

Summer
2024

Trifoliate

Network News
Field Reports
Havoc Meadows
Plant Galls



*Networking field botanists across
Dunbartonshire, Lanarkshire and Renfrewshire*

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Editorial

Welcome to the inaugural issue of Trifoliate, the revamped newsletter for field botanists across Dunbartonshire, Lanarkshire and Renfrewshire.

I'm pleased to take on the position of Editor, having been unable to say no to Michael Philip (...has anyone?), and express thanks to Michael for initiating, informing and sustaining our growing botanical network.

Over the following pages there is a stimulating choice of articles to enlighten and entertain the reader. It is fitting that Alison Rutherford, a much respected local field botanist, former VC Recorder and an authority on ivies, launches our Profile feature. Field botany is the life-blood of our Network and I'm indebted to all those that have provided interesting and entertaining reports of recent recording trips. It was especially welcome to receive and publish the report from Mary-Anne Collis whose experience of her first day in the field with fellow botanists chimes with many of us. I look forward to receiving more reports from an increasing range of participants in the future.

The potential of disturbed habitats for biodiversity is a fascinating subject : Zoe Weir and Iain McLaren share details of the work they have been doing to promote such a site in Dunbartonshire for reserve status. I'm grateful to them and the Editor of The Glasgow Naturalist for permission to reproduce their stimulating article.

Though our interest is primarily field botany many of us derive great pleasure in experiencing all aspects of our natural environment and, accordingly, I'm grateful to Peter Shirley for sharing his expertise on plant galls. You can expect more from Peter as well as experts in other areas of natural history in succeeding issues.

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

Frazer Henderson

Lee's 'Flora of the Clyde Area'

By way of marking the centenary (in 2033) of this celebrated book we will be part of a wider effort to compare current data with that of 100+ years ago across the whole River Clyde catchment. J.R. Lee noted where each species occurred, simply as a presence or absence in each of the vice-county territories.

Thanks to dedicated work by Liza Downie, we now have Lee's data in digital form. Comparison between the two data-sets can now be undertaken and, once all current records have been accounted for, the hunt will be on to attempt to rediscover any species recorded 100 years ago and not seen this century!

If you'd like to be involved in some way in this fascinating project, do let us know. We need people good with data analysis, report-writing and planning, organising and implementing targeted fieldwork. Contact Peter Wiggins.

Trifoliate

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

Dunbartonshire, Lanarkshire and Renfrewshire

by sharing information, knowledge and experiences.

Scottish Alpine Plants

Matt Harding, BSBI Scotland Officer, will be speaking on

'The status and distribution of Scotland's native alpine plants'

at the forthcoming Scottish Autumn Plant Show in Livingston on 28 September

More details are available [here](#) and all are welcome.

Scottish Botanists' Conference

The 2024 Scottish Botanists' Conference will be held at the [Royal Botanic Garden Edinburgh](#) on Saturday 2nd November - all are welcome, please save the date!

More details on the [Scottish Conference pages](#) on the BSBI website

Adopt a Toothwort site

We've received an email from Dave Garner (Natural Environment Officer, Glasgow City Council) with a request for any in our Network to carry out the simple annual task of checking known sites for Toothwort (*Lathraea squamaria*) that occur in the Glasgow City Council area.

Anyone interested in 'adopting' a [Toothwort](#) site should contact Michael Philip or Peter Wiggins.

The Power of Networking

- 200 people now linked-up
- over 150 field outings
- more than 118,000 records uploaded to the BSBI database.

