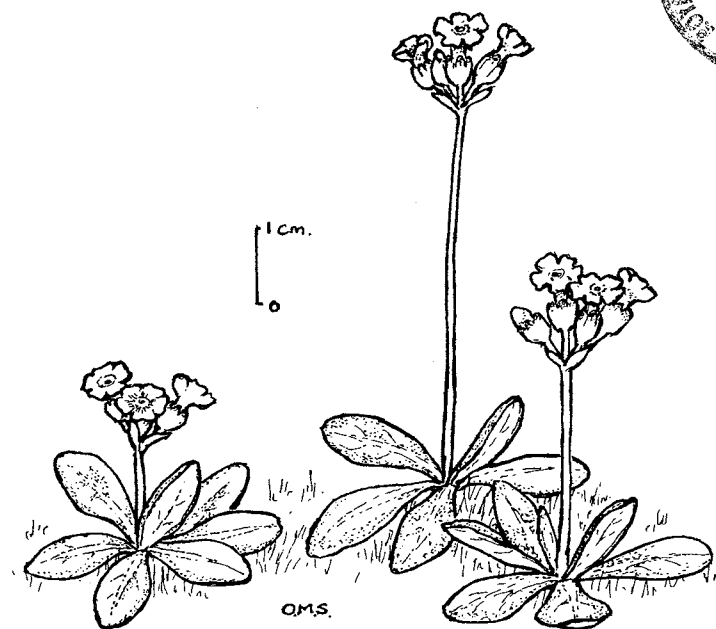


BSBI
Scottish
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1995
No 17

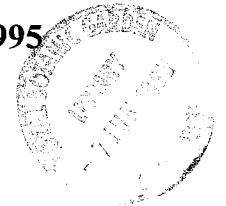


Primula scotica

BSBI SCOTTISH NEWSLETTER

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CONTENTS

Editorial	2
Chairman's Remarks	3
Scottish Annual Meeting	4
Fishermen's Meadows, Kincardineshire	13
Scottish Rare Plant Project - Update	15
Craigton Cemetery	16
Natura 2000 (1)	19
Natura 2000 (2)	20
<i>Alien Plants of the British Isles</i>	21
SNH Area Managers	22
<i>Primula scotica</i>	25
Amstrad PCW & a County Flora	26
Scottish Field Meetings 1995	27
Seeding new roadside verges in VC 73	28
<i>Central Scotland - Land, Wildlife, People</i>	29
RDB Plants & BSBI Contract	30
Bromes in Lanarkshire	32
Scottish Committee	34

Editorial

1995 sees the BSBI once more embarking on a major project, in fact the most ambitious since the original distribution maps scheme of the 1950s. It deserves the greatest effort possible from members to ensure success, and though it will entail much 'square-bashing' (not everyone's cup of tea) to ensure adequate coverage, the end result should be an up to date picture of plant distribution throughout the country. See also Chairman's Remarks on this subject.

We trust this issue of the *Newsletter* has something of interest for everyone. Elaine Bullard's article on her experiences with a word-processor is an innovation which will no doubt baffle the computer-illiterate, but should interest the growing number of members using this technology.

This year our cover illustration depicts *Primula scotica*. Strange that we have not previously chosen this uniquely Scottish flower, but it is appropriate this year to complement the article on page 25. As always, we are most grateful to Olga Stewart for one of her charming portraits.

In order to help promote continuing co-operation between the BSBI (especially the vice-county recorders) and Scottish Natural Heritage, we have included a list of SNH Area Managers, kindly supplied by Ros Smith.

Finally, the best of luck for your botanising in the coming months.

The Editors

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Chairman's Remarks

RWM CORNER

One of the duties of the Chairman is to write letters of objection to planning authorities about potentially damaging developments affecting plant communities in Scotland. The liaison with Michael Scott of Plantlife is an essential part of this process. Unfortunately this can be a very 'rushed job' as there is little time to write before the deadline for objections expires. This is often a deliberate policy on the part of the developers and is quite legal. If you hear of such plans through your local newspaper or on the grapevine please let a member of the committee know about it and send in a letter of objection yourself. In an ideal world the society could give advance notice on such matters with the names and addresses to write to, but this is not possible. I believe that the more letters of objection the planning authorities receive the better. However if support is not forthcoming from government agencies such as Scottish Natural Heritage then one is fighting a losing battle. This is where political implications come in and I shall therefore move on to less contentious matters.

As the days lengthen thoughts turn to botanical days in the field with feelings of anticipation. This is especially so this Spring with the launching of the 'New Atlas' project. If there is as much enthusiasm as there was in the 1950's with the 'Old Atlas' then the whole project should be a resounding success. I would ask you to support the vice-county recorders by adopting a 10km square or more if you can. Up to date records for the more common species are probably lacking and by visiting a good variety of habitats the gaps could be filled.

It was good to see the publication of *Scarce Plants in Britain*. There is a wealth of information here which should help their conservation. I note that some 70% of the species covered have a Scottish connection although some are rare introductions only.

Reading the Field Meeting reports is an enjoyable pastime but taking part is obviously much more rewarding. There has been a good response for those planned for this Summer and I hope that all goes well. I would like to thank the leaders for supporting the Society in this way. The 'New Atlas' project should provide an extra stimulus this year. Have a good season and I look forward to seeing you at the Annual Meeting which will be held at Stirling this year because of building works at the Royal Botanic Garden, Edinburgh.

The Scottish Annual Meeting 1994

Mark F Watson

In keeping with recent tradition this year's Scottish Annual Meeting was held in Glasgow on Saturday 5th November, in the Botany Building, University of Glasgow. It was hosted jointly by the Botanical Society of the British Isles (BSBI) Committee for Scotland, the Botanical Society of Scotland (BSS), and the Glasgow Natural History Society (GNHS). The local organization was kindly undertaken by Jim Dickson, who was there to welcome the first arrivals at 10.30am, and ensured the smooth running of the event through the day. The Exhibition part of the Meeting formally opened at noon, and by the close at 6 o'clock over 100 people attended to look at the 25 exhibits on display. I was particularly impressed by the high standard and variety of the exhibits this year, a view that I know is shared by many of those that came along. This year, with the agreement of the editors, I decided to try and put into this report more detail on the exhibits, and to this end I asked exhibitors to contribute a short abstract. I am pleased to say that I received abstracts for 19 of the 24 exhibits, and these appear in a section below. I hope that including these abstracts will give a better flavour of the event for those who were not able to attend, and furthermore, encourage more people to participate in future years. Once again I was delighted to see so many Scottish botanists sharing their year's botanical experiences, particularly those who make the long trip from the more remote parts of Scotland (this is one of the few times that many of the Scottish Vice-county Recorders and other botanists get together), and those who travel up from south of the border. Margaret Perring brought up her usual comprehensive range of botanical books from Oundle, and the much appreciated tea-time refreshments were laid on by the GNHS members.

Scottish Recorders' Meeting

Before lunch 29 (of the 40) Scottish Vice-county Recorders attended the Recorders Meeting, joined by 18 other interested members. Rod Corner was in the chair and welcomed the three new VC Recorders before introducing David McCosh who presented a progress report on The New Atlas Project. He reported that although funding is proving harder to secure than envisaged, the first stages of the project are well under way. The Project will operate on a five year timescale, Plant data will be recorded on Field Cards and Individual Record Cards. The records will then be assembled on a single Master Card for each 10 km square by the VC Recorder, before submission to the Project Centre. It is anticipated that the

final published work will have about 700 pages, with four distribution maps to a page. David Pearman, reported that *Scarce Plants in Britain* would be published in late November, and that the BSBI has contracts in England and Wales for work towards assembling a British Red Data Book. They also have a contract, to be co-ordinated by Keith Watson, with SNH to collect data on 19 Scottish species. Phil Lusby reported that the Scottish Rare Plants Project, based at the Royal Botanic Garden Edinburgh, is still going well and has attracted funding from the Sainsbury Foundation until the end of 1995.

BSBI Scottish Regional Meeting

The Scottish Committee Chairman, Rod Corner, addressed the meeting (attended by 48 members), highlighting the growing importance of the BSBI's involvement in conservation matters. Over the year the Scottish Committee has been active in raising conservation based objections to development plans in Scotland, monitoring threatened sites and recording rare plants. He thanked the VC Recorders for their activities, particularly in respect to the new BSBI mapping project, and was happy to report that all the VC Recorderships are currently filled. Field Meetings Secretary, Gordon Rothero, reported that all the 1994 field meetings were successful, and the 1995 field season is looking good with nearly all the meetings finalised. The week meeting in Shetland being organised by Lynne Farrell in August 1995 was discussed; limited places makes early booking essential! Mark Watson made the suggestion that due to the current disturbance to the Herbarium at the Royal Botanic Garden Edinburgh (caused by the building works associated with the new Herbarium and Library extension), next year's Scottish Annual Meeting might be held elsewhere. This would break the pattern of alternating between Edinburgh and Glasgow, but the members considered it appropriate in this case. Stirling University was suggested as a potential venue. A change of date for the Scottish Meeting was mooted but not generally supported. There followed a meeting of the BSBI Committee for Scotland at which Office Bearers and Representatives were elected.

