

BSBI
Scottish
Newsletter

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BSBI SCOTTISH NEWSLETTER

Number 19

Spring 1997

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Editorial

This year's *Newsletter* once again demonstrates how fortunate we are in having such a wealth of first rate material, and from such accomplished contributors. Your editors had no difficulty producing a number which is, if anything, slightly larger than the average of recent issues.

We had expected rather more on the theme of Atlas 2000 — members' recording experiences for example. We make no apology therefore, for dwelling on the subject at some length in this editorial. After all, Atlas 2000 is the most important and ambitious project embarked upon by the BSBI since the original Atlas recording of the 1950s.

With one season down and three to go, Regional Co-ordinators and VC Recorders should now have a clearer idea of how the work is progressing and in what directions further effort must be made. Local members can usefully participate, perhaps by recording in their home 10km square. Contact your area Recorder and find out how you might help. Organised field meetings specifically for Atlas recording are another valuable source of recent records, as are surveys by bodies such as SNH and SWT which often include quite long species lists from specific locations. Research in the older records in the literature and herbaria is a winter task — if one has access to these sources. In all cases beware of accepting records at face value, although some prove credible when investigated.

It is hoped that as much of the country as possible will be re-surveyed in the 1987+ period. However it is appreciated that in some (particularly upland) areas only post 1970 records are likely to be available for Atlas 2000. The status of the vast majority of species in these areas will not have changed over the years.

Finally we hope that some completed (or virtually completed) master lists for 10km squares will be submitted to BRC Monks Wood at the end of this season to give them a chance to spread their input over the survey period.

The best of luck for your botanising in 1997.

The Editors

Allan McG Stirling
17 Austen Road
Jordanhill
Glasgow G13 1SJ

Peter Macpherson
15 Lubnaig Road
Newlands
G43 2RY

Chairman's Remarks

P MACPHERSON

During the year we have, regretfully, lost through death John Winham, a member of the Committee for Scotland from 1989-1992 and Mrs Mary Martin, recorder for Dumfriesshire from 1975-1993.

The Committee for Scotland met on four occasions during the year. As a result of our deliberations and with advice from Mr David McCosh, Secretary of the Records Committee, new recorders have been appointed for Dumfriesshire (Chris Miles), Mid Ebudes (Lynne Farrell) Moray (Ian Green), E. Sutherland (Morven Murray) and Caithness (Ken Butler).

We are grateful for the contribution made over the years by those just retired - Marion Hughes, Agnes Walker and Neil Batchelor. John Edelsten is still in charge of Banffs and Ken Butler swapped over to Caithness as it was easier to find a new recorder for E. Sutherland than for Caithness.

An Atlas Workshop was held in June, a report of which is included on page 13. We have obtained agreement from the Records Committee to have another in the Autumn of 1998. Suggestions for suitable topics will be welcomed.

It is gratifying that the Annual Meeting remains popular. Consideration is being given to having, on occasions, venues other than Glasgow and Edinburgh. A very full report of that held last November has been written by Mark Watson who has recently held the posts of General and Meetings Secretary. At the AGM special mention was made of the fact that Dr Ros Smith was retiring after serving continuously on the Committee since 1977. She was a founder member and on the expiry of her term of committee membership was elected the NCC representative, a post she retained until her impending election as Chairman, an office which she held with distinction from November 1985 until November 1988. On demitting that post she again became the NCC/SNH representative.

As a final gesture, at the close of the meeting, Ros Smith presented me with four 16"x 10½" metal boxes which had been in the Perth SNH Office for many years. These boxes are designed to take the 8"x 5" cards and were originally and presumably remain the property of the BSBI. However, with the increasing computerisation of records I can safely offer the boxes to any member — for any purpose.

The 1996 Scottish Annual Meeting

MARK F WATSON

On a rather grim wet and windy Saturday in November botanists from all over Scotland gathered in the Graham Kerr Building of the University of Glasgow for the Scottish Annual Meeting (hosted jointly with the Botanical Society of Scotland and the Glasgow Natural History Society). Biological research at the University has recently been reorganised and the Botany Department, as was, has moved to the buildings of the former Zoology Department. This has meant the construction of new herbarium facilities and Jim Dickson was pleased to open this for consultation and show folk around. Jim also kindly continued his role as local organiser. Afternoon refreshments were generously provided by the Glasgow Natural History Society in the Zoology Museum. It was interesting to hear discussions on the foibles of taxonomists whilst in the fascinating surroundings of the art of taxidermists! Despite the horrid weather there was the usual high attendance of about 100 people, who this year were able to see a record number of 37 exhibits as well as computer demonstrations of recording software. Margaret Perring brought up her usual wide selection of botanical books from Oundle, but this year did not have the only trade seat as Jo and Mike Scott had Plantlife products for sale! Discussions in the meetings sparked lively debate, and the day was rounded off with many of those attending staying on for the evening meal and slide show.

Scottish VC Recorders Meeting

Peter Macpherson (Chairman) welcomed the 39 people attending the Scottish VC Recorders meeting (including 25 Scottish VC Recorders). David Pearman (BSBI President) reported on progress with the *Atlas 2000* project after the first year of field recording. He said that funding was available to help with recording, particularly for remote areas and under-recorded squares. Part funding for the purchase of computers by VC Recorders (including subsidised software) has been forthcoming (6 in Wales and 10 in England), but the delays in organising this system has resulted in the disappearance of the promised Scottish grant. However, a further application would be made. There was now a substantial capital sum in the BSBI Bequest Fund earning several thousand pounds a year in interest. It is hoped that this may be used to help in research and recording and in the production of local Floras. BSBI Council will be encouraging members to pay their subscriptions by deed of covenant as the Society is missing out on a potentially large source of money (with no extra costs to the membership). At the conclusion of David Pearman's address, the Chairman congratulated Chris Preston on his award of the President's Medal for his handbook on *Pondweeds of Great Britain and Ireland*.

Cameron Crook (BSBI Co-ordinator) made further comment on the availability of part funding grants for computers and software to VC Recorders. The software packages backed by the BSBI (*Recorder*, *Adinsite* and *Erica*) were available for demonstration in the Exhibition. He informed the meeting of the National Biodiversity Network Millennium Bid which would include a diverse network of old and new biological recording centres: the BSBI have been approached for their input into the discussions. BSBI members may also be asked to collect seed for the Kew Millennium Seedbank (aiming to collect seed of all British species). Expenses will be refunded.

Trevor Dines (*Atlas 2000* Co-ordinator) presented an update of the *Atlas 2000* project. The situation over the whole of the UK is looking good after the first year of field recording. The long awaited Master Cards are to be published in December and records should be accumulated on these (some to be submitted by October 1997). Draft formats for the final publication are being worked on, and it is likely that the final product will be available on CDROM and may be available on the Internet. Richard Pankhurst commented on the BSBI Database and the incorporation of VC distributions. VC recorders should soon be receiving draft lists, output from the database for comment.

BSBI Scottish Regional Meeting

The Annual General Meeting for the BSBI membership resident in Scotland was attended by 48 members. Peter Macpherson (Chairman) reported on the activities of the Committee for Scotland with thanks to retiring members, and Allan Stirling made a plea for contributions to the Scottish Newsletter. This was followed by animated discussions on timing and venues of Scottish field meetings. Michael Scott gave a resume of Plantlife's activities in Scotland and some of the main current conservation issues (Cairngorm funicular railway, government Biodiversity steering group report, etc.). This was followed by a short meeting of the Committee for Scotland.

Lecture

Norman Tait (President of the Glasgow Natural History Society) introduced Dr Peter Macpherson (Chairman of the BSBI Committee for Scotland) who gave a most entertaining lecture - *An Amateur Field Botanist in Lanarkshire*. The theatre was packed with 90 people gathered to hear an account of recording in an area covering both Glasgow's inner city and the surrounding countryside. With impressive use of two projectors the talk was illustrated with beautiful plant portraits and colourful computer generated diagrams.

Taking us from The Glasgow Botanic Garden, through urban wastelands (full of interesting aliens) and graveyards, along tributaries of the Clyde and up on to the high lands bordering Ayrshire he showed us the rich diversity of plant life in the vice-county. I had not appreciated that Lanarkshire had such an interesting flora. Conservation is always an issue, and Peter illustrated the threats from open cast mining developments in his area, and in particular the threat to *Epipactis youngiana* growing on a coal bing which is in the process of being removed. However, negotiations for preservation of the site were being undertaken.

Supper and Slides

For the third time in a row in Glasgow, the evenings entertainment took place in the University of Glasgow College Club. Sixty people sat down to a buffet supper, followed by a slideshow in the adjacent Ferguson Room hosted by Mark Watson. The following is a brief summary of the contributions.

Lynne Farrell — specialities from the Mull field meeting, Mid Ebudes (VC 103).

Jim McCleary — the Portpatrick field meeting, Wigtownshire (VC 74).

Hugh Lang — further views from the Port Patrick field meeting (and a Greenland plant!).

Ros Smith — garden oddities.

Barbara Hogarth — Limestone pavement plants in Scotland.

Michael Scott — Back from the Brink, Plantlife's activities in Scotland.

Sue Scott — Beyond the grapple: an underwater view of Pillwort and other water plants.

Allan Stirling — Galloway field meeting and general plant portraits.

Norman Tait — Glen Moss, a well developed bogland community near Glasgow.

Rod Corner — Miscellaneous plants from south Scotland, found in 1996.

Abstracts of Exhibits

A cytologically confirmed population of *Potamogeton x gessnacensis* in Shetland.