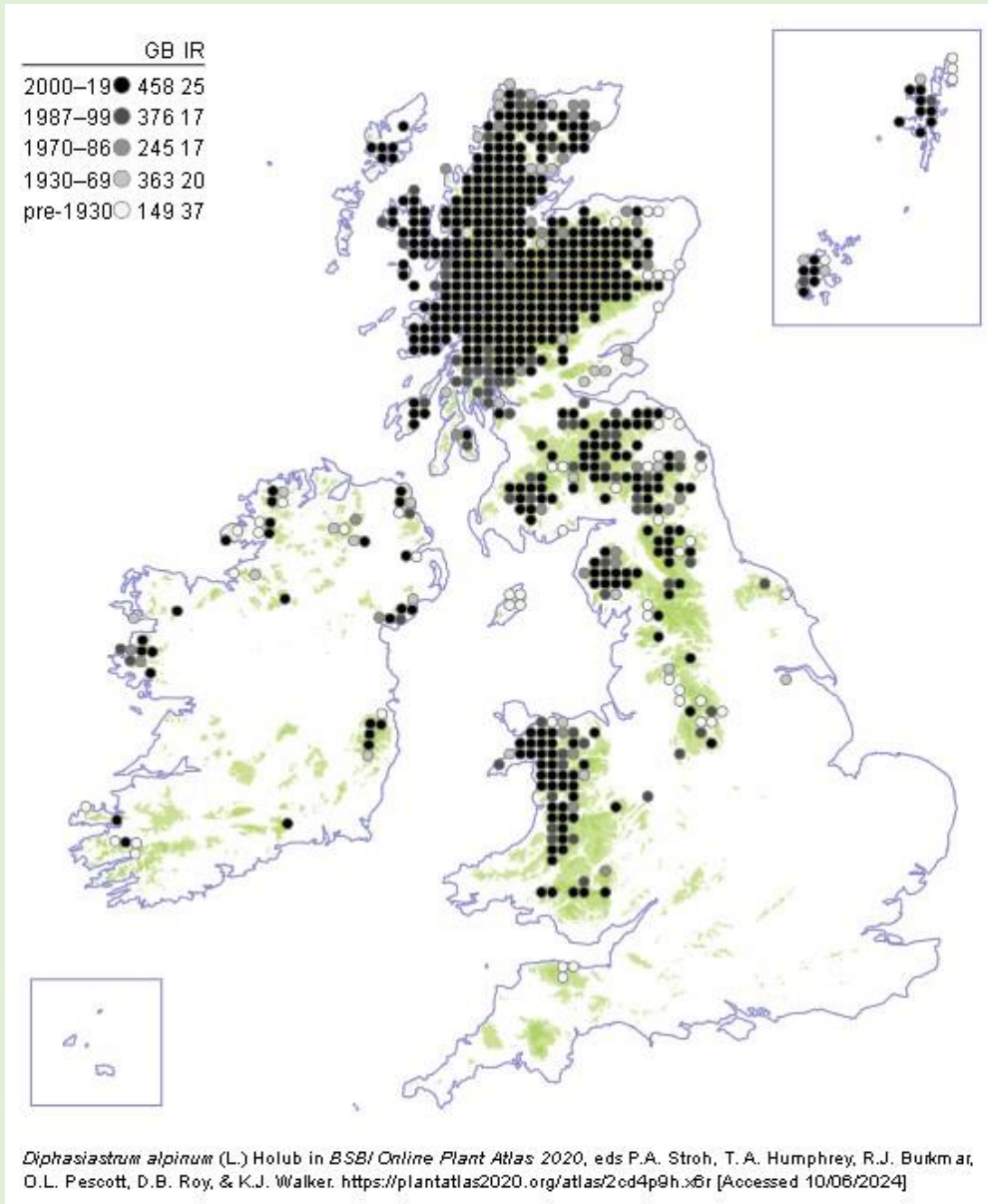
together we've achieved all this

in just 3 years....

Dunbartonshire Rare Plant Register

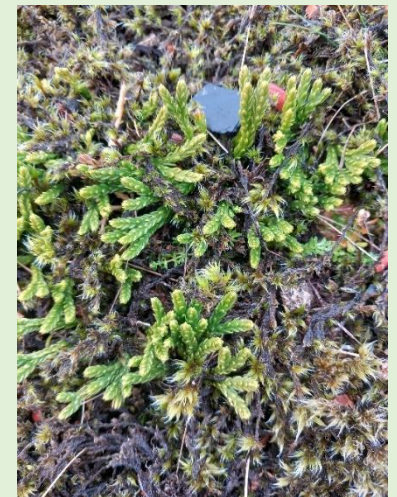
Work is now underway to compile the first ever Rare Plant Register for the Vice-county. There are opportunities for research, authoring, data-handling, photography and careful fieldwork. It's a big project, but we're a big Network now! Please get in touch with Michael Philip if you'd like to be involved.

Cover plant: *Diphasiastrum alpinum*



Alpine Clubmoss (*Diphasiastrum alpinum*) is an evergreen procumbent perennial generally growing in short or sparse grassland on mountains and moors, on damp peat or thin acidic soils (see BSBI Atlas 2020 distribution map opposite).

Within the Central Belt of Scotland the species can also be found on the more exposed former coal tips and shale bings e.g. Shotts Coal Tip or Tarbrax Shale Bing (see photos).



Alpine Clubmoss.
(Frazer Henderson)



Alpine Clubmoss, Tarbrax Bing.
(photos and cover image Frazer Henderson)



I've often been struck by its creeping habit with a prostrate stem punctuated by upright branches that fan out in a manner which I can only term as being like that of small baseball gloves. Have a look next time you find the species and see if you agree with me.

For more general information about the species as well as, in particular, its ecological, cultural and medicinal history then take a look [here](#).

Profile: Alison Rutherford

We are delighted that Alison agreed to be the first person to be interviewed for our new Profile feature as she has been an enthusiast for the aims of the Network since its outset. Many will know her as a former VCR for Dunbartonshire, a post Alison held for nearly two decades, and working together with Allan Stirling (her immediate predecessor as VCR) they gathered most of the core botanical data for Dunbartonshire in the period 1980-2000.

She possesses an encyclopaedic knowledge of local botany as well as being an acknowledged authority on Ivy, having served as the BSBI genus referee for many years and has published numerous articles and papers in diverse publications including those of the BSBI as well as *The Ivy Journal*, *The Plantsman*, *The Fern Gazette* and *Watsonia*. Alison is still, with a keen eye, finding and recording interesting plants within the vicinity of her Helensburgh home.



Have you always been rooted to the Helensburgh area?

Alison, at home, perusing the latest tome on aquatic plants.
(Michael Philip)

Yes, I was born and brought up in Rosneath. My parents then bought Camis Eskan farm, just to the east of Helensburgh, in 1950. In 1961 my parents gave me and a friend a bit of a field and we started a plant nursery. It was, I suppose on reflection, the first containerised nursery in Scotland. It didn't do terribly well; it washed its face but didn't make a profit. Then in 1966 my parents sold up and the new owner wouldn't have any sitting tenants so we had to sell the nursery. After that I did some odd cooking jobs before entering the antiques business in Helensburgh. The first premises burnt down – no, it wasn't arson. Then we bought a crumbling building in the town in East Princes Street and fully restored it. We had that antique business until I retired.

From where did the interest in plants spring?

My parents were very keen gardeners. They also surveyed the botany of the province of Huelva as my grandfather had an interest in some copper mines in the south of Spain. As a consequence my mother became interested in daffodils and things like that.

How did you get into field botany?

I met Richard Mill who wrote the *Flora of Helensburgh* and we went together on a botanical excursion to Millport. He said at the time that I should join BSBI and the Glasgow Naturalists and I did. I then met Allan Stirling [then VCR Dunbartonshire] and we went on the great polypody hunt in the 1970s.

The great polypody hunt, that sounds intriguing. What was it all about?

I was at the time a member of the British Pteridological Society and there was work being done on polypodies and hybrids. I wondered why we, in Scotland, couldn't also have the Southern Polypody (*Polypodium cambricum*). I felt

that the English had a view that glaciers began at the Cheviots and that you couldn't grow anything delicate in Scotland! And yet there was a lot of talk then in Scotland about how you could grow half-hardy (or southern) plants like palms up the west coast at low altitudes. Anyway, I rang up Allan Stirling and asked what he thought of the chance of finding Southern Polypody in the west of Scotland. He concealed his disbelief very well, mulled the suggestion over and then said it would be a good idea to start looking. He had a copy of a wartime book, published by some ministry of where exposed lime-makings were or lime that could be mined, and that proved extremely helpful. So I went off to the south of Arran, by myself, and found a tiny clump and Allan went up to Lismore. I think in the end we found it at eleven places across Scotland, including at Salisbury Crags in Edinburgh. [See their report [here](#).]

