Between the shrubs interesting bulbs can be found, such as *Narcissus viridiflorus* and *N. cavanillesii*.

Higher scrub communities – the maquis

These are also known as maquis. The communities consist of taller species, like the strawberry tree *Arbutus unedo*. In the northern part of the Tangiers Peninsula we found *Crocus serotinus* ssp. *salzmanii* in open places in maquis. However, the vegetation is usually much too dense for

Erica multiflora *Daphne gnidium*

Above and Border: *Clematis cirrhosa* in the maquis

Ranunculus bullatus: near Grottes d'Hercule, Atlantic Coast

many of the bulbous species. We found the winter-flowering *Narcissus papyraceus* in the margins of shrubs in scrub-covered coastal dunes south of Kénitra. Twining around shrubs in these areas was *Clematis cirrhosa* in full flower. This is a woody and primarily winter-flowering climber that has pale yellow pendulous flowers.

Woodlands

The cork oak, *Quercus suber*, is common in northern Morocco and the forests are still being exploited for their cork. The largest cork oak woodland we visited is the Forêt de la Maâmora, near the Atlantic coast. Here we found, among others, *Merendera filifolia*, *Ranunculus bullatus* and *Crocus serotinus* ssp. *salzmanii* in the open situations between the scattered trees.

Eucalyptus is not indigenous in Morocco but there are quite a lot of its plantations. Much to our surprise, there were interesting bulbous plants to be found in *Eucalyptus* forest, such as *Iris planifolia*, *Ranunculus bullatus* and *Crocus serotinus* ssp. *salzmanii*.

There are splendid cedar woodlands in the Middle Atlas near Azrou in the area known as the Forêt de Cèdres. The cedars (*Cedrus libani* ssp. *atlantica*) were greyer in colour than the cedars that we had seen in southern Turkey.

Narcissus cavanillesii

Bulbous Species

Amaryllidaceae

There is a good number of autumn flowering Amaryllidaceae to be found in Morocco. However, the genus *Sternbergia*, well known elsewhere in the Mediterranean for its autumn flowering species, is poorly represented, with only the minute *S. colchiciflora* being indigenous. This is amply compensated by genera like *Narcissus* and *Pancratium*. We did not manage to find some of the more unusual autumn flowering Amaryllidaceae, such as *Lapiedra martinezii* (flowering in late summer and early autumn) and the white flowering *Hannonia hesperidum* (late summer and autumn). Here is a review of what we found ...

Narcissus cavanillesii

The smallest of the autumn-flowering Moroccan narcissi is *N. cavanillesii* (syn. *N. humilis*). This species has a taxonomically special position in the genus *Narcissus*. It is the

only species of section *Tapeinanthus* and used to be known as *Tapeinanthus humilis*. It is a small plant with star-shaped flowers, facing upwards, and from a distance more resembles a *Gagea* than a *Narcissus*.

The flowers are about two cm in diameter and the perianth segments are narrow. There is often only one flower per stem, although we also found specimens with thee flowers and they tend to flower in succession. The flower tube is extremely short and there is only a rudimentary crown of the same colour as the perianth segments.

Its distribution in Morocco is largely limited to the coastal areas. We found this species in only two locations, east of the Grottes d'Hercule on the Tangiers Peninsula. This species also occurs on the other side of the strait of Gibraltar, in Spain and Portugal. An interesting natural hybrid with *N. serotinus* is described as *N.* x *perezlarae*.

Narcissus viridiflorus

Like the previous species this is one that may be easily overlooked and which too is of botanical interest for its unusual taxonomic position in the genus *Narcissus*. *N. viridiflorus* has two to five green flowers. They have very narrow perianth segments and a very short corona. Because of the flower colour and the very narrow perianth segments, this is a difficult species to spot, although the flowers are heavily scented. Mature bulbs don't form any leaves and photosynthesis takes place in the flower stem.

The distribution of this species in Morocco is restricted to low coastal areas, from the eastern part of the Tangiers Peninsula to Agadir on the Atlantic coast. We found this species in three locations: together with

Narcissus viridiflorus

Habitat of *N. cavanillesii* & *N. Viridiflorus*

N. elegans in grassy vegetation along a road near the airport; just east of the Grottes d'Hercule on a stony and grassy meadow, together with *N. cavanillesii*; and on the eastern side of the Tangiers Peninsula under a row of eucalyptus trees, together with *N. elegans*. Interestingly this species was already out of flower in this last location, whereas we found it still in full flower at the two locations further west.

This species is said to be able to flower from the beginning of October. Although hybrids with *N. elegans* are known, we found none in the two locations where the two species coexisted.

Narcissus papyraceus

This is a pure white-flowering species from section *Tazettae*. It is a wild 'Paperwhite' narcissus that has two to eleven heavily scented flowers per stem. The diameter of the flowers is about 30 mm. The crown is only 3 mm high. This species can be found in flower from October to April, although it is mainly winter flowering. It has quite a wide distribution, occurring from Morocco, Portugal and Spain all the way to Greece. We only found it in one location in coastal dunes between scrub, just south of Kénitra. This beautiful narcissus is also known from higher elevations in the Atlas Mountains.

Narcissus elegans

This too, is a species of the *Tazettae* section of the genus. *N. elegans* has two to five or seven scented flowers per stem. The flowers are 25 to 35 mm in diameter. The white perianth segments are about 15 mm long and often somewhat twisted. The corona is short, dark olive-green to

Narcissus papyraceus

Narcissus elegans and habitat

green-brown or orange. When the flower develops, the colour changes to orange.

The stems are about 15 to 35 cm tall. Each bulb forms two leaves that are partially developed during flowering. The flowering time is said to vary from season to season. In Morocco they can start to flower from the beginning of October, but in dry years flowering does not start till November or even later.

This species is distributed along the Moroccan coast, all the way to Libya and for a considerable distance from Tangiers. We found large numbers in a roadside near the airport but also found it in several other roadside locations and in an olive grove.

Leucojum autumnale

This is a species that we found in many places, on limestone but also on acidic rock. It is a white-flowering species that has up to three pendent flowers per stem. The stems are small and usually don't occur before flowering. The plants we have seen were often very small, often less than 10 cm. Seeds of *Leucojum autumnale* ripen very quickly and we managed to collect ripe seeds. Several forms are said to occur in Morocco but we did not see much variation.

