

PERTSHIRE SOCIETY OF NATURAL SCIENCE

BOTANICAL SECTION

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Editorial

I am sure that everyone who has been on a recent Field Meeting and most of those who haven't will be aware of the Botanical Society of the British Isles' Atlas 2000 project. Last year's recording was the culmination of a five-year project to record all plants growing wild, whether natural or introduced, in each of the hectads (10km x 10km squares) of the National Grid - and each plant noted as current (1987-on), recent (1970-1986) or old (pre-1970). All the BSBI vice-county recorders have submitted their records and are now carrying out the large amount of checking (particularly where the original data was not on computer). Sometime, probably early in 2001, the Government's Department of the Environment will publish the new Atlas and we shall be able to compare results with the previous BSBI 1962 Atlas whose pioneer botanical dot maps have been regular and valuable sources of reference ever since.

The data for Perthshire owes much to the help of members of the PSNS Botanical section and my fellow two vice-county recorders and myself would like to reiterate our gratitude for this. I thought you might be interested in some statistics mainly for the vice-county of mid-Perth (VC88).

- VC88 spreads over 55 hectads: 35 of them are wholly or predominantly VC88 but 20 are shared with one, occasionally two or even three other vice-counties (NB Atlas 2000 deals with this problem by creating lead-VCs - this "solution" creates in turn major headaches but that is another story!)
- My plant database currently holds 17674 records of plant species for VC88 hectads, 85% are current, 12% are recent and 3% are old. The old % will rise when I get round to processing a large quantity of old records mainly from the 1962 Atlas just received in computer format from the Biological Records Centre [My database also holds nearly 35000 records on a 5km x 5km quadrant basis for a future Flora]
- This final year added 1317 new hectad records - that's an 8% increase - which shows how much recording was done in 1999 but also perhaps how much remains to be recorded! The total number of records for each hectad is shown on the map on page 2. The number of records per VC88 hectad averages 316 - it ranges from 0 (a tiny unvisited 25 hectares on the top of Meall Odhar at an altitude of 2000 ft on the southeastern corner of hectad NN23 - any volunteers?!) through to 590 (this from the 60% or so of hectad NN95 lying south and west of Rivers Tay and Garry near Pitlochry). The map shows clearly that there are more species where there is lower ground, higher temperatures, river systems and a diversity of habitats associated with human habitation.
- One can roughly compare the total number of plants in 1962 and 2000 even though the 1962 Atlas gave hectad totals only to the nearest hundred. Despite my comment that much remains to be recorded, it is satisfying to note that the total plants in each hectad are on average from 20 - 25% higher in 2000 than in 1962 (indeed in one or two hectads they are about 50% higher). It would be safe to guess that this is mainly due to more systematic, extensive and thorough surveys than a real increase in flower species - though a small part will be due to aliens and hybrids which were usually excluded from the 1962 Atlas.
- The most widespread species present in VC88's 55 hectads are *Rumex acetosa* (53) just beating *Achillea millefolium*, *Calluna vulgaris*, *Cerastium fontanum*, *Galium saxatile*, *Juncus effusus*, *Nardus stricta*, *Potentilla erecta*, *Sorbus aucuparia*, *Vaccinium myrtillus* and *Viola riviniana* (52 each) - daisy and bracken only rate 50!
- The rarest? Over one-half of the British flora is missing! and over 200 species are in one hectad only.

