Autumn

2024

Trifoliate

Field Reports

South Lanarkshire Reserves

Plant Galls: Part 2

Networking field botanists across

Dunbartonshire, Lanarkshire and Renfrewshire

Contents

Editorial

Welcome to the second issue of Trifoliate. We have been heartened by the positive reaction to this revamped newsletter for field botanists in Dunbartonshire, Lanarkshire and Renfrewshire: thank you to all the contributors.

Over the following pages there is a wide range of interesting articles. Jim Blackwood, an amateur botanist, in the truest sense, shares his infectious enthusiasm for plants and the joy he finds 'dancing in the meadows'.

In this issue, we return to the potential of former brownfield sites as important habitats for biodiversity with a stimulating article by Jo Birkin on newly created urban parks in South Lanarkshire. I'm grateful to her and the Editor of The Glasgow Naturalist for permission to reproduce her uplifting article.

Many of us enjoyed taking part in the Lanarkshire Snowdrop survey earlier this year. Next spring how about tackling another introduced and naturalising genus? Well, with the simple identification aid to Crocus by James Common you have no excuse not to! Check out his other plant IDs which are freely available on the internet.

Peter Shirley concludes his introductory article on galls with a fascinating account of the life-cycle of gall-causing insects. I'm sure that many of us will now be inspired to record galls when field-botanising – I certainly will.

I'm also pleased to showcase the work of Plantlife Scotland. Alistair Whyte sets out the practical projects, nature reserve activity, advisory work and political advocacy of BSBI's sister organisation.

There is, of course, much more to discover in this issue….I do hope that you enjoy it, please let me know.

Frazer Henderson

Network News

Zoom talks &

End-of season Get-together

As last winter, there will also be a short series of Zoom talks to look forward to in the New Year, one per month from January to March. Details to be confirmed shortly – Michael Philip will issue a Network-wide email.

And do join us for a get-together of fellow botanists from across our three counties on Sunday 10 November.

We intend to start at 1.45 for 2.00pm, finishing no later than 4pm, at Napier Hall, 312 Dumbarton Road, Old Kilpatrick.

Please do come if you can to celebrate a most successful season. There will be slideshows, stories - and plenty of time for mingling and chat over tea and cake.

Trifoliate

Supporting the growing network of field botanists, of all abilities, across

Dunbartonshire, Lanarkshire and Renfrewshire

by sharing information, knowledge and experiences.

Big Thanks

… to Michael Philip, Peter Wiggins and Keith Watson for planning such a varied and interesting field programme.
… to all the field leaders for their guidance.
… to those who gave lifts to folk without access to transport.
… to all field trip participants for sharing their knowledge, expertise, enthusiasm, records and reports – and, importantly, having fun in the field!

Scottish Botanists' Conference

The 2024 Scottish Botanists' Conference will be held at the Royal Botanic Garden Edinburgh on Saturday 2nd November.

Hurry to book a place! Bookings are now open on Scottish Conference pages on the BSBI website

New Year Plant Hunt

Join thousands of fellow plant-hunters across Britain and Ireland in our annual quest to find out which wild or naturalised plants are able to bloom in midwinter. Your data are helping us learn more about how our plants are responding to a changing climate. The BSBI New Year Plant Hunt is also a great way to shake off the winter blues and get outdoors with friends, family, solo or joining a group hunt.

The Power of Networking

- over 200 people now linked-up
- over 150 field outings
- more than 200,000 records uploaded to the BSBI database.

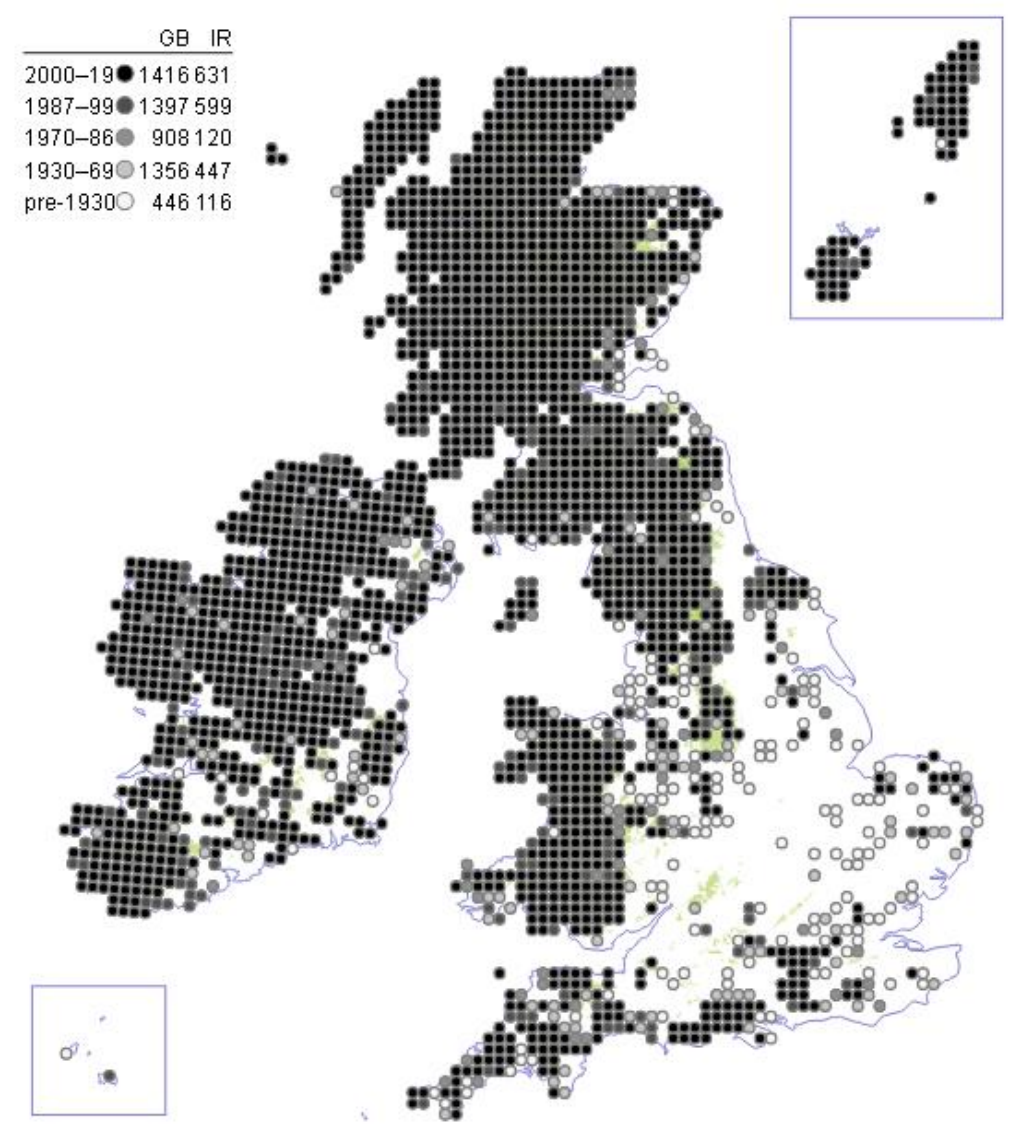
together we've achieved all this

in just 3 years….

Interested in joining your local VCR team?

Over the coming year or two, in keeping with a growing trend across the country, we will be setting out our vision for developing a small team to share the different tasks of the Vice-county Recorder role. This is an excellent leadership development opportunity, and you may have just the skills to play a part. Keep your eyes open for further briefings on this within our network in 2025.

Cover plant: *Drosera rotundifolia*



Round-leaved Sundew (*Drosera rotundifolia*) is an insectivorous rosette-forming perennial herb of wet heathland, blanket bogs and upland flushes, growing among *Sphagnum* or on bare acid peat. It can be an abundant colonist of ditch sides cut through wet, peaty ground (see BSBI Atlas 2020 distribution map opposite). In the right environment it can be super-abundant.

The leaves are arranged in a basal rosette with narrow petioles supporting round laminae the upper surfaces of which are covered with red glandular hairs which secrete a sticky mucus that attracts insects.

The flowers grow on one side of a single stalk which can be from 4 to 20 cm high. The five-petalled flowers can be white or a blushing pink.

To survive the winter the plant produces an hibernaculum of tightly curled leaves at ground level.

Why does it capture insects? Well, it is understood that this behaviour is a response to its habitat which is so acidic that nutrient availability is poor. Once captured on the glandular hairs the insects are dissolved by enzymes exuded by the plant which then extract and transfer to the plant ammonia (from proteins) and other nutrients.

Images of inflorescences taken in Lanarkshire bog.s (Frazer Henderson)

For more general information about the species as well as, in particular, its ecological, cultural and medicinal history take a look here.

Profile: Jim Blackwood

Jim Blackwood by Kilbirnie Loch, North Ayrshire. (Jim Blackwood)

Jim, how did your interest in plants arise and subsequently develop?

Since I was a small child I've always loved nature. I grew up in Lochwinnoch and have fond early memories of family walks with our dogs by the lochs, up the Calder Glen, Glenlora, Muirsheil etc - all on our doorstep. In those days, children, even very young children, roamed and played freely. Flowery fields and burns, bluebell woods and lochside were my playground.

My Primary One teacher, Miss Speirs, was a wonderful lady who had a love of nature which she used in her lessons. There were aquaria in the classroom with minnows and frogspawn. Watching the frogspawn hatch and the tadpoles metamorphose captured my infant curiosity. She also had dozens of old jam jars displayed at the side of the classroom, each neatly labelled with the English names of the wildflowers contained. I was thrilled when she chose me to replenish the Marsh Marigolds. I knew exactly where to find them, by the Cloak Burn, five minutes gambol over our garden fence. She only needed a few stems, but the next morning I turned up with an armful. Looking back I now see that Miss Speirs was developing in us ID skills, habitat knowledge, and the poetry of the wildflowers' names.

How did you develop your ID and recognition skills?

I still have my childhood collection of Observer's Books, most of them nature related. Around the age of 12 I realised that although I knew the names of many of the wildflowers I saw on my Lochwinnoch walks, I frustratingly didn't know all of them. So I started keeping the Observer's Book of Wildflowers in my pocket, a handy practice for which the Observer's series was designed. When I came across an unknown flower I flicked through the pages comparing the illustrations with the plant in situ. This was an imperfect but nonetheless reasonably successful self-teaching process for our common wildflowers. It opened up a new world. Indeed I can honestly say that the humble Observer's Book of Wildflowers provided me with a Damascene revelation - about buttercups no less! Until then I had no idea that Meadow and Creeping Buttercups were different species. Knowing the difference pleased me greatly.

By the time I was an undergraduate at Glasgow University in the 1980s, my wildflowers interest had developed into something more akin to botany. I kept a Wild Flower Society diary under the aegis of the then Scottish secretary Helen Jackson, with whom I corresponded botanically for about 40 years until her recent passing. Keeping a botanical diary is a very effective way to develop one's ID skills, especially with a tutor as astute as Helen. Your annual total increases markedly if you include grasses, sedges, rushes and ferns. My knowledge of those began then. I joined the Paisley Museum Natural History Society and also the Glasgow Natural History Society when Jim Dickson was doing his Flora of Glasgow fieldwork. I soon discovered that Glasgow is indeed a dear green place, and my proper field botany skills rapidly improved.

What's the personal attraction of field botany?

It's hard to say. I guess in life we each of us gravitate towards certain things and not others. It's probably a mix of nature and nurture. I am sure that one's experience as a child has a big part to play. I have always loved all natural history, and I sort of click with botany (specifically the vascular plants) more than with birds or beetles, mushrooms or mammals. Excepting Tumbleweed, plants tend to sit still for ease of study! I've tried and don't really enjoy sitting in a bird hide waiting for something interesting to appear.

I enjoy the detail, and the intellectual logical stimulation of keying out plant species. Equally I love the art of identifying by a plant's jizz. To me field botany is as much art as science. Whilst out in the field alone, I am just as likely to be inspired to poetry or sketching, as to scientific analysis. I oddly don't personally see my botany as science, though of course it is.

Globeflowers (*Trollius europaeus*) at Shutterflat Muir, Renfrewshire. (Jim Blackwood)

There is also the joy of reconnecting with old friends each season. For example, since discovering a glorious population of Globeflowers (*Trollius europaeus*) on Shutterflat Muir, not far from Lochwinnoch, I do an annual pilgrimage just for the exquisite pleasure. And of course there is the excitement of finding something new or unexpected.

I also very much enjoy targetting 'never-before-recorded' monads - these are becoming much rarer now in Renfrewshire! There's a geeky pleasure in knowing that even your *Bellis perennis* is new to science! And although monad recording is far from a perfect method, it does take you to neuks which you would not otherwise have chosen to visit. There is almost always something interesting waiting to be found.

The Spanish poet, Federico Garcia Lorca, wrote "En la pradera bailaba mi corazón" / "My heart was dancing in the meadow." That's what attracts me to field botany.

What advice would you give to any budding field botanist?

Go for it! Enjoy it! Your heart will soon be dancing in the meadow! Find a field guide which suits you. None is perfect, so you'll probably end up with several. Don't shy away from the Latin scientific names. You'll be surprised how easily they stick in the memory with a wee bit of effort.

Take it easy. Don't expect to cover everything in one season, if you're a beginner or rusty. Nobody can do grasses, sedges, rushes and ferns in one fell swoop. Choose one to get to grips with one season, and move onto another next year. Step by step.