Pancratium maritimum

We found this very widespread species along the Atlantic coast near Grottes d'Hercule and also near Asilah. It is a species typical of the gradient between beach and sand dunes. During our visit the plants were already out of flower; they are at their best in late summer and early autumn. Seeds apparently ripen fast, since we found specimens with large, ripe black seeds. There are other species of *Pancratium* to be found in Morocco, such as *Pancratium foetidum*, but we didn't find them.

Colchicaceae

Colchicum lusitanicum

We found this colchicum in several locations, such as fields and an olive grove. The flowers are pink in several shades and we found a pure white specimen. The tepals are somewhat tessellated. It flowers without

Colchicum lusitanicum and habitat

Merendera filifolia

its leaves, which develop later. It is a relative of *C. autumnale* and is distributed in south-western Europe and North Africa.

Merendera filifolia

Merendera and *Colchicum* are easy to tell apart because *Merendera* does not have a proper flower tube; when the flowers age their segments fall apart. *Merendera filifolia* has star-shaped flowers. We found this species both in the lowlands as well as in the Mountains. At low altitude we found it in the cork oak woodland of Forêt de la Maâmora, and we found it in the Rif to an altitude of about 1500 m. In some places we found huge numbers. The leaves develop shortly after flowering and are very narrow – hence the name, which means thread-like leaves.

Hyacinthaceae

Scilla autumnalis

Although several autumn-flowering *Scilla* are said to occur in Morocco, we only found *S. autumnalis*. Different forms of this species, like ssp. *fallax,* are said to occur here but we saw no clear differences. *S. autumnalis* has narrow leaves that usually do not emerge until the violet flowers are over. We found it in large numbers in prime condition near the Atlantic coast. It is a species with a huge distribution, ranging from Europe to West Asia and North Africa.

Scilla autumnalis

Urginea maritima

The sea squill is a very common plant around the Mediterranean, that flowers in late summer and early autumn. It forms a big bulb that often sits on the ground surface and produces a tall flowering stem with many small white flowers. It looks similar to *Eremurus*. After flowering it forms a rosette of big leaves that do not die down till summer. During our visit to Morocco we only managed to find a few remaining flowers.

Urginea undulata (syn. *Drimia undulata*)

This is a species much smaller than *Urginea maritima*, to be found in flower in early September. As in the previous species, leaves form in autumn and are unusual because the margin is undulated, hence the name. This enabled us to identify this species during our visit, despite the flowers' having long gone. Some of the plants had ripe seeds. The species ranges from North Africa to Israel. We found it near Larache on the edge of *Pinus pinea* woodland and on a rock just north of Grottes d'Hercule.

Hyacinthoides lingulata (syn. *Hyacinthella lingulata, Scilla lingulata*)

This is a wonderful little species, up to 10 cm high. The flowers are blue. It is distinguished from *Scilla* by the bulbs that are renewed annually and by two bracts subtending each flower. *H. lingulata* is unusual because it flowers from the top downwards. The leaves form a rosette and are well developed at flowering time. It is a lowland species. We found it at several sites, for instance in coastal heathland between Grottes d'Hercule and Cape Spartel, south of the Rif in an olive grove, but also in roadsides bordering cultivated fields south of Tangiers.

Iridaceae

Crocus serotinus ssp. *salzmanii*

This crocus grows in grassy vegetation, rocky open places, low scrub and open woodlands. The flowers are quite variable and range in colour through lilac, mauve and purple. Occasionally we found flowers with

Hyacinthoides lingulata (syn. *Scilla lingulata)*

strong markings on the outside, and white specimens. The subspecies *salzmanii* is distinguished from other subspecies (which are not found in North Africa) by its corms, which have a membranous tunic. *C. serotinus* ssp. *salzmanii* is distributed in North Africa and Spain. We found this species on the northern part of the Tangiers Peninsula in open places in maquis, near Larache on the Atlantic coast, on the margins of a *Pinus pinea* forest, but also at about 1600 metres in the Middle Atlas and the Rif.

Iris planifolia

We found this beautiful Juno *Iris* in just one location. It is 10 to 15 cm high with leaves up to 3 cm wide and flowers up to 7 cm in diameter, blue and somewhat variable. It is known as a winter-flowering species but can be found in flower from autumn to spring. It may also be found in Libya and Algeria, and also occurs in Europe, Crete, Greece, Italy, Portugal, Spain, Sardinia and Sicily. This is the only 'European' Juno-Iris, a group that has its centre of distribution in Central Asia. We found this species in *Eucalyptus* forest in dunes near Oued Loukos on the Atlantic coast, north of Larache. Here it grew without competition from ground-covering plants, the soil being covered with *Eucalyptus* leaves.

Solanaceae

Mandragora autumnalis

This plant forms a long tuberous root and a big rosette of spinach-like leaves that dies down in summer. It flowers in autumn from September to November. The relatively large flowers develop in the centre of the rosette and vary between blue and white. After flowering, small tomato-like fruits develop but during our autumn visit we saw none. This species clearly enjoys deeper soils and we found it in an olive grove, fields and roadsides. The species is quite widely distributed in southern Europe and North Africa.

Iris planifolia

Ranunculaceae

Ranunculus bullatus

This autumn flowering *Ranunculus* forms a tuber that enables it to survive the dry summer months. The flowers are yellow, one on each 10 cm tall stem. It has a large distribution area, also being found in Crete and Turkey for instance. We found it several times, such as north of Oued Loukos on the Atlantic coast in an open place in *Eucalyptus* forest near the Grottes d'Hercule.

Araceae

Biarum dispar (syn. *B. bovei* ssp. *dispar)*

We only found two specimens of this little aroid, one already past its best but the other in excellent condition. *Biarum dispar* is easily recognized by the way the anthers are connected to the spadix with no interval, and the characteristic lack of staminoides. Like most species of *Biarum* the inflorescence of *B. dispar* emerges from the ground before the

Mandragora autumnalis and habitat

leaves. *Biarum tenuifolium* ssp. *galianii*, which may also be found in Morocco, has a different flower structure. *B. dispar* usually has a dark purple spathe. Our specimen was a very unusual colour form, the spathe being yellowish green on both sides. This is rare in *Biarum*, although a somewhat similar colour is found in *B. davisii*. Its distribution ranges from the Iberian Peninsula to North Africa and Sardinia.