J Bailey, P Hollingsworth & CD Preston
On 1st August 1996 PH and CDP found a population of pondweeds which appeared to be intermediate between *Potamogeton natans* (Broad-leaved Pondweed) and *P. polygonifolius* (Bog Pondweed) at Loch of Gards, Scatt Ness, Mainland Shetland (VC 112). Cytological examination by JB showed that the plants had a chromosome number of $2n=39$, 40 or 41, intermediate between that of *P. natans* ($2n=52$) and *P. polygonifolius* ($2n=26$ or 28). We have therefore concluded that they are the hybrid between these two species, *P. x gessnacensis*, which was previously known in the British Isles from Caernarvonshire (VC 49) and East Ross (VC 106). Specimens of the plants and photographs of the site, the living plants and cytological preparations were exhibited.

Wigtownshire Brambles

GH Ballantyne

Recent work on the VC 74 (Wigtownshire) bramble flora has revealed that at least 30 taxa are present including, inevitably, some as yet un-named. Those identified range from the almost ubiquitous *Rubus polyanthemus*, to such rare Scottish species as *R. anisacanthos*, *R. cardiophyllus*, *R. dunensis*, *R. hylocharis* and *R. sprengelii*. The presence was confirmed of *R. lindleianus*, *R. pyramidalis* and *R. vestitus* in small quantities. *Rubus hebridensis* was found to be common in the Rhinns, as was *R. dumnoniensis* in the south of that area. The *Rubus* of SW Scotland belong to the Irish Sea Florula, and the contrast between it and the North Sea Florula (which takes in most of Scotland) is reflected in the very meagre showing of such brambles as *R. infestus*, *R. leptothyrsos*, *R. radula* and *R. septentrionalis*. An attempt was made to match current names with those used in the past, indicating that quite a number of species have been around for many years under various guises.

Maritime plants on roads in South Scotland

ME Braithwaite

Puccinellia distans (Reflexed Saltmarsh-grass) and *Spergularia marina* (Lesser Sea-spurrey) are now very widely distributed on main roads in VCC 77, 78, 79, 80, and 81. *Atriplex prostrata* (Spear-leaved Orache) is behaving as a maritime plant and is taking up a similar distribution. *Cochlearia danica* (Danish Scurvygrass) is as yet confined to the A1 in VC 81. *Sagina maritima* (Sea Pearlwort) is present in quantity on the A68 near Soutra Hill at 355m.

Berwickshire Water-crowfoots

ME Braithwaite

Two populations in VC 81 show characters intermediate between *Ranunculus hederaceus* (Ivy-leaved Crowfoot) and *R. omiophyllus* (Round-leaved Crowfoot). The population at Hareheugh Craigs is close to *R. hederaceus*, but the petal/sepal ratio is unusually high at 1.7, and some leaves are orbicular.

Atlas 2000 - Progress in VC 81, Berwickshire

ME Braithwaite

Work is on schedule for the resurvey of all principal hectads in the period 1987 to 1999. *Stellaria neglecta* (Greater Chickweed) has been confirmed, *Salix myrsinifolia* (Dark-leaved Willow) reinstated and *Lythrum portula* (Water-purslane) refound. *Pilosella flagellaris* is established and a large colony of *Ribes sanguineum* (Flowering Currant) is flourishing in an old quarry.

Plant records from South Scotland

RWM Corner

Juncus alpinoarticulatus (Alpine Rush) was found new to Dumfriesshire (VC 72): its habitat a rich calcareous mire at only 168m alt. *Puccinellia distans* (Reflexed Saltmarsh-grass) and *Spergularia marina* (Lesser Sea-spurrey) were added to the Selkirkshire (VC 79) flora by Michael Braithwaite. *Saussurea alpina* (Alpine Saw-wort) was found in a second VC 79 locality, a sitka spruce plantation where conservation measures between the author and the forest

authorities may help it to survive. *Alchemilla filicaulis* ssp. *filicaulis* (a Lady's-mantle) was new to VC 79, as was the introduced *Poa angustifolia* (Narrow-leaved Meadow-grass). The latter was also found on a wall top and old railway in Roxburghshire (VC 80). *Trifolium micranthum* (Slender Trefoil) was rediscovered in VC 80 after 120 years, and David Ellis found *Equisetum hyemale* (Rough Horsetail) in a new site, the first record since 1867. *Apium nodiflorum* (Fool's Water-cress) has now been confirmed from VC 80 as all the previous records had been redetermined as *Berula erecta* (Lesser Water-parsnip). Michael Braithwaite made the first localised record for *Sagina apetala* subsp. *apetala* (an Annual Pearlwort).

The decline of *Ulmus* species due to Dutch Elm Disease in SE Scotland (1976-1996)

E Caulton,

Scottish Centre for Pollen Studies

Data showing the actual decline in the number of elm trees in the Edinburgh and Lothian area related to *Ulmus procera* (English Elm) and *U. glabra* (Wych Elm) the two most susceptible species. In 1976 some 23,000 standing healthy trees was an agreed estimate. Only c. 7,000 trees remain today. It is possible that by the end of the first decade of the new century no mature elms will have survived. A pollen calendar of *Ulmus* showed a season lasting on average from late February to mid-June with the peak of production and release occurring early April. The highest peak was in April 1995.

Birch pollen in the roof-top airstream over Edinburgh (1988-1995)

E Caulton

The daily incidence of birch (*Betula*) pollen based on twelve 2hr transects averaged over the 8-year study period, showed the peak occurring during the 4-hour period 1700-2100h. Peak concentrations occurred on average around the beginning of May. Birch pollen seasons varied in length from 25 days (1994) to 65 days (1993). The highest cumulative annual total count (950) occurred in 1989 and the lowest (200) in 1994.

Photomicrographs of fungal spores from the airstream over the South Atlantic and Edinburgh

E Caulton

Nine studies were taken from slide preparations made by the British Antarctic Survey, supplied for identification of pollen and spores. Ten taxa were displayed all taken from material sampled on 15 April 1994, trapped off the coast of Uruguay. The second set of photomicrographs illustrated ten taxa whose spores were trapped in the Volumetric Spore Sampler (Burkard) sited on Napier University roof top at Merchiston (by Mike Richardson).

VCC 77,78: Notable '96 records TD Dines, DJ McCosh & RJ Pankhurst 1996 was a fruitful year for discoveries in VC 78 (Peeblesshire) and VC 77 (Lanarkshire), most of them resulting from the spate of activity generated by

Atlas 2000. A mid-June expedition looking for sedges and grasses produced 3 NCRs in VC 78 — *Cerastium semidecandrum* (Little Mouse-ear), *Stellaria pallida* (Lesser Chickweed) and *Viburnum opulus* (Guelder-rose), as well as *Equisetum pratense* (Shady Horsetail) by the River Lyne, until then only known from a poorly labelled specimen at the RBG Edinburgh. A. Copland later identified *Ophiglossum vulgatum* (Adder's-tongue) from a damp pasture north of Peebles (NCR) and *Hypericum maculatum* (Imperforate St. John's-wort) that turned up in Carlops and previously only known from Balfour's 1925 list. A second station for *Dryopteris expansa* (Northern Buckler-fern) was found in damp woodland at Portmore. In the part of VC 77 adjacent to VC 83, 3 aquatic sedges — *Carex acuta* (Slender Tufted-sedge), *C. acutiformis* (Lesser Pond-sedge) and *C. aquatilis* (Water Sedge) were found either by the River Clyde or in ditches nearby. *Myriophyllum spicatum* (Spiked Water-milfoil) turned up spontaneously and in profusion in an artificial pond amongst planted conifers.

Hard Graft or Chance Encounters?

PA & IM Evans

Systematic recording was responsible for only four of the seven species exhibited from VC 108 (W Sutherland). Our tetrad survey of Assynt yielded *Agrostis castellana* (Highland Bent) and *Parnassia palustris* (Grass-of-Parnassus), and as a result of local information we were able to confirm the presence in the parish of *Scilla verna* (Spring Squill). Survey work for the *ATLAS 2000* gave us *Viburnum opulus* (Guelder-rose) in Strath Halladale. However, the third record for the VC of *Asplenium septentrionale* (Forked Spleenwort), the second for *Rhynchospora fusca* (Brown Beak-sedge), and the first for *Epilobium hirsutum* (Great Willowherb) were the by-product of, respectively, bryological fieldwork, desmid collecting and a tea stop!

Colour variation in *Viola lutea* in NE Scotland

KM Fallowfield

The exhibit showed a collection of 35 colour photographs of *Viola lutea* (Mountain Pansy), most from S Aberdeenshire (VC 92), showing colour variation from pure white, yellow and purple to a combination of these, with different patterns and blotching. Several of the colours and pattern variations may be confined to very small populations. For comparison, several photographs of *Viola tricolor* subsp. *tricolor* (Wild Pansy) and *V. tricolor* subsp. *curtisii* from coastal areas were appended.

Scottish Rare Plant Project Seed Collecting Programme

PS Lusby

The poster explained the background, methods and current progress of this new initiative by the Scottish Rare Plant Project. The project aims to collect genetically representative seed samples of nationally rare Scottish plants for long term storage. This involves sampling from populations across the geographical range of these species. Emphasis is placed on horticultural research as the ability to regenerate plants in cultivation is a fundamental part of the seed banking process. The project is fully integrated with Kew's extensive Millennium Seed

Bank Project but as fewer species are involved the aim is to achieve a greater range of representation. The SRPP will be directly involved with the MSBP but hopes to continue its own programme simultaneously.

***Hypochaeris x intermedia*: a New Scottish Record** DR McKean
Two new Scottish Records of *Hypochaeris x intermedia* (*H. glabra x H. radicata*) (Smooth Cat's-ear x Cat's-ear), both from Tentsmuir, Fife (VC 85) were exhibited. This hybrid had only previously been known in the UK from Merioneth and SE England.