Learn from others. Go out on field meetings such as the network outings; join your local natural history society and get involved. Botanists are a lovely breed, always eager to share knowledge and skills. Equally go out on your own in your local patch, and practise your ID skills independently. Take photos. Never be shy to ask for help and advice. Your local expert is but a WhatsApp or an email away. I cautiously also mention plant ID apps because I am relatively new to them. But they're becoming more useful and reliable. Take advantage of them, but in moderation. And always check what an app says with your book and/or friendly human expert.

Adopt a monad, maybe the one in which you live. Visit different areas throughout the year, targeting various habitats. You'll be surprised how much you find, and you can eventually submit your records to BSBI. It's a super way quickly to advance your knowledge by doggedly identifying everything you find in one monad. Only record what you confidently know to be correct.

You will very soon be better than average. Indeed you probably already are! The main thing is to keep enjoying your botany. It soon becomes a virtuous circle.

I would also encourage you to play to your strengths and combine your botany with another interest or skill such as writing or photography, drawing or spreadsheets, folklore or geology… whatever.

What, in your view, is the value of species recording?

As I've said, I'm no scientist. But there is no doubt that species recording is important. I disagree with the view that recording common species is pointless and just floods a database with superfluous data. All data are useful. Computers these days can cope with whatever you throw at them, and you can manipulate that data according to your needs. The waxing and waning of species is important to record, not least in this worrying age of climate change, habitat loss and biodiversity collapse. Every record is grist to the mill, building local, national and international pictures.

How did your involvement in leading groups arise, and do you have advice for others thinking of doing similar?

Simply, I was asked, and I said yes. I guess as a teacher it seemed like a natural thing for me to do. I've now led several Network recording outings in Renfrewshire. Indeed, you soon get asked to help with other things by other organisations, and you have to learn sometimes to say no!

However, if you're thinking about leading a botany outing, I'd say give it a go. Going on a recce a few days before will enable you to work out the topography of the site, and you will have time to work on the ID of anything tricky you find. But don't fret if you find something you can't identify in front of your audience. They'll respect your honesty in admitting you don't know. *Humanum est errare*.

Where, in your experience, would you recommend, within our Network area, for interesting plants or habitats?

I can only really talk about my local patch, Renfrewshire. If you've never visited my home village of Lochwinnoch and environs, I would recommend it botanically. There's a rich tapestry of habitats with Castle Semple and Barr lochs; willow carr and marshland; ancient woodland up into the Calder Valley up to Muirshiel and the moorlands of the Renfrewshire Heights; tributary burns; remnants of species rich grasslands eg Cruick Hills; and much more…

What, if any, unusual plants have you found locally or further afield?

Wherever you go there's always something unusual to find. We tend to take especial note of the rare and exotic. However, I think it is all too easy to become habituated to the common. There's a vivid patch of Red Campion by the roadside between Lochwinnoch and Beith which delights me every year, and I cannot fail to admire the annual sea of Dandelions by the A737 between Howwood and Johnstone. Life is too short not to visit a Bluebell wood every year at its best.

Flower mountain, Kinnekulle, Sweden, in the footsteps of Carl Linnaeus. (Jim Blackwood)

Of course I understand the question, and of course the botanically unusual gives me great pleasure. I have already mentioned the Globeflowers at Shutterflat. Last year in a weedy verge by the bus station in Alicante, Spain I saw for the first time the strikingly beautiful blue form of Scarlet Pimpernel. In February this year I saw the Giant Dandelion (*Sonchus acaulis*), growing wild and abundantly in the uplands of Gran Canaria, an impressive and beautiful plant. Visiting friends in Lidköping, by Lake Vänern, Sweden in June this year for midsummer, we spent a glorious sunny afternoon walking the dogs on Kinnekulle, locally called "flower mountain" (whatever that is in Swedish!) This mountain limestone pasture was a favourite botanising haunt of Carl Linnaeus. I saw many Lady's Slipper Orchids (*Cypripedium calceolus*) in a woodland clearing, frustratingly some two or three weeks too late to catch them in bloom! But the limestone pasture was thrillingly floriferous, abounding in the rare and the beautiful.

Having seen the quality of your photographs, is there any advice you can share on equipment or framing the shot?

Thank you. I certainly do not regard myself as an expert in photography, but I guess I have an eye for a pleasing shot. To be frank, for every "good" shot, I take probably twenty which are pretty rubbish. I don't use any specialist equipment, just my iPhone.

Getting your botanical subject in focus is essential, but can be tricky with a phone camera. If you gently tap on the screen where you want it to focus, in theory it should focus there. But it isn't guaranteed success on a subject as intricately shaped as a plant, so it's worth taking several shots to improve your chances. Even then you may find that the camera has focussed on a leaf or an adjacent blade of grass, anything other than the bit you want! Sometimes I have to admit defeat. Grasses, sedges etc are often beyond my ability to photograph well. Another thing to consider is that plants can move in and out of focus in even the lightest breeze. Patience and a bit of luck are required!

With regard to framing, a common mistake is to take the photo from above, like a bird's eye view. This rarely looks good. Much better to get down there to flower height on your hunkers, or kneeling, or even lying.

Small white or yellow flowers can be the trickiest to photograph successfully. Often the inflorescence just gets washed out, especially on a sunny day. So a dull day, even a rainy day, sometimes yields better results. Evening light, in the so called golden hour, can also be a perfect time for a really good photo.

Luck can play a huge part. On the cusp of my photographing a Monkey Orchid (*Orchis simia*), near Goring-on-Thames in South Oxfordshire, a Dingy Skipper butterfly landed on it. It was the first Dingy Skipper I'd ever seen. I was so excited that I failed to take the photo.

Away from botany, what else holds your interest?

All aspects of natural history, and walking in the countryside. I love words, etymology, and learning languages, all of which I used in my work as a primary teacher. I read Classics at university and am currently learning Spanish (my fifth language), which I've been seriously doing since lockdown. I also enjoy reading and writing poetry, and gardening in an unkempt weedy way.

Site Profile:

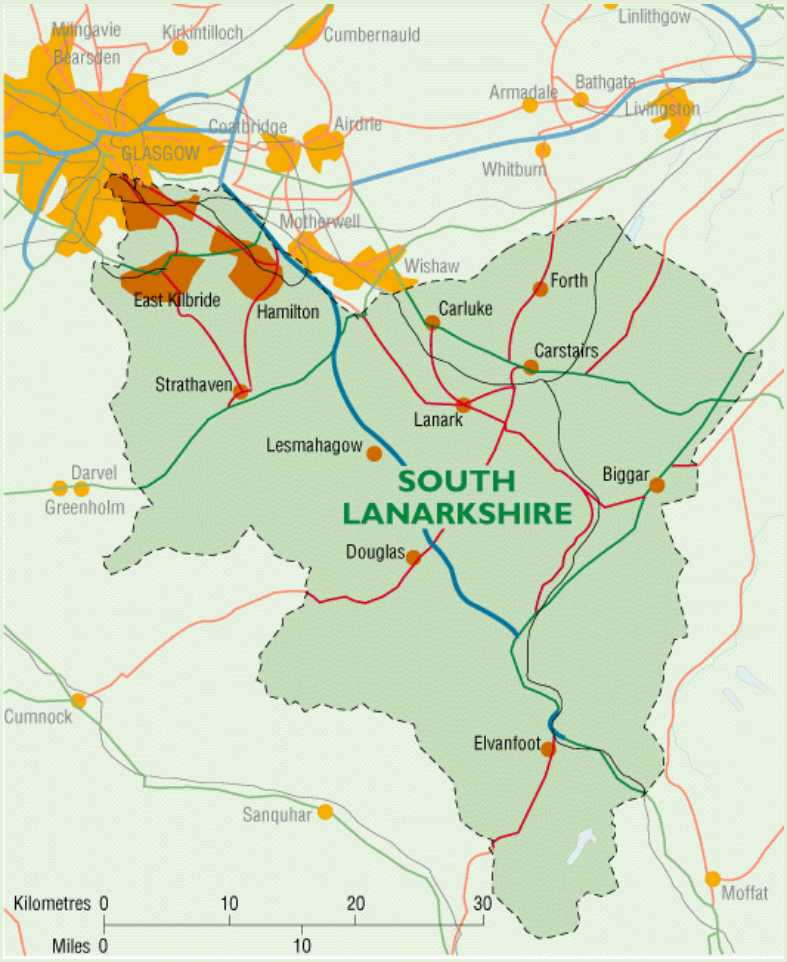
Transforming Scotland's urban landscape into wildlife havens: new Local Nature Reserves in South Lanarkshire

Jo Birkin, South Lanarkshire Council

ABSTRACT

Four former brownfield sites in South Lanarkshire, Scotland, which have recently been designated as Local Nature Reserves, are described, with reference to their importance for biodiversity, recreation and education.

INTRODUCTION



Map of South Lanarkshire showing major urban areas in the north-west near Glasgow plus a selection of towns and settlements elsewhere.

Across Scotland, Local Nature Reserves (LNRs) are diverse places that include beaches, woodlands, local greenspaces and lochs. South Lanarkshire Council (SLC) wants to give people access to the outdoors in places that are valued for their relative wildness in an urban setting. These places are usable for recreation and education as well as being biodiverse places where wildlife can thrive.

In April 2022 SLC designated a total of 17 LNRs, with 16 new sites adding to the existing one at Langlands Moss (South Lanarkshire Council, 2022). Covering around 600 ha in total, these encompass a broad spectrum of habitats including ancient broadleaved woodland, open water, wetlands, and grasslands. Some sites have already had significant investment to improve their access and other infrastructure, some very little. Similarly, some have excellent community groups who do much work on their sites, while others have none. SLC wishes to continue and expand work on sites, and to keep people interested and involved with their local greenspaces. The Council wants to collaborate with the community to ensure local needs are met and that the public is aware of why these sites are special. Each site has a draft management statement prepared by SLC which gives information on why it is important, and the aims for the site in the future.

Some of the newly designated LNRs are former vacant and derelict land and brownfield sites: Milton near Carluke, Fernbrae Meadows near Cathkin, Redlees Urban Park near Blantyre and Holmhills, near Cambuslang. SLC have also converted a former tip in East Kilbride to create Glen Esk Urban Greenspace. All are now accessible for people and provide improved biodiversity value. Descriptions of these sites, apart from Holmhills, are provided below. Park (2023) provides an account of the urban LNR at Holmhills.

DESCRIPTIONS OF SITES

Milton Tile Works LNR (NS83804976)

This is the site of a former brick and tile works on the outskirts of Carluke. Identified by SLC as vacant and derelict land, it is around 14 ha in size and was inaccessible to the local community. The site supported a mosaic of habitats from bare and previously disturbed ground of the former brick works, semi-improved neutral grassland, marshy grassland, scrub, broadleaved woodland, and open water associated with the former clay pits.

The site is dominated by scrubby willow and birch woodland, which appears to have naturally regenerated following the abandonment of the tile works and tip; rank grassland and tall ruderal vegetation dominate the remaining areas. The woodlands contain some mature trees, with a good ground flora mix and an abundance of deadwood. Spikes of broad-leaved helleborine (*Epipactis helleborine*) can be found throughout the reserve. The site supports three ponds, which are connected by a large, wide drain running north to south. The water in both drain and ponds was stagnant and had very little flow. The ponds were becoming choked by inundation vegetation, which was also holding back the movement of water and causing swamp-like areas to form. Wetter areas give rise to commonsedge (*Carex nigra*), common reed (*Phragmites australis*), soft rush (*Juncus effusus*), reedmace (*Typha latifolia*), reed canary grass (*Phalaris arrundinacea*), wild angelica (*Angelica sylvestris*), meadowsweet (*Filipendula ulmaria*) and yellow flag iris (*Iris pseudacorus*). There were some rubble piles and remnants of buildings, along with some areas of fly-tipping.

Access into and across the site was difficult, due to the very wet uneven ground and deep drains running between the ponds. There were several large stands of Japanese knotweed (*Reynoutria japonica*) and snowberry (*Symphoricarpos albus*) on the site.

Fig. 1. One of the remaining borehole covers at Milton LNR. (SLC Countryside & Greenspace Services (CAG))

Fig. 2. Milton LNR: Wildflower and access improvements. (SLC CAG)

In 2018 SLC commissioned an environmental survey and monitoring project at Milton with the aims of characterising the ground-gas regime, undertaking shallow soil-sampling and water sampling. Boreholes (Fig. 1), ground-gas, and groundwater monitoring wells were installed for monitoring purposes.

In 2020, significant site works were undertaken at Milton thanks to the Vacant and Derelict Land Fund. Three new access points were created, one of which has parking spaces. Paths and boardwalks were installed along with benches and a central design incorporating reclaimed bricks in a Celtic knot pattern (Fig. 2). Drainage has been improved throughout the site and a dipping platform was installed at the larger pond. Wildflower seed**s** were sown in many areas to help improve both grassland diversity and pollinator habitats. This new LNR now provides a much-welcomed asset to the local community.

Fernbrae Meadows LNR (NS61925879)

This LNR covers an area of 37.8 ha on the western edge of South Lanarkshire at the boundary with Glasgow. It is situated between the Rutherglen communities of Fernhill and Cathkin, and Castlemilk in Glasgow. Fernbrae Meadows comprises the former Blairbeth Golf Course and part of Cathkin Braes Country Park.

