

Scottish Botanists' Conference 2023 – Exhibition Abstracts

Faith Anstey: OUTREACH Workshops in 2023

We held six Outreach workshops in 2023: Three 'plant families' ID workshops for beginners and improvers – one by special request from Historic Scotland; one on Grasses; one Habitat Survey ID; and a new workshop on Ferns for beginners. There were two training field meetings, at Glen Fender and our annual visit to Ben Lawers with an emphasis on graminoids. For 2024 we have at least five workshops planned, plus three training field meetings and a new event: Training the Trainers.

Brian Ballinger: Urban and Rural Woodlands in Easter Ross

10 urban woodlands and 10 rural woodlands in Easter Ross were studied. In each case 100m transects were recorded on two occasions noting all vascular plants that did not appear to have been planted. A total of 650 records were made in the urban woods and 526 in the rural.

161 species were recorded in the urban woods and 146 in the rural. There were 26 neophytes (aliens) in the urban woods and 8 in the rural. This difference in species number was not quite statistically significant and could be accounted for by neophytes. The rural woods contained more typical "rural" species such as *Calluna vulgaris* (Heather), *Carex sylvatica* (Wood-sedge), *Galium saxatile* (Heath Bedstraw), and *Lysimachia europaea* (*Trientalis* or Chickweed-wintergreen).

The number of species detected increased more in the rural woods than the urban in moving from winter to summer.

David Elston: The discovery of *Ophioglossum azoricum*, Small Adder's-tongue in Kincardineshire

The fern ally *Ophioglossum azoricum* (Small Adder's-tongue) was found at St Cyrus National Nature Reserve on 5th July 2023, an addition to the known flora of Kincardineshire. This poster describes events surrounding this discovery, from background information to the subsequent press-release.

Ian M. Evans and Gwen Richards: West Sutherland (V.c.108)

West Sutherland is a large vice-county, with an area of 3098 sq. km spread over 47 hectads, and very few resident botanists. The only part comprehensively surveyed is the parish of Assynt in the south-west. That was done in the 1990s, by tetrad.

Recording at this level continued until about 2015, when we switched to monads. Complete coverage at this level is impracticable; we lack the personnel and much of the area is very remote.

Recent recording has been focussed on two areas, one close to hand (Quinag, in the parish of Assynt), the other further afield (the parish of Tongue and adjacent areas).

We aim to make the results of our recording available to a wider audience. The website of the Assynt Field Club <https://www.assyntwildlife.org.uk/> carries numerous stories on Quinag, and *The Highland Naturalist*, <https://www.hbrg.org.uk/MainPages/HNat.html>, annual articles on the work around Tongue.

Finds during 2023 have included *Equisetum hyemale* (Rough Horsetail) on Quinag, *Lycopodiella inundata* (Marsh Clubmoss) in Strath Naver and both *Pyrola media* (Intermediate Wintergreen) and *Orthilia secunda* (Serrated Wintergreen) south of the Kyle of Tongue. All were new hectad records.

Luke Gaskell: VC 78, Peeblesshire Plants 2023.

Lathyrus tuberosus (Tuberous pea) - This is a new record for the vice-county, probably sown some time ago as part of a wild-flower seed mix. There were half a dozen flowering plants along a short section of the Tweed CycleWay near Cardrona and it will be interesting to see how long it persists there.

Ervum tetraspermum. (*Vicia tetraspermum*) (Smooth Tare) - Third VC record, this tare was last recorded a few miles to the west 29 years ago. It is not considered native to Scotland and it is

usually found on disturbed ground and road verges. This locality was an embankment of the disused Galashiels to Edinburgh via Peebles railway and it is possible that it has been there since the route was closed more than sixty years ago. It appears that *Ervum tetraspermum* is being included in wild-flower mixes and is therefore being recorded more frequently across the Borders.

John Grace, BSS and the University of Edinburgh: Three rapidly-spreading species – why do they spread?

In our Urban Flora project we find several species that surprise us by sudden appearance and rapid spread in towns and cities. Three are illustrated in this poster: *Polypogon viridis* (Water Bent), *Polypogon monspeliensis* (Annual Beard-grass) and *Erigeron canadensis* (Canadian Fleabane). These are just three of many species that seem to be ‘travelling north’. We have been exploring the reasons. Anthropogenic influences are likely to have been more important than climatic warming.