Arisarum vulgare

Arisarum vulgare is a tuberous perennial with a pulpit-shaped, dark purple-brown spathe from which a curved tongue-like structure protrudes. The inflorescence is supported by an unbranched stalk. The plant grows from an underground tuberous rhizome, which gives rise to stalked, arrow-shaped leaves and flowers, the leaves dying down in summer. It can be found in flower for a long time, from autumn till spring and is very common in Morocco. Nevertheless, we saw many more leaves than flowers. It has a wide distribution, particularly in the Mediterranean region.

Biarum bovei ssp. *dispar*

Arisarum vulgare

End Words

Although Morocco in the western Mediterranean area is not as well known for its autumn flowering bulbs as the Peloponnese and southern Turkey in the eastern Mediterranean, we found a considerable number of species during our one-week visit. Many of these are not to be found in the east. This makes Morocco a worthwhile autumn destination for plant enthusiasts. Because this was our first autumn visit to the western Mediterranean, many of the species were new to us in the wild.

All the bulbous species that we found in the Rif and Middle Atlas were also found in the coastal areas of north-western Morocco. These areas are under pressure from tourism and urbanisation and we saw building activity near many of the botanically rich lowland locations. Morocco encourages mass tourism in some of the coastal areas but this puts rare local species like *N. cavanillesii* and *N. viridiflorus* under great pressure – a circumstance that is apparently not much better in southern Spain, an area that shares these and many other species with Morocco.

References

Aafi, A *et al* (2005), Richesse et diversité floristique de la suberaie de la Mamora (Maroc), Acta Botanica Malacitana 30: 127-138

Blanchard, John W (1990), *Narcissus*: A Guide To Wild Daffodils, Alpine Garden Society

Grey-Wilson, C (1993), Mediterranean Wild Flowers, Harper Collins

Salmon, Mike (1988), Quarterly Bulletin of the Alpine Garden Society No. 232, Moroccan Monocots, The Alpine Garden Society

Polunin, O and B E Smythies (1988), Flowers of South-West Europe, Oxford University Press, New York

Danaus chrysippus (African Monarch) on *Gomphocarpus fruticosus*

There are more photographs on http://keesjan.smugmug.com (under botanical trips, Africa) and http://photos.v-d-brink.eu (under flora/fauna North Morocco, and under trips Morocco 2009).

Cape Spartel Lighthouse

Blackpool 13th March 2010

SRGCC Members who attend the Blackpool Show always have an early start. All sorts of weather are thrown at the travellers but on this occasion it was reasonably kind with pale sunlight appearing in fits and starts. The show was held, as usual, in the hall of the Collegiate High School and this has proved to be a reasonably good venue. The show benches were much less generously populated than in previous years, undoubtedly due to the long and still wintery conditions under which we have been labouring. In spite of this, the plants that made it to the benches were of the usual high quality for which the North of England is renowned.

The most noticeable exhibit was the magnificent photographic display of 'Plants of the Dolomites' that fronted most of the width of the stage. Photographs were of the usual high standard that we have come to expect of Syd Cumbus of Lancaster. These excellent pictures were presented on card at a level in keeping with the whole project. It was highly educational and thoroughly deserved its Gold Award.

Three entries were awarded Certificates of Merit. A pan of *Narcissus* 'Betty Mae' staged by Jean Wyllie started as a single bulb in the late 1990s brought in from New Zealand and has now

From Top:
Eranthis 'Guinea Gold';
Colchicum luteum x *kesselringii* 'Jeanne';
Dionysia bazoftica;
Cyclamen coum;
Callianthemum kernerianum;
Iris 'Katharine Hodgkin'

multiplied up to about a hundred bulbs; it has obviously a good constitution. A pan of *Cyclamen alpinum* was staged by Dave Riley of Kendal. A pan of *Saxifraga* 'Allendale Grace' was exhibited by Tommy Anderson of Kendal; numerous saxifrages of 'Allendale' origin frequently grace the show benches as beautiful plants and this specimen was no exception.

The AGS Medal for the six pan class went to John Richards of Hexham. The plants in this group of strong contestants were *Leucojum vernum*, *Iris* 'Katharine Hodgkin', *Saxifraga* 'Louis Armstrong', *Primula nana*, *Primula* 'Arduaine' and *Primula moupinensis*. The Kirby Cup for the best foliage plant in the show was won by *Anisotome imbricata* var. *imbricata*, owned and presented by Geoff Rollinson of Holmfirth. The Duncan Lowe Award for the best plant in a 19 cm pot was won by *Cyclamen coum*, from Robin Pickering of Goole. A trophy is awarded to the winner of the most first prize points in each of the three sections of the show: in the novices, the Reginald Kay Trophy was won by Frank Dobson of Scarisbrick; in the intermediate, the Michael Roberts

Clockwise from top: *Primula* 'Anna Griffith'; *Draba sphaerula coccinea*; *Colchicum szovitsii* 'Tivi'

Saxifrages. Clockwise from bottom left: 'Karel Kapek'; 'Mary Golds'; 'Allendale Grace'; 'Allendale Fairy'; *burseriana* 'Gloria'; 'Paul Rubens'

Memorial Trophy was won by Paul Street of Derby; and in the open, the Hollett Trophy was won by Ivor Betteridge of Ashby-de-la-Zouch.

The top spot of the show, the Farrer Medal, was taken by a magnificent specimen of *Cyclamen coum*, presented by Mike & Christine Brown of West Kirby. I was told that it was their 20th Farrer Medal. In season, many shows are graced by their superbly grown plants, with a special emphasis on cyclamen.

It is easy - but wrong - to overlook plants that for various reasons do not catch the judges' eyes. All credit and thanks are due to the exhibitors who bring along plants which, although not potential prize winners, are of great interest and increase the diversity of the show.

Here are some of the plants that caught my eye. *Anemone biflora* showed several buds but only one fully open flower of a startling shade of red. *Anemone tschernaewi* also showed only one fully open flower, very pale blue with darker lines radiating to the tips of the petals; the centre of this flower was darker and contrasted well with the petals; the anthers were tipped with brownish pollen and the stigmas were lilac in colour. Also of interest were two romuleas, *Romulea atrandra* with its reflexed carmine petals and *Romulea tempskyana* with its starlike petals of royal purple. An unusual flower colour resulted from a crossing of *Colchicum luteum* and *Colchicum kesselringii* that gave the flower petals a pale golden hue. Dionysias were conspicuous by their absence this year and many of those present were a long way short of their full glory. The only one smothered in flower was *Dionysia bazoftica*.