The southern half of the reserve is dominated by broadleaved woodland, which forms part of Cathkin Braes Country Park (CP), and is managed by Glasgow City Council. Cathkin Braes CP covers around 199 ha of land and includes woodland, ancient woodland, heath and grassland. At 200 m above sea level, the park provides views over the city to the Campsie and Kilpatrick Hills on a clear day. There are many paths linking the existing country park to the LNR. The closure of the golf course in 2015 left a significant area (22.33 ha) of formal amenity grassland which has now been turned into a community greenspace. In 2018 SLC with help from NatureScot's (NS) Green Infrastructure Fund, established a variety of new habitats at the LNR: ponds and associated marshy grassland, an orchard and native woodland planting to link to existing woodland in the south of the site. Native wildflowers have been sown in large swathes of grassland, in which can be found plants of interest including common-spotted orchid (*Dactylorhiza fuchsii*), northern marsh-orchid (*D. purpurella*) and greater butterfly-orchid (*Platanthera chlorantha*).

Fig. 3. Fernbrae Meadows LNR. (SLC CAG)

A new community group linked with Fernbrae Meadows emerged before the redevelopment of the urban greenspace was completed. A group of interested residents first met in April 2018 and became constituted as the Friends of Fernbrae Meadows in January 2019.

The Friends of Fernbrae Meadows organised an official opening event for the site in June 2019. The event was attended by representatives from SLC, NS, local schools, Community Links volunteers and 400 members of the public.

An information leaflet about Fernbrae Meadows was created for the opening in a collaborative effort between the Friends and local school children who designed a logo for the group.

The group continue to plan regular community events focusing on community connection, taking care of the surroundings, and developing the space for biodiversity, while also researching the history of the landscape. The Friends engage the wider community through social media and have several volunteers interested in photography who have provided visual content through photographs and drone video footage.

Educational establishments have been actively engaged with the space throughout its development by helping to plant trees and wildflowers (Fig. 3). Fernhill School uses the site for Forest Kindergarten, outdoor learning and cross-country running. There are several spaces designed specifically as outdoor classroom areas, but groups visit on a flexible basis accessing the entire site.

Redlees LNR (NS680598)

This is located to the north of Blantyre: the 27 ha site is bordered from its southern tip to northwest corner by the Glasgow to Hamilton railway line. The Rotten Calder Water runs from the northwest to the northern-most point. The reserve is a part of the larger LNR named Bothwell, Blantyre and Uddingston.

Previously part of the Calderbank House Estate, the site was requisitioned by the Government during World War II, during which time an anti-aircraft battery was installed within the central portion of the site. A clay quarry existed on the site and is understood to have operated until the late 1980s. Since then, various environmental improvement works have been undertaken on the site. Formerly, landscape improvement, bunding, and woodland planting was done. Path works and further woodland planting were conducted in the 1990s and latterly, from 2010 to 2012, a comprehensive project involved the construction of a range of footpaths, installation of interpretation, renovation and stabilising of the World War II structures, and construction of a car park in the northeast. The quarry pond (Fig. 4) was developed as a coarse fishery in the 2000s and is a key feature of the site.

Fig. 4. Redlees Quarry LNR. (SLC CAG)

Approximately 16 ha of the 26.7 ha site is covered by woodland. The existing woodland consists almost entirely of broadleaf species, silver birch (*Betula pendula),* oak (*Quercus* spp.*)*, alder (*Alnus glutinosa*), ash (*Fraxinus excelsior*), aspen (*Populus tremula*)*,* wild cherry, (*Prunus avium*), rowan (*Sorbus aucuparia*), hazel (*Corylus avellana*), hawthorn (*Crataegus monogyna*) and willow (*Salix* spp.). A proportion of the woodland of Redlees has been planted in the 1980s and 1990s. Woodland can be found along the banks of the Rotten Calder Water, with some mature sycamore and beech being in the order of two hundred years old.

More recently Scottish Forestry WIAT (Woodlands in and Around Towns) funding included some woodland management works. These focused on the clearing of some of the hawthorn (*Crataegus monogyna*) regeneration within woodland, and the clearance of small areas of woodland to facilitate the creation of footpaths. Woodland management has encouraged natural regeneration and has improved the existing standing woodland. Additional diversity of habitats was provided, as a proportion of the thinning was left on site as deadwood. The hazel woodland has been brought under a coppicing regime to add to the biodiversity of the ground flora and improve the woodland edge to allow for a variety of scrubland birds known to use the area, including yellowhammer (*Emberiza citrinella*)

and Eurasian tree sparrow (*Passer montanus*). The funding also aimed to control the invasive Japanese knotweed found on the banks of the Rotten Calder.

Glen Esk Urban Greenspace (NS6556555031)

Fig. 5. Glen Esk Urban Greenspace; artwork and path improvements. (SLC CAG)

Fig. 6. Glen Esk Urban Greenspace; boardwalk and pond. (SLC CAG)

Located in East Kilbride, this was a former landfill site left to regenerate naturally, subsequently dominated by birch and willow scrub. The site was much neglected, used only by local dog walkers, and as a short cut to the local school. In 2019/20 SLC collaborated with the local community to explore how to spend the £1 million awarded by the Scottish Government Vacant Derelict Land Fund.

The 7.6 ha site now incorporates native planting and habitat creation, footpaths, artwork (Fig. 5), an outdoor classroom, and a car park. Habitats of open water, wet meadow, wildflower meadows, planted trees and marshy grassland were added to increase the biodiversity value of the park.

The network of paths now forms an important link between residential estates by improving the quality of paths and greenspace networks. This has been achieved by the addition of boardwalks (Fig. 6) and all access pathways. The greenspace links to areas of broadleaved woodland in the surrounding landscape connecting to an extensive wildlife corridor following the wooded banks of the Rotten Calder Water within Calderglen Country Park.

The local community and schools now use this once unloved area. The residents have created the Facebook page Glen Esk “Pocket Park” and regularly record the wildlife observed at the park. They take pride in their new park and regularly organise events, health walks and encourage the local community to take an interest in the wildlife. Nearby schools visit and have helped sow seeds and plant wildflower bulbs.

CONCLUSIONS

The former brownfield sites described are now being managed for biodiversity, so becoming assets to the local community as well as attracting visitors from further afield. In addition to recreation, with its attendant health and well-being benefits, the sites are used for outdoor education, and several of them have inspired involvement by the local community groups and individuals in maintaining them and recording wildlife.

- Digruber, N. (2023). Fernbrae Meadows LNR: Fernbrae Meadows Local Nature Reserve – Biodiversity on a rewilded golf course in Glasgow, Scotland. *The Glasgow Naturalist* 28(1).
- Park, A. (2023). Holmhills Wood Community Park Local Nature Reserve, Cambuslang, Scotland: biodiversity on the doorstep. *The Glasgow Naturalist* 28(1).
- South Lanarkshire Council (2022). Local Nature Reserves in South Lanarkshire / https://www.southlanarkshire.gov.uk/info/200166/getting_outdoors/1824/local_nature_reserves_in_south_lanarkshire Accessed 3rd November 2022.

Out & About: Field Reports 2024

Duncryne VC99 (NS4385, NS4386). 23 June

Michael Philip

Tom Weir, the celebrated Scottish mountaineer and outdoors-man, lived in Gartocharn and used to ascend the small 'dumpling' hill of Duncryne each morning to check what the weather was doing. He fondly described the hill's 'helicopter view' of Loch Lomond and its islands.

Our botany outing, flagged as a learning opportunity, recorded a good list of plants but when we reached the summit trig-point we found the view now somewhat occluded by trees and scrub.

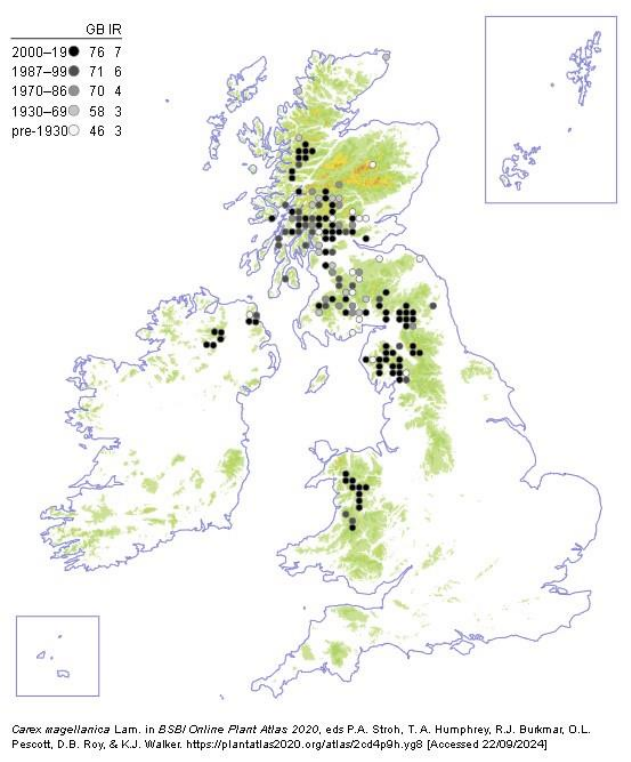
Nonetheless it was a poignant moment for me: I showed the group a cine film screenshot of me, aged four, sitting on the selfsame trig-point with my Mum showing me how the image on the map compared with the view before us.

Images show Michael on and by the trig point.

What a difference six decades make!

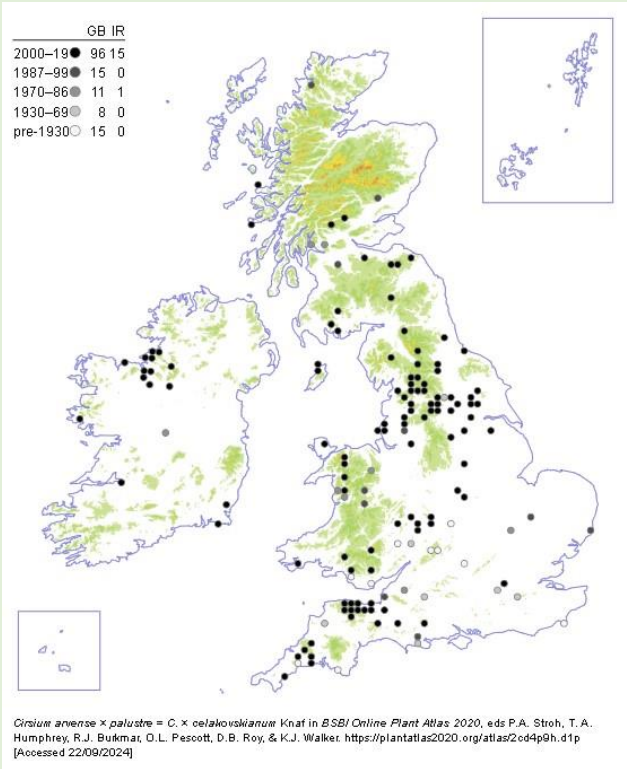
Floak Bridge VC76 (NS5049, NS5050 & NS5150). 30 June

Peter Wiggins



Carex magellanica Lam. in *BSBI Online Plant Atlas 2020*, eds P.A. Stroh, T. A. Humphrey, R.J. Burkmar, O.L. Pescott, D.B. Roy, & K.J. Walker. https://plantatlas2020.org/atlas/2cd4p9h.yg8 [Accessed 22/09/2024]

Distribution of *Carex magellanica* BSBI



Cirsium arvense × *palustre* = *C.* × *celakovskianum* Knaf in *BSBI Online Plant Atlas 2020*, eds P.A. Stroh, T. A. Humphrey, R.J. Burkmar, O.L. Pescott, D.B. Roy, & K.J. Walker. https://plantatlas2020.org/atlas/2cd4p9h.d1p [Accessed 22/09/2024]

Distribution of *Cirsium x celakovskianum* BSBI

Floak Bridge is an area of moorland beside the M77 and close to Whitelee Windfarm, but without any turbines, yet.

We had a large party led by Keith Watson with Liz, Janey, Liza, Meghan, Casey, me and Billy. The trip was not advertised as a training outing, but with Keith there, I was looking to learn and others wanted to brush up their knowledge on moorland plants.

Keith talked about willowherbs and showed the differences between the three species that were present. I explained the differences between the three thistles species which were helpfully growing together close to the cars and showed that Creeping Thistle (*Cirsium arvense*) lacked the spines on the stem, unlike Marsh Thistle (*Cirsium palustre*), except it seemed that some plants hadn't read that bit of the book.

It was excellent terrain to show the different rushes, cotton-grasses and moorland grass species and we gathered a good list in a square with few previous records.

Michael Philip had found Tall Bog-sedge (*Carex magellanica*) a mile or so away (See Trifoliate Summer 2024 page 20), so we were looking for it, and we found it, over tens of metres in a damp mire. It is an uncommon sedge and favours watershed borders which are often vice-county borders and this was close to the VC border in both these sites.

We discussed some odd thistles, and Keith was wondering if they could be the hybrid between Marsh and Creeping thistles. So, when we returned to the cars, we had a look at various references but Keith remained to be convinced. Later I read up and looked at the article (by Keith) on the hybrid and went back a couple of weeks later when the flowers had gone over, and I think these were fertile, so not the hybrid.

As expected over moorland, the going was challenging at times, but this was a great learning day for us all.

There is a good beginners' guide to common thistles by Mike Crewe which is available here .

The hybrid between Creeping thistle and Marsh thistle is known as *Cirsium x celakovskianum* and has been recorded in Scotland.

Ben Vane VC99 (NN2609, NN2709, NN2708). 6 July

Michael Philip

This was one of those days when networking in the winter paid dividends in the summer: we were able to borrow a key to the locked gate at the foot of the Loch Sloy track and drive all the way up to the former quarry on the south side of Ben Vane - saving ourselves a lot of time and effort. The mission was to record one under-recorded, and two unrecorded, monads. The weather was at times poor, but lovely when the sun shone through the showers.