New and interesting plants of the Lothian DR McKean
Lothian (VCC 82, 83, 84) specimens of the following were exhibited: *Equisetum x mildeanum* (*E. pratense x E. sylvaticum*) (Shady x Wood Horsetail), a NCR found by C Dixon; *Equisteum x rothmalleri* (*E. arvense x E. palustre*) (Field x Marsh Horsetail), a NCR found by C Dixon; *Lactuca virosa* (Great Lettuce), last seen pre 1934; *Anaphalis margaritacea* (Pearly Everlasting); *Chenopodium vulvaria* (Stinking Goosefoot); and *Verbascum x lemaiteri* (*V. virgatum x V. thapsus*) (Twiggy x Great Mullein) new to Scotland and found by S Maxwell.

Glasgow Botanic Gardens — Wild Plant Survey P Macpherson
As part of the Glasgow Natural Society's Natural History Survey of the Glasgow Botanic Gardens (VC 77), a record has been made of plants seen in "wild situations". Of the 240 taxa recorded, 58.3% are regarded as native, 16.3% as having arrived by natural dispersal, 5.4% accidentally and 29% as hort. Of the 100 aliens, 52% are established, 22% surviving and 26% casual. Photographic prints were shown of the more interesting plants in the alien categories eg, in the natural dispersal group, Round-leaved Saxifrage (*Saxifraga rotundifolia*) a migrant from upstream and bird-sown cotoneasters: accidental introductions include Purple Toothwort (*Lathraea clandestina*) known since at least 1930 and thought to have been introduced on Poplar roots, *Gilia cf inconspicua* and a *Linaria* which is a widespread weed: examples of spread from material planted elsewhere within the garden are Salmonberry (*Rubus spectabilis*) and Glory-of-the-snow (*Chinodoxa forbesii*) on grassy banks and Hairy Chervil (*Chaerophyllum hirsutum* on the river bank.

Is there natural turnover of rare plant populations? J Milne, N Cowie & C Sydes
A recent re-assessment of Red Data Book and endemic populations in Scotland has indicated that there may be considerable natural turnover in populations of some rare species. In some cases the number of populations 'lost' (i.e. not relocated) balanced the number of 'new' populations found: eg 25 of 33 populations of *Koenigia islandica* (Iceland-purslane) were lost, but 18 new populations found. It appears that this species could occur almost anywhere in its locally extensive habitat. However, some species showed dramatic losses: eg

84% of the 70 populations of *Spirathes romanoffiana* (Irish Lady's-tresses) were not refound in 1995/6 and only 6 new sites were recorded. Were these just unfavourable years or is this natural turnover? Among the species showing major gains, *Eriocaulon aquaticum* (Pipewort) and *Carex rariflora* (Mountain Bog-sedge) may have been under-recorded in the past, but others such as *Bartsia alpina* (Alpine Bartsia) and *Kobresia simpliciuscula* (False Sedge) may be showing natural turnover. These results highlight the importance of examining suitable habitats around previously known sites for new records, otherwise we will only record declines as all populations become extinct eventually.

The new BSBI postcard series DA Pearman
Hot off the presses the new BSBI postcard series of 16 plant portraits and habitats were exhibited and available for sale.

Scottish Plants for Scottish Gardens & Scottish Wild Plants - New publications from the Royal Botanic Garden Edinburgh RBGE
Two publications on Scottish plants just published by the Royal Botanic Garden Edinburgh were exhibited. *Scottish Plants for Scottish Gardens* by Jill, Duchess of Hamilton, and *Scottish Wild Plants* by Phil Lusby and Jenny Wright. Copies were available for sale at the Books from Oundlé stall.

Recent established aliens in VC 99, Dunbarton A Rutherford
A list of the more interesting garden escapes was accompanied by some pressed specimens and a few living plants. They were mainly from the Helensburgh area of VC 99, found during work for the forthcoming Community Flora. The most rare were *Inula hookeri* (Hooker's Inula), *Scilla lilio-hyacinthus* (Pyrenean Squill) both new to VC 99. Some were second county records: *Lobularia maritima* (Sweet Alison) and *Malcomia maritima* (Virginia Stock). These were not found near their previous localities. *Saxifraga x geum* (Scarce Londonpride) was found near its earlier known station.

The first Atlas first mapping meeting in Scotland FH Perring
A photograph of members of the BSBI setting out to map squares in Galloway from Newton Stewart in June 1955 was exhibited. It belongs to Peter Hall, who with his wife Joan, Brenda and Leaver Howitt and Miss Biggar, appear in the photograph. The report of the meeting in *BSBI Proceedings* and distribution patterns revealed by the meeting were also exhibited. The latter were compared with data collected during a similar meeting in mid Wales the following year.

'Woody fibre of Auld Reekie': John Hutton Balfour of Edinburgh, 1808 - 1884 J Woods
Much of the correspondence of John Hutton Balfour throughout his career in Glasgow and Edinburgh is bound or boxed in the Library at the Royal Botanic Garden, Edinburgh. An indication of its size and scope is given. The letters have

recently been indexed though not summarised: copies of a few are shown (from Robert Graham, Charles Darwin, John Gould and William Keddie, among others). The largest number were received from CC Babington, H Cleghorn, both William and Joseph Hooker, Walker Arnott and RK Greville. Correspondence relating to field trips with students is bound separately and along with train and ferry tickets, hotel bills etc., forms a scrapbook of these notable events.

Also exhibited

Caithness Plants	K Butler
Photomicrographs of fungal spores trapped on the slides/tapes by the Burkard Volumetric spore sampler in the roof-top airstream over Edinburgh	E Caulton
Some plants from the Glasgow area 1996	JH Dickson
Atlas 2000: Shared squares and date classes in Scotland	TD Dines
<i>Carex lachenalii</i> (Hare's-foot Sedge) in the Cairngorms	J Edelsten
Recent plant records from Cumbria	G Halliday
Willow Gentian (<i>Gentiana asclepiadea</i>) establishing in Westernness, VC 97	S Jack and JW Clark
Botanical Books from Oundle	M Perring
PLANTLIFE	MM Scott
Pillwort (<i>Pilularia globulifera</i>) and other water plants in Scotland	S Scott
Amazing Alien Plants in Newly Seeded Areas	OM Stewart
Newly Collected <i>Calamagrostis</i> (Small-reed) in Scotland	OM Stewart
Two <i>Puccinellias</i> (Saltmarsh-grasses) from SW Scotland	A McG Stirling
Glen Moss	TN Tait

In common with *BSBI News*, where nomenclature follows that given in Kent/Stace, authorities are not included. Following also the practice in that publication we give both botanical names and names in English. It would save appreciable editorial time if all those submitting abstracts would comply with this convention.

As my term of office on the Committee for Scotland draws to a close this was the last Scottish Annual Meeting that I shall organise, and I have passed on the

Meetings Secretaryship to Lynne Farrell. As a parting note I would like to thank all those who have helped me over the last 5 years in running the Annual Meeting, in particular the long suffering local organisers.

Atlas 2000 Edinburgh Workshop June 1996

MF WATSON

1996 marked the start of fieldwork for the *Atlas 2000* project, with keen botanists throughout the country scouring their patches recording local rarities and common plants alike.

To further knowledge of under-worked areas and in critical plant groups, the BSBI is running a series of field meetings and workshops organised by *Atlas 2000* Principal Organiser Trevor Dines. The workshop at the Royal Botanic Garden Edinburgh, with Mark Watson as local organiser, on a Saturday in mid June, was the first of two workshops scheduled for the first year of the project. The experts leading the workshop, were joined by 25 participants who enjoyed a day of lectures and demonstrations on plant groups spanning from ferns to the highly advanced orchids.

Trevor Dines, on his first official visit to Scotland, was introduced by Peter Macpherson and invited to chair the proceedings. Trevor then invited Clive Jermy to talk on *Carex*. This was followed by a presentation by Cameron Crook on the main Conifers (and allies) that for the first time will be included in the atlas. After coffee Alan Silverside discussed the hybridisation within *Lupinus*, *Spiraea* and *Mimulus*, leaving time before lunch for a hands-on-session examining laid out material which included a demonstration on *Oxalis* by Mark Watson.

In the afternoon Tony Piggot of the British Pteridological Society talked on the current BPS mapping project (also in collaboration with the BSBI), and the major ferns for which they are seeking help. Richard Bateman concluded the lectures with a photographic presentation of the tremendous variation seen in British Dactylorchids and a guide to the critical details to which one should pay attention. There was just time at the end of the session for a further hand-on study and tea break, before the official programme of the day was over.

On a glorious summers day it was a great sacrifice for keen field botanists to forsake a day's fieldwork to sit in the cool north facing teaching laboratory that we used for the workshop. I think all those who made this sacrifice felt that it was well worthwhile, and an impromptu guided tour of Dactylorchids in the Garden by Richard Bateman in the early evening sun rounded off a splendid day.

Mrs Mary Martin 1905 - 1996

OLGA STEWART

Mary Martin died at the age of 91, still active and interested in plants and the natural world around her.

She was born and brought up in Glasgow and after school there went to Edinburgh University where she graduated with First Class Honours in Agricultural Zoology. Her specialty had been Economic Entomology and she retained a fascination for all small animals, except worms, throughout her life. In 1931 she qualified to teach Science and Agriculture in Secondary Schools and began her teaching career at Helmsdale, Caithness. During the school holidays she worked as a potato inspector in Perthshire, where she first met her husband Stuart. They were married in 1939 and moved to Dumfriesshire where Stuart taught first at Lochmaben and then at Lockerbie. Having brought up a family she started supply teaching and worked as a primary school teacher in Lochmaben until she retired. It was at this time that she took up botany.

Mary and Stuart became joint BSBI botanical recorders for Dumfriesshire following the death of Dr Milne Redhead in 1975. He had been botanical recorder for the three counties but had previously given up Kirkcudbrightshire and Wigtonshire to allow himself more time for his lichen studies when he retired from his medical practice.

Besides Mary's interest in wild flowers she was a keen member of the Dumfries and Galloway Natural History and Antiquarian Society. She wrote articles for their Transactions including a checklist of the Dumfriesshire plants, bringing that part of Milne Redhead's 1972 checklist up to date.