Some plants have a very short currency on the show bench, only to sink quickly into oblivion. One I remember as a star performer when I first went to shows more than thirty years ago is *Primula allionii* 'Anna Griffith'. Two examples were on display and both looked splendid. There is something about the almost crystalline appearance of the petals which is most appealing.

Our thanks are due to Lionel Clarkson and his show team for all their efforts, to all the exhibitors, and to the judges who do not appear to have attracted any serious criticism.

Glassford Sprunt

Glasgow 1st May 2010

The day of the Glasgow Show was off to a bad start. The journey to the venue was punctuated with smirrs of rain and even in Milngavie the sky was still scowling. True to form, however, as the day progressed the weather improved. It is always interesting to arrive early at the venue, to watch exhibitors trudging in with their precious cargoes and to watch the benches gradually filling up (no doubt to the relief of the show secretary). It also affords me the opportunity of taking pictures of some of the plants before the benches become crowded.

Each show is characteristically dominated by species of plants that appear year on year. The tough winter of 2009/10 somewhat upset this, but things are catching up. In spite of the difficult winter, the standard of plants remained high although the numbers appeared to be down. This

Aquilegia canadensis *Arisaema lobatum*

Border: *Androsace vandellii*

Trillium grandiflorum 'Flore Pleno'

Trillium erectum x *T. flexipes*

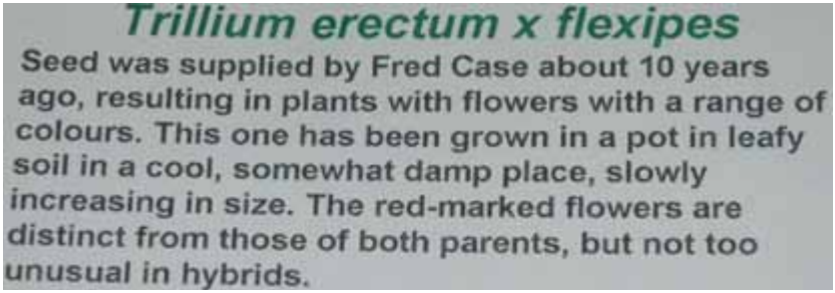
year, hybrid cypripediums, daphnes and trilliums were present in considerable numbers. Although cypripediums are still very expensive, they are now appearing in increasing numbers and the hybrids are proving to be reliable garden plants.

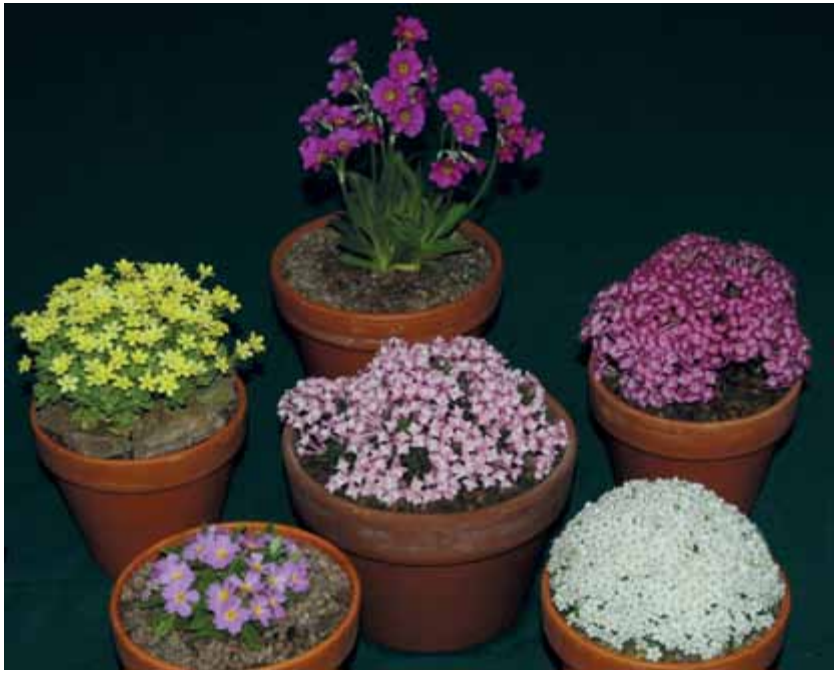
Members from south of the Border are always welcome, although their numbers are few. Tom Green brought some interesting plants and the judges were sad that they were not able to consider his pan of *Sebaea thomasii* for the Forrest Medal, because it had already won that medal at the Perth Show. However, the plant was awarded a Certificate of Merit, as was Cyril Lafong's *Fritillaria pyrenaica* 'Bernard Tickner'. Cyril also won the Diamond Jubilee award for his entry in Class A, an outstanding and well-balanced group of six pans that included *Primula bracteata, Primula ellisiae, Daphne petraea* 'Punchinello', *Daphne petraea* Clone 97/T13, *Dionysia caespitosa* and *Androsace hirtella* x *cylindrica*. He won the Charles M Simpson Memorial Trophy for his fine pan of *Cypripedium* 'Ursel', the 75th Jubilee Prize for *Daphne petraea* 'Idro', the Crawford Silver Challenge Cup for the most points in Section I and last, but not least, the Forrest Medal for a superb pan of *Androsace vandellii*.

Dai Davies won the James A Wilson trophy for the most points in Section II. Stella and David Rankin won the Henry Archibald Challenge Rose Bowl for the best exhibit in Class 2, and also the Don Stead Prize. Stan da Prato won the Edward Darling Memorial Trophy for the best exhibit in Class 4 and had three outstanding pans of Rhododendron - 'Wee Bee', 'Shamrock' and 'Razorbill'. The Joan Stead Prize went to Carole and Ian Bainbridge for a pan of *Primula ellisiae*. Ian also had a finely presented pan of *Pleione grandiflora*. The Ian Donald Memorial Trophy for a Scottish native went to Graham Catlow for *Primula veris*.

There was such a host of memorable plants that I am likely to offend somebody by not mentioning their particular exhibit. I will take that risk anyhow: Ian Christie showed a white form of *Lilium mackliniae*. This was a fine-looking plant and would seem to have plenty of future potential. The trilliums put on a fine show. Anne Chamber's *Trillium pusillum*, although a

Generously sharing the know-how at Glasgow





Six Pan – Class A

modest plant, showed itself off to perfection; John di Paola put on a fine specimen of *Trillium luteum*; and the Rankins' hybrid *Trillium erectum* x *flexipes* had unusual and spectacular 'flowers'. Cyril Lafong's white flowered *Lewisia tweedyi* was certainly eye-catching, the flower petals being much broader than is usually the case and the anthers contrasting nicely with the white background of the petals. *Haberlea rhodopensis* 'Virginalis' is seldom seen on the benches and its delicate flowers contrast with those borne by the type. It was brought to the bench by John di Paola. Sam Sutherland's *Dianthus* 'Rivendell' was a wee stotter.