This is rugged, challenging terrain with many botanical gems rewarding the commitment of any field botanists who make the effort.

Mountain Sorrel (*Oxyria digyna*) and Yellow Saxifrage (*Saxifraga aizoides*). (Michael Philip)

Fir Clubmoss (*Huperzia selago*). (Michael Philip)

West Browncastle VC77 (NS6042, NS6043, NS6142). 7 July

Frazer Henderson

"Blows the wind today, and the sun and the rain are flying, blows the wind on the moors today…" R.L.Stevenson

An apt description of the day's weather with a soundscape not of the plaintive calls of Stevenson's whaups but the industrial grinding of turbines as they repositioned themselves to face an austere wind.

West Browncastle Wind Farm is located about five miles west of Strathaven and consists of 12 wind turbines (30MW) that reach skywards up to 130 metres from base to the highest point of the blade. The Wind Farm was commissioned ten years ago which means that the access tracks now sport an array of dry-land species sitting somewhat incongruously on raised ground above the damp moorland bog.

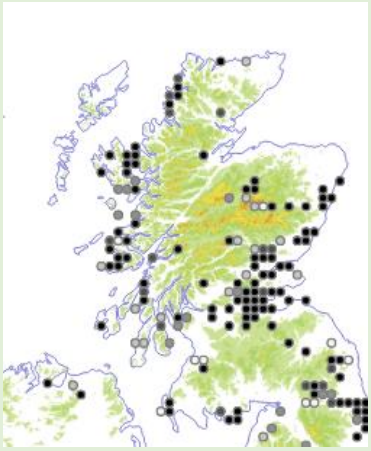
Eyes down: searching for plants under a leaden sky in a Scottish July. (Frazer Henderson)

The task was to record two monads plus a small sliver of a third (NS6043) which fell within VC77 the larger remaining part being in Ayrshire. On the tracks, which seemingly had a substantial amount of calcareous spoil, we found the usual ruderal colonists plus the seemingly ubiquitous New Zealand Willowherb (*Epilobium brunnescens*).

Bog Asphodel (*Narthecium ossifragum*).
(Frazer Henderson)

Hare's-tail Cottongrass (*Eriophorum vaginatum*).
(Frazer Henderson)

However, it was the bogs that drew our attention especially since Peter Wiggins had advised us that, in his opinion, a good bog must have Round-leaved Sundew (*Drosera rotundifolia*), Bog Asphodel (*Narthecium ossifragum*) and Cranberry (*Vaccinium oxycoccos*). We found all the species plus Bog Cotton species and in good numbers: we must have been on a great bog!



Wood Small-reed *Calamagrostis epigejos*

"A tufted rhizomatous perennial grass, occurring in damp woods, ditches, fens, ungrazed or lightly grazed grasslands, and on sheltered sea-cliffs and sand dunes; also as a colonist of artificial habitats such as old quarries, roadsides, railway banks and brownfield sites. It usually grows on light sands or heavy clays."

BSBI

As we took luncheon in the lee of a turbine we noted a large patch of grass waving nearby which generated a good deal of discussion before we finally determined it was Wood Small-reed (*Calamagrostis epigejos*), a nice find for the area. It has been recorded in Scotland particularly in East Central Scotland as can be seen from the BSBI Plant Atlas distribution map.

The many ponds, pools and drainage ditches contained an interesting array of species including three *Callitriche* species – (*CC. brutia, platycarpa* and *stagnalis*) - as well as Branched Bur Reed (*Spargium erecta*), Lesser Spearwort (*Ranunculus flammula*), two bog pondweeds, (*Potamogeton natans* and *P. polygonifolius*), Water Horsetail (*Equisetum fluviatile*), Water-purslane (*Lythrum portula*) and numerous species of true reeds and sedges.

With species records for each monad of 86 (NS6042), 53 (NS6043 part) and 94 (NS6142) we all considered it to have been a good day in the field.

Leap Moor VC76 (NS2269, NS2370, NS2470). 13 July

Keith Watson

Admiring the Daff Reservoir. (Peter Wiggins)

A small group met at the Cornalees visitor centre in nice weather, put on our blinkers and set off on a trek along the Kelly Cut to Leap Moor. The aim was to record a couple of monads lacking recent records and relocate some interesting finds from the south of Daff Reservoir. On arrival in the monad we made a slight detour along the Gimlet Burn, which proved to be very rewarding, with a rich flora including Lesser Clubmoss (*Selaginella selaginoides*), Common Butterwort (*Pinguicula vulgaris*), Marsh Arrow-grass (*Triglochin palustris*) and Dioecious Sedge (*Carex dioica*); the most pleasing find was the good population of one of the target species: Yellow Saxifrage (*Saxifraga aizoides*), frequent in the west but seemingly very rare on this side of the Firth.

Peter Wiggins headed up to Crawhin Reservoir, and when the rest of us joined him he had already found Floating Bur Reed (*Sparganium angustifolium*), in flower and Various-leaved Pondweed (*Potamogeton gramineus*), and to top it all when we looked at some of the presumed floating bulbous rush some of it turned out to be Floating Club-rush (*Eleogiton fluitans*); a terrific find of a perhaps overlooked aquatic; the diverse margins yielded more records, including Bristle Club-rush *(Isolepis setacea*) and, of note, another target species Knotted Pearlwort (*Sagina nodosa*)!

Having been thoroughly distracted by these two rich sites we ventured across the less diverse moorland of Brown Hill, where we ticked off the usual suspects and settled for a well-earned late lunch. On our descent later we found a couple of patches of the elusive Lesser Twayblade (*Neottia cordata*) and near to the Daff Reservoir a large stand of Bog Myrtle (*Myrica gale*), a surprisingly rare plant in Renfrewshire. Although we didn't get further south on our trip we had seen enough to lift our spirits for the trek back to the car park.

Left: Yellow Saxifrage (*Saxifraga aizoides*) leaning over the Gimlet Burn. (Peter Wiggins)

Centre: Flowering Water-milfoil (*Myriophyllum alterniflorum*). (Peter Wiggins)

Right: Butterwort (*Pinguicula vulgaris*). (Peter Wiggins)

Checking the heather for the elusive Lesser Twayblade (*Neottia cordata*). (Peter Wiggins)

Kilcreggan VC99 (NS2580, NS2680). 14 July

Lucy Hollingworth

Ray's Knotgrass (*Polygonum oxyspermum*).(Lucy Hollingworth)

Finally, a hot summer's day with not a drop of rain. The group headed east from Kilcreggan round Portkil and then Meikleross Bays to look at two coastal squares. Find of the day was Ray's Knotgrass (*Polygonum oxyspermum*).

Sadly, the coastline is dominated by Japanese Knotweed (*Reynoutria japonica)* which creates an impregnable hedgerow, for what feels like miles, just above the beach. It was hard to get back through onto the track until we arrived in Meikleross Bay.

It was worth the walk though, as here we found a small but lovely area with Greater Sea-spurrey (*Spergularia media*) and Lesser Sea-spurrey (*Spergularia marina*), and Annual Sea-blite (*Suaeda maritima*).

The tracks and beaches were interesting and varied, records included False Fox-sedge (*Carex otrubae*), Scarlet Pimpernel (*Lysimachia arvensis*), Sea Rocket *(Cakile maritima*), Sea-milkwort *(Lysimachia maritima*), Amphibious Bistort *(Persicaria amphibia*), Bristle Club-rush *(Isolepis setacea*), Sea Aster *(Tripolium pannonicum*) and Sea Radish (*Raphanus raphanistrum ssp. maritimus*).

Ray's Knotgrass (*Polygonum oxyspermum*)

A prostrate annual, biennial or short-lived perennial herb of sand, shingle or shell beaches, sometimes found on other open sandy ground near the sea, usually just above the limit of the highest tides. Most populations are subsp. *raii*. In Scotland, subsp. *oxyspermum* has been persistently recorded from Fife, and also reported sporadically from East Lothian. It is possible that these plants arrived naturally from the Baltic region. BSBI

Gana Hill VC77 (NS9401, NS9501, NS9601). 21 July

Keith Watson and Jan Davidson

On an overcast but dry day there was a joint meet of Lanarkshire and Dumfriesshire VCs to Gana Hill and Earncraig Hill, just south of Daer reservoir. We were to meet Chris & Alison Miles on the county boundary and team up for the day. The Lanarkshire crew, Keith Watson, Liza Downie, Natalie Cozzolino and Jan Davidson, drove south past the reservoir with permission to go through the gate at the end of the public road onto a hill track for a couple of kilometres towards the isolated cottage at Daerhead.

Liza Downie and Keith Watson at Crow Burn. (Jan Davidson)

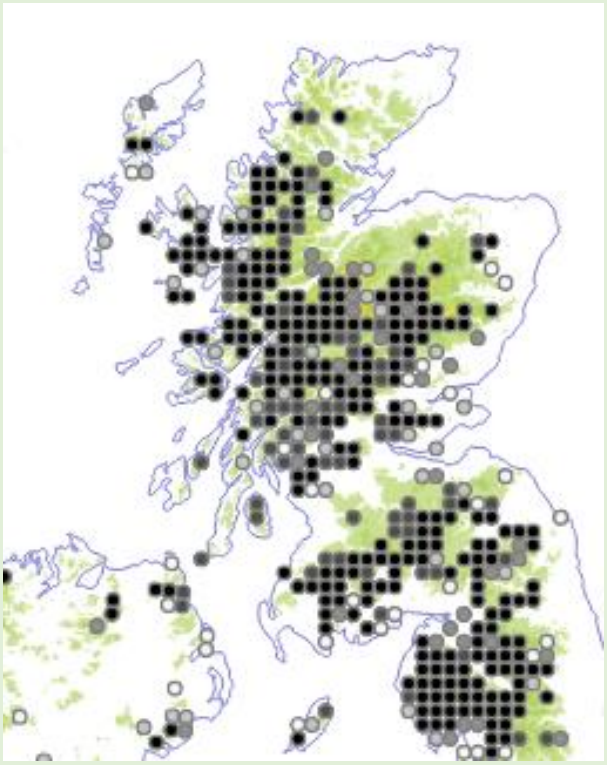
We had been warned that the track would be rough and had a couple of bridges in dubious states of repair. Not deterred we drove along stopping frequently to let intrepid Keith determine the depth of various flooded stretches as he was the only one wearing wellies. One bridge did indeed look a bit iffy but I (JD) just put my foot down and hoped for the best.

We recorded in NS9601 on the walk in with Keith leading. On the way up we diverted to look at Crow Burn which was largely ungrazed in a shallow, rocky gorge supporting a diverse tall herb community where finds included Wood Crane's-bill (*Geranium sylvaticum*), oak and beech ferns (*Gymnocarpium dryopteris* and *Phegopteris connectilis*).

Around midday we joined Chris & Alison at Daer Hass (522m) to walk up onto the slopes of Earncraig Hill (summit 611m). Here the flora changed to more subalpine with swathes of tiny Alpine Meadow-rue (*Thalictrum alpinum*), Chris & Alison had found Alpine Bistort (*Bistorta vivipara*) on the Dumfriesshire side. We sat on the slope for lunch with fine views to the south as far as the Solway and to the north Daer reservoir. In the afternoon we all explored around the crags below the summit of Gana Hill, Ewe Crags, and then walked over to Crow Crags NS9501 (550m). One aim of the excursion was to refind a few subalpine species recorded in the mid1990s (by KW) but which lacked precise grid references. These included Alpine Saw-wort (*Saussurea alpina*), Alpine Bistort, Alpine Meadow-rue (*Thalictrum alpinum*), Mountain Male-fern (*Dryopteris oreades*), Globeflower (*Trollius europaeus*) and Pyrenean Scurvy-grass (*Cochlearia pyrenaica*). All were re-discovered and now have decent grid references; most had reasonably sized populations (except the latter two, which were only seen as tiny singletons). These and other interesting records are associated with base-rich grasslands and rocky screes occurring below the summit ridge of Gana and Earncraig hills, forming a sharp contrast between the more typical acidic grasslands, mires and moorland comprising most of the survey area.

Alpine Thalictrum (*Thalictrum alpinum*). (Jan Davidson)

Northern Bedstraw (*Galium boreale*). (Jan Davidson)



Distribution of Parsley Fern (*Cryptogramma crispa*) in northern UK. (Plant Atlas 2020 BSBI)

Interesting finds in the shrubby moorland were Common Cow-wheat (*Melampyrum pratense*), Cloudberry (*Rubus chamaemorus*) and Lesser Twayblade (*Neottia cordata*).

Starry Saxifrage (*Micranthes stellaris*) was noted at a couple of spots along the Gana and Crow burns. Other good finds on the day included Northern bedstraw (*Galium boreale*), Parsley fern (*Cryptogramma crispa*), Pale sedge (*Carex pallescens*), Dioecious sedge (*Carex dioica*) and the hybrid of Yellow and Tawny sedges (*Carex x fulva*).

We walked over the brow above Crow Crag where we parted company and Chris & Alison continued to record as they walked out southwards via Burlywag Bothy. Keith walked back via Gana Burn while the rest of us headed down the ridge and back to the car. We drove out to meet up with Michael Philip and Peter Wiggins. A total of 379 records were made, representing 147 species recorded from three target monads (along the watershed between VC 77 and 72) plus a couple of 'bonus' partial lists from adjacent monads. All in all a very rewarding day.