Lecture

Extra chairs had to be drafted into action for all the 86 people to be seated in the lecture theatre for Dr Franklyn Perring's talk entitled "Wild Flowers

of Mount Olympus: from sea to snow in six easy stages". Dr Perring, the President of the BSBI, followed Jim Dickson's introduction (here he was wearing his hat as Vice-president of the GNHS), by giving a most entertaining talk filled with stunning pictures of Mount Olympus and its flowers, interspersed with anecdotes from the several field excursions he has led to the area. As the title says, he started at sea level with a view of the local St. John's-wort, *Hypericum olympicum* in the littoral flora where the 'Mountain of the Gods' runs down into the sea. Stopping briefly in a small town to catch the 'Bell-tower Bellflower', *Campanula versicolor*, growing high on the church tower, he took us into the typical Mediterranean Maquis scrub where the local speciality, the Eastern Strawberry Tree (*Arbutus andrachne*), can be found. Now the paths began to get steeper as we were taken into the mountains proper, through the deciduous woodland housing the Greek Hellebore, (*Helleborus odorus*), and up into coniferous woodland where the White-bark Pine, (*Pinus heldreichii*) grows. Above the tree-line are the rich alpine meadows where plant beauties such as the endemic Mt. Olympus Violet (*Viola striis-notata*) thrive. At the highest altitudes, in and around the snow-filled corries below the summit, are some choice alpine species like the montane buttercups, *Ranunculus brevifolius* and *R. sartorianus*. Dr Perring concluded his journey with an excursion along a nearby side valley to catch some more of the tremendous botanical richness to be found in these parts, and showing us the endemic woodruff *Asperula muscosa*.

Supper and Slides

Repeating the successful formula of two years ago the evening supper was held at the University of Glasgow, College Club. In total 51 people enjoyed a very good buffet supper. The number of people staying on for this part of the day has gradually increased since my first Meeting 3 years ago, a trend I hope will continue in future years. After the meal the tables were cleared away and Peter Macpherson set up his projector and screen for the traditional slideshow of member's personal botanical highlights of 1994, compered by Allan Stirling who also arranged the contributions and expertly kept track of the order of speakers, even after a very late change in sequence. The following is a very brief account of the contributions.

John Edelston: Scottish grasses, the rare grass *Corynephorus canescens*, a local *Crassula helmsii* problem, and the Cairngorm willow hybrid (see exhibit abstract).

Barbara Hogarth: The Angus field meeting at Seaton Cliffs, Arbroath, with scenic views and portraits of some of the flowers, insects and birds encountered.

William Robertson: Variation in Scottish populations of *Dactylorhiza incarnata* with plant portraits including potential hybrid species.

Alfred Slack: *Pinguicula lusitanica*, habitat and distribution in Scotland correlating with climatic data, and comparing with the distribution of *Arctostaphylos alpinus*.

Ro Scott: The Ardnamurchan field meeting, views of the coastal and inland landscapes and vegetation, party members in action.

Peter Macpherson: Plants from Lanarkshire (VC 77), and the Glasgow Natural History Society project recording the wild flora of the Glasgow Botanic Garden.

Hugh Lang: A wry look at some familiar and not so familiar Greenland plants

Rod Corner: Interesting plants and sites from Southern Scotland

Abstracts of Exhibits

Some Galloway and Dumfries brambles

George Ballantyne

A dozen rare or uncommon species were shown: *Rubus adenanthoides*, a new Vice-county record (NCR) for VC 74, Wigtownshire; *R. drejeri*, NCR for VC 72, Dumfriesshire; *R. radula*, NCR for VC 74; *R. dunensis* and *R. anisacanthos*, both rare in VC 74 only; along with *R. cardiophyllus*, *R. echinatoides*, *R. hylocharis*, *R. rhombifolius*, *R. sprengelii* and *R. wirralensis*. An un-named member of Series *Anisacanthi*, frequent around the Newton Stewart area, was also exhibited. Notes were given on the distribution of each, including, where appropriate, the relationships between Ireland and SW Scotland.

Towards The New Atlas: Berwickshire 1994

Michael Braithwaite

Since 1987, 63% of Berwickshire, (VC 81) has been reworked. The 10 km square 36/96, Eyemouth, was recorded this year with the help of a BSBI field meeting. Amongst the many interesting plants found were the only extant records for *Artemisia absinthium* (Wormwood), and *Astragalus glycyphyllos* (Wild Liquorice). The Frog Rush (*Juncus ambiguus*), is new to VC 81, Tom Cope drawing particular attention to the barrel-shaped seeds. *Sagina maritima* (Sea Pearlwort), and *Coronopus squamatus* (Swine-cress), had not been recorded since 1896 and 1916, respectively. Three Cotoneaster species are now well naturalized on sea braes where *Cotoneaster integrifolius* (Small-leaved Cotoneaster) has been known for almost 40 years.

Plant records from Southern Scotland

Rod Corner

Myosotis stolonifera (Pale Forget-me-not) found in NW Dumfriesshire, VC 72, extends its known range westwards in the Southern Uplands. *Salix*

caprea var. *sphacelata* found in VC 72. This northern form of *S. caprea* was formerly only known from the Scottish Highlands, but is now also known from Cumberland VC 70 and Peeblesshire (VC 78). *Carex appropinquata* (Fibrous Tussock-sedge) was found this year in a fifth locality in Roxburghshire (VC 80). The only Scottish localities are in VC 79 (Selkirkshire) and 80. *Alchemilla glomerulans*, a third VC 79 site was found this year for this arctic-alpine species. It is normally found at high elevations in the Scottish Highlands, but is known from Teesdale. *Alchemilla tythantha*, a native of the Crimea, is well known from Bowhill, Selkirkshire where it is naturalised and is probably spreading. New VC records include: *Brachypodium pinnatum* (Tor-grass) VC 79; *Juncus acutiflorus* x *J. articulatus* VC 79 and *Salix aurita* x *S. repens* VC 80. *Milium effusum* (Wood Millet) was finally located in VC 79, but is probably introduced.

***Salix* x *punctata* in Banffshire, VC 94**

John Edelsten
Specimens of the hybrid willow *Salix* x *punctata* were exhibited. This species is the result of hybridization between *S. myrsinifolia* (Dark-leaved Willow) and *S. myrsinites* (Whortle-leaved Willow) and is a new record for VC 94. Photographs of the plant habitat were also exhibited. This willow grows on vegetated screes at the foot of the Shelter Stone Crag, at the head of Loch Avon.

Gleanings from West Sutherland

Pat and Ian Evans
1. Flora of Assynt: Progress Report. During 1994 a further 26 tetrads were visited for the first time, leaving just 16 remaining of the 164 (10 of them marginal). This year's fieldwork yielded 2700 plant records, 'main' tetrads averaging 87 species. Since most were at least four miles off the road, or over 1000' (or both!) we were not too disheartened. Noteworthy finds include: *Lycopodium annotinum* (Interrupted Clubmoss) new to Assynt (thanks to Gordon Rothero); a new locality for *Equisetum pratense* (Shady Horsetail) and the first record this century of *Hammarbya paludosa* (Bog Orchid).
2. Elsewhere in VC 108. We visited *Asplenium septentrionale* (Forked Spleenwort) at its most northerly locality in Britain, a remote rock-face in Eddrachillis discovered by Chris Ferriera. The poorly recorded *Ulex gallii* (Western Gorse) was seen to be copiously in flower during October (few botanists visit West Sutherland at this time!). The *Dactylorhiza* found on the north coast by Murdo Macdonald is possibly *D. incarnata* subsp. *cruenta*.

Variation in *Solidago virgaurea*

Geoffrey Halliday.
Herbarium specimens and photographs were exhibited illustrating the variation of *Solidago virgaurea* (Goldenrod) in Cumbria. Lowland roadside and woodland plants are tall (>50cm). Montane ones are smaller (20-30cm), and there is a summit population in the western Lake District which is

extremely dwarfed (to 4cm) with an inflorescence often only of a single capitulum. Dwarf montane plants are not infrequent in Scotland. Despite the absence of cultivation experiments it seems likely that there is continuous genetic variation for plant height. There are further low-growing (to 20cm) populations on riverside rocks near Sedbergh. These plants flower in early June with a wider and longer inflorescence, occupying up to half the flowering stem, features persisting in cultivation and thus genetically fixed. Such plants may have evolved in pre-woodland habitats, and are similar ecotypes to those found around the coasts of Denmark. These plants have been identified with var. *cambrica* a name originally applied to the dwarf montane plants.