Our thanks are extended to the show secretary and his assistant for their efforts in putting on the facilities, to those who slaved away in the kitchen, and to those who provided the food for the judges, officials and visitors. The Club plant stall seemed to be doing good business and we thank those who manned it. It is always interesting to see members of the nursery trade having a look at the plants here and often coming away with some treasure. Finally, our thanks go to the judges; we must have got things reasonably right, as nobody gave me an ear-bending session later in the day.

Glassford Sprunt

Perth 17th May 2010

This year's show, being in a cold season, had a good selection of primula hybrids on the benches. Geoff Hill's winning entry in class A contained six different examples including 'Lismore Yellow', 'Broadwell Milkmaid' and others.

The Forrest medal was won by Tom Green (Rowlands Gill) with a pan of *Sebaea thomasii*. This form has particularly large yellow flowers which completely covered the cushion. A 12 inch pan was exhibited in class 63 and those smelling it noticed that it had a wonderfully heavy aroma, described as musky cloves.

Stan da Prato won the L C Middleton Challenge Trophy for most first prize points in Section 1 and the E H M Cox trophy for a dwarf rhododendron, 'Snipe' - a very nice pink hybrid bred at Glendoick. Stan feeds it on ericaceous feed and grows it year-round in a pot.

Cyril Lafong (Glenrothes) won the Alexander Caird Trophy with a Class 1 six-pan that included a 9 inch diameter cushion of *Primula bracteata*, the winner of the R S Masterton trophy for best Asiatic primula. Cyril's entry also contained *Trillium grandiflorum* f. *roseum*, *Androsace vandellii* and *Lewisia tweedyi* var. 'rosea'. Also noteworthy in this class was *Erythronium multiscapideum*, a plant that won the Bulb Trophy.

Another interesting plant of Cyril's was in Class 5 '*raised from seed*'. It was a *Paraquilegia*, grown from seed collected in Gosainkund in Nepal and the only one of the seedlings from the original pan to have survived. It is thought to be a form of *Paraquilegia microphylla*. Cyril uses very gritty compost, alpine house conditions, full exposure to the sun and a fortnightly dilute liquid feed during growth.

The Dundas Quaich for three pans of rock plants was awarded to Carole and Ian Bainbridge (Edinburgh) for *Erythronium citrinum* x *oregonum*, *Pteridophyllum racemosum* and *Narcissus rupicola* ssp. *watieri* 'Abaleish', this last being their named selection of the Moroccan *Narcissus watieri*.

A large pot of the selected dark form of *Fritillaria meleagris* grown by Margaret & Henry Taylor (Invergowrie) won them the Joyce Halley Award as the best plant grown from seed

Pteridophyllum racemosum in the wild (Wikimedia commons)

and came from the Dordogne, sown in 1990. The pot is kept moist in a cold frame in summer. The Taylors also won the coveted Murray-Lyon Trophy (in the shape of a chamois) for the best plant from a member from Tayside. Perthshire member Andrew Radley (Auchterarder) won the Perth Trophy - with silver gentians.

Androsace vandellii - how Cyril Lafong does it in Glenrothes ...

Certificates of Merit were awarded to Cyril Lafong's *Lewisia tweedyi* 'Lemon' and to his *Androsace vandellii* grown from seed (sown October 1998). Another certificate went to *Pteridophyllum racemosum* from Viv and Anne Chambers (Killearn). The *Pteridophyllum* had been grown in open ground and had twenty flowers open.

Section 2 was rather small but Mike Hicks (Bronze medallist and winner of the Salver), Graham Catlow and Lynn Henderson entered some good plants. A *Narcissus* 'Hawera' was the recipient of the John Duff prize.

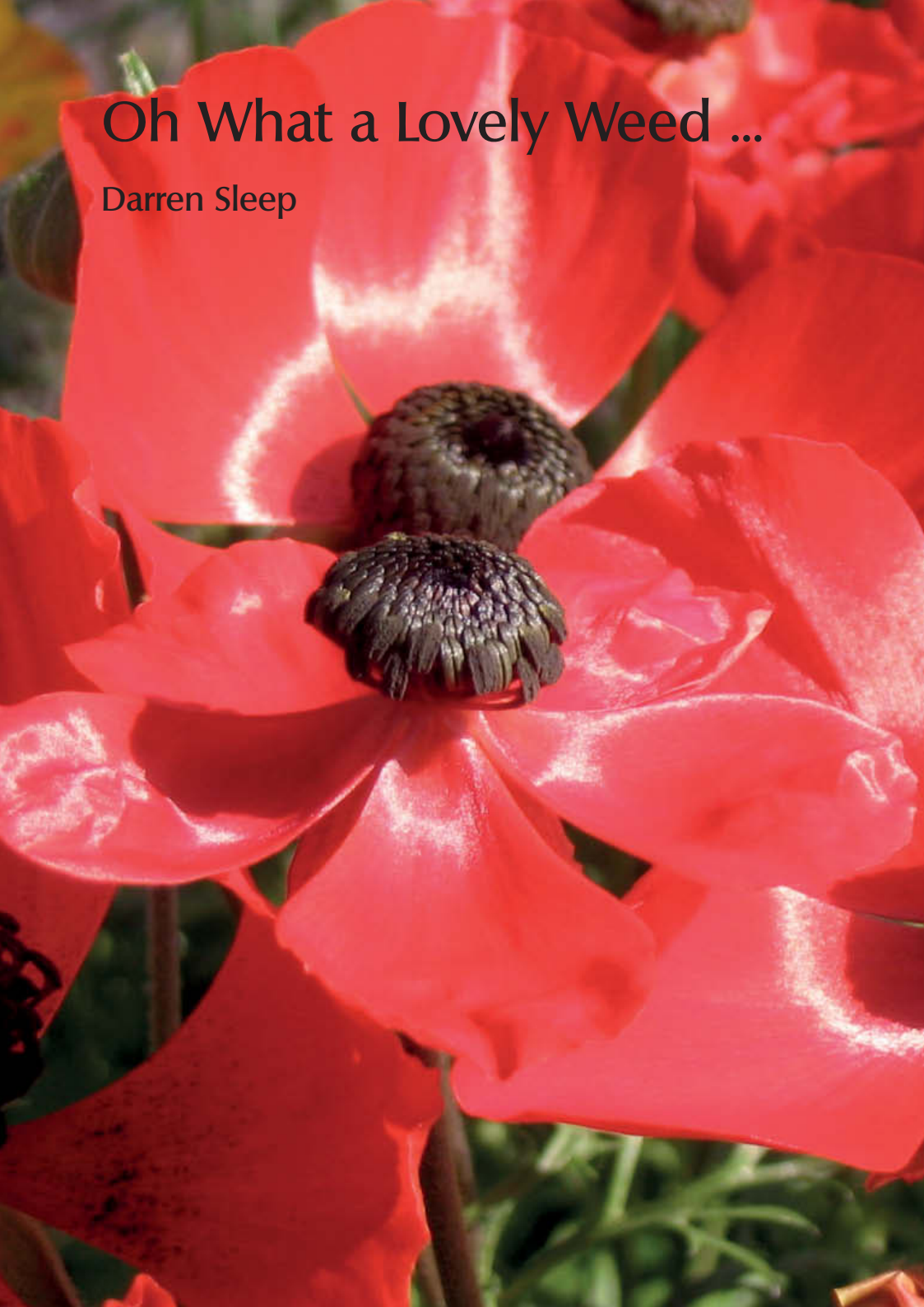
It was wonderful that Fred Hunt (Invergowrie) put on an exhibition of lovely big photographs of European, Asian and North-American fritillaries. Our thanks also go to Elspeth Mackintosh & John Mitchell of the Royal Botanic Garden Edinburgh and Struan Harley for their large display of plants that included many fritillaries, irises, erythroniums, narcissi and *Primula scotica*. It is a lot of effort to cart this many plants around, and we are really grateful to them for bringing them up to Perth for the day. Their efforts earned a very well deserved Gold Medal.