After Stuart died she continued as botanical recorder and led botanical meetings for both societies. She was very much involved in the 1987/1988 monitoring scheme and in one of the selected tetrads found an interesting hybrid horsetail - *Equisetum font-queri*. She had also found new county records. These were mostly water plants in which she was specially interested eg Red Pondweed (*Potamogeton alpinus*) and Six-stamened Waterwort (*Elatine hexandra*) from the Mill Loch, Lochmaben, and Nuttall's Waterweed (*Elodea nuttallii*) in Kinloch Brae.

When Mary moved to stay with her daughter she gave up being botanical recorder in 1993 but remained interested in nature. She reported on the red squirrels in her garden and was a member of the Wildlife Trust Red Squirrel group. She was also keen to show visitors the two Monkey Puzzle seedlings which had sprung up in her garden and mystified her. Despite searched in the neighbourhood she failed to find a male Monkey Puzzle as the two in her garden were both female trees!

Mary was a real enthusiast, quietly assertive but self effacing and very good company. She will be sadly missed by her family and many friends. She is survived by her daughter and two sons.

Maritime Plants on Roads in the Scottish Borders

ME BRAITHWAITE

Scott & Davison (1982) recorded the invasion by maritime plants of roads in Northumberland, which are salted in winter. In 1980 *Puccinellia distans* (Reflexed Saltmarsh-grass) was known on the A1 north to Berwick and *Spergularia marina* (Lesser Sea-spurrey), only in a small area north of Newcastle. In 1992 I recorded both species on the A1 in Berwickshire and on the A68 at Carter Bar in the Cheviot Hills where they form colonies along a narrow strip at the edge of the road except where a concrete kerb is installed or where there is shading by trees.

There has been an enormous spread by both species in the four following years to 1996. *Puccinellia distans* has spread from Carter Bar down the A68 to Jedburgh and down the A6088 to Hawick. On the coast, the A1107 over Coldingham moor is heavily invaded and outliers from the A1 colonies appear on the Ayton to Chirnside road and on the Grantshouse to Preston road. There are several colonies around Kelso and further colonies near Gordon, Ashkirk, Clovenfords, Heriot and just out of the region, near Dolphinton.

Spergularia marina is found, often in great quantity in almost all the locations mentioned for *Puccinellia distans*, and was usually the first of the two to colonise. It is also found on the B6456 between Polwarth and Westruther on Soutra, on the Dunion near Jedburgh and in Peebleshire around Blyth Bridge. Passing out of our region large colonies extend through Carstairs to Carlisle.

The same habitat has allowed the spread of *Atriplex prostrata* (Spear-leaved Orache) previously virtually confined to the coast itself in the Borders. This plant is now known along the A1 and in small quantity on the A1107 over Coldingham Moor, near Chirnside, near Coldstream, at Dryburgh and Ancrum, on the A68 at Carter Bar and Soutra, and on the A7 near Stow. In this case it is not known for certain when colonisation occurred as the plants have only attracted notice in the search for other maritime species and it is doubtless under recorded, nevertheless I could only find it on the A1 in 1992, so its spread is believed to have been similar to the other species. Meanwhile *Cochlearia danica* (Danish Scurvygrass) remains confined to the A1 but *Sagina maritima* (Sea Pearlwort) has been detected in substantial quantity at Soutra.

It is thought that the sands at Holy Island may have provided the opportunity for seeds from saltmarsh plants to hitch a lift from vehicles and spread up the artificial salt marshes we have created along our roads. A similar phenomenon is evident over much of England and long distance dispersal of seeds is likely to be contributing to this remarkable story. The arrival of further maritime species can be expected.

Reference

Scott, NE & Davison, AW (1982). De-icing salt and the invasion of road verges by maritime plants. *Watsonia* 14, 41-52.

The entry in Stewart *et al* (1994) describes Variegated Horsetail as a plant of dune slacks and of river gravels and upland flushes and springs. It is stated that "all sites are base rich to some extent". The main vegetation type around the NWEP Armadale Moor site is a series of disturbed raised mires, dominated by Heather (*Calluna vulgaris*), Hare's-tail Cottongrass (*Eriophorum vaginatum*) and mosses, particularly *Polytrichum* species. This appears to be of low base status. Black Moss Burn would appear to be slightly more meso-trophic, with species such as Branched Bur-reed (*Sparganium erectum*) and Rusty Sallow (*Salix cinerea* ssp *oleifolia*) in and adjacent to it.

Just north of the NWEP crossing of Black Moss Burn is a disused railway embankment. The most visible substrate here is cinders but the nature and diversity of species present suggests some lime content. This is presumably a source of base rich seepage to the adjacent extended floodplain area. This perhaps accounts for the habitat's suitability for Variegated Horsetail and indeed more common species which one would not normally expect to find within a raised mire system. These include Ragged-Robin (*Lychnis flos-cuculi*), White Clover (*Trifolium repens*), Yellow-rattle (*Rhinanthus minor*) and Common Spotted-orchid (*Dactylorhiza fuchsii*).

Variegated Horsetail was not recorded in the NWEP pre-construction survey of the site. Black Moss Burn appears to rise only a little to the west of the study area. The only recent records which are remotely near are from coastal sites to the north-east of Edinburgh, some fifty kilometres away. Quite how the plant has come to be at Armadale seems to be a mystery - any suggestions would be most welcome!

As a follow up I collated all my records for NWEP sites within VC 77 and submitted them to Peter Macpherson. Though mainly of "common" species they are sometimes from inaccessible areas and I am told they have enhanced the VC 77 database.

Variegated Horsetail is probably the only really notable species I have found on the Scottish NWEP sites. Interesting records from English sites include Bird's-eye Primrose (*Primula farinosa*), Cornflower (*Centaurea cyanus*) and Opposite-leaved Pondweed (*Groenlandia densa*) from Cumbrian sites and Brackish Water-crowfoot (*Ranunculus baudotii*), Horned Pondweed (*Zannichellia palustris*) and Meadow Barley (*Hordeum secalinum*) from the only site in Cheshire. Perhaps the "best" English record is my 1996 finding of Pearly Everlasting (*Anaphalis margaritacea*) at Killington, now the only current record for Westmorland (VC 69).

Reference

Stewart, A, Pearman, DA & Preston, CD (1994). *Scarce Plants in Britain*. JNCC, Peterborough.

William MacGillivray A Hebridean Naturalist's Journal 1817 - 1818

P MACPHERSON

On my return journey from attending a meeting of the BSBI Council in November 1996 I sat beside Brian Wilson, MP for Cunninghame North, Ayrshire. In the course of conversation I mentioned my reason for being in London and Mr Wilson immediately asked whether I was familiar with the above book. I replied that I had heard of it but had no knowledge of its subject-matter.

The week before Christmas I received a package containing a copy of the book and a letter from Mr Wilson suggesting that I might consider reviewing it for my journal. I do not think that a formal review is appropriate but members who have not seen the book may be interested to learn of its contents.

William MacGillivray was born in Aberdeen, but from the age of three was brought up on his uncle's farm on Harris. He finished his schooling in Aberdeen and took an MA degree at the University. He then began to study medicine but did not complete the course.

In the summer of 1817 (when aged 21) he returned to Harris to spend a year studying natural history and pondering on the course of the rest of his life. During that time he kept a diary and this has been edited by Dr Robert Ralph of Aberdeen University.

For his "studies and amusements on the way" he took the First and Third Volume of the *Systema Natura*, Smith's *Compendium Flora Britannica* and Campbell's *Pleasures of Hope*.

The first part of his journal relates to each day's walk between Aberdeen and Poolewe. From a botanical point of view it starts well, with reports on the first day of Round-leaved Wintergreen and Cloudberry from near the summit of Benachie and "Small Bur Parsley, Common Wild Chamomile, Great Nettle, Common Chickweed and Common Feverfew" from the ruins of Harthill Castle. The 85 plants recorded are listed, as are those seen on each of subsequent days. The arable weeds, Cornflower and Corncockle were frequently recorded as were Hoary Plantain and Common Wild Chamomile. He gave only one report of Rat's-tail Plantain which suggests that he was familiar with the difference between the two species. However Webster (1978) mentions that Hoary Plantain is introduced in the north of Scotland being rare in lawns. MacGillivray refers to *Matricaria chamoma* (and once *M. chamomilla*) but gives no records for Scentsless Mayweed.

Special mention is made of Globeflower from the romantic valley of Alt mor (Allt Mór I presume) east of Loch Ness and Wood Vetch and Alpine Saw-wort from the Fall of Foyers. Yellow Bird's-nest in a wood upon the bank of Loch Ness I had thought a probable error for Bird's-nest Orchid but it is interesting to note that Webster gives a record for *Monotropa hypopitys* "in a birch wood 4 miles W. of the

east end of Loch Ness, 1813 PH MacGillivray & WAS (Watson)". However records for *Briza minor* (Lesser Quaking-grass) would really be *B. media* (Quaking-grass). [WAS = WA Stables (AMcGS)]

The last section on which he records lists of plants is that between Muir of Ord and Scatwell on the River Conan. There is only an occasional mention of plants thereafter during the remainder of his journey to Poolewe where he boarded the packet for Stornoway.

At Kiose (Keose) in Lewis he made the last appreciable list of plants (about 50) reported in the Journal. Between Kiose and Marig which is just over the boundary into Harris, he listed eight plants and while in Harris noted only the occasional plant or gave very short lists.

Often accompanied by a travelling companion he moved from place to place. They frequently dropped in for a meal at whatever house they happened to reach at the appropriate time and often stayed overnight with acquaintances having arrived without prior warning.

On his journeys he gathered numerous mineralogical specimens. He shot at many birds so that he could examine and describe them. He does however note that he missed more often than he killed.