Botanical initiatives in Angus VC 90

Barbara Hogarth and R Brinklow
In keeping with the tradition of close liaison between the VC Recorder and the Barrack Street Museum, Dundee, this exhibit was prepared jointly. A three-part, free-standing display prepared by Richard Brinklow and the Museum staff, illustrated the project initiated in early 1994 to encourage more active plant recording. 'Operation Orchid' was a logical step following the publication of *Wild Orchids of Scotland*, co-authored by local enthusiast Brian Allan. The display illustrated the initial publicity, press coverage, recording forms used, and distribution maps of two of the more common orchids comparing records before and after the 1994 field season. Five of the 17 orchids present in the Angus and Dundee Districts were illustrated with photographs from *Wild Orchids of Scotland*. A poster with photographs of typical Angus landscapes and plants, promoting botanical potential of Angus and encouraging visits. It is hoped that this will lead to a much needed boost to the number of current plant records.

A peculiar Foxglove

John Lyth
The monstrous but rather striking peloric form of *Digitalis purpurea* (Foxglove), infrequently occurs spontaneously in wild populations. Affected plants have the upper flowers of their spikes opened out and fused into a radiating disc of petals with a jumble of stamens and styles at the centre. Some 20 to 30 plants of this peculiar form were found on the machair between the golf course and shore at Blackwaterfoot, Isle of Arran (VC 100) on 17th June this year (in the company of French Botany students from L'école des Plantes, Paris). Specimens and photographs of this plant were exhibited alongside an article on the subject by Dr Stefan Buczacki published in *Gardeners World* August 1994. In this article Dr Buczacki states that this form apparently breeds true if seed is collected from affected plants. This would explain why this monstrous form tends to persist in populations where it arises.

Photography in lieu of specimens as "herbarium material"

P Macpherson

Where it is illegal or inappropriate to collect a plant specimen, consideration should be given to using photography as voucher material. While one can mount a colour print it is now possible to transfer an image directly from colour photograph or slide to a herbarium sheet. In this way it is also possible to include an inset of a close-up view showing diagnostic details. Examples of direct transfer of colour images were shown.

A new *Epilobium* hybrid to look out for in Scotland! Douglas McKean
Specimens of the willowherb hybrid *Epilobium brunnescens* x *E. obscurum* were exhibited. This hybrid, new to Britain, has also been found in two sites in Northern Ireland, but surprisingly not elsewhere in the British Isles. This distinctive hybrid is usually quite frequent where it occurs, and characteristically starts off with a creeping habit like *E. brunnescens* (New Zealand Willowherb) and later grows upright like its British parent *E. obscurum* (Short-fruited Willowherb). The leaves and flowers are larger than those of *E. brunnescens*, and the ovate-lanceolate leaves are obscurely toothed, quite unlike small rounded leaves of this parent. Furthermore glands are only present on the fruit. Hybridization between *Epilobium ciliatum* (American Willowherb) and *E. montanum* (Broad-leaved Willowherb) with *E. brunnescens*, have been reported, but these await confirmation!

Some new *Symphytum* records, one new to Britain Douglas McKean
The hybrid *Symphytum asperum* x *S. caucasicum* (Rough x Caucasian Comfrey) was exhibited. This hybrid is new to Britain and possibly new to Europe. The colony was discovered by Mr Richard Learmonth during field recording for the Botany of the Lothians Project. How the hybrid arose is a mystery as neither of the two parents were seen in the vicinity.

Yellow *Bartsia* in the Glasgow area JA McMullen & P Macpherson
The hemi-parasite *Parentucellia viscosa* is a rarity in Scotland and there are no previous records for the Greater Glasgow area. In September 1994 JAM found one plant on the grassy bank between the foundations of the M77 and the Brock Burn at Kennishead, Renfrewshire (VC 76). This occurrence is as an introduction with the seed mixture used to sow the newly laid banks of the motorway. In July 1994 PM noted a single plant at what had been the General Terminus Quay (VC 77). In 1992 the area had been sown with a clover mixture and this is presumed to be the source of introduction.

A database of the Flora of the Outer Hebrides Richard Pankhurst
The Flora of the Outer Hebrides Database is being compiled by the Vice-county Recorder for VC 110, Richard Pankhurst, and Stewart Angus, the local Scottish Natural Heritage Officer based at Stornoway. This database uses the *Recorder* computer database programme produced by the JNCC (Joint Nature Conservancy Committee), and was demonstrated at the meeting on a notebook computer. *Recorder* is intended for local recorders and recording projects (plants, animals and fungi), and comes supplied with a complete list of known British organisms. This programme has all the facilities that a VC recorder might need (including mapping), as well as a host of more specialized functions such as monitoring conservation sites and organizing events.

Advances in the knowledge of Scottish scarce species 1962-1992

David Pearman and Chris Preston
Advances in our knowledge of the distribution of some Scottish scarce plant species were illustrated by comparison of maps in the 1962 *Atlas of the British Flora* with the proof pages of *Scarce Plants in Britain*. Species which are now much more widespread than previously thought include plants of northern but not montane habitats [e.g. *Festuca altissima* (Wood Fescue) and *Persicaria minor* (Small Water-pepper)]. By contrast, some of the montane plants of north-west Scotland appear to have been under recorded since 1970 [e.g. *Luzula arcuata* (Curved Wood-rush) and *Minuartia sedoides* (Cyphel)].

***Myosoton aquaticum* refound in Roxburghshire** Scottish Wildlife Trust, Tweed Valley Wildlife Survey Team
Although more common south of the border, Water Chickweed (*Myosoton aquaticum*) is rare in Scotland. On 27th September 1994 the SWT Tweed Valley Wildlife Survey Team refound this plant at Newstead (NT 561 341), Roxburghshire (VC 80). Although there are literature records from the Borders region [Denholm Dean Burn, J.A.H. Murray, *Trans. Hawick Arch. Soc.*, 3 (1863), and Bank of Tweed, Bridge End, G.C.A. Stuart, *H. Berw.N.C.*, 6 (1870)], this is the first confirmed Borders' record this century.

Problems of seeding of new roadside verges Olga Stewart
The problems of seeding of roadside verges after disturbance due to road-building were highlighted. A survey of such a re-seeded verge showed that the seed mix specification issued by the Dumfries and Galloway Council were not being followed. Many of the plants recorded were not in

the specifications and were aliens to the county, also included was the non-British *Lotus corniculatus* var *sativus*.

The new BSBI Taraxacum Handbook Olga Stewart
A preview of mock pages for the projected BSBI Taraxacum Handbook were exhibited. These were supplemented with some of the original artwork prepared for the plates.

Scarce species in Kirkcudbrightshire, VC 73 Olga Stewart
Specimens of scarce species from Kirkcudbrightshire (VC 73) were exhibited, including the Heath Cudweed (*Gnaphalium sylvaticum*). New records for the vice-county include *Hieracium drummondii* and *Taraxacum cambricum*. Fertile specimens of the hybrid Water Horsetail *Equisetum x litorale* are rarely found, but coning material was collected from Southernness this year. Also seen in the vice-county was a viviparous form of *Trichophorum cespitosum* (Deergrass).

Flower paintings Olga Stewart
Several plant portrait paintings were exhibited of species seen in 1994. These included the Northern Marsh Yellow-cress (*Rorippa islandica*), and *Alchemilla gracilis*, very rarely recorded in Scotland.

Also exhibited:

Scottish wild flowers painted in situ Roger Banks

How rare are our rare plants? Neil Cowie, Colin Legg and Chris Sydes

Seed regeneration by *Tilia platyphyllos* (Large-leaved Lime) in Scotland Jim Dickson

Vivipary in British grasses Andy McMullen

Some scarce Scottish brambles Allan McG. Stirling

[The invitation to submit an abstract for the *Newsletter* report indicated a limit of 150 words. Some were appreciably in excess of this number and have been pruned, although allowing a few to be up to 160 words. In common with *BSBI News*, where the nomenclature is that given in Kent/Stace or Clement and Foster we do not include authorities (Eds)].

**Fishermen's Meadows - Herb-rich Grasslands
along the river Dee in Kincardineshire**

DAVID WELCH

The Dee is a fast-flowing river managed for salmon fishing, and owners employ ghillies to supervise and assist the fishers in return for substantial rentals. The ghillies try to make conditions pleasant for their clients, hence many broad banks in the lower reaches of the Dee have long been mown.