What for the future? From the 1962 Atlas via the BSBI's Monitoring Scheme 1987/88 (which was an interim study counting plant species on a regular sample of squares) and the Perthshire Checklist 1992 to Atlas 2000 (2001?) and now to a full Flora? Full Floras are formidable undertakings, they are expected to include extensive details of land use, climate, geology, plant records from old literature and herbarium specimens from museums throughout the UK, dates of first records and discussions of floristic changes over the years etc. A Perthshire Flora is a challenge - do we have the required dedication and competencies? The most encouraging recent event is that the three VC recorders are now using home computers which have revolutionised data-handling over the last few years - without one Atlas 2000 would have overwhelmed me. Recently Tim Rich, the Monitoring Scheme's organiser, wrote (Jan 2000 edition of the BSBI News vol 83, pp 16-17) an article entitled "What shall we do this millennium?", topping his list is the writing of county and local floras, especially in Scotland, followed by studies on smaller areas and specific habitats in greater detail using standardised and

reproducible statistical techniques. It is worth reading. Clearly we are being encouraged. Studies of plant responses to habitat change in Perthshire would also be of great value but perhaps difficult and long-term.

Errors will occur and these two wry tales might amuse. More than once I have crossed off *juncu bal* when I intended *juncu bul* - after all *bulbosus* sounds like *bal(bosus)*. Most get corrected but one reached the draft of Atlas 2000 and would have caused a dot for *juncus balticus*, a species of maritime dune-slacks and rare on river terraces, to appear in the middle of the Breadalbanes! I hope there won't be too many similar happenings. There have been worse howlers. Earlier last year the Biological Records Centre requested me to visit a particular grid reference near Trinity Gask, the site proved to be a rusty fence separating intensively sheep-grazed *lolium* grassland and a spruce copse with interspersed birch - this unpromising site was an official locality for not just one but **two, independent**, recent records of one of Scotland's rarest high-mountain sedges, *Carex lachenalii*! Mystifying, and not even explained by a simple transposition of the grid reference digits.

The 1998 Bulletin reported on two years of Field Meetings, this one, having taken a personal view of the state of recording in Perthshire, will now report on 1999's Field Meetings. For next year's Bulletin articles of botanical interest written by you will be very welcome. Have you visited an interesting new site? or have you perhaps some interesting observations on Perthshire plants? or how are you getting to grips (or not) with mosses? or what about starting some correspondence? whither Field Meetings? Whatever it is, please let us know.

I should like to express my sincere thanks to all contributors to this Bulletin. And finally can I ask if any member has a copy of Bulletin 8 (c 1983/84) to donate or lend for photocopying please contact me, this would complete the set starting from Bulletin 1 (1978) for the Section's archives.

Richard Thomas (Editor)

Total plant species recorded at any date up to end of 1999 for each 10km x 10km hectad for the 3 Perthshire VCs (note each VC's totals are shown separately except for underlined numbers in VC87 which include records from neighbouring VCs) outline map taken from the Perthshire Checklist (NWTaylor)

Reports from 1999 Field meetings:-

1. Glen Beich, Lochearnhead, Sunday 23rd May 1999

The first meeting of the year was to Glen Beich on the north side of Loch Earn. We chose to go up the east side of the glen. From the main access track we noted probable *Aconitum napellus* Monkshood doubtless a washed-down alien. Once past the farm we traversed boggy ground with a thin cover of birch. Soon we dropped down the steep heavily-wooded glen and attempted, where possible, to follow the burn. The glenside is mainly birch/hazel/ash/oak/elm/willow/sycamore woodland with a thick understorey of shrubs and herbs. Notable were *Aquilegia vulgaris* Columbine, *Geranium molle* Dovesfoot Cranesbill, *Geranium pratense* Meadow Cranesbill, *Lepidium heterophyllum* Smith's Pepperwort, *Meconopsis cambrica* Welsh Poppy, *Rubus saxatilis* Stone Bramble and *Sedum telephium* Orpine.

No great distance was covered nor botanical gems found. But the wealth of records made speaks for itself - 54 new ones for the southern quadrant and 14 for the northern one bring their totals to 222 and 205 respectively, the majority now being current records. At the end Ros kindly shared her delicious birthday cake with us all.