And did this introduction lead to you becoming the VCR?

Allan Stirling was the VCR for Dunbartonshire but he desperately wanted to get Ayrshire. That was his dream. Then the VCR there either died or retired at a great age. Allan said that I must take over in Dunbartonshire because BSBI didn't allow, in those days, VCRs to have two counties. So, very reluctantly, I agreed on the basis that Allan did all the critical species. I didn't really enjoy being the Recorder as I felt it was a burden that I was unable to rise to and the responsibility of the position weighed heavily. However, I did have a lot of help.

Do you think that there is a role for plant recording?

It helps in the production of a flora and also provides valuable data for planners if people are going to destroy something! However, I don't know how much planners care!

What was your best find locally?

I remember *Puccinellia distans* (Reflexed Saltmarsh Grass) in the 1980s, it was then rare.

With its horizontal branches it looks like an old telephone pole. It appeared at the edge of the East Esplanade in Helensburgh and Allan said there was only one other record in the VC up in the Bowling hills but without any proper locality details.



May 2021 – the very first outing of the new Dunbartonshire Botany Network. Alison, far left with dogs. (Michael Philip)

Is it now common locally, like Danish Scurvy Grass, because of the salting of roads?

No, it's still uncommon in Dunbartonshire and even Danish Scurvy Grass took a long time to appear here, years after being recorded in Lanarkshire. The estuary separating us from Lanarkshire perhaps has a bearing on distribution.

Have you botanised more widely?

I've botanised in the Highlands for ivies and on Arran, down into Ayrshire and south of that.

What got you into ivies as they are considered by many to be fairly boring plants without showy flowers?

It was Irish Ivy (*H. 'Hibernica'*) because there was then in the 1970s and 80s so much dubiety about it: whether it was native, an escape or a hybrid and people tended not to record it because they didn't know how to place it in the records. I couldn't find much about it at the time and then Allan Stirling advised that I should contact Hugh McAllister who could do chromosome research. Hugh has now done about a thousand chromosome counts of Ivy worldwide and he's now finding hybrids. In the USA there are lots of crosses between Common and Irish ivies and in Spain he's also getting hybrids. He's found hybrids here in the UK. In an old graveyard in Liverpool he found a hybrid between Irish and Algerian species. There are about four hybrids that have been found in the UK and I want us to

look for it here as it would be a first for Scotland. If you want to see Atlantic Ivy (*Hedera hibernica*) in Scotland you'll need to go south of Kennedy's Pass towards Stranraer.

You are quoted as an authority on Ivy by Stace. Are you also still the BSBI referee?

No, I did it for about ten years but got fed up because I kept on receiving wizened bits for determination and ivy can't bear being dried out. Allan Stirling once told me that other referees had a horror of receiving black mush in plastic bags, however I'd have preferred that because you can always wash the specimen of its blackness and still do something with it. With ivy, once it's dried out you can't do anything.

I'm aware that as well as field botany you also have an interest in houseplants, is that so?

My mother was very keen on houseplants and I've inherited that interest and I'm still looking for houseplant escapees to record. The best place for such records is a residential area with a wood behind into which householders have 'heave-hoed' unwanted plants. That's how we got the first British record of Cast-iron plant (*Aspidistra elatior*) in Helensburgh!

Is it true that you are also a leading light within the local horticultural society?

No, but I was on the committee of the Helensburgh & Gareloch Horticultural Society for many years. I once asked how one could get off the committee and they told me 'Feet first'! When they changed the rules I got out and never went back. And now I think in not having a car, a computer, an email nor a mobile 'phone I'd just be a nuisance to fellow committee members! I'm getting on and believe that the middle-aged and younger members should be on committees. I do though still provide plants for the local plant sale, conveying them there by trolley.



What advice would you give to any aspiring field botanist?

Just go out into the field and look, or have someone that can look at what you've found. I went down to Ayrshire many years ago and I don't know why but I wasn't writing things down, anyway I took samples and an old man stopped me and said "What are you doing?", "I'm sampling wild flowers", I replied. He stood there looking very thoughtful whilst I imagined he disapproved strongly of me 'ripping up' the meadow. Finally, he said "Brilliant idea".

When sampling, it is important, of course, to have one hand to hold the plant down so you don't inadvertently uproot it and of course don't sample more than what you need. Large freezer bags are very good at conveying material safely until you get home.

And finally, do you have any recommendations in terms of sites or species for the Network to explore or seek?

Locally, I think the wet cliffs by Cove and the glens of Camis Eskan are worth exploring. It would also be worth searching for False Serpentine Spleenwort (*Asplenium adiatum-nigrum* subsp. *corrunense*). It's one however for the mountaineering-botanists. It's like a normal spleenwort but very chunky and squat and thick. It is not particularly attractive. And yes, it does need serpentine rocks.

[Slightly more information about the fern in Scotland can be found in [Allan Stirling's obituary](#) by the BSBI with an image of a Spanish specimen [here](#).]

Site Profile:

Havoc Meadows and Brucehill Inland Cliff: a proposed Local Nature Reserve, Dumbarton, Scotland

Zoe Weir & Iain McLaren

The Havoc and Brucehill Inland Cliff site is a proposed Local Nature Reserve in West Dunbartonshire, Scotland. It is a 4.5 ha ex-brownfield mosaic of new and recovering old grassland, mature woodland, and wet sandstone cliff. In this contribution, the site is described and its history and natural history are summarised. The encouragingly rapid return to high biodiversity of this site is a reminder of the restoration potential of disturbed habitats.