Cathy Caudwell

Androsace vandellii ... how Nature does it in the Valais (Harry Jans)

Oh What a Lovely Weed ...

Darren Sleep



Among other things, I have been called a '*Ranunculus asiaticus* enthusiast'; this is true enough. I have accumulated and am building a small collection of different forms. I'm not referring to the double flowered forms that I dislike intensely (such as the horticultural trade's 'Aviv' and 'Bloomingdale' strains) but to the wild forms often admired - but ultimately ignored - by those who seek the bulbs and orchids with which they usually grow. Why is this plant so attractive? Besides the intensity and purity of its colours, I've always liked the 'simple' open flowers of the *Ranunculus* family. I confess to an aversion to double flowers and some others such as *Rhodohypoxis* where the reproductive bits are hidden. There may be some Freudian reason for this; suggestions to the SRGC Forum please!

Ranunculus asiaticus is native to the eastern end of the Mediterranean & south-west Asia in a variety of habitats, from roadsides and olive groves to the great gorges of Crete. It occurs in numerous colour forms: red, white, yellow, pink and purple; at a distance it is often mistaken for poppies, or anemones of the *Anemone pavonina* or *A. coronaria* alliance. Colour forms tend to occur in pure populations isolated by geography. Jim Archibald has described how the rim of the Cyrenaican Plateau in Libya hosts the yellow form while the top has pinks and whites. It would be wonderful to study, if only the Libyan authorities would invite me! In addition to colourful flowers, some clones have attractive leaves which are often finely divided and may have dark or silvery markings or both.

R. asiaticus is one of several summer-dormant *Ranunculus* species with tuberous roots. Cultivation follows that of my other 'bulbs' and advice given by the late Kath Dryden in her book *Alpines in Pots*. In late August or early September the claw-like tuberous roots are repotted into fresh compost (50:50 John Innes No. 2 and grit). I usually discourage rot by dusting the roots with dolomite lime powder or flowers of Sulphur. Watering starts in early September. The shoots generally appear during October and the first leaves persist through the winter to early spring when the flower stems and a new set of leaves are produced. Throughout the growth period the plants are fed occasionally with half strength tomato fertiliser. After flowering, the leaves turn yellow and all watering stops. I keep the pots in a warm dry spot in the greenhouse throughout the summer dormancy.

It is convenient to grow my plants in plastic pots in a tray. After the initial overhead watering, the tray is flooded to a depth of one to two cm whenever necessary during the growing season. A wick of capillary matting allows excess to seep away over the edge and onto the floor. The trays are housed in a greenhouse, open at both ends and only closed during gales or frosty nights. I exclude frost from the

Opposite: *Ranunculus asiaticus,* red form from habitat seed

Ranunculus asiaticus:
author's white - red cross

greenhouse because of my more tender plants but I find that *R. asiaticus* does well when planted out in an unheated frame in my area of coastal Lancashire. The cold winter of 2008/2009 saw temperatures below -5°C on several nights with only small seedlings suffering. Mature plants survived and flowered as normal. Jim Archibald recently listed seed collected in Turkey at a high altitude for the species and speculates that it may result in hardier plants. My own seedlings from this collection are still too small and too few to experiment with but I had the first flowers in 2009 and hope for second generation seedlings in 2010.

There is no doubt that plants under glass etiolate at flowering time; it is often unavoidable. If we get some days of calm sunny weather in Spring I move my plants outside but even one squally shower can ruin any flowers that are open. Perhaps placing plants under an overhang or house eaves so as to allow full light but keep off the rain would be successful.

As the days warm up in late winter I am especially vigilant for pests. The over-wintering leaves often harbour greenfly (virus vectors) and if the plants are crowded these older leaves are also often infected with botrytis as they start to die off. I can do no better than quote Kath Dryden: '*just cut them off – they grow a new lot with the flowers anyway*'. At this time of year care also needs to be taken to keep up with watering as these are leafy plants and in small pots will

Ranunculus asiaticus 'Ken Aslet' P.C.

Ranunculus asiaticus:
yellow form from habitat seed

dry out their compost rapidly. The first warning comes when flowers droop over at the top of their stems to face downwards. Watering at this stage remedies things with no harm done – the flowers right themselves in an hour or so. However, if left until the leaves wilt, the plants may recover on watering but are then often prone to infection by powdery mildew, as are most members of this genus. Use whatever remedy the law and your conscience will allow. Another occasional problem is that dormant plants may fail to start growth in the autumn, and then rot away during the winter. I have no proof but I suspect that this may be related to the temperature and duration of the summer rest; certainly a warm summer leads to more vigorous regeneration in the autumn. A cool summer such as that of 2008 seems to delay regrowth into late autumn and some plants don't appear at all. The fact that this affliction (in the years it occurs) seems to affect all or most plants derived from specific wild populations supports the hypothesis that some genetically determined trigger has not been reached.