Until recently the mowing was done by scything, but mechanical cutting is now usual. Hand-held strimmers are favoured, being less impeded by rocks and steep ground than wheeled devices. These days the mowing seems often to be done fairly early in the summer perhaps because strimming is easier when the vegetation is less bulky; in contrast scything may be helped by the stems being older and more brittle.

The vegetation produced by this management is highly attractive prior to mowing, and contains species of permanent grasslands that have become scarce in a district of arable farming. The chief herbs giving colour have flowers that are yellow [*Galium verum* (Lady's Bedstraw), *Helianthemum nummularium* (Common Rock-rose), *Hypericum maculatum* (Imperforate St John's-wort), *H. perforatum* (Perforate St John's-wort), *Rhinanthus minor* (Yellow-rattle) and sometimes *Trollius europaeus* (Globe Flower)], white [*Galium boreale* (Northern Bedstraw), *Lepidium heterophyllum* (Smith's Pepperwort) and *Leucanthemum vulgare* (Oxeye Daisy- Gowans)] and blue *Geranium sylvaticum* (Wood Crane's-bill) and *Veronica chamaedrys* (Germander Speedwell)]; the pink flowers of *Centaurea nigra* (Common Knapweed), *Cirsium heterophyllum* (Melancholy Thistle) and *Geum rivale* (Water Avens) add to the variety.

Roughly half the total plant cover in these meadows comes from graminoids. No dominant can be singled out, but the following species make substantial contributions, the mix on a particular bank being influenced by lime richness and perhaps former tree cover: *Agrostis canina* (Velvet Bent), *A. capillaris* (Common Bent), *Arrhenatherum elatius* (False Oat-grass), *Brachypodium sylvaticum* (False Brome), *Briza media* (Quaking-grass), *Carex ovalis* (Oval Sedge), *Cynosurus cristatus* (Crested Dog's-tail), *Deschampsia cespitosa* (Tufted Hair-grass), *Festuca arundinacea* (Tall Fescue), *F. gigantea* (Giant Fescue), *F. rubra* (Red Fescue), *Helictotrichon pratense* (Meadow Oat-grass), *Luzula multiflora* (Heath Wood-rush), *L. sylvatica* (Great Woodrush) and *Poa pratensis* (Smooth Meadow-grass).

The most notable plant occurring on the Dee banks is Mackay's Horsetail, (*Equisetum x trachyodon*). It was discovered by Rev J Brichan, the Banchory assistant minister, in 1841, this being the first record for mainland Britain. The original station was in Kincardineshire, being said to lie "within the parish of Banchory" by Brichan, and a second specimen collected at Banchory in 1877 is held in the Aberdeen University herbarium.

Another site was found in 1925, near Potarch, just inside Aberdeenshire, but by then the horsetail was not known, or had become extinct, on the Kincardineshire banks; CTW/CTM has continued to list Kincardineshire but it seems visiting botanists not acquainted with the county boundary have perpetuated the attribution.

Species scarce in the district observed by the author within a few miles of Banchory on the Kincardineshire banks since 1980 include *Clinopodium vulgare* (Wild Basil), *Dianthus deltooides* (Maiden Pink), *Elymus caninus* (Bearded Couch), *Equisetum hyemale* (Rough Horsetail), *Lupinus nootkatensis* (Nootka Lupin), *Lysimachia vulgaris* (Yellow Loosestrife), *Meum athamanticum* (Spignel), *Pimpinella saxifraga* (Burnet-saxifrage), *Ranunculus bulbosus* (Bulbous Buttercup) and *Viburnum opulus* (Guelder-rose). Several of these plants require warmth and are more common further south in Britain; along the Dee they grow in sheltered south-facing positions.

Leafy hawkweeds have good colonies on some sections of bank, occurring both in mown grasslands and in open woodland or scrub. Eight or possibly nine hawkweeds have been recorded in the past, and since 1990 *Hieracium latobrigorum*, *H. reticulatum*, *H. sabaudum*, *H. strictiforme*, *H. subumbellatiforme* and *H. vulgatum* have been seen, David McCosh making the determinations. Two of the species not refound, *H. rigens* and *H. salticola*, may perhaps have been mere variants of *H. sabaudum*, which is widespread in the area.

Shingle, unmanaged islands, backwaters, reed-swamps, sections of bank grazed by cattle or sheep, and woodlands, all contribute more notable plants to the Dee flora. Thus some shingle spreads have arctic-alpine species such as *Dryas octopetala* (Mountain Avens), *Oxyria digyna* (Mountain Sorrel) and *Silene uniflora* (Sea Campion) presumably carried downstream from the Cairngorms. In total the Dee banks and bed have a rich diverse vegetation well worthy of conservation status; regrettably only two short sections of bank around Potarch have yet become SSSIs.

Threats to the fishermen's meadows come from the severity and earliness of the mowing presently given, and from the possible abandonment of the practice if the employment of ghillies is reduced. There has been a sharp decline in salmon catches in recent years, causing several ghillies to be laid off for the 1995 season. Without mowing, coarse grasses and trees would soon invade the meadows, and though species like the hawkweeds would benefit, most herbs would be overwhelmed, resulting in the disappearance of a colourful accessible vegetation type.

Scottish Rare Plant Project - Update

PHIL LUSBY

The first season of the Scottish Rare Plant Trail at the Royal Botanic Garden Edinburgh has been successful with a good deal of interest expressed. The trail planned for Dawyck Botanic Garden is well underway and we will be installing plants in March. As well as introducing the visitor to a range of Scottish rare plants (especially those in southern Scotland). Various other more common plants with which certain rarities may be confused will be planted in close proximity. The identification notes in the Trail leaflet will provide a selection of characters which should allow the visitor to distinguish the rarity. We are most grateful to the BSBI for a contribution towards the production of the leaflet.

The programme to reinforce the population of *Lychnis viscaria* (Sticky Catchfly) on Arthur's Seat begun last year, has been very rewarding. Sixteen of the twenty seedlings planted on the Craggs have successfully come through the winter and have made extensive growth. We hope that at least some will produce flowers this season. The intense aftercare during last summer's drought seems to have paid off. However it will be a difficult decision to let the plants fend for themselves during dry spells this season but they should have extensive root systems by now.

Habitat management has been carried out at another *L. viscaria* site near Glen Farg. The colony had become shaded by Sycamore and the field layer rather rank. In negotiation with Scottish Natural Heritage the Sycamore were thinned thus increasing the light to the ground vegetation. Hopefully this will stimulate *L. viscaria* to resume flower production. Beginning this year, the progress of the plants will be monitored.

**Craigton Cemetery: a wilderness -
but a plant hunter's paradise** P MACPHERSON & EK LINDSAY

When the BSBI botanical survey of churchyards and burial grounds was launched in December 1981 one of the authors, as recorder for Lanarkshire (VC 77), made a point of visiting some of the local cemeteries in the following year. However, in contrast to many English and Welsh churchyards, the graveyards in Scotland are nearly all owned and maintained by the Local Authorities who consider it seemly to have such places tidy with close-cut grass.

In 1985 a letter appeared in the Glasgow Herald from a minister who had been conducting a funeral at the Craigton Crematorium, Glasgow (VC 77), describing the adjacent cemetery, owned by a private company, as an unkempt jungle and an absolute disgrace. The senior author visited the cemetery on the very next day on his way home from work! The main paths were still open but all the subsidiary ones and the graves completely overgrown. For the most part the vegetation was between three and four feet high.

As the cemetery extends to approximately 25 hectares and because of difficulty in penetrating the area a number of visits including two half days were necessary in order to make a reasonable survey. At that time a total of 112 taxa was recorded and reported for the above Survey (Briggs 1986).

Since that time we have paid a number of visits to different parts of the cemetery but during 1994 did a complete re-survey.

While returning from a BSBI Records Committee meeting in October 1994 PM picked up a Glasgow evening paper to read on the plane. This had a half-page article about the graveyard, prompted by a recent letter to the editor from an individual who had been at a recent internment. The author had been saddened and horrified by the gross dereliction, the cemetery being a travesty of respect for the dead. As a result of this letter a reporter had interviewed the owners. They had stated that as there were now only 20 burials a year it was totally uneconomical to spend time and money keeping the place in a trim condition. In the past few years they had however had a mowing machine cut paths here and there among the headstones so that it is now possible to approach without difficulty to within 50 yards of every grave! This has also made access easier for the plant recorder, although in the wilder parts we have still had to retrace our steps

because of impenetrable bramble thicket. Dense thistle clumps have also added to our discomfort.