SITE DESCRIPTION

Havoc Meadow (NS3812975780) is a damp grassland site next to mudflat and saltmarsh within the Inner Clyde Special Protection Area (SPA), West Dunbartonshire, Scotland (Fig. 1). The northern boundary is contained by Brucehill Cliff, which is woodland-fringed, and exhibits a range of conditions and plant communities (Figs. 2 and 3). This cliff, which was once shaped by wave action, features a cave of local historical importance. Between the cliff and the Clyde shoreline sits the main body of the raised beach site. This includes marshy and neutral areas of damp grassland, on various non-natural or altered substrates, and at mixed stages of maturity (Figs. 4 and 5). The site is bisected at a right-angle to the shoreline by Havoc Road.



Fig. 1. Drone view of Havoc grasslands on the Clyde estuary, Scotland, 2022. (John Rogers)



Fig. 2. Brucehill cliff and woodland corridor, 2021. (Iain McLaren)



Fig. 3. Bryophytes, ferns and cavelets at the cliff base, 2021. (Iain McLaren)



Fig. 4. Disused "red blaes" substrate, 2022. (Iain McLaren)

HISTORY

A “Havock Farm” building next to Havoc Road, at the shore end, is marked on maps from the early 19th century to the early 1930s. The land was used for grazing cattle for at least the two decades preceding World War II, and possibly much longer; the alternative local name “The Coos’ Park” is still used by a few older residents. “Allotment Gardens” are also shown there on maps from the 1930s. There was a “large colony” of greater butterfly-orchid (*Platanthera chlorantha*) on the land at this time (Futter, 2007). For many years, the species was thought to have been wiped out here by the use of the site as a municipal landfill amenity from 1954 to 1980 by the then Dumbarton District Council (Futter, 2007). From the 1950s to the early 1970s, despite the landfill activity adjacent, the shore was a popular picnicking and bathing site, with a very high footfall in summer.



Fig. 5. Disused council tip and sports pitches, 2022. (Iain McLaren)

The origin of the imported soil subsequently used to cover the in-filled areas is not known. A small area of wildflower meadow (at the eastern end) remained unused for landfill, presumably due to the land at this end being part of the old Keil School’s estate. In 1980, the areas of buried waste were grassed over for sports pitches, and a red blaes athletics track was installed (Dumbarton District Council, ca. 1995) (Fig. 6). Both of the schools using these had closed by 2000, and “variable and...at times ad hoc (council mowing)” (Futter, 2007) (Fig. 7) was discontinued in 2013. Regular fire-raising in the early years of this century may have acted as “accidental management” of bracken (*Pteridium aquilinum*) and vigorous grasses (Futter, 2007). While we have seen areas of the red blaes synthetic surface churned up by a council rotavator to hide smaller litter fragments (following a spate of fly-tipping in 2018), it has never been removed, remaining visible today. The shift towards other summer destinations and pastimes since the 1970s has allowed floral and faunal communities on the shore to recover.



Fig. 6. Red blaes and sports pitches at Havoc, 1985. (James Connolly)

The site was recognised in the Leven Valley Habitat Survey of 1992 as a site of importance for wildlife conservation (Futter, 1995). There was an attempt to designate the mature grassland area as a Local Nature Reserve (LNR) in 1994 under the name “Brucehill Cliff LNR” (Futter, 2007), but this was never made official, due to some error in paperwork which may never be explained (S. Futter, pers. comm.). The late naturalist Dr Keith Futter, and his wife, Su Futter, who were local residents and respected members of Glasgow & South West Scotland Branch of Butterfly Conservation, both knew the site well and recognised its conservation potential. They continued to seek LNR status for the site, and the area was made a Local Nature Conservation Site (LNCS) in 2015 by West Dunbartonshire Council (WDC).



Fig. 7. By 2007, mowing of grassed areas was sporadic. (Gillian Neil)

A local community group, Friends of Havoc Meadows (FoHM), was established in 2018 to encourage bio-recording and conservation. Volunteers also worked with the council to remove fly-tipping and litter from the site, which is now kept litter-free by the same coordinated effort. This latter achievement has meant that organised “forest learning” sessions for local school and nursery children, and other community groups, have recommenced in the blaes copse.

From the following year (2019), the site continued to be more actively managed by the Council’s Greenspace Department, who ran group sessions to add to the work already underway by bio-recorders. The baseline site species list having been refreshed, an autumn cut and bail was trialled in October 2020, under the continued

supervision of Gillian Neil, who in that year moved from her Ranger post to become the area's first Biodiversity Officer. During the Covid-19 pandemic lockdowns of 2019, the site saw increased footfall from locals; it remains well-used by dog-walkers.

In March 2022, as a result of a community-led campaign assisted by a local councillor, a Tree Preservation Order (area) was granted for around 100 trees at the cave end of the clifftop. Around 30 of these were subsequently felled by developers, who have since been instructed to plant suitable replacements in the same area. At the time of writing, this has not yet been done.

BLAES AND GRASSLAND BIODIVERSITY

Presumably due to its limited porosity, the blaes surface is a dry and apparently hostile environment to many germinating seeds. A sizeable copse of silver birch trees (*Betula pendula*) dominates, surrounded by patchily bare, sun-warmed areas dominated by low-growing wildflowers such as bird's-foot trefoil (*Lotus corniculatus*). This is a surprisingly deep-rooted species, presumably enabling it to cope with the lack of rainfall penetrating the blaes surface. The flourishing of the latter has benefitted the larvae of the common blue butterfly (*Polyommatus icarus*) which feed on it. The open habitat with bare patches is also favoured by the small heath (*Coenonympha pamphilus*). Also well adapted to the dry open ground is common ragwort (*Jacobaea vulgaris*), providing nectaring opportunities for various Lepidoptera (butterflies and moths) and Syrphidae (hoverflies), as well as the larval food plant for the site's population of cinnabar moth (*Tyria jacobaeae*), which has achieved unprecedented larval numbers on-site in 2022. Part of this success was due to reduced mowing width of public access paths in areas known to be favoured by these larvae, combined with council and volunteer efforts to promote awareness and discourage ragwort-pulling.