Author's own yellow-red cross

Recent research into the physiology of the dormancy mechanism (using the double flowered strains) shows it to be rather complex and that the desiccation within the tuberous roots can be remarkable (as low as 8-10% moisture as opposed to about 70% for other resting geophytes). The research shows that the growing point is also inactive, whereas in

Ranunculus asiaticus: mixed colours

most geophytes some activity continues, such as formation of flower buds. Both these things make dormant *R. asiaticus* tubers more akin to seeds in their physiology.

R. asiaticus is prone to viruses and specific fungi but thankfully I have so far been spared any major problems. Cucumber Mosaic Virus (among others) causes colour breaks, leading to picotee and other effects; this may well be the cause of some of the variations in my seedlings. Such

Ranunculus asiaticus: a pale-yellow cross

plants may still appear quite healthy and vigorous and indeed, as with tulips, such infections resulted in many of the florists' cultivars of the 17th & 18th centuries. To be on the safe side, it is advisable to control aphid vectors.

Propagation

Most clones increase fairly steadily by vegetative means, clusters of tuberous roots developing multiple crowns that eventually separate. I don't force them as this may break the roots. Another year's growth often makes them easier to separate without forcing, as these roots are replaced annually. With named clones this is the only practical means of increase for the amateur grower but it also propagates any viruses. I try to produce 'pure' seed from plants of known wild (seed) origin by careful hand pollination and subsequent marking of the flowers. Nevertheless, open pollination is interesting because, even in the first generation, crosses between colour forms produce all sorts of intermediates. Some are very attractive and worth increasing clonally. Dry seed stores very well at room temperature and is not as short-lived as most seed in this genus, presumably because the species is adapted to summer drought. I sow my seed in late August on a commercial multipurpose compost with added sand and perlite. I cover it with a thin layer of vermiculite and water it only with tap water. Seeds germinate after a few weeks of warm days and cool nights in a frame; signs of life usually appear by late October. Sowing seed from exchanges in late winter also works but one then faces the prospect of keeping the seedlings going through the summer without rotting, as they may be too small to survive drying off. Autumn seedlings may flower in their first spring if fed well but the following year is more usual. The modern garden strains have been bred to flower the first year from seed - the wild types have not.

Recent research found that germination was improved if the seed was first soaked for two minutes in water at 50°C and further improved by Gibberellic acid treatment. However, a subsequent cool period is still necessary. I have not tried this, as I get acceptable germination using my more hit & miss method.

Seed from exchanges is often not viable because it is easy to harvest infertile chaff from this species - seed donors please note! I have included a picture to illustrate the difference between fertile seed and chaff: with seed from cultivated plants it is fairly easy to see the rounded embryo/endosperm within the fertile seed, although I admit that with habitat-collected seed this may be severely shrivelled and therefore not easy to spot.

By far the worst problem in propagating *R. asiaticus* from seed is that it is especially prone to damping off. This reflects the experience of other growers I know. Leaving the seed pots in the open as long as you dare might help, given the unlimited ventilation. I've tried assorted commercial

Ranunculus asiaticus: fertile seed to the left, chaff to the right.

preparations with variable success. In 2008 I tried a tip I found on an organic gardening website: after germination, until the first true leaves showed, each watering was cooled Chamomile tea. Much to my surprise this worked – though I may have just been lucky! Ironically, a 1996 paper in *Annals of Applied Biology* shows that extract of *R. asiaticus* has some fungicidal activity - but against the causative agent of Tomato Wilt. To me this seems a good productive use for all those double-flowered *R. asiaticus* bedding plants ...

In *The Garden* (May 1999), Timothy Clark describes the history of this species in cultivation. There were once huge numbers of named

Tuberous roots of *Ranunculus asiaticus* at repotting time

R. asiaticus cultivars and, given the propensity of the species to produce unpredictable results when the various colours are crossed, this is perhaps unsurprising. Equally expected is their loss to cultivation, given their unsuitability for general British garden conditions. Nowadays, leaving aside the double strains, few clones are formally named or receive RHS awards. My first-ever red sticker at an alpine show was with the cultivar 'Ken Aslet' P.C. This came from Kath Dryden and is a wonderful robust plant with big lustrous semi-double red flowers; the award write-up in *The Alpine Gardener* offers full details and a quick search of the index reveals that two other cultivars have received award write-ups in recent years: 'Mt Hermon' P.C. and 'Sunbright' A.M. I know of no contemporary source for any of these three cultivars and I currently only grow the first. Indeed, the 2009 RHS Plant Finder website shows that the species itself was last listed in 2008, with individual colour forms (varieties *albus*, *flavus* & *sanguineus*) not listed for several years before that. The award cultivars have no recorded listing at all. I would be delighted to obtain material of 'Mt. Hermon' or 'Sunbright' and this also goes for any other wild-type form of the species, especially if accompanied by locality data.

References

- *Alpines in Pots* by K N Dryden VMH. Alpine Garden Society
- Matthews V The New Plantsman, 5, pages 68-73
- The Alpine Gardener (AGS Bulletin): *Ranunculus asiaticus* 'Ken Aslet', 68, 256-257P.C. *Ranunculus asiaticus* 'Mount Hermon', 59, 392*PC *Ranunculus asiaticus* 'Sunbright', 61, 404*A.M.
- The Garden: *Objects of Desire* by Timothy Clark, May 1999; *I can't believe it's a buttercup* by Philip Clayton, February 2003. Royal Horticultural Society

Other useful references may be obtained directly from the author (or via the editor).

Cypripedium 'Sebastian' – Elegant and Easy

Michael Weinert

In issue 122 (January 2009), I described the general growing conditions for *Cypripedium* hybrids in the garden. They are quite easy to fulfil because the hybrids are much less demanding than the species. We are just scratching the surface of their potential as we did seventy years ago with the tropical orchids. I would now like to recommend a hybrid that stands out for its similarity to a highly valued & delicate species and for its special colouration – *Cypripedium* 'Sebastian'.

