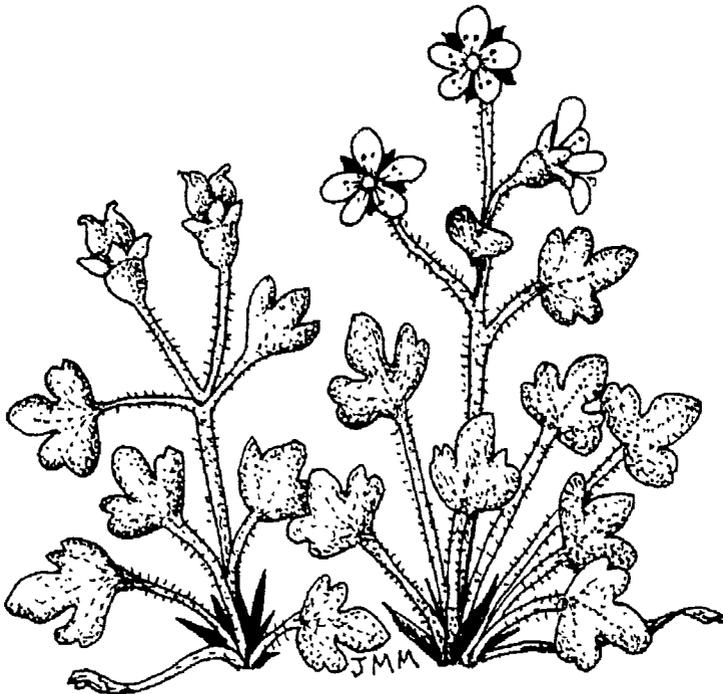


**BSBI**

**2004**

**Scottish Newsletter**

**No 26**



**Highland Saxifrage**

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# BSBI SCOTTISH NEWSLETTER

Number 26      Spring 2004

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## Editorial

Those who comment, seem to appreciate the mixture of factual information, detailed articles and the more light-hearted items published in our *BSBI Scottish Newsletter*.

An addition this year is the inclusion of the draft Minutes of the Annual General Meeting of the BSBI Membership in Scotland. Reasons for this include the facts that thereby members who were unable to attend can be informed of what is taking place in Scotland, that it will provide an opportunity to study the minutes before hand and bring any suggested amendments to the next AGM and that it will save time by obviating the necessity of having them read.

We are grateful, once again, to Mrs JM Millar for providing the front cover illustration. Highland Saxifrage (*Saxifraga rivularis*) was chosen to complement the article by Gordon Rothero. It was done partly from slides taken by one of the editors, but from the relative ease of access of the Cairngorms, rather than the strenuous effort required in Easter and Wester Ross!

Local Change— the repeat of the 1987-88 BSBI Monitoring Scheme, is mentioned here and there in this Newsletter, but we are surprised not to have received any formal articles relating to the survey. We suggest that readers give consideration to submitting comparisons between 1987-8 and 2003-4 for the next issue.

For this issue, all material was submitted on disc, which is most helpful, although when this facility is not available, we are prepared to receive typed copy.

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## Chairman's Remarks, 2004

RICHARD PANKHURST

The BSBI Scottish Committee has been especially busy during the last year both with the Local Change surveys and with various consultations over conservation legislation for Scotland.

Our field meetings in 2003 concentrated on mapping for Local Change, and eight meetings took place (thought to be a record number!). In general there has been an enthusiastic response from our recorders and members and we are reasonably confident that, after the field meetings that are planned for 2004, we will get good coverage. Typically, when revisiting a tetrad surveyed during the Monitoring Scheme about 15 years ago, and following the same itinerary, about two-thirds of the old records are quickly refound, along with about 10% of completely new records. Most of the new records seem to be from additional habitats not surveyed the first time round. If after Local Change has been completed, one might be wondering what to do next, the compilation of Rare Plant Registers for each vice-county is suggested.

In response to new nature conservation legislation we pressed for better botanical citations for SSSIs and for assurance that SSSIs would not be lost. We supported continuation of schemes in the Environmentally Sensitive Areas and requested stronger wording about Local Authority responsibilities in the Scottish Biodiversity Strategy. The Access code accompanying the new Access Bill clarifies the right of individuals to undertake surveys.

Several recorders were involved with Scottish Natural Heritage in contract work for Site Condition Monitoring on SSSIs. The appointment of a Scottish BSBI coordinator later this year, I am reliably informed, is a strong possibility.

Three recorders retired this year; Peter Wortham for E. Ross, Richard Thomas for Mid Perth and Kathy Fallowfield for S. Aberdeen. They have all put in many years of effort and the Society is most grateful. Gordon Rothero spent quite a while organising replacements for them. There is a growing precedent for having more than one recorder per vice-county, especially in the large and remote highland and island areas, as already in Mid Perth and the Outer Hebrides. We would like to hear from ambitious botanical folk, perhaps living further south, where there are more botanists than recorderships, and who visit Scotland as summer migrants.

The 2003 Annual Meeting took place in the University of Glasgow on November 1<sup>st</sup>. A talk on climate change and its possible effect on the vegetation of Scotland

was given by Noranne Ellis of the SNH. Stepping down from the committee were Jim Macintosh, organiser of field meetings, and Edna Stewart, organiser of our annual meetings, and we record our grateful thanks to both of them. Gordon Rothero also stepped down as Chairman after 4 years of service, and we are most grateful to him for all his efforts. Now its my turn!

## **BSBI Committee for Scotland**

The following is the composition of the Committee from November 2003 to November 2004

Chairman - Richard Pankhurst; Vice-Chairman - vacant; Secretary & Treasurer - Chris Miles; Field Meetings Secretary – Jackie Muscott; Minutes Secretary - Mark Watson; Exhibition Secretary – Gordon Rothero ; Members of Committee - Phil Lusby, Ian Strachan, Ian Green, Stephen Bungard.  
Representing SNH – Lynne Farrell.

At the AGM on 6 November 2004, Gordon Rothero, Phil Lusby and Ian Strachan retire, the last named being eligible for re-election. Nominations for the committee vacancies, signed by two members of the Society normally resident in, or recorders for, a vice-county in Scotland and with written consent of the candidate, who must also qualify as above, should reach the undernoted at Braeside, Boreland, Lockerbie, Dumfriesshire. DG11 2LL by 30 September 2004.

C Miles – Hon Secretary

## **Scottish Annual Meeting 2003**

EDNA STEWART

### **Introduction**

The Scottish Annual Meeting of 2003 was held in the Graham Kerr Building, University of Glasgow. Although there were fewer exhibitors, the exhibits seemed to occupy as much space as usual. We were disappointed that Summerfield Books were unable to be present with their usual tempting range of botanical books including BSBI publications. Our speaker in the afternoon was Noranne Ellis who gave a very topical talk on the impacts of climate change on Scotland's flora.

The evening meal was held in the University's College Club, followed by an enjoyable slide show from four contributors – have most people stopped taking colour transparencies?

### **Scottish VC Recordors Meeting**

43 members attended: 32 were Scottish VC Recordors, covering 30VCs.

Gordon Rothero welcomed new Recordors:

VC 102 Malcolm Ogilvie

VC 106 Brian and Barbara Ballinger

VC 104 Stephen Bungard joint with Catriona Murray

VC 105 James Fenton joint with Douglas Henderson.

David Pearman spoke about the post of Scottish Officer. SNH would pay half the cost and BSBI the rest. The post would be for three years. The job would involve helping with monitoring for specific plants, the Threatened Plants Data Base and encouraging new members. The post is unlikely to be in place until 2005.

Local Change – Bob Ellis has been appointed to take Pete Selby's place. However for the present data should be sent to Alex Lockton and Martin Rand on the Mapmate web site. Eight field meetings had taken place in 2003 for Local Change.

He then mentioned puzzling records for *Crepis mollis*. There are old records but few new ones. It is found around the Borders. There was a discussion –it was thought that it could be overlooked – it is very like a hawkweed but pappus is pure white.

Gordon Rothero spoke about Site Condition monitoring, for which BSBI has a contract with SNH. However information supplied by SNH to BSBI surveyors

does not tie up with information which VC Recorders have. He also talked about Local Record Centres. Some of their records are dubious. We should be having an input. The LBAP plan should be the way forward.

Ken Butler said there was a need for instructions for BSBI members to allow them to co-ordinate with Recorders.

## Lecture

### Climate Change Impacts on Scotland's Flora

Dr Noranne Ellis

Dr Ellis is an adviser for Scottish Natural Heritage, advising on issues dealing with the impact of climate change, air pollution and chemicals in the environment on habitats and species.

Her talk outlined the rapid fluctuations at the end of the last Ice Age across Scotland (around 10,000 years before present). At this time, Britain experienced rapid fluctuations in temperature due to the warm ocean current, the North Atlantic Drift, increasing in strength very rapidly (sometimes within a decade) arriving at the western coast then, over time, decreasing in strength. The point was that there are also local climate changes that complicate the story.