[Ed's note. a September visit to the high ground in the north-west of the northern quadrant added a further 14 interesting species including some calcicoles (*Asplenium viride* Green Spleenwort and *Polystichum lonchitis* Holly Fern) and others (*Parnassia palustris* Grass of Parnassus, *Pimpinella saxifraga* Burnet Saxifrage and *Rubus chamaemorus* Cloudberry)]

Richard Thomas

2. Corrody Burn, Strath Braan, Sunday 20th June 1999

Our party was small, just Joanna Thomas and myself, the morning was grey but our spirits were high in expectation of some rich botanising. We were not disappointed. The wet woodland next to the River Braan was rich in species and gave us a good start.

Calcareous species were found on the edges of the tops of the gravel embankments above the Corrody Burn. *Carex caryophyllaea* Spring Sedge was restricted to these habitats. After much leaf searching before lunch all our strawberries turned out to be barren, but then the sun broke through and our fortunes changed.

We were treated to the unexpected prospect of a waterfall where *Melica nutans* Mountain Melick hung from the rocky ledges above the tumbling burn. *Galium odoratum* Woodruff was found here too among elm that had escaped the ravages of Dutch Elm Disease.

The moorland above the burn offered *Dactylorhiza maculata* Heath Spotted Orchid, *Gymnadenia conopsea* Fragrant Orchid and *Avenula pubescens* Downy Oat Grass. Our last tick was *Juncus bulbosus* Bulbous Rush which we had sought all day, bringing our list to 189 plants, a 100% increase in the number of records for this 5 km square.

Our non-botanical notable of the day was a buff-tip ermine moth, a species which looks like a broken piece of birch twig caught up in grass.

Alistair Godfrey

3. Glen Sherup/Glenquey, Sunday 4th July 1999

Just three of us, Alistair, Joanna and myself, met up to explore Glen Sherup first of all. The weather looked unpromising but turned out quite pleasant. As we first progressed along towards the dam our findings were fairly run-of-the-mill and confirmed Neale's earlier ones. Unfortunately quite a number of plants on both the post- and pre-1986 lists remained elusive, including such common species as *Galium aparine* Goosegrass! Once we began to skirt the sides of the dam, however, we discovered a number of gems including the national scarcities *Sedum villosum* Hairy Stonecrop and *Equisetum pratense* Shady Horsetail, the latter an addition to the list. Other species of note included *Crepis capillaris* Smooth Hawksbeard, *Medicago lupulina* Black Medick, *Meum athamanticum* Spignel Meu, *Spergularia rubra* Sand Spurrey, *Listera ovata* Common Twayblade and *Vulpia bromoides* Squirreltail Fescue. In the end we managed only part of the intended area leaving the remainder for another day. My thanks to Alistair for dealing with the lists and queries and forwarding them to Neale Taylor.

Harriet Lindsay

The follow-up meeting to Glenquey was held a week later with Alistair, Joanna and (a different) me. On a very pleasant warm day we covered various habitats - agricultural fields, sand/gravel pits, bog, loch edge, dry rough ground and steep wooded gorge. A number of interesting species were seen including *Dactylorhiza fuchsii* Common Spotted Orchid and *D. majalis* ssp. *purpurella* Northern Marsh Orchid, *Galeopsis angustifolia* Red Hemp Nettle and the less common *G. speciosa* Large-flowered Hemp Nettle, *Meconopsis cambrica* Welsh Poppy, *Littorella uniflora* Shoreweed in flower, showy *Senecio sylvaticus* Heath Groundsel and, as previously, lots of aromatic *Meum athamanticum* Spignel Meu and *Vulpia bromoides* Squirreltail Fescue.

Richard Thomas

4. Ben More/Lochs Dochart & Iubhair, Sunday 18th July 1999

Last year's trip to Ben More was a virtual wash out, and this excursion was a repeat visit with the added attraction of a look around Lochs Dochart and Iubhair. The party split into a group of 3 for the low and 2 for the high ground.