Angus Hannah: Scottish *Rubus* referee (BSBI): Scottish Bramble Project

2023 was a tough year for Scottish botany. Our long-serving referee George Ballantyne had died two years before, and when his herbarium reached RBGE this spring, it was in poor condition. Two surviving notebooks containing valuable records (now digitised) are exhibited. Much had been lost. Worse was to come with the death of our other leading expert, David Welch. It was a small consolation that he had recently published his Mearns-Angus bramble as *R. longiflorus* (photos shown).

The bramble community responded to these misfortunes

- An illustrated Handbook of Scottish Brambles is in preparation (sample pages shown).
- A reference gallery of photographs of all Scottish species is being set up.
- We are appealing for sets of 4-5 close-up photos, usually enough for identification. You get a good record; the photos join the library to help others; bramble distribution gets better understood. A successful pilot was run with Chris Miles in VC72, resulting in over 100 new records (specimen photo-set shown).

Please send photos as email attachments at full resolution or share in Dropbox to Angus Hannah butesedge@yahoo.co.uk

- We will continue to hold workshops and field-meetings in different localities and will offer more should demand increase.

Matt Harding: *Atriplex* (Oraches) on the Firth of Forth

During searches for the Scottish HectAd Rare Plant Project (SHARPP), the most northerly British *Atriplex longipes* (Long-stalked Orache) population was refound after 40 years at Haughs of Airth (VC86), along with first records for the hybrids *A. x gustafssoniana* (Kattegat Orache) and *A. glabriuscula x prostrata* on the Firth of Forth (both found in VC84 & VC86). Huge thanks to John Akeroyd, BSBI *Atriplex* referee, for his determinations and feedback! His identification tips are shared here to encourage other *Atriplex*-hunters around the Forth.

Matt Harding and Liz Lavery: A very unexpected first for VC87 West Perth!

While walking to his local post box in Thornhill, Matt spotted a very unusual looking goosefoot growing by a bollard on the pavement. John Akeroyd, BSBI *Atriplex* referee, confirmed it was *Chenopodium glaucum*, now *Oxybasis glauca* (Oak-leaved Goosefoot), a first for the vice-county.

Sue Jury: Notable finds of Midlothian VC83

Including *Crataegus x subsphaerica* (*Crataegus monogyna x rhipidopylla*), *Elymus atherica* (Sea Couch) – the first verified records for Scotland, *Opyrys apifera* (Bee Orchids) – a new First for Midlothian, and many other notable finds.

Beccy Middleton: St Andrews Botanic Garden

During June 2023, St Andrews Botanic Garden carried out a botanical survey of 19 urban green spaces. This was part of a Nature Restoration Fund development phase project, funded by NatureScot. Several different types of grassland and woodland edge were surveyed, with 164 species recorded in total. This small study shows the potential richness of urban green spaces, but also some of the potential problems - INNS were recorded in seven of the sites.

Chris Myles: Interesting finds in Dumfriesshire in 2023

A number of interesting species have been found this year. Photos or specimens of the first records for *Epipactis dunensis* (Dune Helleborine), *Polygonum boreale* (Northern Knotweed), and *Fumaria purpurea* (Purple Ramping-fumitory) are shown. Other interesting finds or refinds this year are also noted in the display.

Savanna van Mesdag: How does variation in the mineralogical and chemical properties of anthropogenic substrate influence plant biodiversity?

Anthropogenic substrate sites are common in areas characterised by previous industries, such as those occurring during the Industrial Revolution and the early 20th century. Historically, waste materials, anthropogenic substrates, were dumped on land nearby or next to industry buildings, processing plants, furnaces, mills and so on. Such wastes can include paper mill sludge, colliery spoil, blast furnace and steel slag and many, many more. Plant species communities can establish on various anthropogenic substrate sites, many of these communities can be uncommon or rare in the local area, due to various abiotic factors such as geochemistry, topography, soil characteristics and pH levels. Many previous studies have focussed on plants growing on specific types of anthropogenic substrates, limiting the findings and interpretations that could be made about plants growing on anthropogenic substrate sites more widely. This study aims to assess the biodiversity levels and relationships between plants and substrate on multiple different types of anthropogenic substrate. Biodiversity indices demonstrated that biodiversity levels can vary on different types of anthropogenic substrate, with much of the variation existing within sites rather than between sites. Multiple identified species are rare in their local geographical area and/or nationwide. Canonical correspondence analyses indicated a few key chemical variables, such as pH level, and the concentration of calcium, chromium and aluminium, directly statistically influence the presence of plant species on anthropogenic substrate sites, although analyses for specific sites indicated more specific and sometimes differing significant chemical variables. Anthropogenic substrate can support high levels of plant biodiversity plant species, and, in light of the Anthropocene and the current biodiversity crisis, much of this needs to be better studied and understood.