At present we have warming at a global scale.

At the end of the last Ice Age the temperature levelled off at around 7-8 C which is comparable to the present-day average for Scotland. Even with the temperatures similar levels to today it took thousands of years for woodlands to cover the whole of Scotland.

From 1860, the temperature across the planet rose by 0.6 C on average. Within Europe, the temperature rise was 0.8 C. Changes in precipitation patterns have also occurred with greater annual rainfall totals in the 1980s and 1990s than have occurred since 1760. Across Scotland the winter rainfall has been up to 10-20% greater than had occurred in the decades 1940s-1960s, whereas summers have actually been getting drier.

The talk outlined the normal orbital reasons as to why the planet has interglacial and glacial periods, and that volcanic eruptions also spew out ash and sulphur compounds which act as a parasol over the Earth's surface thereby reducing the amount of heating from the sun. Therefore volcanic emissions negate the extra heating whenever the Earth's orbit and tilt in the axis of rotation would tend to increase the Earth temperature. In 2001, the Inter-governmental Panel on Climate Change (IPCC) concluded that the heating effect of the sun and the cooling effect of volcanic emissions together only account for around

40-60% of the temperature variations since 1850

The IPCC have shown that greenhouse gases have been responsible for the recent change in the atmosphere's temperature. Greenhouse gases include carbon dioxide, methane and nitrous oxide. These are chemicals in the atmosphere which hold the heat that radiates from the planet's surface once it is heated by the sun. IPCC have produced scenarios of the future climates based on estimates of varying levels of future greenhouse gas emissions. The UK's Climate Impacts programme (which links to the work of the IPCC) has described seasonal and annual changes in temperature and precipitation for the UK. Interestingly, the temperature rises are expected to go beyond the maximum temperatures that Scotland experienced at the end of the last Ice Age.

For a 1 C rise in annual temperature, climate space for individual species is expected to shift north by 250-400 kilometres and uphill by 200-275 metres. This is the distance from Glasgow to north of Inverness or to Orkney. Therefore for an increase of 1.5-2 C by 2050s (as expected in various scenarios), this would mean that northern limits of southern species would be at the north coast of Scotland or beyond. This has implications for northern species such as the Scottish Primrose which has a limited distribution across the northern coast of Scotland and Orkney. Arctic-alpine species would lose 90% of the land area. Data from a garden in East Lothian also indicated that between 1978 and 2001 flowering plants are flowering 19 days earlier and continuing for a further 6 days in autumn.

Dr Ellis talked about the MONARCH Project (Modelling Natural Resources Responses to Climate Change), work being done by Oxford University, ADAS, CABI Bioscience and the British Trust for Ornithology. Scottish Natural Heritage is one of 15 funding organisations across Britain and Ireland. The project considers future climate space changes under the different climate scenarios and quantifies the change in climate space northward for southerly species and conversely the retreat of climate space for northern species. MONARCH Phase II is considering how the dispersal capabilities of different species would cope with this change in climate space distribution across the British Isles. It is expected that species like the Norwegian Mugwort would not have climate space by the 2020s (even under the lowest emissions scenario), therefore there is a need to consider how to conserve the species. However, the current distribution of the Twinflower is very restricted and the research indicates that it should climatically be able to exist currently in England and Wales. By the 2050s the distribution of climate space suitable for Twinflower still covers the actual distribution of this plant. Therefore the effects on Twinflower of climate change are not likely to be manifested before the 2050s.

## Abstracts of Exhibits

### Some Fife Finds

GH Ballantyne

Several alien plants were found during 2003, ranging from the long established (and hitherto overlooked) Seaside Daisy (*Erigeron glaucus*) and Two-spined Acaena (*Acaena ovalifolia*) to bird-seed aliens such as Buffalo-bur (*Solanum rostratum*) (all NCRs). Native species included Scottish Lovage (*Ligusticum scoticum*), increasing on Forth shores, where three couch-grass taxa also occur; *Elytrigia juncea*, *E. repens* and their hybrid, *E. x laxa*. The double-flowered form of Cuckoo Flower (*Cardamine pratensis*) was shown, as was Prickly Sedge (*Carex muricata*) nearing its northern limit in Scotland.

### New Lothian Brambles

A survey of former railway lines, especially in Edinburgh, revealed or confirmed several new records for VC 82 and 83 (plus some undeterminable taxa), including two new to Scotland, *Rubus phaeocarpus* and *R. conjugens*, and confirmed Dewberry (*R. caesius*) from both East and Midlothian. Another NCR, *R. lindleianus*, was discovered at Roslin by the River North Esk. Of the unknown taxa, one was from near Pentcaitland (VC 82), considered to be similar to an unnamed Northern Irish bramble, and one from Linlithgow (VC 84) which is a puzzle.

### BSBI Local Change

Michael Braithwaite

The survey was complete in Berwickshire, VC 81. Many species were found that had not been recorded in 1987/88. Some of these could be considered 'real' gains: these included maritime plants that had colonised road verges and Northern Dock (*Rumex longifolius*), which has been spreading dramatically in the Scottish Borders.

Some plants could not be refound at specific localities where relevant changes were noted and were considered 'real' losses. The average New Atlas Change Index of the real losses was close to zero, suggesting losses at tetrad scale for plants too widespread to show change at hectad scale. Notes had been made of the main physical changes in the tetrads

### Estimating the loss of Native Plant Species Localities

The New Atlas Data for Berwickshire, VC 81, had been used to estimate that the average loss of individual plant localities for the scarcest native species had been 67% over a time period roughly from 1830 to 1999 on the assumption that for the scarcest species there was formerly only one locality per hectad. The same percentage was derived from two separate exercises: one based on the number of extinctions in the VC as a whole and the other on the number of

losses at hectad scale for species with a given hectad frequency.

A new survey had been made in 2003 of a small area around Berwick-upon-Tweed to seek to determine the fate of the detailed localities of scarce and common plants alike noted by J V Thompson around 1800. The losses were demonstrated to be very strongly habitat related. A separate analysis comparable to that of the Berwickshire Atlas data showed that, on the basis of the number of extinctions in the survey area as a whole, an average loss of scarce species localities of 61% was suggested if all species not refound were taken as extinct or 57% if allowance was made for species more probably overlooked in 2003. Information on some of the physical factors influencing this result was displayed.

### Caithness Plants

Ken Butler

The rediscovery of *Lemna trisulca* in Caithness was made in 2002. It had previously been found in 1946 but that site was lost.

The Plantlife /BSBI survey of *Hyacinthoides* stirred enough interest to yield three new VC records for *H. hispanica* and the the survey of the three larger colonies in the county.

Three new VC records of the hybrid orache *Atriplex glabriuscula x longipes* = *A. x tascheraui* have been made in Caithness. The hybrid was not difficult to find amongst *A. glabriuscula* on the strand line.

A plant was exhibited which is thought to be the orache hybrid *Atriplex glabriuscula x prostrata* found at Dunbeath in Caithness.

A specimen was shown of the grass *Trisetum flavescens*, new to Caithness and growing on the turf roof of a 17<sup>th</sup> century ice house.

The first VC record of *Sorbus rupicola* was reported.

### Roxburgh and Selkirk (VC 80 & 79) plants

RWM Corner

Plants of *Solidago gigantea* and *S. canadensis* were compared. Only *S. gigantea* is known from the vice-counties.

The following were shown new to Selkirkshire (VC 79). *Senecio fluviatilis*, *Elo-dea nuttallii*, (RWMC), *Echium plantagineum* from reseeded set-aside (Luke Gaskell), *Sorbus hybrida* (Douglas Methven), *Carex spicata* (Mike Porter) and *Polystichum setiferum* as a native species (Jeff Waddell).

Shown new to Roxburghshire (VC 80) were *Glyceria maxima*, *Trichophorum cespitosum* nothosp. *foersteri* (RWMC), *Atriplex littoralis*, *Cortaderia richardii* and *Conza canadensis*, the latter from set-aside (Luke Gaskell). The first localised record for *Eleogiton fluitans* and the first confirmed post 1930 record for *Gnaphalium sylvaticum* (Jeff Waddell).

### West Sutherland, 2003

PA and IM Evans

Pride of place goes to the Least Water-lily (*Nuphar pumila*) discovered, new to

the vice-county, by Gwen Richards and Claire Belshaw, in a sheltered bay on Loch Beannach, Assynt. They were in a boat and flowers were few, which may explain why it has previously been overlooked. Also new was Lesser Swine-cress (*Coronopus didymus*), found by a car-park at Droman, near Kinlochber-rie, a substantial northern extension of its British range.

Wood Fescue (*Festuca altissima*), was found in a second locality of the Kirkaig valley, accessible only when the river is low.

Of more local interest were a second Assynt record of Great Willowherb (*Epilobium hirsutum*) and a third for Narrow-leaved Helleborine (*Cephalanthera longifolia*). Comments were invited on two Spotted Orchids (*Dactylorhiza cf. fuchsii*), photographed by David Welti on the gneiss at Little Assynt.