'Parsley Fern (*Cryptogramma crispa*) is a small, deciduous, long-lived clump-forming fern is a strong calcifuge and is found in well-drained sites on relatively stable, steep scree slopes and on slate mine waste, where it is a pioneer species. It also occurs more rarely as small plants on cliff ledges and mortar-free dry-stone walls.' BSBI

Blantyre VC77 (NS6755, NS6854, NS6855). 11 August

Janey Floyd

We struck lucky on the weather-front in the rather erratic season of summer 2024 ... yes, we had a warm sunny day, with enough of a breeze to keep the biting beasties away and us from feeling the heat. Six volunteers and leader Peter Wiggins. Good paths, easy walking, grassy areas, woodland and the Red Burn flowing through a small, damp, shady steep-sided glen. A good botanical bingo on common plants and more besides.

An autumnal feel in the air despite the sunshine, with Rosebay Willowherb (*Chamaenerion angustifolium*) and Greater Willowherb (*Epilobium hirsutum*) and Broad-leaved or 'Glasgow' Orchid (*Epipactis helleborine*) in flower or already gone over.

Is the botany better over the fence? (Jim Blackwood)

A magnificent display in NS6755 of Timothy (*Phleum pratense*), in full flower, shimmering in a purple-pink haze. NS6755 also yielded *Astrantia major*, probably as a result of garden-waste dumping but nonetheless established. Some Three-nerved Sandwort (*Moehringia trinervia*) too in this square.

In the damp shady glen area by the Red Burn in NS6855 we found the delightful Wood Millet (*Milium effusum*).

Also, in the wooded area here Sanicle (*Sanicula europaea*), a little past its best given the timing. Sweet Woodruff (*Galium odoratum*), Smooth Tare (*Ervum tetraspermum*), Common Figwort (*Scrophularia nodosa*), the pretty Cut-leaved Geranium (*Geranium dissectum*) and Alternate-leaved Golden Saxifrage (*Chrysoplenium alternifolium*) in this square too.

To complete - in the manner of old school magazine articles on school trips - we returned home tired but happy!

Timothy (*Phleum pratense*). (Jim Blackwood)

Lesmahagow VC77 (NS8139). 14 August

Michael Philip

For several years, we've held a recording outing jointly with The Botanical Society of Scotland - with a particular focus on supporting their Urban Flora Project.

This was a day of 200+ species. As in many small towns, there is a cluster of niche habitats within a small area, which always increases the list. In addition to the usual array of urban, woodland and grassland species, the day turned up some less common plants, keeping us all interested and focussed!

Bitter-vetch (*Lathyrus linifolius*). (Michael Philip)

Hard Shield-fern (*Polystichum aculeatum*). (Michael Philip)

Dumbarton Common VC99 (NS3976). 18 August

Michael Philip

This outing was advertised as a training opportunity, and it was therefore a delight to welcome several willing learners into a big group of 13 for this walk.

We began in Dumbarton and walked north up the west bank of the River Leven, crossed the A82 road bridge, and returned down the east bank. The hope was to encounter up to 200 species on the day and we were not disappointed: 229 species recorded.

Lots of variety, but 'find of the day' was Brookweed (*Samolus valerandi*) - well done Zoë!

This species had been previously recorded in the same location, but not since the original record by L. Watt away back in July 1900.

Brookweed (*Samolus valerandi*). (Michael Philip)

Balgray Reservoir VC76 (NS5057). 25 August

Kirsty Menzies

As Jim, Judy and Billy will testify we had very heavy rain for this botany outing. We persevered till lunchtime and then decided to pack it in as we were thoroughly soaked through. Not before recording our final plant of the day, a magnificent Chinese Ragwort (*Sincalia tangutica*) - which was worth the drenching!

Other highlights of the day were the Balgray SUDS pond planted with a good mix of wildflowers, Trifid Burr-marigold (*Bidens tripartita*) where the reservoir has been drained and Small Toadflax (*Chaenorhinum minus*) on disturbed ground next to the railway.

Despite the rain we managed to record 145 species, including about 30 previously unrecorded in that square.

Drookit botanists next to Chinese Ragwort (*Sincalia tangutica*). (Kirsty Menzies)

Balgray SUDS. (Kirsty Menzies)

Ardochrig VC77 (NS6247, NS6347. 31 August

Peter Wiggins

Ardochrig is the eastern entrance to the Whitelee Windfarm. Four of us ventured into the windfarm and north towards East Kilbride. It is always surprising what you may find beside the tracks in this moorland site. Close to a new battery storage facility the workmen had brought in Viper's Bugloss (*Echium vulgare*) and Yellow Chamomile (which has been renamed *Cota tinctoria*).

The two target squares yielded well over a hundred records which was better than expected. One square was in the windfarm area and the other was not, but both were previously blank. We saw two Hawkweeds and I took pictures, and this prompted a return visit with a Hawkweed expert later in the week, the result is awaited.

We saw a Noble Fir (*Abies procera*) (planted) (left), that was new to me, with enormous cones (right).

(both images by Peter Wiggins)

Then walking out along a wet farm track we saw Round-leaved Crowfoot (*Ranunculus omiophyllus*) and then a few yards on the same track Ivy-leaved Crowfoot (*Ranunculus hederaceus*). I often find them side-by-side like that. To tell them apart Round-leaved Crowfoot has lobes broadest above the lobe base, whereas Ivy-leaved Crowfoot has lobes broadest at the base, it also has dark central markings.

Round-leaved Crowfoot (*Ranunculus omiophyllus*).

(Peter Wiggins)

Ivy-leaved Crowfoot (*Ranunculus hederaceus*).

(Peter Wiggins)

Glen Douglas VC99 (NS3198, NS3297, NS3397). 1 Sept Michael Philip

This was a day in moorland surroundings, but one of the best and most surprising finds was Fool's Parsley (*Aethusa cynapium*), growing at the edge of a gravelly compound.

This was another of the outings in this year's programme which was flagged 'Training' and we were delighted to have with us on the day two members of staff from the Loch Lomond and the Trossachs National Park. They have commented as follows:

Fool's Parsley (*Aethusa cynapium*).
(Natalie Cozzolino)

"I've been on a few outings with the BSBI over the years (with a wee break during Covid), so I'm trying to get back up to speed with my botanical knowledge. The Glen Douglas trip was great because there was a good mix of experts, intermediates, and beginners. This was my first time meeting Stan who is incredibly knowledgeable, and I learnt a lot from him. He, as well as everyone else, was very enthusiastic to teach, which is great for me because I'm enthusiastic to learn! I'm hoping I can get to a few more outings before the season is out, and I'm delighted to be back in the team after a hiatus!" ***Natalie Cozzolino***

" I'd been wanting to improve my plant ID skills and knowledge for a while both for my own interest and to help me with my work. A friend sent me the BSBI programme and my first outing with the group was to Glen Douglas where we surveyed three squares. I would consider myself to be very much a novice and everyone was really helpful in the tips and advice they gave me regarding plant ID. I didn't feel under any pressure to be able to identify species and everyone was really welcoming. I plan to attend more outings in the future." ***Matt Dale***

We're glad to see on our outings an increasing number of professionals who work in the environmental sector.

There is clearly a real hunger for improving plant skills and our informal (and FREE!) outings provide a valuable vehicle for such learning.

Special Operations

The following 'Special Operations' reports provide detail of field work undertaken by the Network outwith the field schedule or at the behest of other organisations.

Former Exxon site, Bowling VC 99 (three visits in early summer)

This former oil terminal site on the banks of the Clyde has been undergoing a massive rehabilitation process for many years to render it clean and safe for future development. As this work was nearing completion, and thanks to the co-operation of the contractor's Principal Environmental Consultant, we were permitted to send in small teams on three occasions to record species lists on different sections of the site. This involved donning full PPE (hi-vis, boots, helmets, visors, safety gloves), undergoing site induction and following to the letter instructions as to where we could and could not go.

The best find (and credit to Malcolm Macneill for identifying it vegetatively before it was confirmed in flower on a subsequent visit) was Yellow-wort (*Blackstonia perfoliata*) - but there was an excellent range of species. This shows that, in spite of the area's highly toxic industrial use over a century or so, nature has survived and is rebounding.

Left: Michael Philip modelling the required PPE!

Yellow-wort *(Blackstonia perfoliata)* as seen on 7th May *(left)* **and again on 20th June** *(right)***.** (Michael Philip)

Beinn a' Choin VC99 (Sunday, 9th June)

Stan Campbell sent out an invitation to several keen hill-going botanists to tackle some tough mountain monads north of Inversnaid. This section of the vice-county of Dunbartonshire is, counter-intuitively, on the east side of Loch Lomond and is some of our most challenging terrain. The one person who volunteered to participate was Fiona Merrilees (along with her dog, Beemo).

Stan and Fiona did a very long and arduous day, almost literally from dawn to dusk, gathering species records from the Dunbartonshire (north) side of the boundary, in an area where precise navigation is as vital as plant identification!

This was a brilliant piece of fieldwork, rewarded by great views and some special plants.

Spectacular view north-west to Ben Lui.

(Fiona Merrilees)

Holly Fern *(Polystichum lonchitis*).

(Fiona Merrilees)

Bog Bilberry *(Vaccinium uliginosum*).

Roseroot *(Rhodiola rosea*).

Stan and Beemo exploring a burn.

(all photographs by Fiona Merrilees)

Glen Mollochan to Glen Douglas VC99 (Friday, 12th July)

A call to several of the Dunbartonshire regulars to undertake a 'Special Ops' expedition resulted in a memorable and highly successful day in the Luss Hills.

Stan, Fiona, Lucy and Grahame were dropped off at the foot of Glen Mollochan with the brief to hunt for the uncommon *Dactylorhiza incarnata subsp. pulchella* - the only plant previously recorded in two monads at the head of the Glen - as well as building a general record *en route* through to Glen Douglas. Meanwhile, Michael and Cathy drove round to Glen Douglas and ascended to the Glen Mollochan col from the north to meet the group.

This turned out to be a great day in the hills! The orchid-hunters could not find the target species in NS3095, but did find and photograph it in NS3096.

Dactylorhiza incarnata subsp. pulchella

Purplish-pink markings and the labellum rather folded back at the sides, so the flowers look narrow.

And a bonus of the expedition was the surprise find of *Dactylorhiza incarnata subsp. incarnata* by the path up from Doune farm.

Dactylorhiza incarnata subsp. incarnata

In this subspecies the flowers are of similar shape - but strikingly salmon-pink!

(Both records have been confirmed by the BSBI Orchid referee.)

Michael Philip

Loch Lomond VC99 (Thursday, 18th July)

Michael Philip and Peter Wiggins were trying to find plants in two squares with no land!

There are a couple of records for Quillwort (*Isoetes lacustris*) from monads in the middle of Loch Lomond. So during July, Stephen Longster, Naturescot Reserve Officer, kindly agreed to take us to the target areas by boat. He has vast local knowledge of the Loch and boating. We managed to find lots of Quillwort at the first site, but it was too early to determine which species. At the other site we failed, in less than ideal conditions, to find a location with sufficiently shallow water. We detoured home via a small island, Aber Isle, which sits atop a gravel spit. This means you need Stephen's knowledge to land there without running aground.

Stephen had a great botanical knowledge and we increased the record from just 3 to over 50 records. We now have a better understanding of what's involved in these aquatic outings, and it was great to see so many Ospreys, Goosanders and Sand Martin as we crossed the loch. *Peter Wiggins*

Windfarms in Lanarkshire VC77 (including 5th-9th August)

Small Cudweed (*Logfia minima*).
(Peter Wiggins)

The vice-county of Lanarkshire has many windfarms, mainly on moorland or hills which are otherwise not economically very productive. I have spent a lot of time this season visiting seven different windfarms, which I have really enjoyed. Ignoring all the controversy around them, they have allowed me to access many remote and under-recorded areas. One was Whitelee Windfarm, the UK's largest onshore windfarm, which is at the corner of three vice-counties, Lanarkshire, Renfrewshire and Ayrshire which has the largest share. The site has a great historical record which I find incredible as without the current access roads it is daunting to think how botanists covered the ground.

It has surprised me how varied the habitats are. This of course includes the tracks and the bases of the turbines themselves which are home to a range of common species. The less common Small Cudweed (*Logfia minima*) seems to be a specialist in the areas around turbine bases.

The moorland itself can vary from bog pools with sphagnum to mounds of *Molinia* grass making walking hard, or a drier rush grassland, or an acid heather moorland or one with many other habitats. Each has its own set of species and I'm learning when I see Sundew or Bog Asphodel that I should then be looking for Cranberry and then for other even more interesting plants. Of course, this is a basic skill for an ecologist and I have learnt so much from Keith Watson, Cameron MacIver and others about how to understand these landscapes.

Next season, within the Network, we are planning to build on this initial activity and working in partnership with a range of windfarm personnel gain easier access into 'far-to-reach' corners. *Peter Wiggins*

Common Plants in Lanarkshire VC77

Liz McTeague

Earlier this year I enjoyed "Common or Garden" by Ken Thompson, subtitled "Encounters with Britain's 50 most successful wild plants". A very readable and informative guide to the common plant species often taken for granted. We sometimes tend to view rarer species as being intrinsically more valuable, whereas it's the common and successful ones that actually make up the fabric of our hedgerows, moorlands and other habitats and bring a splash of colour to urban areas.

This prompted me to do a bit of digging in the BSBI database to see what's common here in our area. The table below is based on the number of Lanarkshire monads (1km squares) where each species was recorded from 2020 to 2023. This is the top 50 list I came up with (excluding trees)…. no great surprises here!