Low ground:-

Water levels were quite high after a wet spring and summer so that some of the littoral aquatic species may have been difficult to get despite Alistair Godfrey's very useful home-made mini-grapnel. Nevertheless the lochs, especially Loch Dochart, proved to be very interesting with records of *Potamogeton alpinus* Red Pondweed, *Nuphar pumila* Least Water Lily, and a new site for *Baldellia ranunculoides* Lesser Water Plantain (which has a very characteristic smell of coriander distinguishing it from *Luronium natans*).

The wetlands around the lochs proved to be of interest although not particularly species rich, with *Carex vesicaria* Bladder Sedge and *Carex aquatilis* Water Sedge being notable, and one plant of *Carum verticillatum* Whorled Caraway (a new VC88 record) at the east end of Loch Dochart in grazed loch edge vegetation. Also on the south side of Loch Iubhair was *Plantago maritima* Sea Plantain in a rocky area and on the loch edge. *Saxifraga stellaris* Starry Saxifrage and *Alchemilla alpina* Alpine lady's-mantle were found in gravel having been washed down a burn.

A disused railway runs along the south side of the lochs. This is now mostly overgrown with a footpath, but in the more open areas were occasional *Linaria vulgaris* Common Toadflax and *Arenaria serpyllifolia* Thyme-leaved Sandwort. Near Loch Iubhair the railway has become a farm track and here there was *Chaenorrhinum minus* Small Toadflax.

Neale Taylor

High ground -

Two of us spent a very pleasant summer's day examining parts of Ben More's huge north-east ridge (Sron nam Forsairean). The best ground lay on the south side of this ridge. Progress was rather slow, owing partly to the very steep ground with its short irregular rock outcrops demanding a tiring succession of descents and reascents and partly to the dizzy after-effects of lariam medication on me.

Our total list was a good one. We added many familiar montane species to the two quadrant lists such as *Armeria maritima* Thrift, *Epilobium anagallidifolium* Alpine Willowherb, *Gnaphalium supinum* Dwarf Cudweed, *Juncus triglumis* Three-flowered Rush, *Salix herbacea* Dwarf Willow and *Saussurea alpina* Alpine Sawwort. More significantly we confirmed old records of *Poa alpina* Alpine Meadow Grass (15 plants) and of *Saxifraga nivalis* Alpine Saxifrage (31 plants over a distance at just over 3000 ft altitude) and added a new find - *Carex saxatilis* Russet Sedge.

In all 22 new species were added to my two quadrant lists and 82 were updated to 1987-onwards status.

Richard Thomas

5. Arrevore and Glenbeagh Burns, near Braco, Sunday 1st August 1999

Four members set out from Glenlíchorn along a good track on a warm sunny day. Our aim was to survey these two burns which flow east from the sedimentary hills between Glen Artney and the Braes of Doune. The track soon gave way to rank heather and it was warm going before we reached the main Arrevore gorge, where by a considerable feat of her navigation a fifth member joined us.

This gorge is most attractive. At one point on its south side it presents a smooth vertical rock face perhaps 40 ft high and 40 ft long completely covered by wet shining green mosses. Ferns abounded, with *Asplenium adiantum-nigrum* Black Spleenwort and *Asplenium viride* Green Spleenwort growing together at an altitude of 800 ft (low for the latter). *Saxifraga hypnoides* Mossy Saxifrage was another attraction.

We left this burn and proceeded over the intervening hill Meall a'Choire Riabhaich to meet the Corriebeagh burn. At first it was flat and slow-flowing where *Glyceria declinata* Small Sweet Grass was noted. Soon it entered a long steep ravine vegetated with thick scrub on its south side and dense stands of nettles on the north: you takes your choice! Along the burn we found two montane willow-herbs, *Epilobium alsinifolium* Chickweed Willowherb new to the area and *Epilobium anagallidifolium* Alpine Willowherb reconfirmed.

Taking advantage that our late arriver had parked on the main road much nearer we crossed the *molinia*-dominated boggy ground directly opposite. Just as well, for the thunder clouds which had been growing steadily more ominous in the sultry weather chose the exact moment of our reaching the car to unleash a tropical downpour, we were saved from a complete soaking.