Of the total species recorded, 140 are considered to be of common occurrence in the vice-county, although nine rarer native species for such a habitat are listed in Table 1. The figure includes 15 trees all considered to be the result of natural dispersal but excluding the aliens Common Whitebeam (*Sorbus aria*) and Swedish Whitebeam (*S. intermedia*); 15 grasses, none of any rarity; four ferns; two rushes (*Juncus inflexus* and *J. tenuis*) and one sedge (*Carex ovalis*).

Table 1 Native but worthy of special mention

<i>Aethusa cynapium</i> (Fool's Parsley)	<i>Hieracium salticola</i> (a hawkweed)
<i>Carduus crispus</i> (Wetted Thistle)	<i>Iris pseudacorus</i> (Yellow Iris)
<i>Dipsacus fullonum</i> (Wild Teasel)	<i>Ribes uva-crispa</i> (Gooseberry)
<i>Heracleum sphondylium</i>	<i>Rumex x pratensis</i> (Hybrid Dock)
<i>x H. mantegazzianum</i> (Hybrid Hogweed)	<i>Symphytum officinale</i> (Common Comfrey)

Just over one in five of the total were aliens. Of these 39, 23 are presumed to have been originally planted or originated from deposited material (Table 2), seven to have been windborne or bird sown (the *Berberis darwinii* grows under a tree, well away from any grave and is considered to be bird-sown) (Table 3), and nine in which the form of introduction is doubtful (Table 4). It is possible that some of the species in this group were originally planted but they are so common on waste-ground in Glasgow that it is likely that they were not actively introduced.

In view of the relatively large area and overgrown state it is difficult to know what actual changes have occurred over the survey period. Of those listed in the tables *Astrantia major*, *Barbarea intermedia*, *Heracleum sphondylium* x *H. mantegazzianum*, *Iris pseudacorus*, *Rumex crispus* x *R. obtusifolius* and *Thlaspi arvense* have not been seen in recent years. However, most of the horticultural introductions, including the crocuses, snowdrops and daffodils have spread during the survey period.

The fact that the area has been overgrown for so many years has made for interesting plant recording, a total of 179 taxa having been noted. However it has to be admitted that the junior author, when aged seven, remarked spontaneously 'I wouldn't like to be buried here'.

Table 2 Presumed originally planted or dumped but appearing in a wild state

<i>Astrantia major</i> (Astrantia)	<i>Polemonium caeruleum</i> (Jacob's-ladder)
<i>Cornus sericea</i> (Red-osier Dogwood)	<i>Persicaria bistorta</i> (Common Bistort)
<i>Crocus vernus</i> (Spring Crocus)	<i>Narcissus pseudonarcissus</i> cv (Daffodil)
<i>Deutzia scabra</i>	<i>Narcissus pseudonarcissus</i> 'Magnificum'
<i>Fuchsia magellanica</i> (Fuchsia)	<i>Narcissus pseudonarcissus</i> flore pleno
<i>Galanthus nivalis</i> (Snowdrop)	<i>Rheum x hybridum</i> (Rhubarb)
<i>Hedera</i> 'Hibernica' (Irish Ivy)	<i>Rhododendron ponticum</i> (Rhododendron)
<i>Hyacinthoides non-scripta</i>	<i>Ribes sanguineum</i> (Flowering Currant)
x <i>H. hispanica</i> (Hybrid Bluebell)	<i>Sedum telephium</i> (Orpine)
<i>Kniphofia uvaria</i> (Red-hot-poker)	<i>Spiraea x pseudosalicifolia</i>
<i>Leucanthemum x superbum</i> (Shasta Daisy)	(Confused Bridewort)
<i>Ligustrum ovalifolium</i> (Garden Privet)	<i>Tolmiea menziesii</i> Pick-a-back-plant)
<i>Pilosella aurantiaca</i> (Fox-and-cubs)	

Table 3 By natural dispersal or unintentional introduction

<i>Barbarea intermedia</i>	<i>Hesperis matronalis</i> (Dame's-violet)
(Medium-flowered Winter-cress)	<i>Hieracium pseudorigens</i> (a hawkweed)
<i>Berberis darwinii</i> (Darwin's Barberry)	<i>Symphytum x uplandicum</i> (Russian
<i>Heracleum mantegazzianum</i>	Comfrey)
(Giant Hogweed)	<i>Thlaspi arvense</i> (Field Penny-cress)

Table 4 Doubtful status

<i>Aster novi-belgii</i> (Michaelmas-daisy)	<i>Solidago canadensis</i> (Canadian Goldenrod)
<i>Fallopia japonica</i> (Japanese Knotweed)	<i>Solidago gigantea</i> (Early Goldenrod)
<i>Lupinus polyphyllus</i> (Garden Lupin)	<i>Sorbus aria</i> (Common Whitebeam)
<i>Lysimachia punctata</i> (Dotted Loosestrife)	<i>Sorbus intermedia</i> (Swedish Whitebeam)
<i>Mentha x verticillata</i> (Whorled Mint)	

Acknowledgements

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Reference

Briggs M (1986) Churchyards - points of view. *BSBI News* 42, 6.

Natura 2000 [1]

ROSALIND AH SMITH

This is a network of sites that will be designated across Europe over the next few years (before 1998) to give Community-wide protection to rare and endangered habitats, plants and animals. Last October the UK Government passed the Habitat Regulations, which brought two European Directives into UK law. These are :

- The Habitats Directive - This will result in the designation of sites known as Special Areas of Conservation (SAC's).
- The Birds Directive - Some sites have already been designated under this, and are known as Special Protection Areas (SPA's).

Together the SAC/SPA network of sites will be known as Natura 2000.

The selection of these sites is the responsibility of the Scottish Office but they will be designated by Scottish Natural Heritage, acting as the Scottish Office agents. The sites selected as SAC's under the Habitats Directive will have been announced by the time you read this. They have been selected to give protection to endangered (ie priority) and rare (ie non priority) habitats and species defined in the Directive and will all be existing Sites of Special Scientific Interest. They will include habitats such as willow scrub, tall herb hedges, and flushes in the uplands, active blanket bog, Caledonian Pine Forest, and various coastal habitats, and also some locations for *Naias flexilis*.

Designation as SAC's will give additional protection to these SSSI's. Scottish Natural Heritage will have to ensure that 'favourable conservation status' is given to these sites by a partnership with the owners. This might involve SNH taking actions such as reviewing the list of Potentially Damaging Operations for the SAC, reviewing existing consents for these operations, entering into Management Agreements with owners, and if all else fails, Compulsorily Purchasing the land. Local Planning Authorities will have to review any existing planning consents for SAC's which have not been completed, and will not give new consents where the interest of the SAC would be damaged. In addition there are wider countryside measures giving protection, via local plans, to migration routes for flora and fauna.

We will have to see how all this operates in practice over the next few years, much will depend on how much money the Scottish Office makes available.

Since 19th September 1994 I have been based at the Scottish Natural Heritage office in Anderson Place, Edinburgh, working as project manager for the Natura 2000 project. This is a network of sites throughout the UK on land and at sea. There are two types - Special Areas of Conservation (SAC) which support rare, endangered or vulnerable natural habitats and species of plants and animals (other than birds); and Special Protection Areas (SPA) which support significant numbers of wild birds and their habitats. The term Natura 2000 comes from the EC Habitats Directive, symbolising the conservation of resources for the year 2000 and beyond.

208 sites have been selected as SACs to represent the best examples of the 82 habitat and 51 species types occurring in the UK - 123 in England, 108 in Scotland, 36 in Wales and 17 in N Ireland.

102 SPAs have been designated since 1979 - 51 in England, 43 in Scotland, eight in Wales and two in N Ireland.

There are eight habitat types for SACs that occur only in Scotland and are therefore more crucial to protect here:

- Alpine calcareous grassland
- Bog woodland
- Caledonian forest
- Decalcified fixed dunes with *Empetrum nigrum*
- Dune Juniper thicket
- Machair
- Species-rich *Nardus* grasslands
- Sub-arctic willow scrub

There are only two species which occur only in Scotland, both plants - *Buxbaumia viridis* (Green Shield-moss), *Najas flexilis* (Slender Naiad)

The only other plant species listed for Scotland is *Saxifraga hirculus* (Marsh Saxifrage) for which old sites have been refound and several new colonies recently discovered.

Although all the terrestrial sites must be notified as SSSIs before they can become SACs, there are no marine SSSIs as such. It is intended that the Directive will provide better protection for habitats and species, maintaining them at a "favourable conservation status", a phrase yet to be defined properly

for the different interests. Development will not be allowed to take place in an area that contains priority habitats or species except for reasons relating to human health, public safety or over-riding public interest.