MacGillivray was much in demand for his medical skills. His favourite treatments were doses of salts or other purgatives, irritating ointments to raise blisters and blood letting. On one occasion he was called to see a child with a dislocated elbow and using his knowledge of anatomy seems to have reduced it satisfactorily. He mentions inoculating children, presumably against smallpox.

On many occasions he gives the menu for a meal. Trout, salmon, grouse, venison and cream feature along with beef, mutton, goat-flesh and barley bread. In the evenings he played a lot of Backgammon and there was frequent dancing.

MacGillivray explained that on the expiry of a lease a tenant was required to go before the laird and his factor to bid for the renewal of his own lease or that of another's farm. He described in some detail the houses of the tacksmen and of the small tenantry. Mention is frequently made of the cattle sheep and horses. He notes that the whole clothing except napkins and hats was manufactured locally.

He usually wrote down his judgment of the towns, villages and scenery and gave his opinion of the physical appearance and mental ability of practically every person with whom he came into contact. The diary is punctuated by analyses regarding the efforts he should make with regard to his moral, mental and physical wellbeing.

At the end of the sojourn he wrote "In Geology I have made considerable progress, I have just begun to study mineralogy; I have made considerable progress in Ornithology, but Botany has been peculiarly captivating, yet I have not examined

above 500 species. For painting I have a natural genius. Flower drawing is the only branch in which I have made considerable progress". No plant paintings have survived but some of the bird paintings executed by him in the 1830s are reproduced in the book and are of high quality.

In 1830 he published a botanical text followed by others on natural history subjects but most importantly the five volume *History of British Birds*. He was appointed Regius Professor of Natural History at Marischal College Aberdeen in 1841. He has been described as Scotland's greatest field naturalist.

Permission to abstract the book has been obtained from the Editor. The book was first published in Scotland in 1996 by Acair Ltd, 7 James Street, Stornoway.

ISBN 0 86152 122 6 (Paper Back) £14.00.

ISBN 0 86152 127 7 (Hard Back) £20.00.

Orkney Plants - Problems with Identification

ELAINE R BULLARD

When I was plunged in at the deep end in the last year of the old Atlas and became a member of the BSBI, I asked Ian Hedge what a species was. He replied that a species was what an experienced taxonomist said it was. I still ask that question and now and then decide a species is so-and-so because I say it is: and I am **not** a taxonomist.

Firstly I must say how grateful I have been over the years to the many referees who have helped me. Dear old Dandy gave me many useful tips on *Potamogetons*, Peter Yeo and Tim Rich never failed to give me a pat on the back however poor were my own guesses, CE Hubbard dubbed me "Miss *Puccinellia capillaris*", John Trist coped with my "hay" and many others, not all of them official referees. On the other hand I am far from grateful for a negative determination based solely on "it is not known from Orkney (or from the north of Scotland)" when I have just shown them that it is: eg *Fumaria purpurella* which is our most frequent ramping fumitory.

Orkney is of course different. Remember the gasps which greeted Lynne Farrell's slides of Shetland's hairy *Senecios*? All our ragworts are hairy, and lots of other things like our *Salix cinerea* ssp *oleifolia* (Rusty Willow) which even Meikle thought was ssp *cinerea* (Grey Willow) until he had grown it in Somerset for a couple of years by which time it decided it didn't need so much hair. There are others who have insisted it is a hybrid of *S. caprea* (Goat Willow), which really does not grow on Orkney. Lots of plants differ in size — a lot smaller or a lot bigger. It has taken me three years to convince the people of Westray that their abundant (and huge) *Angelica sylvestris* (Wild Angelica) is not the same as their rare biennial *A. archangelica* (Garden Angelica) established around the harbour

and pier and must be allowed to seed because it is an important archaeological link with Westray's Norway trade in the tenth century.

From 1963 to 1973 I struggled, with Peter Yeo's help to learn eyebrights. Unfortunately, he twice moved the goalposts in these ten years and after amending my index cards a second time I gave up until the Scarce Species Project. By then Alan Silverside had moved the goalposts yet again. Last August I had a go at four gatherings from machair in Sanday. Two I think I identified correctly. The third had two obvious characters which cancelled each other out and the fourth keyed out to *Euphrasia cambellii* which of course "doesn't grow on Orkney".

My worst problem over the last few years has been our Fragrant Orchids. In the 1960s I did a fair bit of work with Victor Summerhayes. He named one of our local orchids as *Gymnadenia conopsea* ssp. *densiflora*, another reluctantly, as ssp. *conopsea* although later he said that it was an as yet unnamed subspecies. I did nothing further until about four years ago when I sent a floret to Kew without checking Summerhayes' notes. I was told that it was ssp. *conopsia* because "ssp. *densiflora* is not known in Scotland", and as I had taken very careful measurements and notes, so named subsequent similar findings. Then a visitor wrote saying how he had admired a wonderful colony of white-flowered ssp. *borealis* and also mentioned another normal colony of the same ssp. The latter was one of the colonies I remembered Summerhayes had been reluctant to name. If it was ssp. *borealis*, our other ssp. must be ssp. *densiflora* and not ssp. *conopsea*, especially as I then remembered that the site from which the floret had been sent to Kew was that from which Summerhayes had named ssp. *densiflora*. Quite a number of us became interested and agreed. By this time also, *Orchids in Scotland* (Allan & Woods 1993) had been published and it did give records for ssp. *densiflora* in Scotland!

Last year my colleagues found a huge new colony in a wet habitat but not the usual *Schoenus* flush in which we always find ssp. *densiflora*. I have not seen it but they took lots of excellent photographs, bought me florets, carried out random sampling and very careful averaging measurements. I had decided from my own examination of the florets, date of flowering, scent and wet habitat that it must be another ssp. *densiflora* and wrote to Kew reminding them that they did have one of HH Johnston's specimens in their herbarium. This time they agreed, reported that they had a few other records from Scotland and sent me a photocopy of HHJ's specimen. By this time however, our photographs were ready and we all examined them. There was no doubt whatsoever that neither the photographs nor the measurements tied up with either Stace (1991) or Rich & Rich (1988) for any *Gymnadenia* ssp. I then sent the photographs, measurement drawings and graphs to Kew. The best they can do is that "they look like the picture of ssp. *conopsea* from Sutherland in the Scottish Orchids book". This gets me exactly nowhere.

What we will do this year is to take the same very careful checks on our known ssp. *densiflora* colonies (it would take a brave man to contradict Summerhayes' det.) and compare them with those from this new colony. I would dearly like to

know what the *Gymnadenia* situation really is elsewhere in Scotland. With us, ssp. *borealis*, although usually coming in Heinz varieties, is quite unmistakable in time of flowering, scent, choice of habitat and overall "jiz" and therefore not a problem.

Kew report that they have never seen it growing. To me as a keen gardener, choice of habitat is as important in determinations as any physical character.

There are times when I wonder how the professional experts can be so sure when there seems so much we do not know about plants. Last year I was asked to attend a (mostly professional) conference on some Scarce Species. To my surprise I was asked to open the session on *Primula scotica* which seemed to imply that the little I knew was still more than that of the others present and as the discussion wore on I realised how little any of us knew about this plant, even such obvious things as questioning whether it is really a sexual species. Yet it seems that many Universities are dropping taxonomy together with fieldwork.

References

- Allan, B & Woods, P (1993). *Wild Orchids in Scotland*. Royal Botanic Garden, Edinburgh.
 Rich, TCG & Rich, MDB (1988). *Plant Crib*. Botanical Society of the British Isles
 Stace, CA (1991). *New Flora of the British Isles*. Cambridge University Press

Niggling Doubts while Recording at Nigg LYNNE FARRELL

By the time you read this, I may have appeared in court: what started as an innocent day's botanising eventually ended up at Cromarty Police Station.

Purple *Oxytropis* (*Oxytropis halleri*) was the initial subject under investigation at Nigg Point and further NE at Balintore (VC 106). On occasions over the years I have stood on the shore at Cromarty and longed to catch the smallest car ferry in Scotland across to the steep sea cliffs at Nigg.

On Saturday 10th May 1996, a clear but chilly morning, Ro Scott, Charlie Bateman and I caught the 10am ferry and with some scrambling tactics counted the few persistent *Oxytropis* plants on the open loose soils and rocks in the xerophytic communities about Nigg Bay. Some of the plants must be very old as they have enormous woody bases. Only one was in flower, reflecting the lateness of the season. After intrepid exploration further round the coast at low tide, recording *Brassica napus* and *Asplenium marinum*, we were sitting behind a single ash tree eating lunch and watching dolphins in the firth, when a four-wheel drive vehicle trundled into the dunes about half a mile away. A couple emerged with a large dog and took out black plastic bags. They carried these down to the shoreline and proceeded to throw bits and pieces into the sea. All good mountain botanists carry binoculars, so as our curiosity was aroused, we observed their activity which continued for about 30 minutes. When the man started to hide items under the larger boulders we were intrigued. What were they up to? Eventually they drove away, taking their empty plastic bags with them. We did however, take a note of their registration plate and the time. We wandered down to the shore and were

surprised to find bits of car insides — so we collected evidence, returned to our car and went on to record hundreds of healthy *Oxytropis* plants of all ages round at Balintore.

Catching the 5.30pm ferry back to Cromarty, we decided to call into the police station, as we all agreed the couple had exhibited strange behaviour and we had found a car key amongst the evidence on the rocky shore. At 6pm we rang the station bell and, as Ro says, the policemen are definitely getting younger. We were greeted by a young constable who listened patiently to our tale — Ro felt it necessary to explain what we were doing sitting in the undergrowth — took a brief statement, the evidence and our address and said the he would contact his colleagues at Tain — the station on the north side in Nigg territory.

At 7.30pm we were just settling down to dinner when up rolls a police car. Would we mind making full statements! We did so. It would appear that some fiddle on car parts had been in progress for some time in the area and the police had been seeking definite evidence, which we had now inadvertently provided. "You may get a free trip to Dingwall Sheriff Court" were the policemen's final words.