Rank	Species	No. of monads		Rank	Species	No. of monads
1	*Cirsium arvense,* Creeping Thistle	533		26	*Vicia cracca*, Tufted Vetch	260
2	*Chamaenerion angustifolium*, Rosebay Willowherb	508		27	*Lolium perenne*, Perennial Rye-grass	259
3	*Arrhenatherum elatius*, False Oat-grass	504		28	*Lathyrus pratensis*, Meadow Vetchling	258
4	*Urtica dioica*, Common Nettle	490		29	*Rubus idaeus*, Raspberry	256
5	*Dactylis glomerata*, Cock's-foot	414		30	*Equisetum arvense*, Field Horsetail	255
6	*Deschampsia cespitosa*, Tufted Hair-grass	397		31	*Cerastium fontanum*, Common Mouse-ear	251
7	*Heracleum sphondylium*, Hogweed	395		32	*Filipendula ulmaria*, Meadowsweet	248
8	*Jacobaea vulgaris*, Common Ragwort	386		33	*Trifolium pratense*, Red Clover	245
9	*Centaurea nigra s.s.*, Common Knapweed	372		34	*Poa annua*, Annual Meadow-grass	238
10	*Taraxacum spp*, Dandelion	367		35	*Senecio vulgaris*, Groundsel	238
11	*Plantago lanceolata*, Ribwort Plantain	340		36	*Agrostis stolonifera*, Creeping Bent	234
12	*Tussilago farfara*, Colt's-foot	333		37	*Rumex acetosa*, Common Sorrel	230
13	*Trifolium repens*, White Clover	330		38	*Scorzoneroides autumnalis*, Autumn Hawkbit	224
14	*Achillea millefolium*, Yarrow	327		39	*Cynosurus cristatus*, Crested Dog's-tail	220
15	*Rubus fruticosus agg.*, Bramble	324		40	*Aegopodium podagraria*, Ground-elder	219
16	*Cirsium vulgare*, Spear Thistle	323		41	*Cytisus scoparius*, Broom	214
17	*Holcus lanatus*, Yorkshire-fog	320		42	*Dryopteris filix-mas*, Male-fern	212
18	*Ranunculus acris*, Meadow Buttercup	316		43	*Prunella vulgaris*, Selfheal	212
19	*Ranunculus repens*, Creeping Buttercup	314		44	*Epilobium hirsutum*, Great Willowherb	206
20	*Rumex obtusifolius*, Broad-leaved Dock	292		45	*Sagina procumbens*, Procumbent Pearlwort	205
21	*Anthriscus sylvestris*, Cow Parsley	282		46	*Sonchus asper*, Prickly Sow-thistle	205
22	*Bellis perennis*, Daisy	279		47	*Elymus repens*, Common Couch	203
23	*Galium aparine*, Cleavers	275		48	*Geum urbanum*, Wood Avens	201
24	*Juncus effusus*, Soft-rush	264		49	*Potentilla anserina*, Silverweed	201
25	*Plantago major*, Greater Plantain	261		50	*Veronica chamaedrys*, Germander Speedwell	195

A Simplified Key to Spring Crocuses

James Common, VCR North Northumberland (VC68)

Members of the iris family, crocuses are popular as garden and amenity plants and are a familiar sight in the spring. Despite the fact that none of our spring-flowering species are native to the UK, this group of plants can be commonplace in churchyards, amenity areas, parks, scrub and wasteland close to habitation. From time to time, several may also turn up in more natural settings as a result of garden discards or dumped horticultural waste.

Owing to a long history of hybridisation, our crocuses are a diverse bunch and can come in a daunting array of colours and forms. This makes identifying some, particularly garden cultivars, somewhat challenging. Still, data from botanists across the UK show that certain species (and hybrids) are more likely to be encountered than others.

Key factors to focus on when identifying crocuses include flower colour, colour of the petal tube, leaf width, and length of the reproductive parts. For some, you'll also need to scrutinise the corm – often a challenging task!

Large-flowered, petals white or deep purple	Feathery stigma shorter than surrounding stamens; petal tube purple at flower base	**White Crocus** *(Crocus vernus)*	
	Feathery stigma longer than surrounding stamens; petal tube white with a purple wash	**Spring Crocus** *(Crocus neapolitanus)*	
Small-flowered, petals lilac or very pale purple	Petal tube white at flower base	**Early Crocus** *(Crocus tommasinianus)** *Very common in churchyards and the crocus most likely to form extensive drifts	
	Petal tube yellow at flower base	**Sieber's Crocus** *(Crocus sieberi)*	
	Petal tube variable: at least some purple smudging at flower base	**Snow Crocus** *(Crocus x hybridus)*	
Variable-flowered, petals pale yellow or golden	Flowers golden yellow	Large flowered, corm coverings splitting vertically	**Yellow Crocus** *(Crocus x luteus)** *Common in amenity planting
		Small flowered, corm coverings splitting horizontally	**Golden Crocus** *(Crocus chrysanthus)*
	Flowers pale, faded yellow with purple wash at flower base	**Snow Crocus** *(Crocus x hybridus)*	
Flowers mauve or white with dark stripes on the outer tepals	**Silvery Crocus** *(Crocus biflorus)*		

More information, as well as images, on species and cultivars can be found here.

Plant Galls: an introduction –Part 2

Peter Shirley MBE FRES, British Plant Gall Society (BPGS)

Following last time's introduction to plant galls, this article will look in more detail at some insect gall causers' life-cycles, their ecological relationships, and their impacts and importance to humans, starting with *cynipid* wasp galls on oaks.

There are about 450 species of oak, *Quercus spp*., spread throughout the northern hemisphere. They are at the edge of their northern range in the UK, hence we only have two native species pedunculate oak (*Q. robur*), and sessile oak (*Q. petraea*) although several others have been introduced. They are hosts to many species of gall causing cynipid wasps, and our introduced oaks have profound effects upon the presence, distribution, and abundance of some of the wasps. Particularly important are holm oak (*Q. ilex*), and Turkey oak (*Q. cerris*) which are naturalised and widely distributed. Quercus is divided into sections, our two natives are white oaks in section *Quercus*, holm oak being in section Ilex, and Turkey oak in section *Cerris*.

The oaks support more than 50 species of *cynipids* in this country, of which more than half are in the genus *Andricus*. Most of them have alternating generations, one with males and females, and one with agamic females which produce parthenogenic eggs without needing to mate. Genetically both forms of females are diploid, whilst males are haploid. The generations cause different galls, sometimes on two different species of oak, in completing their life-cycle. Some species can cause different galls on different parts of the host tree, such as buds, leaves, catkins and acorns.

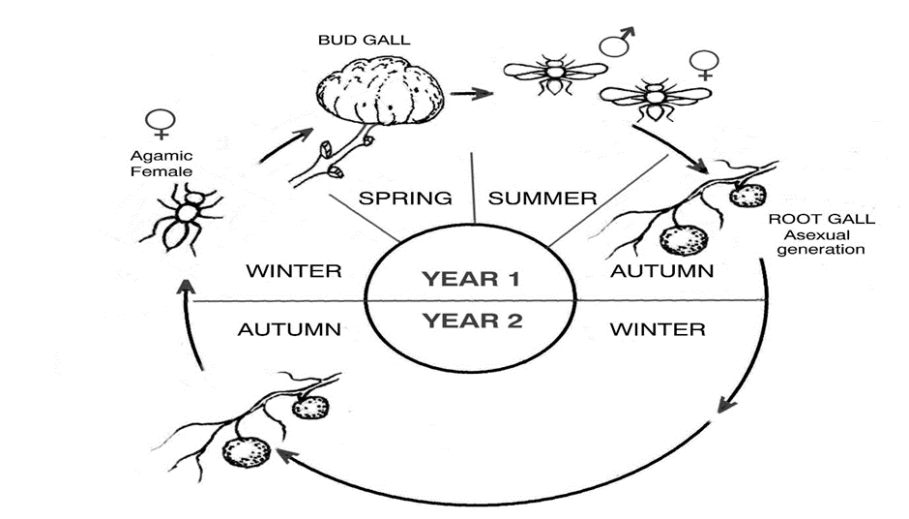


Fig 1. Life cycle of *Biorhiza pallida*.

One of the best known galls is that of the oak apple, a papery pink-turning-to-brown globular gall about the size of a golf ball. It appears in spring after an agamic female wasp lays her eggs in developing buds in late winter. Each oak apple may contain scores of males and females (and other insects, see below). In late summer and autumn the wasps emerge, and after mating the females descend underground to the roots of the tree where they lay their eggs. When the larvae hatch galls are formed on the roots within which the larvae and subsequently the pupae remain for nearly 18 months. After pupation adult wingless females emerge and walk up the tree to the developing buds to start the process again. This means that there are two discrete populations living on affected trees. (See diagram Fig.1).

Several species, including *Andricus kollari* (marble gall - Fig.2), *A. lignicolus* (cola nut gall) and *A. corruptrix*, have their alternate generations on oaks in different sections of Quercus: the agamic generations of all three cause prominent and persistent galls in buds of pedunculate and sessile oaks, the sexual generations cause obscure galls in the buds of Turkey oaks. In these and other species the life-cycle is similar. The sexual generation galls are formed early in the year and produce a male or female wasp. After mating the females search out buds on pedunculate or sessile oaks in which to lay their eggs. The resulting larvae give rise to galls containing agamic females which return to Turkey oaks to repeat the process. The well-known knopper gall causer on acorns, *A. quercuscalicis*, has a similar life-cycle except that its sexual generation galls form on the catkins of Turkey oak.

Fig 2. *Andricus kollari* (Marble gall). (Peter Shirley)

Fig 3. *Pemphigus bursarius*. (Peter Shirley)

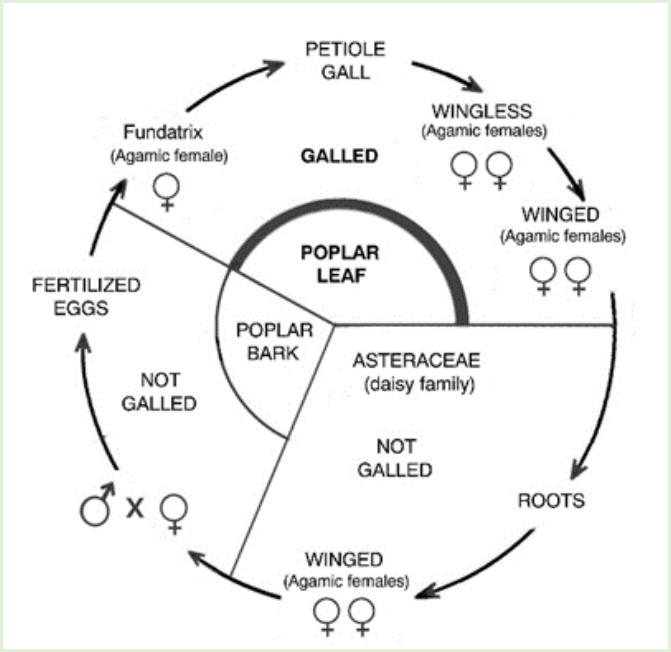


Fig 4. Life cycle of the aphid *Pemphigus bursarius.*

Some gall causers have even more complicated life-cycles. An example is the aphid *Pemphigus bursarius* which causes petiole galls (Fig.3) on *Populus nigra* (black poplar) and its hybrids. As the diagram (Fig.4) shows feeding takes place over several generations both within the poplar gall and on other hosts without causing a gall to form.

The largest group of insect gall causers are the gall midges, with about 650 species in the UK, all in the family Cecidomyiidae. (A few other dipteran families also contain gall causers.) They mainly have relatively simple life-cycles, with one, two, or sometimes more generations a year causing a variety of relatively simple galls. Depending on the species concerned these galls may contain one larva (unilocular) or several larvae (multilocular). One of the most prominent is *Dasineura urticae* on stinging nettle, Urtica dioica. The rounded galls (Fig. 5) contain a single larva and appear on the leaves, stems and flower stalks. The gall of *Rabdophaga salicis* which, as its name suggests, occurs on various willows including *Salix cinerea, S. aurita*, and *S. caprea*, on the other hand causes irregular swellings in branches and twigs, and contains a number of larvae.

It may seem that galls are merely a manifestation of a particular type of relationship between plants and some of the invertebrates which feed upon them. They are much more than this, being hotbeds of ecological activity involving many other organisms. Apart from the causers themselves various insects will be found in galls, which broadly fall into two groups: inquilines and parasitoids.

Inquilines are generally closely related to the causers and, like them, feed on the gall tissue. Thus cynipid galls are host to a variety of cynipid wasps other than the causer, many of these being in the genus *Synergus*. Sometimes the original causer survives their presence, sometimes the inquilines indirectly cause its demise. In the case of robin's pin cushion galls on roses the inquiline *Periclistus brandtii* invades individual cells of the *D. rosae* host, causing the death of the incumbent larva. As the gall is a coalesced collection of many such cells however some of the *D. rosae* larva are unaffected and both species commonly emerge from the gall.

Fig 5. *Dasineura urticae*.

They emerge, that is, unless they have fallen victim to members of the second group, parasitic wasps, in this case acting as parasitoids. (Parasitoids always kill their hosts, parasites may or may not harm or kill them.) Almost all parasitoids in insect galls are chalcid wasps, although *D. rosae* galls are nearly always attacked also by the ichneumon wasp *Orthopelma mediator*. This may seem simple enough, except that the inquilines and parasitoids are themselves attacked by other parasitoids, generally known as hyper-parasitoids. The food web diagram of *D. rosae* (Fig. 7) is typical of many galls and indicates the complexity of the relationships between these groups of insects.