### **Local Change squares in VC 103 – two contrasting tetrads in the Mid Ebudes**

Lynne Farrell

NM 53W Glen Cannel, Mull

This is a challenging tetrad on the slopes of Ben More, with hills rising steeply from a central glen. Several burns run into it, through rocky, narrow ravines. It took 2 days to cover most of the ground, walking up and over from the south, and then walking in from the old farmhouse at Gortebuie at the north end. In the Monitoring Scheme 130 species had been recorded. In 2003, 12 of these species were not refound although some were quite common on Mull and may have been overlooked. However, 32 additional species were recorded, which was probably a result of the time and effort put in. The only VC 103 record for *Ranunculus auricomus* was not relocated, but July was not the best time of year to search for this species.

NL 93J Ceann a'Mhara, Tiree

This tetrad is situated in the extreme SW corner of Tiree- in fact there is very little land in it! A walk-in of a mile along the white-sand beach of Balephuill Bay on a very hot afternoon, was in stark contrast to the conditions of the Glen Cannel area. In 1987 we did not have the benefit of GPS, so the fact that 21 species were not refound out of the 64 previously recorded probably reflected the more accurate observation. Several of the species were seen in the nearby flushes which were now shown to be just outside the tetrad. Four additional species were found.

### **The conservation of the biodiversity action plan orchid, *Spiranthes roman-zoffiana* (Irish Lady's-tresses) – an unfolding story**

R Gulliver, J Roberts, E Grant, M Keirnen, M Gulliver, S Jonch Moller, A Beare, & C Sydes

Populations exist at sites with a summer grazing break, with light summer grazing and heavy summer grazing. The role of the fungal partner may be crucial in providing a source of organic carbon in addition to photosynthetic fixation. Fully expanded capsules, as occur in *Spiranthes spiralis*, have never been observed in *S. romazoffiana* in Scotland, despite much investigation. Vegetative reproduction, almost certainly involving the roots, is probably a very important process.

Grazing renders plants very difficult to detect, sometimes removing all above ground tissue.

Experimental exclosures allow vegetation and flowering plant to be detected more readily.

New plants continue to be detected at two exclosures enclosing large populations on Colonsay.

Ten 10 x 10m exclosures were set up in 2003 a) at locations with 1-2 plants in 2002, b) at sites with previous records but none for 2002; to test the hypotheses a) that the population is larger than is currently known, b) the population still exists.

### ***Oxalis decaphylla* and purple-flowered**

G Halliday

### ***Cardamine amara* in Cumberland**

Specimens of the above were exhibited. The *Oxalis* is a long-established garden weed near Witon and has apparently only been recorded twice before in the British Isles.

There appear to be no previous records of purple-flowered *Cardamine amara*, a small patch of which was found amongst a large population of normal white-flowered plants on the banks of the River Derwent near Great Clifton

### ***Ophioglossum vulgatum* in Stirlingshire and Perthshire**

S Longrigg

*Ophioglossum vulgatum* is widespread in the south of England, but comparatively rare in Scotland. This year I found it in two new locations, one in Stirlingshire, on the edge of a popular tourist path, and the other in West Perthshire. At the Stirlingshire site the plants were growing on bare ground and were first seen on 6th April 2003. At the West Perthshire site the plants were growing in long grass, and were still in good condition on 31st August by which time they were overgrown by bracken.

### **A new site for *Hammarbya paludosa***

On 1st September 2002 I discovered a new location for the Bog Orchid (*Hammarbya paludosa*) on Conic Hill, close to the West Highland Way. I

counted 42 plants, of which 14 were flowering. On a return visit on 9th August 2003 I counted 23 flowering plants.

*Hammarbya paludosa* was already known to occur further north in this 10km square, and this was confirmed by a subsequent visit with Edna Stewart. A large area of relatively unexplored land lies between these two sites, and it may well be rewarding to undertake further searches in this area.

#### **A non-resupinate *Dactylorhiza fuchsii***

The Mains Estate in Milngavie is a housing development built in the last 25 years. About 3 years ago, an area of parkland was left uncut and sown with wildflower seed by local schoolchildren. *Dactylorhiza fuchsii* and hybrid *Dactylorhiza* plants, already occurring in nearby wild locations, appeared too quickly to have grown from seed. This year one of these flowered with entirely non-resupinate florets - every floret being upside-down compared to the norm.

#### **Gallant Soldiers at Maryhill, Glasgow**

P Macpherson & SJ Longrigg

Maryhill Barracks used to be the base for the Highland Light Infantry (HLI), so perhaps it is appropriate that the first record for *Galinsoga parviflora* for Glasgow, and indeed Lanarkshire, should be from Maryhill! In August 2003 it was noted growing in relation to a lamp post and subsequently seen at two other sites in the vicinity. Photographic and herbarium material were displayed. The differential diagnosis from *G. quadriradiata* (*Shaggy-soldier*) was discussed.

#### **Rare and interesting specimens from around Scotland**

D McKean

The following were exhibited: *Chenopodium foliosum* from Pitlochry, (H McHaffie).

*Ambrosia artemisiifolia*, the plant most often sent to RBGE for identification this year.

Two exotic willows, *Salix eriocephala* and *S. udensis* whose distribution as in the New Atlas and in Stace's New Flora were not consistent.

A new industrial crop in E. Lothian, Abyssinian Mustard (*Crambe hispanica*) and a giant *Plantago lanceolata*, (polyploid?) was also shown. Lastly nine hybrid and exotic species of alder were shown.

#### **Plant Life of Edinburgh and the Lothians**

J Muscott, D McKean and P Cochrane

A preview of this book, edited by PM Smith, ROD Dixon and MP Cochrane

and published by Edinburgh University Press at the end of November 2002, was presented. It showed extracts from the text including pages from *Flora of the Lothians* and *A Bryophyte Flora of the Lothians*. Examples of the illustrations (supplied by the Art Editor CE Jeffree), and herbarium specimens of some of the more interesting plants that had been recorded during the course of the Botanical Society of Scotland's Botany of the Lothians Project were displayed.

#### **Chilean Myrtle**

Alison Rutherford

A small pot of Chilean Myrtle (*Luma apiculata*) was shown. Many seedlings were found this summer in Helensburgh (VC 99), under trees in a grass verge, near the centre of town. It was named by Sabina Knees, RBGE. Is this a first for Scotland?

#### **Glasgow Native Species Extinctions as an Indicator of the Loss over time of Scarce Species at Locality Scale**

MICHAEL BRAITHWAITE

#### **Summary**

A model of expected extinctions for species with a given former tetrad frequency is fitted to the actual extinctions reported in *The Changing Flora of Glasgow* to suggest that, on average, 72% of scarce plant localities have been lost in the Glasgow area over the history of detailed plant recording, effectively since 1813.

#### **Method**

The current frequency of native species was extracted from the data in the above Flora (Dickson *et al* 2000) for the Glasgow 'Rectangle', an area of 360 km<sup>2</sup>. This was taken as an indication of the former frequency of the scarcest species, in other words of the relative number of species with low tetrad frequency. Even though the current species are different ones to those that were scarce in the past, as many of the former ones are extinct, work on the flora of Berwickshire has shown that the number of scarce species tends to stay much the same with an appropriate number of formerly less scarce species becoming scarce after a given degree of physical change in the habitats.

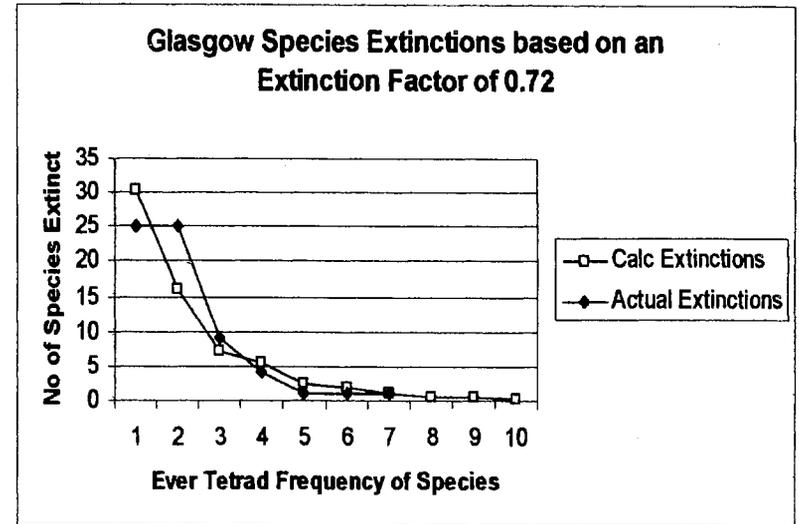
The number of former tetrads of the extinct species was then taken from the Flora (eg 25 of those known previously from only one tetrad have become extinct), with best estimates being used where the historical data is imprecise. These numbers will be an underestimate of the former frequency as early re-

ording is likely to have been somewhat patchy but should not affect the outcome, which is based on the number of extinctions, unless species have become extinct since 1813 without ever having been discovered at all.