The large area of the former grass pitches is being repopulated by some of the 50 species of grass, sedge and rush found on-site, along with yellow rattle (*Rhinanthus minor*). Six species of Orchidaceae have now staged a return in previously landfilled areas, including common twayblade (*Neottia ovata*), broad-leaved helleborine (*Epipactis helleborine*), and the greater butterfly-orchid (*Platanthera chlorantha*).



Fig. 8. Tufted vetch (*Vicia cracca*) and common valerian (*Valeriana officinalis*), June 2021.
(Iain McLaren)

The surviving old meadow area remains the most biodiverse for wildflowers, with an abundance of meadowsweet (*Filipendula ulmaria*), hemp agrimony (*Eupatorium cannabinum*) and common valerian (*Valeriana officinalis*), as well as various vetches and clovers (Fig. 8). A range of invertebrates shows a predictable richness. Odonata, including golden-ringed dragonfly (*Cordulegaster boltonii*) and common darter (*Sympetrum striolatum*), hunt above the grasslands. There is an extensive range of macro- and micro-moths, including Mother Shipton (*Callistege mi*), which is an indicator of good habitat. Among the numerous ichneumonids is the giant *Amblyjoppa proteus*, parasitic on the larvae of elephant hawk moth (*Deilephila elpenor*), which is also present.

The site's south-facing aspect, and the natural windbreak provided by the cliff, contribute to a count of 16 butterfly species in the last five years, including some relative newcomers such as the comma (*Polygonia c-album*), first recorded here in 2019. The site has been described as "one of the best sites to see butterflies in South-West Scotland" (Futter et al., 2006). Breeding grassland birds here include grasshopper warbler (*Locustella naevia*), sedge warbler (*Acrocephalus schoenobaenus*), and common reed bunting (*Emberiza schoeniclus*). Mammals include pygmy shrew (*Sorex minutus*), stoat (*Mustela erminea*), and common vole (*Microtus arvalis*).

BRUCEHILL CLIFF AND WOODLAND BIODIVERSITY

Brucehill Inland Cliff, a red sandstone cliff bordering the site, formerly a sea cliff but now abandoned after a fall in sea level, is a key local geological feature. It was laid down by wind in arid desert conditions in the Devonian period (375 million years ago). Cross bedding can be seen at the base in some parts (Fig. 7). The action of waves on the cliff has carved fissures and cavelets, the largest of which is Wallace's Cave (also known as Havoc Hole) (Fig. 9). Wide enough to admit only one abreast, measuring 3.7 m in height at the entrance, it is possible to walk upright, on



Fig. 9. Iain McLaren measuring Havoc Hole, also known as Wallace's Cave, October 2022. (Zoe Weir)



Fig. 10. Permanently flushed area of cliff, with royal fern (*Osmunda regalis*) in foreground. (Iain McLaren)

uneven ground, for a few feet. From therein onwards, both the height and width diminish rapidly as the cave deepens. Measured from the cliff face, beneath the edge of the overhang, using a long pole, we found the cave to be 13.8 m deep on 1st October 2022. The high humidity and low light levels of this cave are well-suited to a presumably small, but stable, colony of the European cave spider (*Meta menardi*). The white, tear-shaped egg-sacs of this species can be seen hanging from short threads attached to the cave roof.

Invertebrates on the cliff remain largely undocumented, as do woodland fungi at its base. Parts of the cliff surface drip with water runoff, even during prolonged dry spells. They are covered in bryophytes and at least eleven species of fern, including a large colony of royal fern (*Osmunda regalis*) (Fig. 10). The cliff plant community in other areas – including heathers, ferns, opposite leaved golden saxifrage (*Chrysosplenium oppositifolium*) and greater wood-rush (*Luzula sylvatica*) – indicates acidic rock and soil (Futter, 2007), while various trees have rooted on the cliff-edges, sometimes with aerial roots extending vertically many feet down along rocky surfaces to reach soil. Among the less commonly recorded invertebrates inhabiting the damp woodland at the cliff's base are the harvestman *Nemastoma bimaculatum*, and the wet flat-backed millipede (*Craspedosoma rawlinsii*). Also thriving here is a fairly recent Scottish arrival the six-spot comb-footed spider (*Rugathodes sexpunctatus*), a small boreal theridiid found in North America and Russia, which was recorded for the first time in Scotland in 2012 at the Necropolis in Glasgow (R.B. Weddle, pers. comm.). Along the base of the cliff are occasional small marshy areas and stands of bramble. Eye-catching invertebrates found along the clifftop tree corridor include the speckled wood butterfly (*Pararge aegeria*), tree bumblebee (*Bombus hypnorum*), pseudoscorpion *Neobisium carcinoides* and the harvestman *Megabunus diadema*. A full complement of woodland bird species is found here, including great spotted woodpecker (*Dendrocopos major*), blackcap (*Sylvia atricapilla*), nuthatch (*Sitta europaea*), willow warbler (*Phylloscopus trochilus*), and goldcrest (*Regulus regulus*). Benefitting from the continuous vertical corridor of oak canopy from the clifftop to the grassland oaks below is

an established colony of the purple hairstreak butterfly (*Favonius quercus*), a widespread and sometimes common species often overlooked due to its high-flying, typically evening, flight habits.

SHORE BIODIVERSITY

The ecology of the proposed LNR cannot be separated from that of the adjacent tidal estuary, though the latter is not included in the proposed reserve area. It is rich in coastal plants, driftwood and seaweeds. From the high-water mark to the grassland border there is an especially high diversity of flora, as the salt-tolerant floral community mingles with damp grassland species. There are surely specialist invertebrates here yet to be recorded. Among the nationally scarce but locally abundant species here are flowering plants such as sand leek (*Allium scorodoprasum*), and the large amber snail (*Succinea putris*), both of which are also found in some damp areas of the grassland site. Below the high tide mark, there are areas of the super-habitat forming photosynthesisers dwarf eel grass (*Zostera noltii*) and eel grass (*Z. marina*) in the intertidal and subtidal respectively. This stretch of shore is a great place to see waterfowl in large numbers, particularly in the winter when it is an important feeding ground for various wading birds.