This short article outlines the main points of Natura 2000. SNH has produced two elegant booklets which are available free from SNH Publications, Battleby Centre, Redgorton, Perth PH1 3 EW. Other relevant publications are the government brochure *The Habitats Directive. How it will apply in Britain*, available from HMSO and the Scottish Office Circular No 6/1995 *Habitats and Birds Directives* from SO Environment Department, Edinburgh.

[We requested that the above two articles be written for the *Newsletter*, having heard that there were to be "Super SSSIs - Special Areas of Conservation" and also of Natura 2000, not appreciating that they related to the same project. However, the two articles complement one another and we are grateful to the authors for their informative contributions.(Eds)]

Alien Plants of the British Isles
EJ Clement & MC Foster, 1994
Published by the BSBI; 590 pp

P MACPHERSON
(Review)

This book attempts to cover all alien species (except grasses) however short-lived or infrequent that have ever been reliably recorded in the British Isles.

The 363 page catalogue section is packed full of information. It gives accounts of plants in the following sequence: scientific name; name in English; frequency; means of introduction; status; origin; location of voucher specimens; references and synonyms.

The aim has been to produce, not just a checklist, but also an aid to identification. Where the genus is known, clues to the most likely species are given by the number of bullet symbols used and by the means of introduction. Further, references to illustrations and descriptions are given as appropriate, as well as the location of voucher specimens.

The authors are to be congratulated on their dedication in amassing all the available information. The book is now, and will remain, the standard work on the alien flora for an appreciable time. It is very reasonably priced and can be obtained from F & M Perring, Oundle.

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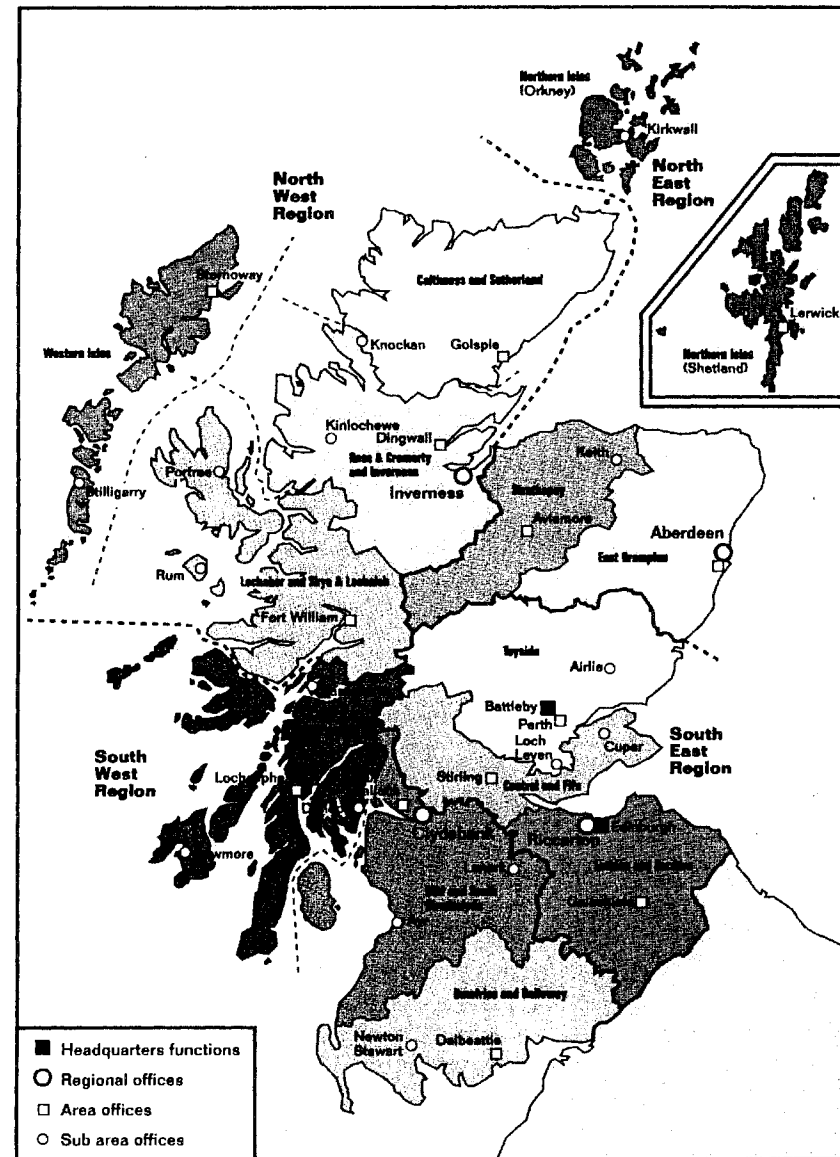
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Primula scotica

ELAINE R BULLARD

Over the last 4-5 years there seems to have been something of a (very welcome) population explosion in *Primula scotica* (Scottish Primrose). Densities and flowering have increased in some colonies, others have spread in an unusual direction, eg towards the prevailing wind and into cliff-top *Armeria/Plantago* sward, or into rather mossy heath. Some colonies which used to be "large" say, 30 years ago, and since have shown a marked decline, have recovered and a number of new, small, colonies have been found. Some of these have been in sites, often a few kilometres inland, where there have been no known previous records, others into sites which had very old records but where the species has either not been seen or has been very scarce, within the last 30 years.

Various interpretations have been put on this phenomenon. Some attribute the increase to "improved management", some, especially in the case of the new small sites, to "previous under-recording". While I believe both may be true to some extent, the increase is far too widespread and I suspect the reality has been a combination of mild winters, and various factors which have allowed good flowering (this often follows a mild winter), seed ripening and favourable seed distribution and seedling establishment. Most of these favourable conditions are outwith human control and could be reversed naturally. It is therefore unwise to place too much faith in "human" explanations or to believe that the species is now out of danger.

Nothing can recover those lost sites where the species habitat has been completely destroyed. This "ideal" habitat almost invariably includes, in descending order of constancy, *Carex flacca* (Glaucous Sedge), *Plantago maritima* (Sea Plantain) *Festuca* spp (Fescues), *Agrostis capillaris* (Common Bent), *Danthonia decumbens* (Heath-grass), *Plantago lanceolata* (Ribwort Plantain), *Euphrasia* spp (Eyebrights), *Thymus polytrichus* (Wild Thyme), *Potentilla erecta* (Tormentil), *Lotus corniculatus* (Common Bird's-foot-trefoil), *Prunella vulgaris* (Selfheal) and an almost complete absence of mosses and lichens, even although this may only extend a short distance round the plants. I would not expect a colony to thrive, or even survive, in any markedly different habitat. I am also chary of vegetation classification which gives high constancy to *Carex panicea* (Carnation Sedge), rather than *C. flacca* although I believe mis-identification is often the factor here.

Our LRC has recently installed RECORDER 3.2 starting up from "Windows" on a powerful PC and I am learning to use it. Oddly enough, although I am of course, very impressed by the program, it has made me even more proud of what my humble PCW is able to do. With it I have:

1. Set up a "Flora" datafile with a record of every plant I know that has ever been recorded in Orkney. Converted it from the original "Dandy" order to "Kent" order with ease. It shows Scientific name, Synonyms, Common Names, Frequency, Historic references and Notes, Status, Habitat, and presence or absence in every "Islandised Square" in the County, and if present, recorded or rerecorded since 1987. It has additional notes to indicate information held elsewhere. The Data can be extracted in either "Kent" or "Alphabetical" order of species or common names and can apply to any of the above fields. This data can have such refinements as italic and bold style added and be set out automatically in tabulated columns for printing.
2. Set up a "Site" datafile. This consists of a list of extant species, each record consisting of "Kent" number, Scientific name, common name and a tiny 2-column / 1 line field for a "tick". Copying this datafile to the RAM drive it is possible to take a filled site card, run through the datafile rapidly "ticking" each species marked on the field card and produce a neat print-out which can be in "Kent" or alphabetical order (or common name order if necessary). The list can be stored on disc for future reference. Is VERY handy when a neat, legible list from a particular place is wanted in a hurry. Hopefully these lists could be transferred to RECORDER site records at a future date.
3. Set up small datafiles for individual species - usually those nationally or locally "Scarce". This contains fields corresponding to the usual "Single Species" cards. Although I know this information can be set up on an ordinary text or document file, the datafile enables it to be sorted into date or Grid Reference order as required. Hopefully these Single Species Lists can also be transferred to RECORDER at some future date.
4. Set up a User Dictionary with all plant names, and those of many other Orkney taxa, authorities and other technical words allied to biological recording for correct spelling.

5. Set out Order and Family names, authorities etc. required for an Orkney *Flora*.
6. I can produce a "Local Species List" suitable for RECORDER, and for the basis of a local Field Card.