Dr Richard Milne: Plant ID for beginners – a new method

How best do we start total beginners on the path to becoming good at plant ID? The main challenge facing the total novice is where to start, with ~1700 native species, over 500 common aliens and ~3000 more rare aliens. Over 15 years, I have developed a method that narrows down to a list of families, based on a very few traits that beginners can easily understand, which is presented here. From this list, the beginner simply looks through images of the indicated families to find a visual match. In doing so, they begin to recognise common families and gain expertise. Currently the method requires picture ID books, but I am constructing a comprehensive image library of the UK flora to create a stand-alone tool. I also introduce a 'platekey', which combines images with dichotomous key text, providing the beginner with a gentle introduction to the latter.

Ian Strachan, joint vice- county recorder: Some botanical highlights for Westernness (v.c. 97) in 2023

Various highlights from the past year are described and illustrated.

Some great finds were made by botanists in the mountains above Glen Nevis. Two particularly exciting species (both Nationally Rare) were *Carex norvegica* (Close-headed Alpine Sedge) in Coire Dearg, in the western Mamores, new to the vice-county; and *Omalotheca norvegica* (Highland Cudweed) on the south-east face of Ben Nevis – a first for the Ben Nevis range and only its second locality in the VC.

In June a successful Rough Crew meeting was held on the remote Knoydart peninsula, with the Knoydart Foundation Ranger Service. Over four days a remarkable 3,815 records were made from 44 monads, including many new hectad records in this under-recorded corner of Scotland.

In July several notable finds were made around the unexplored Loch a' Bhealach Leamhain, north of Ben Alder, including *Potentilla crantzii* (Alpine Cinquefoil), *Subularia aquatica* (Awlwort) and much *Salix lapponum* (Downy Willow). This pristine mountain loch is under threat from a 60m-high dam as part of a proposed pump-storage scheme.

Leslie Tucker et alia ad hoc: Some Novel Anthropochorous Allopolyploid Taxa on Tayside

Roadside verges, drainage ditch banks, and mulched surfaces under cultivated specimens in gardens and parks have been observed to provide sites for some unexpected plants. Mostly these are from common, even notorious, 'weed' genera having wind-dispersed seeds: *Salix*, *Taraxacum*, etc. Presumably these ubiquitous vagrants simply settled on a vacant surface suitable for germination and development; however, some unusual segregates, usually more typical of exotic 'wild' habitats and communities, probably arrived along with imported stone and organic compost.

Potted specimens, herbarium pressings, photographs, descriptive notes, and background publications are displayed to support some of the more controversial taxonomy.

Sarah Watts: Montane willow identification workshop specimens

This exhibit displays herbarium specimens collected under licence for the seven montane willow species discussed in the associated workshop on their identification.

Arctic-alpine specialists:

- *Salix lanata* (Woolly Willow); Nationally Rare
- *Salix lapponum* (Downy Willow); Nationally Scarce
- *Salix myrsinites* (Whortle-leaved Willow); Nationally Scarce
- *Salix arbuscula* (Mountain Willow); Nationally Scarce
- *Salix reticulata* (Net-leaved Willow); Nationally Scarce

Secondary montane willows:

- *Salix myrsinifolia* (Dark-leaved Willow)
- *Salix phylicifolia* (Tea-leaved Willow)

Sarah Woods: BSBI Photographic Competition

We had a fantastic 134 entries for the BSBI photographic competition this year, across the two categories: 'Plants and People' and 'Plants in the Landscape'. Those entries were then shortlisted through the votes of BSBI supporters across social media, with the final winners being voted on by attendees at the Scottish Botanists' Conference. Prize-winners will receive book tokens from Summerfield Books.

Organisation Displays

British Pteridological Society BPS <https://ebps.org.uk/> – Heather McHaffie

The British Pteridological Society (Fern Society) has a Scottish group that combines garden visits with trips to see native ferns. We have posters showing our activities and the events taking place across the UK, a quiz inviting identification of cross sections of the eight British species of *Equisetum*, and gametophytes to show what spores grow into on the way to producing little ferns.