So we observant botanists may have assisted in the process of justice. People do get up to some strange things, including counting rare and beautiful plants on hazardous sea cliffs in Easter Ross.

Frog Orchids in VC 73

OLGA STEWART

Frog Orchid (*Coeloglossum viride*) had several records before 1900, all in the south part of Kirkcudbrightshire from near Dumfries to Brighthouse Bay in the west. So, when Paul Stanley, aged 14 at that time (1977) rushed up to me at the Exhibition Meeting in London and told me that I had Frog Orchids in the county, I was not sure if I believed him. However, the following year, when he came with his family to a holiday cottage, I was shown a very rich field in the north of the county where we counted 400 Frog Orchids. The numbers fluctuate from year to year; some years the numbers are down to 20 or so. That was our only extant record until 1996 when, on a Scottish Wildlife Trust walk I met someone who had found Butterfly, Fragrant and Frog Orchids near his home near Colvend. What was exciting was the fact that on my index card there was a record that the Rev. James Fraser had found them all in 1864 in "a hilly pasture, Colvend". He had also recorded at the same time *Pseudorchis albida*. We have no modern records for Small White Orchids, so hope that this may be refound as well.

Interesting New Records in VC 73

OLGA STEWART

In 1995, while doing general recording, I collected a *Carex* hybrid on the edge of the River Cree on a mud bank at the edge of *Phragmites*. It was sent to Arthur Chater who identified it for me as *Carex distans* x *C. extensa* (*C. x tornabonii*). When I went to refind it in 1996 I discovered that the bank had been washed away right to the *Phragmites* roots; so it will have to be refound again.

The next find was another hybrid, this time *Persicaria hydropiper* x *P. minor*, growing at the edge of Loch Ken where both parents are common. It was identified by Dr John Akroyd.

The third find is a strange record and rare in Scotland — *Carex divulsa* subsp. *leersii*. This is supposed to grow "on chalk and limestone" as stated in Stace's flora. I have seen two of the other four Scottish sites and would not so describe either habitat. One is by a track in a wood near Dalkeith (VC 83). The other is on a steep bridge embankment of a disused railway in East Lothian (VC 82). Macpherson & Watson (1996) reported that at the Blantyre site (VC 77) the soil has been found to be more-or-less neutral. The other Scottish site is near Lauder (VC 81). In VC 73 the plant grows on a steep bank by undeveloped waste ground near Castle Douglas. I first found a plant in 1995 on level ground not far away from the bank, where four or five plants now grow. From there I collected a specimen in 1996 and this I showed to Arthur Chater and David Pearman. They both agreed that it was *Carex divulsa* subsp. *leersii*.

Reference — Macpherson, P & Watson, K (1996). Two sedges new to the Glasgow section of Lanarkshire. *Glasgow Naturalist* 23, 57-58

BSBI Committee for Scotland

The following is the composition of the committee from Nov 1996-Nov 1997: Chairman - Dr P Macpherson: Secretary/Treasurer - Dr MF Watson: Field Meetings Secretary - GP Rothero: Minutes Secretary - Mrs BG Hogarth: Meetings Secretary - Dr MF Watson: Members of Committee - JR Edelsten, Miss L Farrell, Dr JR Pankhurst, Mrs OM Stewart, K Watson. Representing SNH - Miss R Scott: Representing BSS - Dr N. Cowie.

At the AGM on 1st November 1997 GP Rothero, K Watson and Dr MF Watson will be retiring. K Watson is eligible for re-election.

Nominations for the three vacancies, signed by two members of the Society normally resident in Scotland, or who are recorders for a vice-county in Scotland, although not resident there, and with written consent of the candidate, who must also qualify as above, should reach the undernoted at the Royal Botanic Garden, Edinburgh EH3 5LR, by 30th September 1997.

MF Watson Honorary Secretary

Glasgow Garden Festival Site Update

P MACPHERSON
& EK LINDSAY

The Glasgow Garden Festival took place in 1988 on the largely infilled Princes Dock and adjacent land on the south side of the River Clyde. A previous paper (Macpherson 1993) reported on the plants present three years after the event while another described the area and noted additional records for the years 1992 and 1993 (Macpherson & Lindsay 1994). We have re-visited each part of the entire area at least once during the ensuing three years.

That part to the south which contained the waterfall and ponds has been turned into a formal Festival Park. Most of the remainder is still undeveloped and has been bulldozed again during this further period of survey in order to make the site more attractive for developers. In part this was followed by grass/clover seeding.

Over the years there has been much adverse publicity in the press regarding the lack of development. However, to us it has remained a source of interest. There is now only one original bank - that screening the Festival park from the remainder of the area. As before, we have not recorded plants growing only on the bank at the site of the original planting.

Additions

Additional records are classified in the same six categories as used in the previous reports.

Plants on the Scottish Field Card

We have made an additional 18 records in this category bringing the total to 222. It is appreciated that some of the plants in this section could equally well have been included in another category. *Anchusa arvensis* (Bugloss) *Medicago sativa* ssp. *varia* (Lucerne) and *Viola tricolor* (Wild Pansy) could well have been accidental introductions with the seed mixture. *Tripleurospermum maritimum* (Sea Mayweed) occurred as a number of plants along a new road constructed through the site and were probably brought in accidentally during the construction. It is probable that most of the others arrived by natural dispersal. Certainly the trees were all saplings and the Russell Lupin (*Lupinus arboreus* *L. polyphyllus*) and Welsh Poppy (*Meconopsis cambrica*) common on adjacent waste ground.

Other plants presumed to have arrived by natural dispersal

An additional six taxa have been added to this group bringing the total to 48. We assume that plants such as *Aster x salignus* (Common Michaelmas-daisy) and *Salix caprea* x *S. viminalis* (Willow hybrid) were wind-blown while *Cotoneaster dammeri* (Bearberry Cotoneaster) and *Rubus nemoralis* (a bramble) were bird-sown.

Additional records of taxa spread from planted material

The total has been increased to 100 by the addition of 23 taxa allocated to this

category (Table 1). In many cases we had previously seen the plant in a formal setting and can therefore be sure that our allocation is correct. For example, part of the root of a *Salix lanata* had been bulldozed 40 yards from its original planted site and in the ensuing three years had produced catkins and leaves, more or less at ground level.

Table 1 — Additional records of plants spread from planted material

<i>Azara serrata</i> —	—
<i>Betula nigra</i> —	Black Birch
<i>Brachyglottis</i> 'Sunshine' —	Shrub Ragwort
<i>Cotoneaster integrifolius</i> —	Small-leaved Cotoneaster
<i>Digitalis lutea</i> —	Straw Foxglove
<i>Erigeron annuus</i> —	Tall Fleabane
<i>Erigeron annuus</i> ssp. <i>strigosus</i> —	Tall Fleabane ssp.
<i>Filipendula vulgaris</i> fp —	Dropwort cv
<i>Geranium sanguineum</i> var <i>striatum</i> —	Bloody Crane's-bill var.
<i>Lonicera pileata</i> —	Box-leaved Honeysuckle
<i>Philadelphus coronarius</i> —	Mock-orange var
<i>Polygonatum x hybridum</i> —	Garden Solomon's-seal
<i>Populus candicans</i> 'Aurora' —	Balm-of-Gilead
<i>Populus trichocarpa</i> —	Western Balsam-poplar
<i>Rosa</i> 'Hollandica' —	Dutch Rose
<i>Rosa pimpinellifolia</i> cv —	Burnet Rose cv
<i>Salix lanata</i> —	Woolly Willow
<i>Sambucus canadensis</i> var <i>acutiloba</i> —	American Elder
<i>Santolina chamaecyparissus</i> —	Lavender-cotton
<i>Senecio cineraria</i> x <i>jacobaea</i> —	Ragwort hybrid
<i>Stachys byzantina</i> —	Lamb's-ear
<i>Symphoricarpos</i> x <i>chenaultii</i> —	Pink Snowberry
<i>Veronica austriaca</i> ssp <i>teucrium</i> —	Large Speedwell

Stowaways

This was originally our name for plants brought accidentally with soil but we have extended the definition to include those brought in accidentally during re-seeding of the area. In this category we are therefore including *Linaria macrocanna* (Annual Toadflax), *Parentucellia viscosa* (Yellow Bartsia) and *Trifolium incarnatum* ssp *incarnatum* (Crimson Clover). As before, we have excluded plants such as *Anchusa arvensis* and *Viola tricolor* which are on the Field Card. The three recent additions bring the total to 11.

Nursery Site

The eastern half of the area used for storing plants while their sites were being prepared has been developed, but the western part is still more or less bare waste ground. *Cotoneaster hylmoei* has been birdsown in this area bringing the total taxa seen in this part, but nowhere else in the festival site, to 14.

Doubtful Status

As explained, some of those allocated to the above groups could well have been

included in this category, but we have considered it better to make a definite allocation where possible. The only new plant we are including is *Phalaris canariensis* (Canary-grass). A few plants were present adjacent to a little lay-by and it is probable that material was thrown out from a parked vehicle. There are now 20 plants in our doubtful status category.

Additional Category

During one of our recording surveys in 1996 we were surprised to see plants of *Onopordon acanthium* (Cotton, or sometimes Scotch, Thistle) on the site. There were eight flowering plants and about 30 rosettes. The part of the site on which they were growing had not been subjected to any disturbance during the previous four years. As we could not possibly have missed seeing mature plants of this size on our many previous detailed surveys, we consider that seed had been scattered in (say) 1995 when some germinated and formed rosettes which flowered in 1996, the germinating of the others having been delayed for a year. This plant has been chosen this year as the front cover illustration, for which as usual we are indebted to Olga Stewart. We have not included this category in the pie chart (Fig 1).