The probability of a species formerly present in one locality only being extinct is the Extinction Factor, E. The probability of extinction of a species formerly present in two localities is  $E^2$  and so on with increasing powers of E for increasing former localities. Localities may be equated to tetrads on the assumption that for species only present in a few tetrads there is usually only one locality within a tetrad. The data is fitted to this mathematical model ( $E^n$  for n tetrads) in the table below so that for a certain value of E the total number of extinctions is correct. This gives  $E = 0.72$ . This suggests that 72% of scarce species locations have been lost. The calculated losses relative to the actual losses are shown on the Table and Graph.

**Table**

Ever Tetrads	Factor $E^n$	Current Species	Calculated Extinctions	Actual Extinctions
1	0.720	42	30	25
2	0.518	31	16	25
3	0.373	19	7	9
4	0.269	21	5	4
5	0.293	13	3	1
6	0.139	13	2	1
7	0.100	10	1	1
8	0.072	8	1	0
9	0.052	11	1	0
10	0.037	10	0	0
<b>Total</b>			<b>66</b>	<b>66</b>



**Discussion**

While the Extinction Factor of 0.72 could be a slight underestimate if any species became extinct since 1813 without ever having been discovered at all, it is a geographic indication of a high loss of scarce species localities.

It is debateable exactly what constitutes a loss under this model, very roughly one is considering individual populations or a series of populations in a restricted area of, say, 1 km<sup>2</sup> which constitutes a locality. Note that one is only considering complete extinctions from the area. Species reduced in abundance, even from many thousands to one plant, are not recognised as losses. It should be noted also that species loss is being equated with habitat loss, which will not always be the case.

The calculation of an Extinction Factor should not be taken as implying that all scarce plant populations are at risk to the same degree. Some habitats will have been more at risk and species dependent on them will have been at a higher degree of risk and will have suffered higher losses than those of other habitats. The extinction data in itself is perhaps not a large enough dataset from which to try to obtain a statistical analysis by habitat, but another approach is to list the

relevant habitats of the species lost and to discuss these further. This has been carried out in Part 3.3 of the Flora, albeit with some inconsistencies against the species accounts. This habitat approach does not, however, lead to statements about the proportion of species localities lost.

Taking the result at face value, despite the relative crudity of the logic, it is perhaps remarkable that, on average, over a quarter of the localities of scarce native plants have survived over a period of almost two centuries during which the Glasgow 'Rectangle' has become so heavily urbanised. However it should be remembered that the Glasgow 'Rectangle' was already developed in 1813, albeit in a largely agricultural sense rather than an urban sense, so that many scarce plants would already have been restricted to habitat fragments and that these have had some chance of survival at least in the relatively 'leafy' suburbs. The Extinction Factor of 0.72 for Glasgow is not all that much higher than the figure of 0.67 for Berwickshire (VC 81), for which area a more detailed paper is currently being prepared. So we have an indication that, for an area that is already agriculturally developed, urbanisation (or at least suburbanisation) may not offer so much worse a fate for our native flora than further agricultural development.

#### Reference

Dickson, JH, Macpherson, P & Watson, K (2000). *The Changing Flora of Glasgow*, Edinburgh University Press.

### The Yew trees of Crathes, Kincardineshire DAVID WELCH

In north-east Scotland the Yew (*Taxus baccata*) has been treated as an introduced species, getting no mention in Mary McCallum Webster's *Flora of Moray, Nairn & East Inverness* (1978) and Trail's *Flora of Buchan* (1904), while Ingram & Noltie (1981) state that yew is planted in Angus. Elsewhere in Scotland native populations of yew are believed to occur in a few places (Mitchell 1974; Tittensor 1980; Dickson 1994), being found particularly on base-rich rocks and soils and in areas with fewer damaging frosts.

Yew seedlings can establish readily in the absence of grazing in parts of Scotland, and can give rise to populations that appear native. However there is sometimes evidence that yews have been planted at some time in the past for ornamental, practical (to give shelter to pall bearers in graveyards) or spiritual

purposes, and also as sources of bows for warfare in medieval times (Mitchell 1974; Dickson 1994; Thomas & Polwart 2003).

A population of yew trees has long been known at Crathes, Kincardineshire, and I have for some time wondered about its origin. Possibly in the future native strains of yew will be recognisable by molecular techniques, as now done for Scots Pine (*Pinus sylvestris*), but meantime we can merely record features of the trees and their sites in order to elucidate likely origins.

The Crathes trees that I know grow largely on a wide knoll with outcropping granite bedrock about 200 m SW of the sixteenth century castle. The topography fits with a description provided by William Anderson, the minister of Banchory, in a report written in 1842 for the New Statistical Account of Scotland: "amongst the most remarkable trees are numerous yews, all of natural growth, springing from the tops of the rocks at Crathes. Some of them are 5½ feet in girth at the base".

The present trees are quite variable in size and form, some growing out of crevices in the granite tors, but others occur on gently sloping ground on the flanks of the knoll below the outcrops. They are intermixed with native trees mostly oak (*Quercus* spp), Scots Pine and birch (*Betula* spp), and this woodland is part of extensive policy woodland west of the castle that contains many fine specimen trees including Douglas Fir (*Pseudotsuga menziesii*) and European Silverfir (*Abies alba*) and other exotics; the peripheral plantations merge imperceptibly with the apparently native stands around the knoll and other outcrops further west.

In January 2004 I roughly mapped the yews and recorded their girths at breast height (1.3 m). Thirty trees are present on and around the knoll, with one outlying tree c. 100 m to the SE. I judged nine of them were multiple-trunked, with extra trunks to the main one that grow vertically or near vertically at breast height. Two of these trees had the trunks coalescing so that only a single girth could be obtained. Other trees counted as single-trunked had extra branches growing out almost horizontally from the trunk base. And two trees were long fallen, with the main trunk growing horizontally out of steep ground but having new subsidiary trunks growing vertically.

Girths ranged between 280 and c. 40 cm; I was uncertain about the smallest girth because a candidate tree was not measurable, emerging out of a vertical rock face. Five trees exceeded 2 m in girth, all single-trunked and all growing

on the south flank of the knoll. Two trees had the 280 cm girth, which equates to just over 9 feet, and the third largest had 250 cm girth. Mean girth was 131 cm for the 31 trees, this calculation using for the multiple-trunked trees their largest trunk whether or not now vertical. Most trees had girth between 80 and 150 cm (20 trees).

Tree size appeared to be related to soil depth, with the smaller trees growing close to the granite tors or on their summits. Possibly some of these trees are younger than the large trees on the knoll flanks, the four smallest trees (girth of 60 cm and less) being in positions where they were less likely to have been grazed by deer, hence they could be offspring from nearby older trees. Presently regeneration is negligible in the Crathes woods due to roe deer and other herbivores, but may have occurred in the lifetime of the larger trees.

A further yew tree, of girth 195 cm, grows 500 m S of the knoll between the former Deeside Railway and the present A93 Aberdeen to Banchory road.

A possible origin for the trees would be planting to provide bows for clansmen fighting for the local lairds, the Burnett family. However their castle was built in 1553 (Wyness 1968), previous to which the family appears to have lived elsewhere. Assuming I have examined the largest trees described in NSA, their fairly rapid rate of growth (112 cm in c. 170 years) suggests planting in the sixteenth or seventeenth century is more likely than planting in medieval times, in which case an ornamental purpose to improve the vista of the lairds in Crathes Castle is much more probable than the production of bows.

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## Raasay – 2003 Update

STEPHEN J BUNGARD

The best addition to the Raasay list was *Saussurea alpina* (Alpine Saw-wort). Seven plants were found on a previously unexplored cliff on the northwest slopes of Beinn na Leac.

*Juncus ambiguus* (Frog Rush) and *J. foliosus* (Leafy Rush) were found for the first time on Raasay. There were at least 30 plants of the former in pebbles/gravel at the south end of the Oskaig saltmarsh, and two plants of the latter in very wet mud near Arnish.

Two hybrids were recorded for the first time on Raasay. *Carex x fulva* (*C. hostiana* (Tawny Sedge) x *C. viridula* (Yellow Sedge)) was noted in several places and is probably quite common where the two parents grow together – as they do in many places on Raasay.

A single plant forming a large patch on the shore between Leac and Hallaig proved to be *Atriplex praecox* (Early Orache) x *A. glabriuscula* (Babington's Orache). Again, both parents are known on Raasay.