Botanical Society of Scotland (BSS) 2023 <https://www.botanical-society-scotland.org.uk/> - Brian Ballinger & John Grace

The BSS has had another active and successful year. We have run a well-attended lecture programme in Edinburgh and also Dundee and Inverness. Our field programme has included meetings in various parts of Scotland, some of which have been devoted to the Urban Flora Project. We have now added more than 92,000 records to the Urban Flora Project database.

We recently organised a successful Urban Flora Conference at the Royal Society of Edinburgh and plan to publish a journal supplement based on it.

Two issues of BSS News have appeared. As well as our international journal Plant Ecology and Diversity, we have produced a regular series of BLOGS mainly on 'Plant of the Week'. <https://botsocscot.wordpress.com/blog-2/> We have also continued to promote student projects.

CIEEM – James Hutchison

CIEEM are the leading professional membership body representing and supporting ecologists and environmental managers in the UK, Ireland and abroad. Our Vision is of a healthy natural environment for the benefit of current and future generations.

The Wildlife Information Centre (TWIC) – Natalie Harmsworth

TWIC is the Local Environmental Records Centre for SE & most of central Scotland that collects, collates and disseminates information about wildlife in our area. We organise a programme of workshops and excursions to support new and existing recorders, as well as an annual conference. We also run [wildlife surveys](#) to target under-recorded or conservation priority species and we attend BioBlitz events to help inspire a new generation of naturalists. Visit our stall to find out more about our work and to pick up a flier for our forthcoming [conference](#) on Saturday 11 November 2023 in Stirling, which this year will be a joint event with Biological Recording in Scotland (BRISC). A selection of wildlife survey postcards will also be available. <http://www.wildlifeinformation.co.uk/>

The Plant Identification Table - Matt Harding, BSBI Scotland Officer

A great opportunity to get expert help with identification with so many experts in the audience! Remember to bring your specimens and handlens!

Botanical Society of Britain and Ireland (BSBI) <https://bsbi.org/>, <https://bsbi.org/scotland>: BSBI helping you – Matt Harding (BSBI Scotland Officer) and Louise Marsh (BSBI Communications Officer)

BSBI is for everyone who is interested in the wild plants of Britain and Ireland. You don't have to be a member to enjoy our events, access free online plant ID resources, read our scientific journal, sign up for our monthly newsletters or take part in many of our activities and projects. But [joining BSBI](#) will bring you even more benefits - three issues each year of BSBI News, access to our panel of expert plant referees, money-saving offers on selected botany books and more. You'll also become part of a

botanical community whose data and research inform policy-makers, academia and conservation organisations. Visit [our website](#) to find out more or contact [Matt Harding](#), BSBI Scotland Officer.

BSBI Handbooks – Liz Kungu and Louise Marsh

BSBI publishes a series of Handbooks for the identification of difficult plant groups. There are 24 Handbooks in the series, with more in the pipeline. They are available as physical copies or as eBooks. More information [here](#) or email BSBI Handbooks Editor [Liz Kungu](#).

BSBI Grants – Louise Marsh

The Society offers grants for training, plant study and research. Training grants are aimed at anyone, whether beginner or improver, looking to build up their plant ID skills, while our plant study and research grants are aimed at undergraduates, PhD students and amateur researchers. You don't need to be a BSBI member to apply, although members are prioritised in the awards process. Grants for 2024 will go live on 1st December 2023, when application forms will be available via our [grants page](#). Email [Louise Marsh](#) for more information.

New Year Plant Hunt – Louise Marsh

Our midwinter citizen science project, to discover how British and Irish wildflowers are responding to a changing climate, is now in its thirteenth year. Between 30th December 2023 and 2nd January 2024, you are invited to join the Hunt - you can either hunt with friends and family, join a group hunt or go solo. Find out more [here](#), email the team [here](#) if you have any questions and you can [register your interest here](#) to access resources to help you find and identify the plants most likely to be blooming at New Year.

BSBI Identiplant – Dr Chantel Helm

Identiplant 2024 - applications open 1 December for students via the Identiplant website: www.identiplant.bsbi.org. If interested in becoming an Identiplant Tutor please get in touch at identiplant@bsbi.org

Royal Botanic Garden Edinburgh (RBGE)

Herbarium - Elspeth Haston, RBGE Herbarium Curator