FUTURE PLANS

The current proposed LNR area, under a revised name still under discussion, is larger than the previous iteration, encompassing wooded areas and fields on both sides of Havoc Road. It is the intention of the Biodiversity Officer and the Greenspace Department to apply for full LNR status for this site in the near future. The principal aspect of the current management plan is that a cut and bail will be done annually in immature areas, and on a three-year rotation in mature areas, with clippings collected to ensure impoverished soil.

Council staff plan to control the spread of bracken (*P. aquilinum*) in some areas, although it is considered useful on the sloping south-eastern end of the cliff. Efforts to remove Himalayan balsam (*Impatiens glandulifera*) by volunteers since 2018, and increasingly supported by council efforts, have partially succeeded. The plant had first arrived on-site in 2004 (Futter, 2007), but by 2017 had become well established on three of the site's four borders, beginning to "jump" into the central area in places. A patch of Japanese knotweed (*Reynoutria japonica*) persisting beneath the cliff since 1995, and scattered specimens of *Rhododendron ponticum*, have also been mapped for removal, although the latter is mostly growing from inaccessible crevices high in the cliff face. Re-introduction on the bracken slope of common violet (*Viola riviniana*) (once the eradication of *I. glandulifera*, which has out-competed it, is complete) would then be possible.

CONCLUSIONS

Havoc is an encouraging example of the importance of brownfield sites for biodiversity, particularly when properly managed. The creation of site-specific volunteer group, and sustained contributions from bio-recorders, appear to have encouraged council effort and investment. The ecology of the site, as well as its high level of local support and beneficial recreational and educational use, would seem to indicate that LNR status would be appropriate. The "Friends of Havoc Meadows" group welcomes additional members to assist with the weekly transect for Butterfly Conservation, take part in occasional group biological recording sessions, or contribute to light practical conservation tasks such as Himalayan balsam control. ZW is the group administrator. A frequently updated list of all recorded taxa at Havoc is available at www.gnhs.org.uk/biodiversity/Havoc_splist.pdf.

ACKNOWLEDGEMENTS

We would like to acknowledge the involvement of the following individuals in the Havoc Meadows and Brucehill Inland Cliff LNR project: Su Futter and the late Dr Keith Futter, Gillian Neil, WDC Biodiversity Officer, Richard Weddle, Clyde area bio-recorder, and James Connolly, WDC Greenspace Team Leader.

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Out & About: Field Reports 2024

Croftamie, Dunbartonshire (NS4686, NS4687). 21 April

Michael Philip

After what seemed like a very long winter, it was great to be back out looking at plants in the company of familiar faces. The weather was very wet: by lunchtime, when the rain eventually abated, we were all pretty soggy!

We enjoyed the riverbank of the Catter Burn, a quiet wooded place seldom visited by humans. There was much excitement when Alternate-leaved Golden-saxifrage (*Chrysosplenium alternifolium*) was found, and even more jubilation when Stan and Grahame did an extra detour to locate it (successfully) in an adjoining monad where it was the only previously-recorded species.

However, such feelings of achievement were short-lived: we realised the following day that, since the Catter Burn is also the vice-county boundary, both sites for the plant were in fact Stirlingshire records!



Botanising by the Catter Burn. (Michael Philip)

Stonemollan, Alexandria (NS3781, NS3681). 4 May

Mary-Anne Collis, Countryside Ranger, Greenspace, WDC

Having had the best of intentions to join a local BSBI outing multiple times but with 'life events' getting in the way I finally made it to the meet up at Stonemollan, West Dunbartonshire on 4 May.

It was a fantastic day with a wonderful group of people. It's lovely to be surrounded by other people with similar interests and whilst the focus was certainly on botany and finding as many different species as possible there were many great discussions about other natural aspects and lots of stopping to learn from each other.



In search of interesting verge-side plants.
(Mary-Anne Collis)

I'm quite new to the botany world, having been working in wildlife conservation throughout my career I feel bad about this, and it often feels a little daunting to delve into what can seem like another world.

However, I can't think of a better way to get introduced to the botanical world than with a BSBI outing. Such a welcoming bunch that are keen to help others learn and provide a great space for beginners.

I'm not sure I even contributed one plant to the list for the day but I still felt part of the group and could share in the achievement. I also learnt a thing or two, whether I remember them in six months' time is another matter, but I'll just have to go on more trips and get a bit more immersed so that the information sticks.

If you attend any field trips, please don't forget to take some photos and consider writing down your experiences to include in future issues of Trifoliate.



Michael Philip, in red jacket, explaining plant characteristics.
(Mary-Anne Collis)

Morgan Glen, Larkhall (NS7550, NS7549). 5 May

Jim Blackwood



River Avon, Morgan Glen. (Jim Blackwood)

As Gertrude Jekyll said, “Green is also a colour”. What a magnificent green setting Morgan Glen is at this time of year. The after-rain freshness of spring made the greens of the trees and ferns zing. Hard Shield Fern (*Polystichum aculeatum*) was everywhere, and we were bathed in birdsong, including flutey Blackcaps at our lunch spot.



Group botanising. (Peter Wiggins)

Peter Wiggins led an enthusiastic troupe of beginner and more experienced botanists, under the guidance of Karen Smith, Countryside Ranger, South Lanarkshire Council, whose local knowledge was invaluable. Imagine a steep wooded cleugh carpeted with Ramsons (*Allium ursinum*) and Bluebells (*Hyacinthoides non-scripta*) at their peak, Wood Anemones (*Anemone nemorosa*) and Barren Strawberries (*Potentilla sterilis*), Wood Speedwells (*Veronica montana*) and Water Avens (*Geum rivale*) - plus many variations on the hybrid *Geum x intermedium* - and you're there virtually. Lots of Bird Cherry (*Prunus Padus*) and froglets galore, so you had to watch where you trod!