A *Rosa pimpinellifolia* (Burnet Rose) hybrid from Brochel was sent to Dr Primavera but as it had no flowers or fruits a definitive identification was not possible. However, he says that he thinks it is *R. pimpinellifolia* x *R. mollis* (Soft Downy-rose). This hybrid would be new to Raasay. The only record for *R. mollis* on Raasay is one clump near Suisnish Rock in the 1937 flora and *R. pimpinellifolia* has never been recorded, despite its presence in abundance just across the water on Skye and on Scalpay. He goes on to say that it could be the *R. sherardii* (Sherard's Downy-rose) hybrid (which was recorded from Raasay in the 1937 flora) but that the prickles are characteristic of *R. mollis*. If the plant flowers next season a further specimen will be sent. A further look at *R. sherardii* on Raasay may be in order too, in case some of it is *R. mollis*.

An old Heslop Harrison record for *Arabis petraea* (Northern Rock-cress) as "On the cliffs east of Dun Caan" was re-found – two patches well to the south of Dun Caan but certainly on cliffs that run north-south to the east thereof.

*Zostera marina* (Eelgrass) was reported growing in the sea at West Suisnish by divers. Later in the year specimens were found washed up on the shore at various sites from East Suisnish to Oskaig.

*Pteridium aquilinum* (Bracken) was noted sporng by the roadside in West Suisnish – an unusual occurrence in the northern part of its British range – indeed this record may be a new northern limit for sporng plants.

Three garden escapes were noted this year for the first time. One clump of *Limnanthes douglasii* (Meadow-foam) was growing at the top of the shore at West Suisnish not far from gardens in which it is grown. A single plant of *Buddleja davidii* (Butterfly-bush) was found at the north end of School Park and a single bush of *Spiraea x pseudosalicifolia* (Confused Bridewort) is well established in Inverarish, beside the small burn near the fire station.

A large conifer in Raasay House grounds was identified as *Sequoiadendron giganteum* (Wellingtonia).

*Berberis thunbergii* (Thunberg's Barberry) is a previously unrecorded member of the planted shrubs along The Avenue near Inverarish. This road has a number of planted shrubs and trees put in by the Forestry Commission many years ago.

### Concern about a *Crassula*

BARBARA HOGARTH

There are some new vice-county records that one would rather not have and one such was reported to me by Brian Ballinger in November 2003. Was I familiar with *Crassula helmsii* (New Zealand Piogmyweed) and if so would I mind visiting the site where he had seen it a few weeks earlier?

This vigorous alien was known to me as I had introduced some to my own garden pond in the early 1990s – not in the usual way as an oxygenating plant sold by garden centres but because I couldn't identify it when doing a habitat survey. I popped some into my very small pond to await identification. The small piece sat doing very little for a while but then it gathered momentum and filled the pond. Vast quantities were regularly removed until eventually, when the plastic liner sprang a leak, I decided to haul it out, fill in the hole and grow something more useful! *Crassula helmsii* is a tough little brute; it stays green throughout the year and can even survive long periods in thick ice.

Returning to this year's report – the plant was indeed *Crassula helmsii* and it had established itself firmly along the margins of four ponds newly created in a

former sand and gravel pit. Indeed some patches were still flowering profusely. The Trust who had landscaped this area to attract wildlife had unwittingly provided ideal conditions – ponds with very gently sloping sides, fluctuating water levels and, as yet, no marginal vegetation. Other species colonising the bare draw-down zone included *Montia fontana* (Blinks) and *Sagina procumbens* (Procumbent Pearlwort).

There is some concern about the abundance of *Crassula helmsii* as the ponds are situated in a corridor of lochs and wetlands that stretches across Angus from Forfar Loch to Milldens with Sites of Special Scientific Interest and a Scottish Wildlife Trust reserve nearby. There is the potential for its dispersal by the wildfowl using the new ponds. It is quite likely that it was introduced by birds. Will the well-vegetated margins of the established water bodies be less prone to colonisation?

On learning that *Crassula helmsii* had reached Angus I set about gathering information to pass on to the Trust. To date I have a detailed leaflet produced by English Nature and the Institute of Freshwater Ecology 'Crassula helmsii Focus on Control' which features in *Habitat Management News* compiled by William J Sutherland, *British Wildlife*, Vol. 6, No. 5, June 1995. I also have a more recent article from *British Wildlife*, Vol. 10, No. 4; April 1999 entitled 'Crassula helmsii in the British Isles – an unwelcome invader' by Jason Leach and Hugh Dawson. These seem to cover the issue fairly comprehensively and to provide sound advice for land managers who find they need to make an informed decision about this species. The Trust concerned has already taken steps towards control of *Crassula helmsii* on their ponds and it will be interesting to see how successful these prove to be.

### Pontic Blue-sow-thistle-an addendum

ELSPETH & BRUCE LINDSAY

Having knowledge of two alien Blue-sow-thistles, Common (*Cicerbita macrophylla*) & Hairless (*C. plumeri*) in our home area, we were especially interested in the article in last year's *Scottish Newsletter* relating to the above rarity *C. bourgaei* (McCosh 2003). Accordingly, during a weekend visit to Pitlochry (VC 88) at the end of July 2003 we took the opportunity of visiting the plant. From the site description given in the *Newsletter* we had no trouble in locating the colony.

The differential diagnosis table (Table 1) is based largely on the descriptions given by Stace (1997) and the plant seen matched perfectly. The key features of

*C. bourgaei* were the distribution and type of hairs on the upper stem and peduncles and the ovate-rhombic shape of the terminal lobe of the basal leaves. In addition, we would cite that the pedicels were much shorter with more crowded flower heads of smaller flowers. These measured 2½-3 cm across, as opposed to 4½-5cm for the other above two species.

Table 1. *Cicerbita* Differential Diagnosis Table

	<i>C. bourgaei</i>	<i>C. macrophylla</i>	<i>C. plumieri</i>
rhizomatous	no	strongly	no
peduncle hairs	± simple	glandular	glabrous
upper stem hairs	sparse simple	± glandular	glabrous
leaf hairs	on veins below	on veins below	sparse
leaf apical-lobe	ovate-rhombic	ovate-subcordate	triangular
ligules	pale mauve	pale mauve	blue
flower size cm.	2½ -3	4½-5	4½-5

The recently published *Vice-County Census Catalogue* (Stace *et al* 2003) gives the post-1970 Scottish distribution as follows:

*C. macrophylla* in 30 VCs

*C. plumieri* in 5 VCs- 77,83,93,95&96.

*C. bourgaei* in 2 VCs- 80 (Roxburghshire) & the above 88 (Mid Perthshire).

In view of the rarity of the Pontic Blue-sow-thistle we thought that it would be useful to give outline drawings of the leaf apical lobes of the three species. Fig. 1.

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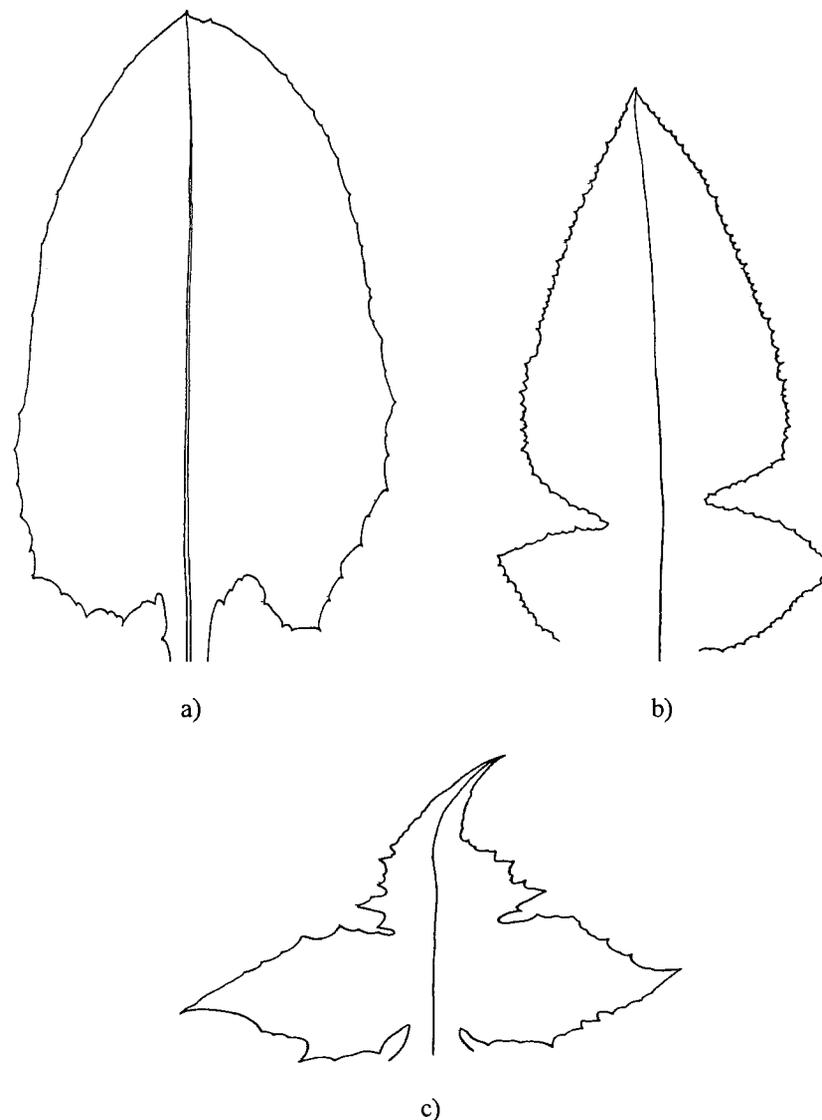


Fig 1. Leaf apical lobes (approximately 0.5 life-size) of a) *Cicerbita macrophylla* b) *C. bourgaei* c) *C. plumieri*. b) was drawn from a specimen collected at the Perthshire colony, the other two being from Lanarkshire material.