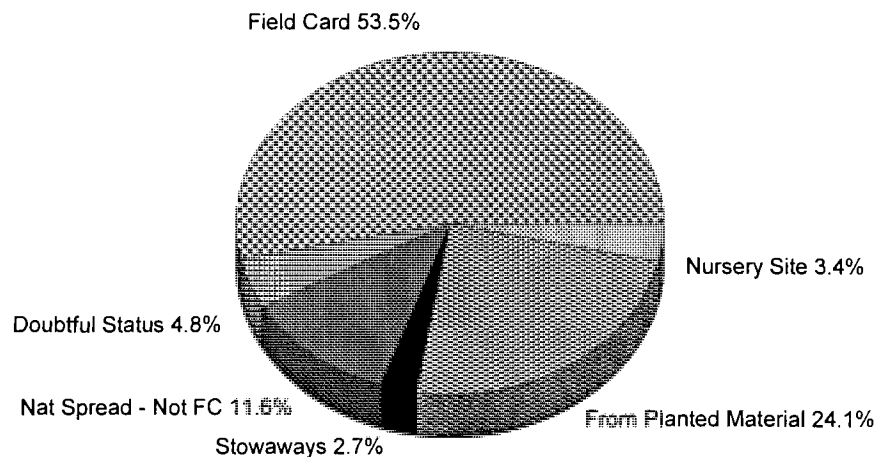


Fig 1. The results of plant recording during the period 1991-1996 on the site of the 1988 Glasgow Garden Festival. A total of 415 taxa are included in the pie chart

Discussion.

As a result of repeated disturbance to the greater part of the site most of the interesting plants previously reported have been destroyed. Of those specially mentioned in our 1994 report as having arrived by natural dispersal or accidental introduction, only *Carex buchananii* remains. However we can still find *Anaphalis margaritacea* (Pearly Everlasting), *Anthemis tinctoria* (Yellow Chamomile), *Artemisia absinthium* (Wormwood), *Epipactis helleborine* (Broad-leaved Helleborine), *Melilotus alba* (White Melilot), *Geranium psilostemon* (Armenian Crane's-bill), *Lepidium ruderales* (Narrow-leaved Pepperwort), *Leymus arenarius* (Lyme-grass), *Lythrum salicaria* cv. (Purple-loosestrife), *Persicaria amplexicaulis* (Red Bistort), and *Stephanandra incisa*.

In the past three years we have made 53 additional records. Between three and eight years after the event a total of 416 taxa have been recorded in "a wild state" at the site of the 1988 Glasgow Garden Festival.

Acknowledgements: We are grateful to the following for help with the identification of the recent records: EJ Clement, J Fryer, G Halliday, DR McKean, RD Meikle, A Mitchell, JR Palmer, AJ Silverside, OM Stewart, AMcG Stirling and PF Yeo.

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Early Use of the Word "Fen" in Scotland

JOHN MITCHELL

Of half-a-dozen Scottish language dictionaries consulted, only one — *A Dictionary of the Older Scottish Tongue* included an entry for fen to mean a marsh, but in the context of the vile, stinking kind. This initially led me to believe that the use of the word fen to mean a particular type of marsh vegetation was a fairly recent import north of the border. However, the following 18th and 19th century examples taken from the Scottish literature show clearly that this is not the case.

The Paisley weaver, packman and poet, Alexander Wilson (1766-1813), who after immigrating to America in 1794 became one of the foremost bird illustrators of his time, made reference to the surrounding fens when describing the rising flood waters of Castle Semple Loch in Renfrewshire in his poem *Lochwinnoch*, which was printed privately in 1790.

"....midst bord'ring reeds and fens,
The lengthen'd lake its glossy flood extends,
Slow stealing on with lazy silent pace,
The peel alone rising from its wat'ry face".

Robert Burns (1759-1796) too, was familiar with the word fen, as illustrated by the following extract from his *Elegy on the late Miss Burnet of Monoddo*

"Ye heathy wastes inmixed with reedy fens,
Ye mossy streams with sedge and rushes stor'd"

This unfinished poem was written in 1791, although not actually appearing in print until the posthumous publication of a collected edition of his work in 1800.

The novelist Robert Louis Stevenson (1850-1894) also makes use of the term "reedy fen" in his adventure story *Treasure Island*, which first appeared in serial form over the winter of 1881/82.

Does any member know of early Scottish examples of the word fen being used in something approaching the accepted ecological sense?

Name Changes in the Scottish Flora

A key to the Latin name changes between the 1970 T007 BRC Field Card and the 1966 N Scotland Atlas 2000 RP25 Field Card for plants recorded in E Perth (VC 89) has been produced by Ros Smith and typed by Euan Cameron. It covers most of the Scottish flora and, on receipt of a stamped addressed envelope Dr Smith will be happy to send a copy to members. Her address is given in the *BSBI Year Book*.

Scottish Field Meetings 1997

The following have been arranged.

Full details will be found in the Year Book.

June 21-24	Salen, Mull. Lynne Farrell
June 28-30	Rhiconich, West Sutherland. Pat & Ian Evans
July 3-4	Kelso, Roxburghshire. Rod Corner
July 5	Loch Leven NNR, Kinrossshire. George Ballantyne
July 19-27	Isle of Islay. Richard Gulliver
July 28-Aug 3	Campbeltown, Kintyre. Pat Batty & Trevor Dines
Aug 2-6	Ullapool, W. Ross. Trevor Dines
Aug 8-10	Kintore, S. Aberdeen. Trevor Dines

Lathraea clandestina

JEAN MURRAY

In April last year (1996)) thoughts of Atlas 2000 and 10km squares took me walking by the River Tweed near Gattonside, Melrose (VC 80) upstream of the Chain Bridge. Something purple at the base of a riverside willow caught my eye, just one flower seeming to come straight from the pebbly ground. This was new to me. I made a return visit next day with my botanising partner Margaret Little, and we decided it could only be Purple Toothwort (*Lathraea clandestina*) But where had it come from? The answer was found at nearby Glendearg.

About 20 years ago, on a National Trust visit to Inverewe Gardens, Mr and Mrs Haig Douglas were given a few pieces of the toothwort. Adjoining their house was a small wood largely planted by Mr Haig Douglas himself, with some species of willow and poplar which he thought might make suitable hosts.

Over the years the toothwort spread down the garden burn, appeared over the road and again on poplars where the burn joins the Allan Water which in turn flows into the Tweed. Where I found it is nearly 5km from the original planting. The clumps, seven in all, were in full flower by 25th April. I counted 60 flowers on the largest. Amazingly these same flowers lasted until early June by which time they were almost obscured by the surrounding vegetation.

How could they have been missed before, or was this the first year of flowering?

A few years back, boulders were dumped in the Tweed in an attempt to improve the fishing. Since then the toothwort area would certainly have been flooded at times. Last Autumn, perhaps trying to correct this — there is a path close by — pebbles were bulldozed into the river right beside the toothwort. Will it appreciate its hosts being left higher and drier and will it be found even further downstream? Interestingly, several pieces of the Glendearg plants were given to the forester at Bowhill Estate in Selkirkshire. Some failed but those planted by the lake are flourishing, having first flowered three years after planting.

There is a further twist to this tale. Atkinson (1996) reported on the distribution of *L. clandestina* and his maps show no sites further north than Arduaine Garden in Main Argyll (VC 98) with no mention of Inverewe. Roderick Corner kindly sent me a copy of a letter from Professor Douglas Henderson who looked after Inverewe Gardens at one time. He knows of three locations in Easter Ross and although he was told that the toothwort was introduced to Inverewe in 1966 he suspects it was taken there from Edinburgh Royal Botanic Garden as early as 1955.

Reference — Atkinson, MD (1966). The distribution and naturalisation of *Lathraea clandestina* L. (Orobanchaceae) in the British Isles. *Watsonia* 21, 119-128.

Raasay in the 1990s

STEPHEN J BUNGARD

Since 1992 I have been mapping vascular plants on Raasay and the associated tidal islands of Eilean Fladday and Eilean Tigh in 98 recording units based on 1 km squares. Recording has been enlivened by trying to find old records. Many sixty year old records remain good today.

Coastal Communities

Ligusticum scoticum (Scots Lovage) is only on the west coast of Raasay and on Eilean Tigh. *Sedum rosea* (Roseroot) is present on coastal and upland rocks, growing luxuriantly in shaded coastal dykes and *Tripleurospermum maritimum* (Sea Mayweed) occurs in small numbers around the coast. *Anagallis minima* (Chaffweed) was found on Raasay for the first time in 1993. *Carex otrubae* (False Fox-sedge) is present in a small area near Leac, explaining an unlikely 1930's record for *C vulpina* (True Fox-sedge).

At the high tide mark on Eilean Tigh there is *Atriplex praecox* (Early Orache). *Atriplex prostrata* (Spear-leaved Orache) is common but *Atriplex glabriuscula* (Babington's Orache) has only been found so far at one location.

The best salt-marsh is at Oskaig, but there is a second area near Manish Point and several smaller areas harbouring some of the same plants. Species present include *Aster tripolium* (Sea Aster), *Puccinellia maritima* (Common Saltmarsh-grass), *Carex extensa* (Long-bracted Sedge) *Juncus gerardii* (Saltmarsh Rush) and *Glaux maritima* (Sea-milkwort).

Two of the three localities for *Osmunda regalis* (Royal Fern) are on coastal cliffs and slopes along the east coast between Screapadal and Eyre hold the only sites for *Torilis japonica* (Upright Hedge-parsley) and *Agrimonia procera* (Fragrant Agrimony). *Daucus carota* (Wild Carrot) is to be found here too, but it may also be seen around Balachuirm in the west.

Freshwater Communities

Two lochs including one on Fladday contain *Nuphar lutea* (Yellow Water-lily). As well as *Potamogeton polygonifolius* (Bog Pondweed) and *P natans* (Broad-leaved Pondweed), *P perfoliata* (Perfoliate Pondweed) and *P filiformis* (Slender-leaved Pondweed) are present. Old records of other species have not been refound

Sparganium natans (Least Bur-reed) is found in large numbers in two lochs and in smaller numbers elsewhere. In the northern end of Loch Storab and in a few lochans there is *Deschampsia setacea* (Bog Hair-grass).