The botany was promising and did not disappoint. We hoped to find the elusive and scarce Alternate-leaved Golden Saxifrage (*Chrysplenium alternifolium*). And we did! Liz McTeague spotted it first on a mossy rock down by the river, growing amongst Opposite-leaved Golden Saxifrage (*Chrysplenium oppositifolium*). It was useful to compare the two, and get your eye in to the jizz, seeing side by side the differences of leaf shape and inflorescence. Nearby we found many more of the Alternate-leaved Golden Saxifrage, classically growing with Moschatel (*Adoxa moschatellina*) on the sandy bank of Avon Water; and less classically growing amongst emerging Japanese Knotweed (*Reynoutria japonica*).



Alternate-leaved Golden Saxifrage (*Chrysplenium alternifolium*). (Jim Blackwood)



Hard Shield Fern (*Polystichum aculeatum*). (Peter Wiggins)



Morgan Glen. (Peter Wiggins)

As we walked up the “hunner stairs” it was a relief to stop and admire Hairy St John’s-wort (*Hypericum hirsutum*) and a pretty bank of Common Dog-violet (*Viola riviniana*). Peter had already found some Sweet Violet (*Viola odorata*), a plant which he is surprisingly finding quite a lot this year.

In more open ground I was delighted to see Crosswort (*Cruciata laevipes*), a plant which I rarely see in my bit of Renfrewshire. Apparently it’s a Lanarkshire speciality. Sedges amounted to four species Wood, Hairy, Glaucous, and Pendulous (*Carices sylvatica, hirta, flacca, and pendula*). And there was much more, a super botanical day.

Lochwinnoch, Renfrewshire (NS5448, NS5449) 11 May

Peter Wiggins



Group botanising at Lochwinnoch.
(Jim Blackwood)



On a glorious, sunny day, we joined with Jim Blackwood and his Lochwinnoch Force for Nature for a wildflowers ID for beginners and improvers outing as part of the free Lochwinnoch Feel Good Festival event. There were 12 participants both local and from as far afield as Glasgow, Dunlop and Fairlie, enjoying and learning about wildflowers by the beautiful Castle Sempole Loch (vibrant and busy on regatta day) and in Parkhill Wood. Bathed in birdsong and with the air heavy with the fragrance of Rowan and Hawthorn blossom, we also recorded for the Clyde Big Birding Day.

The woods, meadows and shoreline had many interesting flowers and Jim was a great guide with his local knowledge and experience. This was more of a training meeting than our usual recording outing and we are going to have more meetings like this for beginners and improvers to learn from each other.

Marsh marigold (*Caltha palustris*). (Jim Blackwood)

Viewpark, Uddingston (NS 7162). 18 May

Peter Wiggins



Urban botany at Viewpark. (Peter Wiggins)

On May 18 we gathered at Viewpark, near to Uddingston, to visit a monad with no records but a varied habitat, with parkland, fields, urban and a river. Michael led the day with Malcolm, Kirsty, Jill and I in attendance.

We first did some urban botany then through the park and into a planted woodland which merged into an older mixed woodland. There we saw Wood Anemone (*Anemone nemorosa*) and Three-nerved Sandwort (*Moehringia trinervia*).

We then moved into a rich meadow which was glorious in the spring sun, and down to the North Calder Water returning back to the cars along a different route.

This was a memorable day with 203 species found, certainly one of the largest lists to which that I have ever contributed.



Three-nerved Sandwort (*Moehringia trinervia*). (Peter Wiggins)

Three-nerved Sandwort

The plant gets its common name from the three prominent veins that run the length of its leaves. It is a much-branched, decumbent or spreading annual up to about 30cm, resembling common chickweed.

It has five sepals that are narrow with a green keel and a white margin and five white, rounded petals which are shorter than the sepals. The flower blooms from June through to August and is about 5-6 mm in diameter.

According to some herbalists the plant has been traditionally used to treat respiratory and digestive ailments, and has also been used as a diuretic and to relieve menstrual cramps. It is however toxic if ingested in large quantities – you have been warned!

Ross Park, Loch Lomond (NS3587, NS3687). 19 May

Michael Philip



Though the south-western shore of Loch Lomond was busy with dog-walkers, campers, canoeists, paddle-boarders and screeching children enjoying what was a lovely, still day, as we made our way north along the shore it became both quieter and more botanically interesting.

We enjoyed finding lots of Elongated Sedge (*Carex elongate*) and one or two known stations of Scottish Dock (*Rumex aquaticus*) – though it is now viewed as most likely that these are examples of hybrids rather than ‘pure’ species.

The view from a seldom-visited piece of shoreline, immediately east of the outflow of the Finlas Water (Conic Hill looking particularly conical). (Michael Philip)

Lang Craigs & Overtoun Burn, Dunbartonshire. 26 May

Michael Philip



The venue for this outing was rearranged slightly. The walk northwards from Overtoun House in steady drizzle didn't bode well, but miraculously it dried up as we began to record monad NS4377. This square had a previous list of 190 species, so we didn't expect to match that. However, with several pairs of sharp eyes and willing feet, and with the bonus of Keith Watson joining us for the day, we ended up with 193 species!

Highlights included Early Purple –orchid (*Orchis mascula*), Fragrant Orchid (*Gymnadenia conopsea s.l.*), Mountain Everlasting (*Antennaria dioica*) and no less than 13 different Sedge species.

One jaw-dropping sight was ‘white lava’ seemingly flowing down from the Craigs – made up of countless thousands of flowers of Mossy Saxifrage (*Saxifraga hypnoides*).

‘White lava’. (Michael Philip)

Glen Luss, Dunbartonshire (NS3093, NS3193). 1 June

Michael Philip

We managed to cram nine people into two cars to drive the alarmingly narrow and challenging road up Glen Luss to Edentagart farm - with the co-operation and permission of Luss Estates.



Dividing into three smaller groups, we recorded in four monads in the upper glen and on the slopes of Beinn Eich above. It was a glorious summer's day in spectacular surroundings and we saw many moorland plant species.