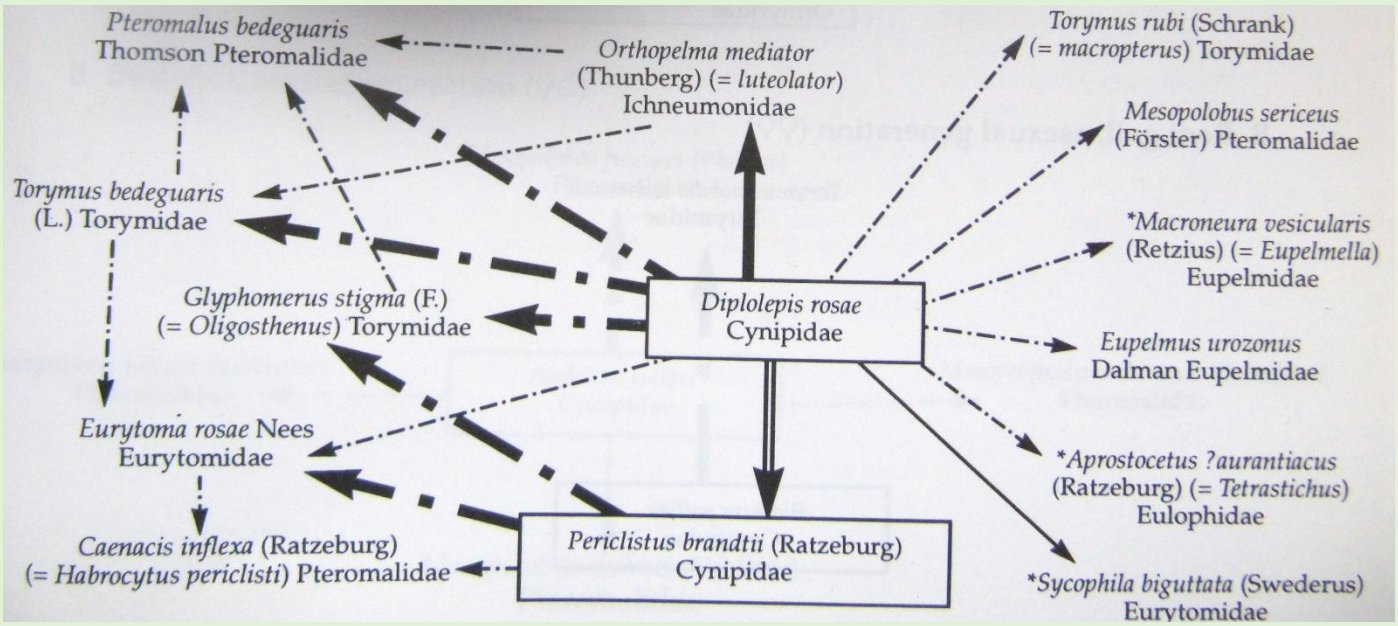


Fig 6. The food web of *Diplolepis rosae.*

Whilst many of the above activities are necessary for the species concerned to complete their life-cycles there is a third group of creatures, predators, which also feed opportunistically on galls and their inhabitants. These include other invertebrates but also mammals, such as squirrels, and birds. Spangle galls *Neuroterus quercusbaccarum* fall to the ground before the leaves on which they develop, and will be snapped up by game birds such as pheasant and partridge. It is not unusual to find opened galls from which the larvae have been removed by birds such as nuthatches and tits. Aphid galls often contain the larvae of predators such as hover fly larvae. In the case of mite galls similar relationships occur with inquiline and predatory mites.

So much for what goes on inside galls, but what of their wider importance and impacts? Biologically the vast majority do not seem to significantly harm their host plants, or threaten their survival, although there are, of course exceptions. The recently arrived in this country chestnut gall wasp *Dryocosmos kuriphilus* is for example a notifiable pest. Originally from China, in mainland Europe it seriously affects the crop of commercially grown sweet chestnuts. In South Africa a chalcid wasp gall causer, *Trichilogaster acaciaelongifoliae*, has been introduced for biological control of invasive non-native Acacia trees. Causing galls in flower buds it has a direct negative effect on the fecundity of the trees.

Perhaps the most notorious gall causer is the aphid once called *Phylloxera vastatrix* (now *Viteus vitifoliae*). This causes both leaf and root galls on grape vines, and was accidentally introduced to Europe in the middle of the 19th Century on vines imported from America. It devastated the crop, seriously reducing the amount of wine being produced. After the Prussian War in 1870 Bismark extracted five billion francs in reparations from France, the aphid was estimated to be costing twice as much! It is still a major pest.

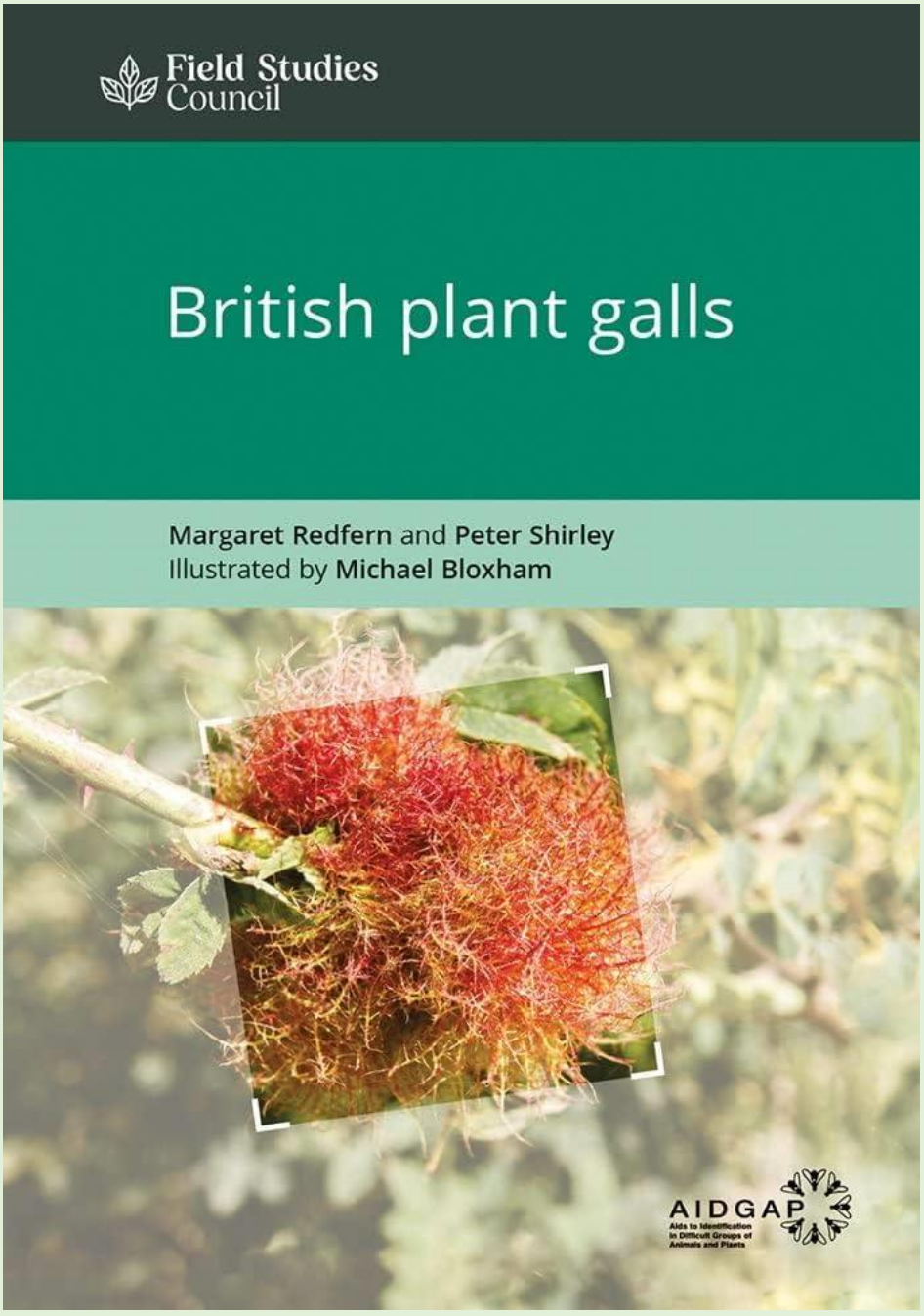
A fungal gall of grasses, ergot *Claviceps purpurea*, can attack cereal crops. Before modern methods of dealing with it developed it often entered the human and animal food chain through hay and flour. It caused disease in livestock and, through flour, in people (St. Anthony's Fire). On the other side of the coin, and also on a grass, maize smut,

Mycosarcomma maydis, has long been cultivated in Mexico and eaten as a delicacy. Other galls are eaten in various parts of the world, including Australia and Crete.

Some galls have long had commercial value because of their high tannin content. Ground up they can be used for dyeing, tanning, and ink-making. Many *Andricus* oak marble galls were traditionally traded, under the names of Aleppo, Mecca or Istrian galls, and in the East India Company's first charter in the 17th Century King Charles I granted permission to import such galls. *Andricus kollari* is thought to have been introduced to this country in the 1830s to provide a home-grown source of tannin. Until relatively recently, in some countries banknotes and other important documents were required to be printed with high quality fade-resistant gall-based inks. The agricultural practice of planting crops of legumes to replace soil nutrients was once commonplace. The crucial element of the crops was the root nodules which are nitrogen-rich bacterial root galls.

Finally, a historic and cultural note. King Charles II was restored to the throne on his birthday, May 29. To mark this, supporters of the Stuart cause used to wear a sprig of oak bearing an oak apple on that day. Known as 'Royal Oak Day' or 'Oak Apple Day' it was a public holiday until 1859. An alternative name was 'Shick Shack Day'. On the day traditionally village boys would submit anyone not wearing an oak apple to a beating with stinging nettles or other indignities.

Further information



The British Plant Gall Society website has much more information, including membership details and plenty of pictures.

Another excellent source of information is the Plant Parasites of Europe website which also covers leaf miners and fungi.

Books include:

Redfern M., Shirley P. & Bloxham M. (2023) British Plant Galls Third Edition, A Field Studies Council AIDGAP key (see opposite)

Chinery, M. (2011) Britain's Plant Galls – a photographic guide. WildGuides Ltd

Social media sites: Facebook, British Plant Galls (in association with BPGS), X (Twitter) @britgalls, and there is a gall section on Flickr.

Any gall records made whilst field botanising can be uploaded to both iRecord and iNaturalist.

Plantlife Scotland

Alistair Whyte (additional text by Sam Jones and Jo Riggall)

Plantlife is the global charity working to enhance, protect, restore and celebrate the wild plants and fungi that are essential to all life on earth. With two in five plant species at risk of extinction, biodiversity loss is now the fastest it's ever been. We champion and accelerate conservation action, working at the heart of a global network of individuals and organisations, to influence and inspire landowners and land managers, public and private bodies, governments and local communities. As time begins to run out, we are using our position as the global voice for wild plants and fungi to bring lasting and positive change to our natural world.

Machair, a type of species-rich grassland unique to the north-west of Scotland and Ireland, mostly fronted by sand dunes. (Alistair Whyte)

Reflecting the global picture, the latest State of Nature Scotland report 1 (which drew data from sources including BSBI), highlighted that Scotland's plants are facing significant threats, with the distribution of 47% of flowering plants, 62% of bryophytes, and 57% of lichens having decreased since 1970.

In Scotland, Plantlife has a team of seven members of staff, supported by our wider UK team, delivering a programme of works to tackle these losses. We do this through on-the-ground projects, through our nature reserve work, through partnership and advisory work, and through political advocacy. These activities all contribute to delivering our ambitious strategy to 2030, which can be seen here: https://www.plantlife.org.uk/wp-content/uploads/2023/03/Plantlife_Strategy_2030_Final.pdf

The following is a brief snapshot of our current activities.

Species Recovery

Our species recovery programme recognises that, whilst many species benefit from broad habitat restoration, some need specialist, targeted interventions. In the Cairngorms, where we have been working for many years, two of our target species are Twinflower (*Linnaea borealis*) and One-Flowered Wintergreen (*Moneses uniflora*).

Twinflower (*Linnaea borealis*). (Alistair Whyte)

Growing almost exclusively in the native Caledonian pine forests of Scotland, Twinflower has suffered as these magnificent forests have been lost. Reduced to a handful of fragments, the pine forests are a shadow of their former selves, and are isolated from each other, scattered as small islands of woodland through the Highland landscape.

This loss of the forests means the loss of the Twinflower. Its populations have become so fragmented and isolated from each other that the distances are too great for its pollinators, which it relies on to produce viable seed. As a result, the remaining populations have become vulnerable to extinctions, with none of the genetic resilience that pollination can bring.

One-Flowered Wintergreen (*Moneses uniflora*). (Alistair Whyte)

Welcome restoration of the pinewoods is now happening at pace in the Cairngorms. We have been working to restore populations of Twinflower as a key part of the returning forest ecosystem, through programmes of land management advice and more recently, through targeted translocations designed to increase genetic resilience. Our work on One-Flowered Wintergreen is at an earlier stage, but through our surveys and monitoring we estimate that half of the Cairngorms populations have been lost in recent years. We are working to understand why. It may be that reduced deer numbers, which leads to the rapid regeneration of the Caledonian pinewoods (a good thing!) is resulting in a very dense, undisturbed understorey, with none of the open conditions which One-Flowered Wintergreen appears to need to survive and thrive. Our work on this species is starting to shine a light on the need for some herbivore activity within woodland, and the fact that, whilst reducing deer numbers is a good thing, and positive for woodland regeneration, complete eradication of woodland grazing animals can be very detrimental to forest ecosystems.