***Salix udensis*  
in Lanarkshire (VC 77)**

P MACPHERSON & B SIMPSON

The Birkwood Burn is a tributary of the River Nethan and joins it at Burnfoot, east of Kirkmuirhill, Lanarkshire. For part of its course it flows through a little gully, but about 150 yards from its terminus abruptly enters a more open area where it temporarily branches into three streamlets. In August 2003 Sachalin Willow (*Salix udensis*) was seen growing on a little raised mound between the two weaker ones (NS 805431).

There is no one trunk, the shrub apparently arising from numerous shoots over a distance of 4 x 3 yards. About one third of the branches are fasciated, the broadest being 1¼" x ¼" and they spread out to form a plant of 8 yards diameter. In addition, some branches are contorted.

The willow had been known before to BS under the previous name *Salix sachalinensis*. It is a native of East Asia.

It is described by Stace (1997) who adds that in Britain only the contorted and fasciated male clone 'Sekka' is grown.

In the Vice-County Census Catalogue (Stace *et al* 2003) nine post-1970 records are given; seven as casual south of the border, the Scottish ones being a casual record from East Lothian (VC 83) and an established one in Dunbartonshire (VC 99). With regard to the latter, the willow was sold at a nursery east of Helensburgh. In the mid-1960s two pot-bound plants had their plastic bag pots ripped off and they were thrown over the boundary into Drumfork Wood. They took root there in the boggy ground and by 1984 had formed a thicket. It is also well established in rough ground in another part of Helensburgh, and although initially behind a hedge on the A82 Balloch—Luss road is now incorporated in the hedge.

While appreciating the tremendous work which went into the compilation of the V-CCC and the necessity of not having too many categories, we consider that the amalgamation of the categories surviving and casual (Macpherson *et al* 1996) can at times give a wrong impression. Presumably most, if not all, of the above casual records refer to plants which are still extant. With regard to our own record, despite the multiple shoots, we would classify it as surviving, which it has obviously done for a considerable time and should so continue. With regard to how it came to grow there, one cannot imagine that anyone would wish to plant it in such a location. Further, with regard to the possibility if its having been water-borne, in the 3½ mile stretch to its source, the burn is in

proximity to only two dwellings whose inhabitants have no knowledge of the willow. It was presumably fly-tipped over a bridge on the B7078 which crosses the burn about ¾ mile above the location, or where an unclassified road crosses a further 1½ miles upstream. Such tipping is apparently prevalent at a bridge over the Cander Water at Stonehouse, 3 miles to the north.

**Acknowledgments**

We are grateful to Mr RD Meikle for checking a Lanarkshire specimen and to Miss A Rutherford for supplying the detailed account of the Dunbarton occurrences and collecting fresh material for the illustration. (Fig. 1)

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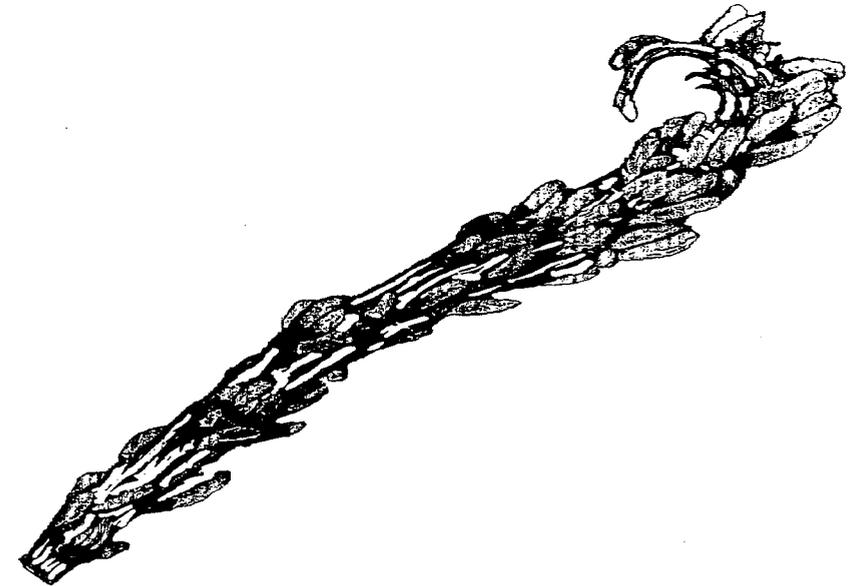


Fig 1. A fasciated branch of *Salix udensis* with male catkins (approximately ½ life-size).

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**DRAFT MINUTES OF THE BSBI SCOTTISH AGM HELD IN  
THE GRAHAM KERR BUILDING, UNIVERSITY OF GLASGOW  
AT 2.30 PM ON SATURDAY, 1 NOVEMBER 2003**

**1. Welcome and present**

The Chairman welcomed 56 BSBI members to the meeting. In accordance with the usual practice, a sheet was passed round for signing so that a record might be kept of those attending.

**2. Apologies**

Apologies were received from Andy Amphlett, Ian Strachan, Allan McG Stirling, Martin Robinson, Catriona Murray, Robert Milne, James Fenton.

**3. Minutes of AGM of 2 Nov 2002**

The minutes of the last AGM were read by the secretary, Chris Miles, and approved.

**4. Matters arising**

The Cairngorm National Park boundary still excludes N Perthshire, and planning is still in the hands of Local Authorities contrary to the Committee's submission.

**5. Chairman's report**

The Chairman reported on a number of consultations that had been responded to this year.

The draft nature conservation Bill is an improvement on previous versions of the legislation although a submission was made on a few points. Under the current proposals SSSI citations, which often do not reflect all of the botanical interests within a site, would be amendable without the site having to be renotified. This will give better information to those concerned with Site Condition Monitoring and is an important improvement that members should support by writing to the relevant Scottish Parliament Committee.

While supporting the thrust of the Scottish Biodiversity Strategy this remains

short on actions, and needs to be made more positive.

In responding to the agri - environment Scheme consultation it was stressed that there needs to be continuity for existing scheme participants to ensure that work already done on habitat enhancement is not lost and that the overall programme requires significant additional funding.

The draft Access Code consultation did not merit further comment given that it was now largely satisfactory.

The committee had spent quite a lot of time finding replacements for retiring recorders. Chairman expressed a big thank you to Richard Thomas and Kathy Fallofield who were stepping down after giving a lot of time. Their replacements were in the process of being appointed.

The BSBI has been contracted again this year to carry out Site Condition Monitoring for SNH on mainly upland SSSIs with important plant communities. A number of VC recorders have helped with this for which the Chairman expressed his thanks. He also noted that the protocols for the survey were not the easiest to follow. A report will be going to SNH shortly.

A new organisation had been established, Plantlife Link Scotland which could be a useful forum for promoting plant conservation. The secretariat, provided by Plantlife's Scottish officer Deborah Long, will ensure consultations from the Scottish Executive are reviewed for member organisations.

Chairman expressed his thanks for the work done by the two retiring Committee members, Jim McIntosh and Edna Stewart who had carried out their work as field meetings and exhibition secretaries respectively with dedication.

**6. Scottish Newsletter**

Peter Macpherson said that there were 45 subscribers from furth of Scotland. A number of complementary copies had also been sent out to individuals and institutions. Most readers who express a view appreciate the mix in the newsletter. He asked for members to continue providing articles which were to be in by the end of February.

**7. Field Meetings**

**2003**—Jim McIntosh said there had been eight meetings and thanked all who had

organised and led meetings.

7-8 <sup>th</sup> June –	Findhorn and Forres	led by Ian Green
27-29 <sup>th</sup> June –	West Sutherland	led by Pat Evans
5-6 <sup>th</sup> July –	Meall nan Tarmachan and Ben Lawers	led by Douglas McKean and David Marsden
11-13 <sup>th</sup> July –	Bute	led by Angus Hannah
18-20 <sup>th</sup> July –	Lockerbie	led by Chris Miles
30 <sup>th</sup> July –		
1st August –	Mull	led by Lynne Farrell
2 –3 <sup>rd</sup> August –	N Connel	led by Gordon Rothero
16-17 <sup>th</sup> August –	Spean Bridge	led by Ian Strachan

#### 2004.

The programme was developing and provisional dates as follows were given with final details to appear in the Year Book. Anyone else planning meetings was asked to contact J M.