Technical details:

My eight-year old PCW8512 has had its 3" A drive replaced with a 3½" A drive, still retaining the 3" B drive. Its Memory has been increased to just over 1 Mb and I use LocoScript 3, LocoSpell, LocoMail, LocoFile and a PD program for text conversion to or from DOS. This last refutes the accusation that the PCW is "not compatible".

This system might not be adequate for a very large vice-county with a big species list and many botanists contributing records, but is proving perfectly adequate for me in Orkney and has the advantage of being very flexible - and very cheap. Needless to say, the PCW and the software is also used for non-botanical word-processing, keeping personal and club records.

Scottish Field Meetings 1995

The following have been arranged. Full details will be found in the BSBI Year Book.

May 27	Black Isle Coast [Miss R Scott]
July 8-10	Tongue, West Sutherland [IM & Mrs P Evans]
July 22-23	Aberfoyle, Stirlingshire [Mrs EW Stewart]
July 29-30	Blair Atholl [GP Rothero]
July 29-Aug 6	Kindrogan Field Centre "Sedges and Rushes" [Tutor - AC Jermy]
Aug 1-8	Shetland [Miss L Farrell & W Scott]

The problem of seeding new roadside verges in Kirkcudbrightshire (VC 73)

OLGA M STEWART

Dumfries and Galloway Regional Council, want wild flowers seeds to be added to the seed mixture when new roads are constructed or existing ones remade, as the public have commented favourably when they see poppies on the roadside verges. This came to my attention in early September 1994, when a new verge north of Dalbeattie was colourful with Common Poppies (*Papaver rhoeas*), not native in Kirkcudbrightshire, and only appear as a rare casual.

I decided to record in detail every plant from this verge. There were 32 species which I would have expected to see on unseeded disturbed verges. Included in this list was Long-headed Poppy (*Papaver dubium*) which appears on such habitats to which however, it may previously have been introduced.

There were nine species which I have expected to see in ploughed fields (Table 1) and 10 taxa which I consider to have been introduced in the sown seed mixture (Table 2). I found that besides poppies there were a few Cornflowers (*Centaurea cyanus*) never recorded in the County before, Corn Marigolds (*Chrysanthemum segetum*) field weeds now very seldom seen in their native habitat and also the alien variety of Common Bird's-foot-trefoil (*Lotus corniculatus* var *sativus*). Plants of Wild Pansy (*Viola tricolor*) were pure yellow.

I then got in touch with Barr Ltd, the Engineers for the roadworks. They gave me the seeding arrangement instructions for action once the roadworks were completed and the D & G Regional Council's standard specifications for the seed mixture - 84% Low Growth Grass Cultivars (British Seed Houses A4 Mixture), 2% of each of the following - Red Champion (*Silene dioica*), Common Knapweed (*Centaurea nigra*), Meadow Buttercup (*Ranunculus acris*), Oxeye Daisy (*Leucanthemum vulgare*), Meadow Vetchling (*Lathyrus pratensis*), Yellow Rattle (*Rhinanthus minor*), Sheep's Sorrel (*Rumex acetosella*) and Common Poppy (*Papaver rhoeas*). There was no mention of Cornflower, Corn Marigold or Common Bird's-foot-trefoil.

I corresponded with British Seed Houses Ltd who said that they had neither sold seed to the D & G Regional Council during the year nor to the subcontracting firms. The seed suppliers claim that any wild flower seed they sell is of UK native origin. However their seed catalogue includes the aliens, Crown Vetch (*Coronilla varia*) and White Melilot (*Melilotus alba*) in their flower mixture for acid soils. They are not included in the list of seed merchants for wild flowers that has been approved by the BSBI, JNCC,

English Nature, Plant Life, RSNC, Wildlife Trusts and WWF.

I have been to a meeting with the Design Service Manager of the D & G Regional Council and explained my worry that the alien plants could oust our native ones and I gave him a leaflet of approved seed merchants for his future use. Poppies may appear with us for a year or two but, as has happened before will be gone in three years' time. However *Lotus corniculatus* var *sativus* was recorded on a verge on the other side of Dalbeattie in 1989 and is still present.

Table 1 Ploughed field plants

Charlock (<i>Sinapis arvensis</i>)	Field Pansy (<i>Viola arvensis</i>)
Field Woundwort (<i>Stachys arvensis</i>)	Fat Hen (<i>Chenopodium album</i>)
Black Bindweed (<i>Fallopia convolvulus</i>)	Sun Spurge (<i>Euphorbia helioscopia</i>)
Thyme-lvd Sandwort (<i>Arenaria serpyllifolia</i>)	Field Pennycress (<i>Thlaspi arvensis</i>)
Wall Speedwell (<i>Veronica arvensis</i>)	

Table 2 Plants considered to have been introduced by the sown seed

Corncockle (<i>Agrostemma githago</i>)	Common Poppy (<i>Papaver rhoeas</i>)
Corn Marigold (<i>Chrysanthemum segetum</i>)	Cornflower (<i>Centaurea cyanus</i>)
Scented Mayweed (<i>Matricaria recutita</i>)	Black Medick (<i>Medicago lupulina</i>)
Californian Lobelia (<i>Downingia elegans</i>)	Wild Pansy (<i>Viola tricolor</i>)
Wild Radish (<i>Raphanus raphanistrum</i>)	Bird's-foot-trefoil (<i>Lotus corniculatus</i> var <i>sativus</i>)

Central Scotland - Land, Wildlife, People.

This is a survey produced, by an editorial board of the *Forth Naturalist and Historian*, to mark the first 25 years of Stirling University. It is successor to *The Stirling Region*, produced for the meeting of the British Association at Stirling in 1974, but it covers the whole of Central Region.

The vegetation and botany of the area are competently discussed and the more interesting features indicated. Those interested in the botany and indeed in the general natural history of central Scotland will find this handbook well worth their attention.

**Red Data Book Plants in Scotland:
BSBI Contract.**

KEITH WATSON

The BSBI, in return for a small fee from Scottish Natural Heritage (SNH), has agreed this year to investigate the status of 19 RDB species in Scotland (Table 1).

Table 1 RDB species under investigation

<i>Agrostemma githago</i> (Corncockle)	<i>Juncus nodulosus</i> (Marshall's Rush)
<i>Astragalus alpinus</i> (Alpine Milk-vetch)	<i>Koenigia islandica</i> (Iceland-purslane)
<i>Atriplex longipes</i> (long-stalked Orache)	<i>Oxytropis campestris</i> (Yellow Oxytropis)
<i>Carex atrofusca</i> (Scorched Alpine-sedge)	<i>Poa flexuosa</i> (Wavy Meadow-grass)
<i>Carex lachenalii</i> (Hare's-foot Sedge)	<i>Potamogeton epihydrus</i> (American Pondwd)
<i>Carex recta</i> (Estuarine Sedge)	<i>Potamogeton rutilus</i> (Shetland Pondwd)
<i>Cicerbita alpina</i> (Alpine Blue-sow-thistle)	<i>Rumex aquaticus</i> (Scottish Dock)
<i>Elatine hydropiper</i> (Eight-strnd Waterwort)	<i>Saxifraga cernua</i> (Drooping Saxifrage)
<i>Eleocharis austriaca</i> (Northern Spike-rush)	<i>Saxifraga cespitosa</i> (Tufted Saxifrage)
<i>Erigeron borealis</i> (Alpine Fleabane)	

The work will involve:

- Investigation of all known sites (Fig 1)
- Provision of basic information on the populations (as indicated on proforma sheets)
- Accurate grid locations (marked on an OS map).
- Photograph(s) on the general area

I have been asked by BSBI to co-ordinate the work and will be available to answer queries, provide information, guidelines and support during the survey period. The BSBI has limited funds available for travelling expenses, authorised by me, payable to members in relation to the 19 species listed in the Table above.

I have already contacted vice-county recorders who have RDB records within their areas, requesting their help in visiting sites, or in providing up to date information. I take this opportunity of thanking recorders for their positive responses to this request.

There are still a few gaps requiring to be filled, with regard to both species and sites. The inaccessible nature of many sites could result in several attempts being necessary to locate particular species and therefore help with this may be required.

If any members are prepared to help with the survey, either with regard to local populations or in conjunction with summer excursions, please contact me and I will provide information or will co-ordinate with other volunteers.

Three species in particular may require general all round searching: *Agrostemma githago* (possibly extinct in its "wild" agricultural habitat); *Elatine hydropiper* (due to its apparent recent spread) and *Atriplex longipes* (apparently more widespread than previously thought but difficult to identify). The last two are included in the recently published *Scarce Plants in Britain*.