Away from the pinewoods of the Cairngorms, we are also a key partner in an ambitious multi-species, multi-organisational project called Species on the Edge.

Oysterplant (*Mertensia maritima*). (Alistair Whyte)

Scottish Primrose (*Primula scotica*). (Alistair Whyte)

Species on the Edge is a partnership of eight of Scotland's nature conservation organisations. Funded by the National Lottery Heritage Fund, this project works collaboratively to safeguard 37 priority species found along Scotland's coast and islands. Our Species on the Edge team are focused on delivering species recovery work in Caithness and Sutherland, along Scotland's wild north coast. Crucially, this project recognises the interconnected nature of species recovery work, and, as such, Plantlife is working not only on plant species here, but also on invertebrates as well. Scottish Primrose (*Primula scotica*), Oysterplant (*Mertensia maritima*), Purple Oxytropis (*Oxytropis halleri*), Great Yellow Bumblebee (*Bombus distinguendus*) and Small Blue Butterfly (*Cupido minimus*) are our target species here. We are working with land managers, communities, volunteers and partner organisations to secure the future of these vulnerable and in some cases highly threatened species.

Temperate Rainforest

On the west coast of Scotland lies our temperate rainforests, comprised of the semi-natural woodlands of the west coast area. These woods of oak, hazel, ash, and pine, combined with the wet, mild west coast weather, provide the perfect conditions for an incredible diversity of mosses, lichens and liverworts to thrive. Our temperate rainforests are amongst the most important and diverse in Europe.

This very diversity is the reason we have been working with this habitat for a long time. Our current activity includes working with partners such as the Woodland Trust to coordinate and run the Alliance for Scotland's Rainforest, a voluntary collective of organisations which have come together to try to restore this habitat. Threatened by invasive non-native species such as *Rhododendron ponticum*, inappropriate levels of grazing, and from fragmentation, Scotland's rainforest needs targeted and well-resourced action to allow it to recover. Our advisory programme works with land managers to ensure that remaining rainforest sites are managed sensitively for their species diversity, and our advocacy programme works with decision makers to bring about changes in legislation and policy for the benefit of rainforest restoration. Trying to secure more resources for rainforest restoration, and better coordination and strategic action to tackle non-native species, are some of our advocacy priorities at present.

Nature Reserves

The spectacular Munsary Peatlands Reserve. (Alistair Whyte)

Plantlife manages 24 nature reserves across the UK. Whilst only one of these is in Scotland, it is our largest reserve – a 1200 hectare expanse of blanket bog in the Flow Country in Caithness. Munsary Peatlands, now part of the Flow Country UNESCO World Heritage Site, is hugely important for its peatland habitat, which supports a huge diversity of sphagnum mosses, other peatland specialist plants, and Scotland's largest colony of Marsh Saxifrage (*Saxifraga hirculus*). Our work here incudes a programme of peatland restoration, management of deer populations, ongoing survey and monitoring, and the management (through cattle grazing) of an area of unimproved grassland adjacent to the peatland.

Species-Rich Grasslands

Our grassland programme recognises that species-rich grasslands are one of our most threatened habitats, which are being lost to agricultural intensification, commercial forestry, development, and abandonment. Our work to try to protect and restore Scotland's grasslands ranges from political advocacy, to try to secure protection for our grasslands, and appropriate levels of support for farmers to look after them, through to on-the-ground advisory work.

Most recently, we have been delivering our Mob Grazing for Diversity project in the Cairngorms. The project, which we delivered with the Nature-Friendly Farming Network and Pasture for Life, was designed to restore species-rich grassland by working with farmers across the Cairngorms National Park. The aim was to achieve sustainable grassland management through adaptive grazing management, or mob grazing, to promote ecosystem restoration and high agricultural productivity. Working with five farms across the national park, each farm produced a grazing management plan, implemented adaptive grazing management, optimised sward productivity through rotational grazing systems and maintained permanent habitats in good condition. We supported each farm to work with a farming mentor to learn how to implement mob grazing, use of equipment and practicalities of implementing their grazing management plan.

More on this project, and on our advocacy calls for species-rich grassland protection, can be found in our recent report on Scotland's grasslands here: https://www.plantlife.org.uk/wp-content/uploads/2024/07/Final-Plantlife-Report-Machair-to-meadows-making-the-most-of-Scotlands-grasslands.pdf

Next Steps

This is a very short summary of our current activity. We are continually working to develop and deliver a pipeline of projects and programmes to continue to try to protect wild plants and their habitats. In selecting species and habitats to work on, we rely hugely on the data generated by organisations such as the BSBI, the British Lichen Society and the British Bryological Society. Without the data and the evidence generated by these organisations, our conservation programmes would be impossible to deliver. We hugely value working with specialist societies and look forward to continuing to do so in the future. For more information on our activities, please see https://www.plantlife.org.uk/about-us/plantlife-scotland/

Obituary

Fiona Macfarlane (1955-2024)

Fiona's passion for field botany was ignited in childhood principally through her mother and her aunt, both of whom were keen botanists, and she built her skills through lifelong experience in Scotland. She had real affection for the Hebrides and the far north but her more recent contribution to recording was mainly in Dumfriesshire and Lanarkshire.

Fiona, second from left, with fellow botanists in Dumfries.

Fiona had worked as a pharmacist, including 30 years at Wishaw General Hospital, and following her retirement she became involved in the fledgling Lanarkshire Botany Network from 2017 until 2019. She had a very keen eye for finding things, together with the knowledge to back it up. I particularly remember being with her on a botany trip to Ailsa Craig in 2018, her discovery of the elusive Moonwort (*Botrychium lunaria*) on the Shotts bing on an outing in May 2018, and a walk with her at Coulter in July 2019 where she pointed out to me Downy Oat-grass (*Avenula pubescens*) and Brown Sedge (*Carex disticha*) - two species I had not encountered before.

Fiona had family connections in Dumfries and Inverness and it was to Inverness she later relocated. She had taken up ParkRun and became very active in running in her final years. Indeed it was an injury sustained while running that led, firstly to an infection which necessitated to the amputation of a leg below the knee, and two years later to further complications leading to her death in early September this year.

The Lanarkshire record has been significantly enriched by her skills and our website includes examples from her huge collection of marvellous plant photographs. She will be fondly remembered by all who knew her in the botany world.

Michael Philip

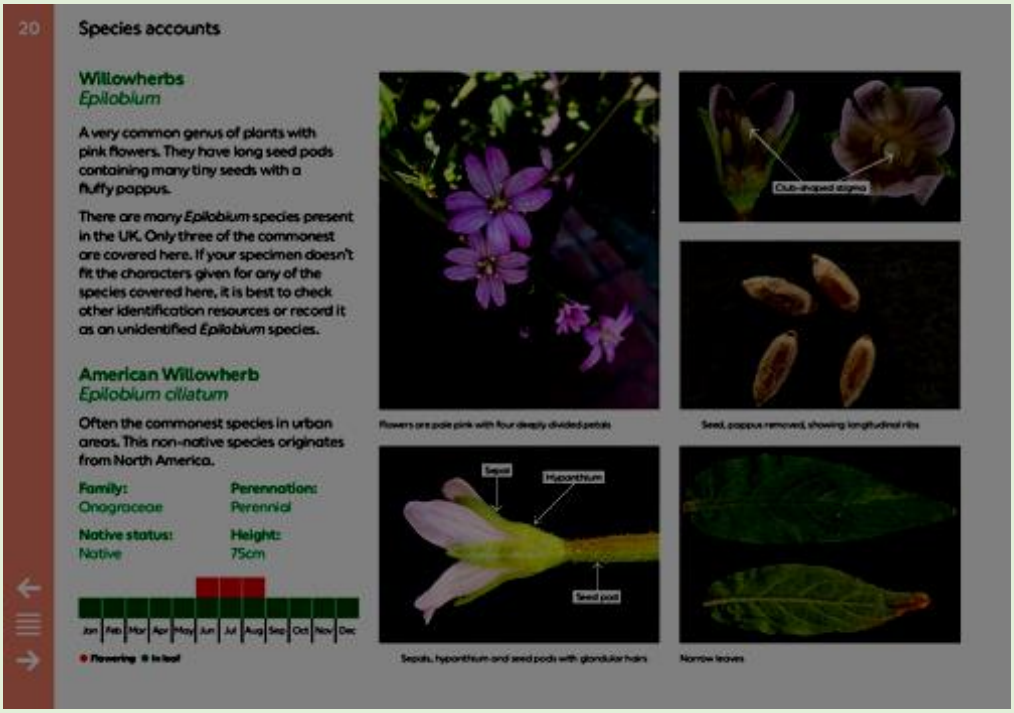
Book Review

Liza Downie

Centre for UK Nature, Natural History Museum

Available from: https://www.nhm.ac.uk/take-part/identify-nature/pavement-plants-id-guide.html

This excellent, easy to use 'book' is a free, downloadable pdf guide to pavement plants, produced by the Natural History Museum as part of their Urban Nature Project.



The introduction gives a clear explanation as to why pavement plants should not be considered as 'weeds' and are in fact part of a dynamic and rapidly changing flora.

There are sections on how to identify and record plants, where to get help and copious further resources for those citizen scientists taking plant ID a little further.

The plants are arranged broadly by colour and are well illustrated with photos, which are often annotated to explain and support various points made in the text. Comparisons are made between similar species and the explanations are clear and easy to follow. The plant family, plus common and Latin names are given, also key features, time of flowering and height. I don't think that all of the plants included are particularly common in Scotland, but we do sometimes go to other places too! The brief is strictly pavement plants, so things like the small wall ferns are omitted. Altogether 92 species are covered, making a fairly comprehensive account of the commoner plants in Britain's pavement flora.

This a serious guide for beginners and as a pdf can be loaded onto a smartphone and kept in your pocket, making plant identification a thing of the moment. The Natural History Museum also produces guides to trees and orchids as well as insects and other fauna as part of the same series – what a great free resource.

Resources & Skills Development

The very best way to build skills is to spend time in the field with people who know a bit more than you do.

However, we also offer a range of other ways you can engage with learning and fieldwork:

Facebook - There is a Facebook Group called Clyde Wildflowers. This is where you can share news or photos and ask questions. This group is closed to the general public, but you are welcome to join. Just contact Peter for details.

WhatsApp - A brand new WhatsApp Group is being formed. Its purpose is exclusively to make it easy for people to meet up more spontaneously to do recording. Again, Peter's the person to apply to if you would like access.

Photo website 'Flowers of Lanarkshire' is our website devoted to the county's flora. The photo galleries present a wide range of wild plants, and draw attention to some of their most helpful identification features.

Go to: https://www.vc77botany.org/

Training Pack - Again based on the Lanarkshire flora, this PDF publication covers 50 of the most common species. There are photos and jargon-free descriptions - and even an optional TEST to help embed knowledge! This is available from Michael Philip on request: botany@opus44.co.uk

Workshops - Our Outings Programme includes a wide range of plant identification workshops, both local and national, some charged and some free. There are many, many more Workshops, Training Field Meetings and Residential Courses offered by BSBI, the Field Studies Council and other organisations.

Courses - The BSBI offers two, more formal, training opportunities: The Field Identification Skills Certificate (FISC) is designed to give you an assessment of your current skill level, and to point you towards next steps. Identiplant is a one-year home-study course, supported by a personal Tutor. It is designed for those who want to go deeper into botany.

Webinars - The BSBI are holding a series on free evening webinars from November to improve your plant identification skills. https://bsbi.org/field-meetings-and-indoor-events

BSBI website - There is a mine of helpful learning material on the BSBI website: https://bsbi.org/. Please take time to explore this, including the dedicated YouTube channel which has many excellent videos on identifying species. There is also a dedicated page for each of our three vice-counties:

VC77 Lanarkshire https://bsbi.org/lanarkshire-v-c-77

VC76 Renfrewshire https://bsbi.org/renfrewshire

VC99 Dunbartonshire https://bsbi.org/dunbartonshire

On the BSBI VC pages you can access the Outings Programme for the Network and all the past issues of the Newsletters. It's also a route to get back in touch if we ever lose track of each other.

Please note that James Common (VCR North Northumberland) has produced a series of plant IDs which, though focussed on North East England, has much which is relevant to our area.

Do let us know if there are additional resources that you've come across that you think might be of use to others – it's by sharing such information that individually and collectively we develop our skills and knowledge.

Photo-selection

Detail of Stag's-horn Clubmoss (*Lycopodium clavatum*)
(Frazer Henderson)

Magpie moth (*Abraxus grossulariata*)
(Peter Wiggins)

Contributions

Call for Contributions

Meeting notes, opinion pieces, book reviews, photographs, places to visit, identification keys and anything else connected with plants are all welcome.

Feedback is also gladly received, so please share your thoughts and views on TRIFOLIATE.

If you would like to discuss or submit any material then please email the editor: Frazerhenderson1@hotmail.com and place TRIFOLIATE in the subject title.

Please note the views expressed by contributors are not necessarily those of the Network nor of BSBI.

Next Issue: March 2025
(receipt of copy no later than the end of **February**).

Not a caption competition photograph – though happy to receive comments! - but Peter Wiggins preparing for field work to support his forthcoming identification guide to aquatic plants which will feature in our next issue.