19-20 <sup>th</sup> June –	Ettrick Valley	Rod Corner
26 <sup>th</sup> June –	Trossachs	Neal Taylor
7-9 <sup>th</sup> July –	Golspie	Morven Murray
June or July –	Islay and Jura	Malcolm Ogilvie
6-8 <sup>th</sup> August –	Wester Ross	James Fenton
Late July –	Mid Perth	Jim McIntosh

The Chairman thanked the FM Secretary for increasing the number of Scottish meetings in recent years.

#### 8 Election of Committee Members

With Jim McIntosh, Edna Stewart and Paddy Braithwaite retiring, Richard Pankhurst, Jackie Muscott and Stephen Bungard were nominated by the committee. They were proposed by Ian Green and seconded by Michael Braithwaite en bloc and elected unanimously.

#### 9. Arrangements for talk and evening meal

The talk, to be given by Norrane Ellis was on Climate Change and its affect on the Scottish Flora. The evening meal to be followed by members slides would be in the College Club and those attending were to gather at 6 for 6:30.

#### 10. AOB

Michael Braithwaite announced that the recent mailing about the BSBI devel-

opment fund had been a great success with £25,000 in the bank already. Contacts with other Trusts may lead to a further £100,000. Some of this money will go to support the proposed Scottish Officer. An update would appear in *BSBI News*. A big thanks was due to those supporting the appeal. He also reminded members that grants (of £75 or £90 for more expensive models) were still available to support the purchase of GPS.

Chairman noted that next years AGM was likely to be in Edinburgh after which the Committee would consider Perth or Stirling. These alternative venues may require a move to the second Saturday in November to avoid clashes with other meetings. It was noted that this would make the deadline for the Year Book tight.

Peter Macpherson suggested that the meeting send a condolment to Margaret Perring following the death of Frank Perring. This was agreed.

It was noted that as a result of the agri-environment consultation automatic entry for ESA agreement holders to RSS had been secured. The next challenge for farmers was modulation.

Chris Miles November 2003

#### Inverlael to Seana Bhraigh and back GORDON ROTHERO

The crags on Beinn Dearg and on its neighbour to the north, Seana Bhraigh are the only sites in Ross-shire where the montane flora approaches the richness of the Central Highlands. It is a vast area and there is still plenty of ground to explore but even the better known sites probably get few if any botanical visits in a year. It is all a long way north, the good bits are a long way from anywhere and much of it involves going steeply up hill and these things tend to put people off. I hope that this piece will tempt some of you to explore the area; it does not have the richness of the Breadalbanes, but there are one or two botanical jewels and a wealth of wilderness.

I have been into Seana Bhraigh a couple of times in the past with bryological intent, but the need to chase up some records that had not been seen for a while gave me an excuse to re-visit the area. My main object was to re-find two sites for *Saxifraga rivularis* (Highland saxifrage) on Seana Bhraigh, found by Derek Ratcliffe in the 1950s and apparently not seen since. There are two obvious ways into Seana Bhraigh, a strong candidate for 'the most remote Munro', both of which involve quite a lot of hard work and, if you want to spend any useful amount of time botanising, both involve a night out.

I have been in from the north in the past, walking up estate tracks from Oykell Bridge into Strath Mulzie and on to the bothy at Coiremor by the loch. The bothy is quite small and only one room is at all reasonable and it is quite popular in the summer which is a bit off-putting. This is a great spot, with superb views onto the north-easterly ramparts of Seana Bhraigh and its spiky outlier, An Sgurr (called Creag an Duine by the OS), and it gives easy, but steep, access into Luchd Choire and the main crags. However, I was quite keen to look at other bits of the area as well, particularly the crags at the head of Cadha Dearg south of Seana Bhraigh and then perhaps head south onto Beinn Dearg itself, if time and enthusiasm allowed. So, a more central base was needed and an approach from the south – west seemed the best option.

Driving over the Dirrie More and down past the Braemore junction, I dropped out of the sunshine and into the haar and this had thickened perceptibly by the time I had parked up by the phone box at Inverlael, near the head of Loch Broom. The first bit of the approach I had chosen follows the main route into Beinn Dearg, on forest tracks to the edge of the woodland beyond Glensguaib ruin. At Glensguaib I turned off the main track onto a rather vague path heading north and this eventually joins a good stalkers path which meanders east into the empty quarter north of Eididh nan Clach Geala. The upper part of this path goes into an open but steep sided valley south of Meall Glac an Ruidhe, past a series of stepped lochans at which point I emerged abruptly from the top of the mist. I had been anticipating this for quite a while but even so, the effect was startling – a fuzzy world replaced by crisp mountains, a blue sky, evening sunshine and a white carpet across to An Teallach, looking warm and brown as only summer Torridonian sandstone can.

My plan had been to camp by Loch a'Chadha Dheirg but the weather had been so dry that I had to drop down the main burn quite a way to find appetising water and to find a knoll on which to pitch my tent with a view to catching any breeze, this being serious midge territory. I won't go on about the pleasures of lone camping up in the hills because I know that it isn't everybody's idea of a good time, but it is good for the soul! With the burns being so low, even the sound of water, usually incessant in the hills, was muted and, with virtually no wind either, it was a very quiet world.

A site with an easterly aspect meant that the tent got the sun very early and yet another cloudless morning meant there was no temptation to linger over breakfast and I had reached the top of the crags overlooking Luchd Choire on Seana Bhraigh by 8 o'clock having already paid homage to *Artemisia norvegica*

(Norwegian Mugwort). The flora of these wind-blasted summit terraces is always a joy (on a nice day) with miniature versions of common species like *Succisa pratensis* (Devil's-bit Scabious) and *Solidago virgaurea* (Golden-rod) growing with more montane plants like *Persicaria vivipara* (Alpine Bistort), *Gnaphalium supinum* (Dwarf Cudweed), *Silene acaulis* (Moss Campion) and *Minuartia sedoides* (Mossy Cyphel) and the odd rare moss like *Aulacomnium turgidum*. If the *Saxifraga rivularis* was going to be anywhere on the craggy face, it was going to be in the gullies, so finding it was just a matter of dropping down the top fan of the gullies and looking for the tell-tale patch of flushed rocks or scree with lots of bright-green moss. This tactic eventually brought success, though not without some adventure as the ground is precipitous in places; anyone trying to re-find this site will have lots of fun.

The other Ratcliffe site was apparently much further east, in the next hectad beyond An Sgurr, but it was still barely 9am so I headed over the summit and down the north ridge to come back along the crags, this time at the base. The crags are quite base-rich in places and have a good flora but with the most choice things in small amounts. On one low crag there are a few plants of *Saxifraga nivalis* (Alpine Saxifrage) and, close by, the tiny rosettes of *Draba norvegica* (Rock Whitlowgrass) and on one or two ledges, *Carex atrata* (Black Alpine-sedge) in its most northerly UK locality. I also noted here a patch of *Ranunculus auricomus* (Goldilocks Buttercup), not unknown on mountain ledges but still an odd find. Thankfully in rather greater quantity are both *Juncus biglumis* (Two-flowered Rush) and *Juncus castaneus* (Chestnut Rush), both scattered about on wet ledges at the base of the crags, particularly near the central gully. Two alpine grasses also occur here, *Poa alpina* (Alpine Meadow-grass) on wet ledges with some calcareous flushing and *Poa glauca* (Glaucous Meadow-grass), sparingly, in dry crevices on the steeper crags.

The west-facing crags on An Sgurr are notable for large populations of both *Salix lapponum* (Downy Willow) and *Dryas octopetala* (Mountain Avens) and the steep broken ground would probably repay further exploration. I found a puzzling willow here with large round leaves, presumably a hybrid, but managed to lose (not intentionally!) the cutting I took. Higher up the crags there are further small stands of *Saxifraga nivalis* and *Carex atrata* and another nice bryophyte, *Odontoschisma macounii*. The scramble out on to the rocky summit of An Sgurr is not to be missed and it makes a great lunch spot; again there is scope for further exploration here. I spent a lot of time scouring the tops of the crags above Coire Mor to the east in the next hectad, again dropping into the gullies where possible. There is still quite a good flora here but I failed to find any more *Saxifraga rivularis*; I think an approach from the bottom might work better here,

but I did not have the energy for another climb down and back up.

The boggy hollow of Coire Mhic Mhathain has nothing much to trouble the vascular plant botanist but it has an excellent stand of the rare *Sphagnum lindbergii*. On the black, still surface of the peaty pools here, the bright green strips of *Sparganium angustifolium* (Floating Bur-reed) formed beautiful, complex geometric patterns in the absence of the discipline of the wind. From this hollow it is easy to cut across the shoulder of the hill to the notch that the map calls the "Gate of Ca'-derg" and then angle down past the loch to the tent. I had not seen a soul all day.