There is a fine clump of *Cladium mariscus* (Great Fen-sedge) near the road about 1 mile south west of Brochel and in nearby pools there are *Utricularia*

intermedia (Intermediate Bladderwort) and *U minor* (Lesser Bladderwort). The larger *U australis* (Bladderwort - presumably this rather than *U vulgaris* as in acid water -but not seen in flower) is widespread.

Bogs

The acid bogs contain *Drosera rotundifolia* (Round-leaved Sundew) and *D anglica* (Great Sundew) plus the occasional hybrid (*D x obovata*). *Pinguicula vulgaris* (Common Bladderwort) is widespread but *P lusitanica* (Pale Bladderwort) is more local, though still common enough. *Rhynchospora alba* (White Beak-sedge) stands out with its brilliant white flowers in summer and *Schoenus nigricans* (Black Bog-rush) is common.

Carex limosa (Bog-sedge) and *Carex pauciflora* (Few-flowered Sedge) are uncommon as is *Hammarbya paludosa* (Bog Orchid) except in one site in the north of the island. Flushes containing *Dactylorhiza incarnata* ssp. *incarnata* and ssp. *pulchella* (Early Marsh-orchid) are reasonably frequent and *Eriophorum latifolium* (Broad-leaved Cottongrass) is occasional.

Moor And Rocks

Large tracts of moorland in the centre of the island are not very exciting botanically. However, an initially uninspiring landscape turns out to harbour a large colony of *Dactylorhiza lapponica* (Lapland Marsh-orchid) first found in 1994 and since studied by Richard Bateman of RBG Edinburgh. *Pedicularis sylvatica* (Lousewort) is everywhere with ssp. *hibernica* making up about 2% of the population.

Listera cordata (Lesser Twayblade) is to be found under heather and both *Pyrola minor* (Common Wintergreen) and *P media* (Intermediate Wintergreen) are present, the latter being new to Raasay in 1996. *Orthilia serrata* (Serrated Wintergreen) is the commonest wintergreen.

Where rocks protrude from the moor there may be *Dryopteris aemula* (Hay-scented Buckler-fern) particularly on the northern side, *Anthyllis vulneraria* (Kidney Vetch) and in several places in the east, *Orobancha alba* (Thyme Broomrape). Particularly in the north of Raasay, *Juniperus communis* ssp. *nana* (Juniper) forms large mats on the Lewisian gneiss. In a few places, *Ceratocarpus claviculata* (Climbing Corydalis) scrambles amongst boulders.

On Jurassic limestone in the east of the island there are *Polystichum lonchitis* (Holly Fern), *Dryas octopetala* (Mountain Avens), *Arabis hirsuta* (Hairy Rock-cress), *Draba incana* (Hoary Whitlowgrass) and *Epipactis atrorubens* (Dark-red Helleborine). *Listera ovata* (Common Twayblade), *Gymnadenia conopsea* ssp. *borealis* (Fragrant Orchid) and *Coeloglossum viride* (Frog Orchid) are found on basic rocks, but the last two are found more widely.

Although the highest point on Raasay is only 444m, the highest points and the limestone escarpment in the east are home to a number of montane species, some of which descend to sea level. *Alchemilla alpina* (Alpine Lady's-mantle), *Silene acaulis* (Moss Campion) and *Saxifraga aizoides* (Yellow Saxifrage) are fairly widespread, whilst *Thalictrum alpinum* (Alpine Meadow-rue), *Diphasiastrum alpinum* (Alpine-clubmoss), *Persicaria viviparum* (Alpine Bistort) and *Salix herbacea* (Dwarf Willow) are more restricted.

Hymenophyllum tunbrigense (Tonbridge Filmy-fern) is known in only two sites, one of which may still hold the record for the most northerly site for this species world-wide. *Botrychium lunaria* (Moonwort) can be found in quantity on treacherous loose scree on the western side of Dun Caan and Meall Daimh and in smaller numbers elsewhere. Boulder scree near Dun Caan contains a large population of *Cryptogramma crispa* (Parsley Fern).

Allium vineale (Wild Onion) was new to VC 104, found on cliffs in 1991.

Woodland And Grassy Slopes

The natural woodland is generally open in aspect and there is an interesting field layer growing under the trees. *Galium odoratum* (Woodruff), *Conopodium majus* (Pignut), *Sanicula europaea* (Sanicle), *Carex pallescens* (Pale Sedge) and *C. sylvatica* (Wood-sedge) are among the many woodland plants to be found. On the cliffs near Leac and Hallaig there are a few specimens of *Sorbus rupicola* (Rock Whitebeam).

Grassy slopes are home to various orchids including *Pseudorchis albida* (Small-white Orchid), and to *Gentianella campestris* (Field Gentian), *Alchemilla glabra* (Smooth Lady's-mantle) and *A. filicaulis* ssp. *vestita*. *Carex laevigata* (Smooth-stalked Sedge) is found on a number of rough grassy slopes as well as in woodland. A bank near the sea on Eilean Tigh has an *Ophioglossum* which could well be *O. azoricum* (Small Adder's-tongue) described by Alison Paul as "probably *O. azoricum*, awaiting further study". More work for 1997!

Man-Made Environments

Recent conifer felling has allowed colonisation by *Chamerion angustifolium* (Rosebay), otherwise confined on Raasay to rock ledges, and *Senecio sylvaticus* (Heath Groundsel) - a new Raasay record.

In Inverarish, a few plants have escaped from gardens towards the burn, such as *Crocsmia x crocosmiiflora* (Montbretia), *Saxifraga x urbium* (Londonpride) and *Persicaria campanulata* (Lesser Knotweed). The area around Raasay House has been planted with various trees and shrubs and a few plants have established locally such as *Tellima grandiflora* (Fringe-cups) and *Symphytum tuberosum* (Tuberous Comfrey).

Passing places on the road become colonised by a number of common plants, however, they also harbour some more interesting species such as *Epilobium brunnescens* (New Zealand Willowherb), *Sagina subulata* (Heath Pearlwort), *Myosotis discolor* (Changing Forget-me-not) and *Acaena inermis* (Spineless Acaena) which is common from the pier to West Suisnish and at the inland end of the old railway.

Concluding Remarks

It is possible in this article to mention only some of the species to be found on Raasay and additions are still being made. There are quite a few plants found on Skye which have never been found on Raasay including *Saxifraga oppositifolia* (Purple Saxifrage), *Rosa pimpinellifolia* (Burnet Rose), *Trollius europaeus* (Globeflower), *Galium verum* (Lady's Bedstraw) and *Subularia aquatica* (Awlwort). Quite a few old records have not been re-found ranging from *Phalaris arundinacea* (Reed Canary-grass) to *Tofieldia pusilla* (Scottish Asphodel). Despite plenty more to do in the mapping project and these old records to keep searching for, I have started to turn to hybrids recently. *Rosa x dumalis* (new to Raasay; det. G. G. Graham) was added in 1995, and *Salix x sericans* (new to Raasay; det. D. Meikle) and *Dactylorhiza x formosa* and *X Dactylodenia varia* (both old records re-found; det. R. Bateman) in 1996. Further hybrid willows will be sent for determination in 1997.

I am always keen to hear from botanists visiting Raasay and never say no to help, particularly with critical species.

Review of *Scottish Wild Plants* by Phil Lusby, Jenny Wright & Sid Clarke

GP ROTHERO

Royal Botanic Garden Edinburgh, 1996, 116pp.
ISBN 1 872291 17 1, £19.95.

This is an excellent little book. Despite its glossy cover and abundant photographs this is not (just) a 'coffee table book', nor is it a field guide but it is a book that is to be dipped into for inspiration during the winter months and for information during the summer field season.

The text contains an introductory section which gives a brief history of the Scottish vegetation since the disappearance of the glaciers, an over view of the geographic elements represented in the Scottish flora and a discussion of the special features of the plants of the five broad regions of Scotland, often with reference to the plants included in the accounts. This is followed by a short section on human influences on our flora, a sensible explanation of "rarity" and a too brief discussion of practical conservation measures. The 'meat' of the

book follows with an account of some 45 plants. There does not appear to be a theme to the selection of species — except that it would seem that grasses and sedges are deemed not photogenic enough. Many of the plants included are rare but although some are quite frequent, all have a good story well told.

The species accounts have a broadly consistent format detailing the history of the discovery of the plant, its British distribution, ecology, population biology and, where appropriate, conservation. The amount of information condensed into a couple of pages is impressive as is its diversity, ranging from the historical anecdotes to seriously complex sex-lives. This is the main strength of the book, the combining together in a very readable format, information for each species that otherwise would require many different sources. Inevitably each of us will wonder why certain bits of information were left out or why things that puzzle us are not explained — why is *Minuartia seloides* (Cyphel) a strict calcicole in the south of its Scottish range but happily grows on dour quartzite gravel in the north?

Following on from the similar book on Scottish orchids, the distribution of each species is illustrated by a botanical vice-county map. For the rarer species, this scale is not very useful and can be misleading — look at the distribution map of *Phyllodoce caerulea* (Blue Heath) and compare it with the distribution that is clearly explained in the text.

And then there are the photographs which, as we have come to expect, are wonderful although the cover has a rather odd ecology in the juxtaposition of *Moneses uniflora* (One-flowered Wintergreen) and Rannoch Moor. Presumably to keep the costs within bounds, the pictures in the text are all rather small and the full effect is only apparent in the frontispiece showing *Saxifraga oppositifolia* (Purple Saxifrage) and in the stunning inside cover with its wide-angle shot of *Oxytropis halleri* (Purple Oxytropis) and *Scilla verna* (Spring Squill).