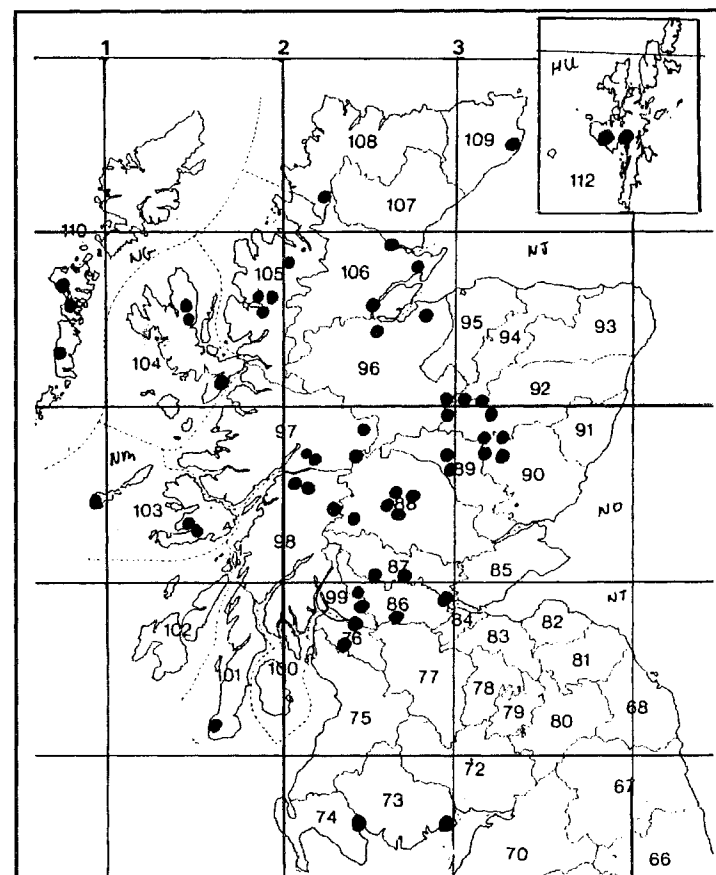


Fig. 1 Distribution of sites for investigation

Bromes in Lanarkshire

P MACPHERSON

This article continues my series on grasses, but on this occasion, instead of giving the distribution in the Glasgow area, the records are those from Lanarkshire (VC 77). The subject of the present paper is the genus *Bromus* but excluding *B. hordeaceus*.

Some possible records from the *Atlas of the British Flora* (Perring & Walters 1962) and from the Master Field Cards were in the Lanarkshire boundary zone so that information was sought from the Biological Records Centre to ascertain whether they were referable to VC 77.

B. arvensis (Field Brome) has been reported on six occasions although there are no *Atlas* records. The first two are to be found in an annotated copy of *Flora Glottiana* (Hopkirk 1813). They were probably entered by D. Don about 1820. One related to a record from Dalbeth and the other from the Clyde Iron Works. The other records are from near Blantyre Priory in 1843 (Balfour 1844), at Possil Road in the north and Tradeston in the south of Glasgow (Hennedy 1865) and from Brackenhurst in 1928 (Grierson 1931). In addition there were three herbarium specimens labelled as *B. arvensis*, but they were wrongly named - see below.

B. commutatus (Meadow Brome). An individual record card held at Monkswood and relating to the only possible *Atlas* record (pre-1930) contains the information that the plant was recorded in *The Clydesdale Flora* (Hennedy 1865) as having been seen at Shawlands, VC 77. In the *Flora* the actual location given is "New Kilmarnock Road, beyond Shawlands"- this is clearly in VC 76. However there are two specimens, in the herbarium of the Glasgow Museum and Art Gallery (GLAM), dated 1843 and are considered to be those of Balfour, one from Carmyle (as *B. secalinus*) and the other from a quarry on a road to the Botanic Gardens (as *B. arvensis*). There are also two specimens in the University of Glasgow herbarium (GL). The first is from Possil Road in Glasgow, 1856, R Hennedy and the second from Crossford, 1888, P Ewing (as *B. racemosus*). There is one modern record from a ditch by the hard shoulder of the M8 near Ruchazie, where it was seen by HJ Noltie in 1985.

B. japonicus (Thunberg's Brome). In the Birnage Herbarium (Macpherson 1991) there is a specimen labelled "*B. arvensis* roadside Glasgow 1948." I have had it re-determined as *B. japonicus*. Because of the lack of specific localisation one cannot tell to which VC the record belongs, but the greater part of Glasgow is in VC 77.

B. lanceolatus (Large-headed Brome) was reported (then *B. macrostachys*) from the sidings at Monkland in 1922 (Grierson 1931).

B. lepidus (Slender Soft-brome). Two boundary zone records are outwith VC 77 - one each in VC 75 and VC 76. A VC 77 *Atlas* record is from Elvanfoot and related to a record made by RCL Howitt and Miss EI Biggar in 1957. We have seen the plant on two occasions in recent years, on a pathside by the Forth and Clyde Canal at Cadder in 1982 and at the pathside of a semiderelict industrial estate in Rutherglen in 1994.

B. x pseudothominei (Lesser Soft-brome). My first record is from the edge of a meadow near the Rotten Calder (burn) to the East of East Kilbride in 1983 and in 1986 I saw it on a track side at both Shiels and Shieldhall in the west of Glasgow.

B. racemosus (Smooth Brome). The first possible VC 77 record is that of G Horn (GLAM) labelled "rubbish, Glasgow 1872" (as *B. commutatus*) and a definite Lanarkshire specimen was collected from Strathaven in 1899 by T Wise (GL) although considered by him to be *B. secalinus*.

B. secalinus (Rye Brome). Hennedy (1865) stated that the plant had occurred in cornfields, where it had been introduced with seed and it had been seen also at Possil Road in the north and Tollcross in the east of Glasgow. An 1870 specimen (GLAM) was collected by G Horn from the Clyde side below Govan. A boundary zone pre-1930 *Atlas* record related to VC 72. Grierson (1931) reported that it was a fairly frequent casual in the west of Scotland but without giving any localised records. However there is a 1920 specimen of his from the Ryding coup, Coatbridge (GL) and he noted var. *polyanthus* with lanceolate spikelets at Robroyston in the north east of Glasgow (VC 77) in 1928. There is a Robroyston specimen of *B. secalinus* (GL) collected by T Wise in the same year. The pre-1930 *Atlas* dot presumably relates to one or other of these records. We have seen the plant once in recent years, near the Glasgow Meadowside Dock in 1979.

I know of no Lanarkshire records for *B. interruptus* or *B. pseudosecalinus*. With regard to those taxa without recent records, other than in central and southern Britain, they tend to be extremely sporadic casuals, mainly of waysides and waste ground. Of those seen recently, *B. commutatus*, *B. lepidus* and *B. x pseudothominei* are plants of grassland, wayside and rough ground, frequent in central and southern Britain but scattered elsewhere. The VC 77 records are from similar habitats. *B. secalinus* is now an infrequent casual of scattered occurrence throughout most of the British Isles except north and west Scotland. Meadowside Dock was the site of a large granary and the recent record presumably the result of contamination in the grain being unloaded. It is noteworthy that of the 10 previous records for which specimens are available, six were wrongly identified. In addition three specimens which were originally determined as species mentioned above have been re-identified as *B. hordeaceus*.

There must therefore be considerable doubt with regard to the authenticity of many of the field records of this critical group.

Acknowledgements

The statements regarding plant distribution are those of Stace (1991). Professor Stace also checked the article. I am grateful to the following for help with identification - HJM Bowen, PM Smith, AMcG Stirling, PJO Trist and K Watson, the last of whom also helped with the historical review. My thanks are also due to Mrs JM Croft and CD Preston for supplying the source of records. Mr Stirling was joint recorder for some of the recent sightings.

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BSBI Committee for Scotland

The following is the composition of the committee from November 1994 - November 1995:-

Chairman - Dr RWM Corner; Secretary/Treasurer - Dr P Macpherson; Field Meetings Secretary - GP Rothero; Minutes Secretary - Mrs BG Hogarth; Meetings Secretary - Dr MF Watson; Members of Committee - Dr MGB Hughes; P Lusby; Dr RJ Pankhurst; Mrs OM Stewart; K Watson.
Representing SNH - Dr RAH Smith; Representing the BSS - MM Scott.

At the AGM on 4th November 1995 Drs Corner, Hughes and Pankhurst will be retiring. Only Dr Pankhurst 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 the written consent of the candidate, who must also qualify as above, should reach the undernoted at 15 Lubnaig Road, Glasgow G43 2RY by 30th September 1995.

P Macpherson Honorary Secretary.