Most of the next day was spent on things bryological but the crags at the head of Cadha Dearg did produce a few things of vascular interest. There is a small population here of *Potentilla crantzii* (Alpine Cinquefoil) on open, west-facing rocks at the head of the glen and enough other plants like *Sibbaldia procumbens* (*Sibbaldia*), *Saussurea alpina* (Alpine Saw-wort) and *Minuartia sedoides* to keep the level of interest high, though the good bits are patchy. On the steep north-facing crags there is a scattered population of *Poa glauca* and I had the feeling that I was barely scratching the surface here. Dropping back down past Loch a' Cadha Dheirg, I noticed *Hippuris vulgaris* (Mare's-tail) left high and dry on the loch margin by the drought, in what must be one of its highest stations at 650m. West of the loch are several low, north-facing crags on Meall a' Choire Ghlais which have further stands of *Poa glauca*, on rocks that look dull but which also have the very rare liverwort, *Odontoschisma macounii*.

I wanted to walk out via Beinn Dearg as the weather was still good, so having dropped the still dew-wet tent, stuffed everything into the rucksack and scuffed up the flattened grass in best boy-scout fashion, I set out across the slopes towards Eididh nan Clach Geala. On the broken slopes of Toman Coinich there are some nice flushes with a large population of *Carex saxatilis* (Russet Sedge) and a few patches of *Juncus castaneus* to enliven the sweaty ascent. Heading south-west and over the ridge below is the flat, green expanse of Coire Gorm which was full of deer; a quick count gave well over 500 hinds. Watching the whole lot stream away across the hillside once they had caught wind of me was very impressive. There are numerous flushes here with good bryophytes but no vascular plants of interest that I could see.

From here it is an easy descent into the narrow defile that leads west down to Lochan a' Chnapaich. The rocky margins of upland lochs are of great interest to the bryologist so I spent some time here but the rocks seem quite acidic and the best find, in the heathy scree south of the lochan, was a large stand of *Lyc-*

*podium annotinum* (Interrupted Clubmoss), a plant that is inexplicably rare in Wester Ross given the amount of seemingly suitable habitat. From the lochan, an easy-angled terrace with 'sentinel boulders' leads south to Lochan Lathail and I could see the first people of the trip on the main Beinn Dearg path – I felt almost resentful. Feeling knackered already and faced with the bulk of Beinn Dearg, I hid my rucksack under one of the most obvious of the boulders and marked it with a wee cairn – I have had problems with 'obvious' boulders in the past!

The rocks above the lochan involve a steep haul up scree but are very good and have a selection of common montane things plus three star plants like *Saxifraga nivalis*, *Juncus biglumis*, *Poa alpina* and *Cerastium arcticum* (Arctic Mouse-ear). Taking the easy option and walking up the path is still good with cushions of *Silene acaulis* and *Minuartia sedoides* and lots of *Sibbaldia procumbens*. Higher up the hill there is a very unstable scree slope with a reasonable scattering of plants of *Saxifraga rivularis* again, but it is a spot where the unwitting botanist could do a great deal of embarrassing damage. There is a lot of water coming down from the snow-bed areas above and the broken crags have a scattering of *Cerastium arcticum* and there are flushes with *Carex saxatilis*. Higher up still, the bright, mossy flushes below the areas of late snow-lie have a large population of *Cerastium cerastoides* (Starwort Mouse-ear).

Crossing over the watershed, here marked by an amazing stone wall, and back into VC 106, there are scree-covered terraces on the steep slope and following these leads round to the craggy face above Loch a' Choire Ghranda. The largest of these terraces has thousands of plants of *Sibbaldia procumbens*, and, for those of you who have seen the light, good patches of the rare moss, *Andreaea blyttii*. These broken crags are set at just such an angle that it is probably possible to scramble about and explore most bits, but the rock does seem more acidic here and the small reward may be out of proportion to the considerable effort. The steep gullies immediately below offer better ground with a number of the plants of the crags above, and, if one picks the right gully, what is probably our largest population of *Gnaphalium norvegicum* (Highland Cudweed). In Ursula Duncan's East Ross Flora (1980), she mentions a record of *Saxifraga rivularis* "on and about Beinn Dearg" by Wallace and Mackechnie in 1952, but I have failed to find it on the Easter Ross side of the hill.

I couldn't face the thought of the re-ascent from Loch a' Choire Ghranda and its crags so left that for another day, retracing my steps and then angling down and across to the Bealach an Lochain Uaine. This is a complex area of pools and outcrops which seemed benign in the afternoon sunshine but I have memories of

fighting back over this ground into the teeth of a gale and lashing rain, thinking what a god-forsaken spot it was. Heading over to Lochain Uaine one soon picks up the Gleann na Sguaib path and can descend easily to Lochan Lathail. Re-united with my pack, there remained just the descent down Gleann na Sguaib. This is one of the best stalkers paths, giving a great way up onto Beinn Dearg with the River Lael thundering away below and the brooding crags of Meall Breac above. The last section back down through the forest is less wonderful if one is tired and recently I have used a mountain bike to the end of the forest track; the ascent is easier than one might think and the descent is absolutely brilliant – no need to touch the pedals.

#### Reference

Duncan, UK (1980). *Flora of East Ross-shire*. Botanical Society of Edinburgh.

### Scottish Field Meetings 2004

Full details of the following meetings will be found in the Year Book

June 19-20	Etrick Valley & The Moorfoots	R Corner
June 26	Loch Katrine, West Perth	N Taylor
July 3-5	Islay & Jura	M Ogilvie & J McIntosh
July 7-9	Golspie, E Sutherland	M Murray
July 17-18	Pitlochry, Mid Perth	J McIntosh
July 24-25	Castle Douglas, Kirkcudbright	D Hawker
Aug 6-8	Inverpolly & Lochs, W Ross	J Fenton

### Botany Notes 2003 - Moray (VC 95)

IAN P GREEN

The first interesting species to be found in 2003 was a single specimen of *Daphne mezereum* (Mezereon) on a wooded bank of the River Nethy. This is the second record for VC 95. It was found while recording for the 'Local Change' survey in NJ02A – Nethy Bridge. This tetrad also turned up several other interesting species including *Linnaea borealis* (Twinflower), *Corallorhiza trifida* (Coralroot Orchid) and *Orthilia secunda* (Serrated Wintergreen). *Equisetum variegatum* (Variegated Horsetail) and *Carex hirta* (Hairy Sedge) were the only native species re-discovered for the county. A small patch of the *Equisetum* was found growing in damp ground on the Lein at Kingston. While the *Carex* was growing on the rocky wooded banks of the River Findhorn near Logie.

The vegetable plot at Pluscarden Priory produced one rather nice weed *Fumaria purpurea* (Purple Ramping-fumitory) an endemic to Britain and Ireland.

Garden Centres again have turned up some unusual weeds. One plant of *Rorippa palustris* (Marsh Yellow-cress) was found growing in a flower pot at Christies, Fochabers. New for Moray was *Polygogon viridis* (Water Bent) found established in flower pots and the water garden section of Decora, Elgin.

While doing 'Local Change' in NJ05A; in the grounds of Logie House *Bidens ferulifolia* (Fern-leaved Beggarticks) was noted self-sown in cracks of stone slabs in one of the courtyards, the first record for this in Moray and *Oxalis exilis* (Least Yellow-sorrel) was found well established under some large trees; a rare escape in this part of Scotland.

The rubbish tip near Elgin once again has turned up several interesting aliens. These included *Solanum rostratum* (Buffalo-bur), *Fagopyrum esculentum* (Buckwheat), *Matthiola longipetala* (Night-scented Stock), *Carthamus tinctorius* (Safflower), *Guizotia abyssinica* (Niger), *Echium plantagineum* (Purple Viper's-bugloss), *Melilotus indicus* (Small Melilot) and *Poa compressa* (Flattened Meadow-grass). The *Poa* being the only native species to the British Isles but not in this part of Scotland.

A disturbed road verge at Rothes produced lots of the *Melilotus indicus*, one plant each of *Sisymbrium orientale* (Eastern Rocket) and *Sisymbrium altissimum* (Tall Rocket).

A large patch of *Geranium macrorrhizum* (Rock Crane's-bill) was found well established in Balnacoul Wood, Mosstodloch, the first record for the plant in the vice-county.

### Scottish Natural Heritage Illustrated Booklets

Lynne Farrell has asked us to publicise the fact that the following titles are available from Battleby, Redgorton, Perth PH1 3EW:-

Bumblebees  
Fungi  
Lichens  
Mountains  
River Runners  
Springs & Flushes  
all @ £4.95

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Geology Created Landscape @ £7.50.

The new SNH Publications Catalogue 2004/05 has information regarding other items such as Earth Heritage, Marine Videos, Scotland's Wildlife, Biodiversity, Designated Areas, Access, Natural Heritage Futures, etc.