This elegant hybrid captivates with its striking flower colouring and shape as well as the slender growth of its shoots. Everything about it is redolent of the wild species *Cypripedium montanum* from North America. *Cypripedium* 'Sebastian' forms many flowers, often two per stem, and is easy to cultivate in the garden, like all Frosch® hybrids. It grows up to 60 cm and flowers in the second half of May. The cross 'Ingrid' is a similar colour. To grow this jewel of the shaded garden, you need only obey a few simple rules.

Firstly, the right place: half or full shade - the north side of a building may be just right. Plant no competitive strong growers close to *Cypripedium* 'Sebastian' for they might take away too much light, nutrients or water. For the same reason, big trees and vigorous shrubs can be problematic; the *Cypripedium* hybrid would not die but would neither flower nor increase the number of shoots every year. If the planting site is perfect, it is normal for the number of shoots of *Cypripedium* 'Sebastian' to double every year, as does the production of twin flowers. Secondly, watch for slugs, especially during springtime. I have been told that *Etisso® Slug & Snail-Lentils* work best because they withstand even long periods of rain without losing effect. If you don't like chemical warfare, a metal slug fence gives perfect and permanent

Cypripedium 'Gisela' & *C.* 'Ingrid' in a very suitable shady position

Opposite: *Cypripedium* 'Sebastian'

Cypripedium 'Sebastian' in a second colour form

protection. Thirdly, the soil is not important; any average garden soil suffices as long as it is neither permanently dry nor wet. Last but not least, fertilize your *Cypripedium* 'Sebastian' during springtime with any normal garden fertilizer in half concentration. That's all there is to it: then go ahead and relax and enjoy this beauty of the shaded garden!

Cypripedium hybrids like 'Sebastian' can be bought at mail order nurseries worldwide. Watch out for the trade mark and the '*Frosch*®' logo, which guarantees flowering-sized and healthy rhizomes. If you need a source of supply in your country, just make contact via www.cypripedium.de. There you will also find lots of additional information and many photos as well as an international *Cypripedium* forum with more than 2500 postings.

Ease and elegance among the cypripediums: *C.* 'Sebastian' to the left

The Gardens of Japan
Helena Attlee
(photographs by Alex Ramsay)
136 pages & 129 photographs
ISBN 978-0-7112-2971-6
Frances Lincoln £16.99

This book has been well received elsewhere but what does it offer SRGC members? We have sometimes dismissed the relevance of Japanese gardens with '*Oh, they are more formal, just superb rocks and raked gravel but not enough plants*'. Helena Attlee's book will – in the contemplative reader – stimulate a much more sympathetic and creative viewpoint. This is a book to enjoy and reflect on.

A concise introduction outlines the Japanese garden in relation to history, culture, and foreign influences. Attlee traces the story through the early recreational gardens of the Heian aristocracy (794-1185), the practicalities of the *Sakutei-ki* (see Francis Ferns in *The Rock Garden*, issue 118), the influence of Zen Buddhism, and the later use of selected rocks and gravel to depict landscapes in miniature. The devoted labour of monks in temple gardens parallels our own obsessive secular efforts. In the Momoyama period (1558-1600), the tea garden came to prominence; the visitor's route and pace to the tea house was controlled to promote contemplation, and rocks played a leading role. In 1854, Japan opened to the west, absorbing its landscape traditions. Throughout this long history, perfect plants were balanced against beautiful rocks within exquisite views, and here perhaps is another parallel with our own traditions.

The book describes 28 gardens, most of which may be visited today. All offer inspiration. Well-chosen, albeit cool, photographs relate to familiar themes: choice of plants; composition of views; interplay of garden and buildings; subtle seduction of the visitor to admire particular aspects. The plants vary from the untutored natural beauty of cherry blossom and distant camellias to precisely sculptured clusters of azaleas and fastidiously shaped pines set within deceptive perspectives. The gardens sit intimately within their landscapes, offering illusions of peace and timeless harmony. The loveliness of the prospects suppresses any thoughts of the labours of maintenance. The architectural views through windows and openings are particularly beautiful – like portraits on a wall.

These themes echo our own experiences. I found myself thinking how to place plants in their landscape better, how to vary the pace of a stroll through my garden, how to group plants, how to define desired effects. I was more aware of the parallels with our own gardening than the differences. Buy this book for its insight into a parallel world, but also use it to stimulate a different and creative viewpoint for your own efforts.

Anton Edwards

Wild Flowers of the North Highlands of Scotland
Ken Butler; photographs by Ken Crossan
189 pages & 268 illustrations
ISBN: 9781841588322
Birlinn £14.99

For plant enthusiasts living in or visiting the north of Scotland this is a most welcome addition for their book collection. The text by Ken Butler, who has been exploring the plants of the area for nearly fifty years, is ably backed up by Ken Crossan's excellent photographs both of the plants and of some of the landscapes. The area covered is Caithness, Sutherland and Easter Ross.

The plants covered range from the very common to some real rarities. They are described in five chapters dealing with their usual habitats from the sea coast to the mountains but also pointing out where overlaps between habitats occur. Aficionados of alpines should note that coastal sites such as Durness golf course and the Invernaver Nature Reserve near Bettyhill are among the best places to see their favoured plants. Nor does it require a lot of walking to reach the limestone areas of Assynt, although a minor complaint is that the well-known Assynt hill, Quinag, has been wrongly captioned as Glas Bheinn, a quite different Corbett. Each chapter has an introduction which clearly explains the ecology and, where appropriate, the human forces which have had an impact. There is also a chapter called 'The Context' which deals with the geology, climate and the human history of the area. It is set at the end but many will find it helpful to read it first.

Ken Butler's descriptions of plants are admirably clear. Sometimes he gives additional detail for identification in the form of diagrams and occasionally refers those readers who may wish for even more detail to appropriate books or articles. Each plant is illustrated by one of Ken Crossan's high quality photographs. The text helps a good deal in finding the plants, even to the point of six-figure grid references, showing a pleasing willingness to trust readers not to collect. Only two out-and-out rarities have had their locations obscured. Although it is difficult to be precise about flowering times and the text does give some guidance in this respect, it would have been better had this been applied throughout, or at very least to those plants with very restricted flowering periods. All in all, however, this is a book I am happy to recommend to all who wish to appreciate our native Scottish beauties in their natural surroundings.

Andrew Fraser

Volume 31 – Issues 122, 123, 124 & 125

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SEED COLLECTING EXPEDITION TO KASHMIR, 2010

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EXPLORERS

The Scottish Plant Hunters Garden

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