Richard Thomas

6. Dowie's Hole, near Meikleour, Sunday 8th August 1999

On a fine day eight or so members and friends gathered at the above. Sadly I wasn't well enough to lead but Richard kindly took on that task and I am grateful to him for doing this and passing on all the records. The various groups obtained many records, mainly in NO14SW, and within the SSSI Meikleour is a very rich area and I was rewarded with records of a total of 18 rarer or more interesting plants. This was very fortuitous since Atlas 2000 records had to be submitted by the end of the summer.

As far as I was concerned the only species I was able to get to and one I had never before seen in flower was *Limosella aquatica* Mudwort. Many of the plants seen were best classed as ruderals and were managing to survive not far from unsightly old tyre and agricultural waste dumps. The more interesting plants included *Cerastium diffusum* Sea Mouse Ear, *Coronopus didymus* Lesser Swine Cress, *Filago minima* Small Cudweed, *Hypericum dubium* Imperforate St John's Wort, *Lepidium campestre* Field Pepperwort, *Mentha arvensis* Corn Mint, *Sagina apetala* Annual Pearlwort, *Scleranthus annuus* Knawel, *Potentilla argentea* Hoary Cinquefoil, *Spergularia rubra* Sand Spurrey, *Teesdalia nudicaulis* Shepherd's Cress, *Vicia hirsuta* Hairy Tare and a few other plants characteristic of more permanent grassland such as *Astragalus glycyphyllos* Wild Liquorice, *Galium boreale* Northern Bedstraw, *Hesperis matronalis* Dame's Violet and *Malva moschata* Musk Mallow. Some permanent water held *Ranunculus circinatus* Fan-leaved Water Crowfoot. Altogether a thoroughly worthwhile day with lots of interesting plants, *Lepidium campestre* being a new record for VC89.

Ros Smith

7. Loch Lubnaig, Sunday 15th August 1999

Water holds a great fascination, and the floodplains and meadows around our lochs hold the promise of an interesting day's botanising. Joanna and Richard Thomas and myself set off from Strathyre across the river Balvag after a chance encounter with one of Stirling University's biological staff - a small world, Richard.

A number of ruderals were found on the bridge and by the path on the other side of the river. *Hypericum androsaemum* Tutsan was an obvious garden castaway or belonged to the increasingly popular habitat, the gardener's verge. I have seen this plant with increasing frequency from self-sown seed in the Perth and Kingordie areas over recent years. Curious, because as a native it is found in the milder wetter west and suggests the garden plants are from a different stock.

We passed an unusual mixture of trees before exploring an area of bog and heath. Richard found *Hypericum humifusum* Trailing St John's Wort, a cousin of the former and a plant which I find flowers without warning one year and disappears without trace the next.

After lunch we explored the marshy headlands of the loch. An interesting member of the swamp community, *Carex lasiocarpa* Slender Sedge, was found occupying a large open patch. *Stellaria palustris* Marsh Stitchwort was found on slightly drier ground - similar to *Stellaria graminea* Lesser Stitchwort, it has larger flowers and glaucous leaves. Loch Lubnaig is one of its few Perthshire localities. *Lysimachia vulgaris* Yellow Loosestrife, with large yellow flowers like its garden relative, was an attractive find. *Lysimachia thyrsiflora* Tufted Loosestrife was also present.

There was a pause in the botanising as the tall vegetation in front of us parted to reveal an emerging Alison Wilson. In surroundings that I have imagined similar to the meeting of Stanley and Livingstone [..hmm.. luckily I wasn't worrying about an emerging lion! Ed], we greeted each other before continuing with our search for plants. Negotiating burns and a large patch of *Schoenoplectus lacustris* ssp. *lacustris* Common Club Rush, we explored the open water and found pure *Nuphar pumila* Least Yellow Water Lily and *Nymphaea alba* White Water Lily.

Alistair Godfrey