One aim of the expedition was to try to re-find, and check on the health of, several previously-recorded Orchid species. Sadly, we were just a week or two early so, for example, a good population of Lesser Butterfly-orchids were not yet in flower.

Still, it will be no hardship to revisit at a more propitious time!

Dorothy, Liza and Grace on their lunch break. (Michael Philip)

Dunwan Dam, Renfrewshire (NS5548, NS5549). 25 May

Keith Watson



Keith, Alison and Dee plant-hunting in a ravine (Liz McTeague)

Fairly pleasant weather helped to make the excursion to two under-recorded monads encompassing Dunwan Dam an enjoyable experience for Keith, Liz, Alison and Dee; Michael facilitated the visit by ferrying the party to the dam side. The dam margins added plant diversity to the area by its neutral grasslands and swampy margins, but frustratingly the water level was very high, so plants such as mint and spearwort were at arm's-length underwater! However, a nice find was a small patch of bladder-sedge, a plant with only scattered records in VC76, and a couple of tea-leaved willows, although one is best considered the hybrid with grey willows (*Salix x laurina*).

Much of the survey area was dominated by rather tussocky acidic grassland with local purple moor-grass and hare's-tail cotton-grass, and local wetter rush dominated flushes; such areas provided an expected list of more acidic upland fringe species; a few nicer finds included marsh hawk's-beard and narrow-leaved buckler-fern. The previously hard to access moorlands are now criss-crossed by access tracks serving the many wind turbines, but these tracks helped to boost the species total by adding a number of more neutral or stress-tolerant plants; finds of interest included the seemingly locally rare subspecies

of changing forget-me-not (*M. discolor* ssp *discolor*), with initially yellow flowers, sub-opposite leaf pair below the inflorescence and a less-hairy stem below; a scattering of past-their-best dandelions make the site appealing for a visit in April next year.

In the far south some rather nice looking blanket bog supported the expected range of bog species, which included round-leaved sundew and cranberry; some nice shrubby lichens (*Cladonia* spp.) provided a distraction for Alison. On the way back we checked out a small section of Dunwan Burn, where some rocky outcrops supported a few heath and woodland elements that have escaped the many years of heavy grazing; finds included bluebell, wood anemone and primrose.



Tall bog-sedge (*Carex magellanica*). (Michael Philip)

Michael in the meantime was busy wandering along the Ayrshire border picking off small corners of unrecorded VC76 land. The star find occurred here when Michael refound a population of tall bog-sedge (*Carex magellanica*); this small sedge, remarkable for often occurring from here (“Lochgoin Reservoir”) in 1977 by Robert Mackechnie. A great find to finish off an enjoyable visit to this area of moorland, which is now more accessible and in need of more modern recording efforts.

‘The current dam at Dunwan is thought to have been built around 1939 to 1940, replacing an earlier dam that was breached.

During a period of drought in 1966 the dam keeper found an almost complete medieval pot or vessel on the shore of the dam near the boathouse.

The pot's currently stored at Glasgow Museums Resource Centre in Nitshill under accession number A.1997.25.’

from Whitlee history

Tall bog-sedge: ‘A perennial sedge of wet ground, pools and hummocks in *Sphagnum* bogs, or at the edges of gently sloping mires where there is slight lateral water movement, but seldom in standing water; consequently often found along watersheds. It generally occurs in open ground, but sometimes persists in carr. From 30 m (Shian, Mid Perthshire), but generally upland, reaching 685 m (Ben Lui, Main Argyll). *C. magellanica* is very sparsely scattered in suitable habitats in upland regions of northern and western Britain and Ireland. However, many sites were lost in the 20th century as a result of drainage or afforestation, and during the current [2020] survey a number of populations that were recorded in the previous atlas survey have not been refound.’

BSBI Plant Atlas 2020

Whitelee Windfarm (NS5448, NS5449). 9 June

Peter Wiggins



In the field. (Jim Blackwood)



Jim Blackwood, Blackwood Road, Blackwood Hill!
(Kirsty Menzies)

I discovered the day before that Whitelee Windfarm was holding a Community Day and it would be busy and though they didn't mention that the car park would be closed we all met up anyway. Hamshya, Billy, Liz, Liza, Jim, Kirsty and I dressed for the predicted rainy day and left the car park in a record time (for botanists).

The monad was of particular interest to Jim as it contained Blackwood Hill although he denied any ancestral connections.

We found a wide range of sedges and other plants of acid moorland and mire, but along the tracks and round the wind turbines we found different populations including Small Cudweed (*Logfia minima*), previously Michael Philip said this looked like it had been in a pencil sharpener. As we returned off the moorland, Liz found cranberry (*Vaccinium oxycoccos*) which is always treat to find and rounded off a list of 104 species. It was a brilliant day in the field with lots of sun and no rain at all.



Small Cudweed (*Logfia minima*). (Kirsty Menzies (left), Jim Blackwood (right))



Small Cudweed photography inducing a range of contortions.
(Jim Blackwood)

Small Cudweed

This small plant is native to Europe and Asia, but it has been introduced to other parts of the world, including North America and Australia.

It is most commonly found in disturbed or waste ground and has a strong mycorrhizal relationship with fungi allowing it to grow in nutrient-poor soils.

It's an annual, flowering June to September.

Plant Atlas 2020 shows it as being uncommon in west-central Scotland.

Inchmurrin, Loch Lomond (NS3786/7, NS3876/7). 12 June

Michael Philip



Group luncheon, Inchmurrin.
(Jim Blackwood)



Inchmurrin, aerial view.
(Visit Scotland)

Inchmurrin

Inchmurrin is the largest inland island in Great Britain and the most southerly on Loch Lomond. It is approximately 1.5 miles long and 0.75 miles wide.

The island was the site of a 7th-century monastery, with a chapel dedicated to Saint Mirin, after whom the island was named. It was formerly a deer park of the Dukes of Montrose, who had a hunting lodge built in 1793.

Inchmurrin was subsequently purchased by Mr Melville of the India Tyre Manufacturers and since the 1950s it has been in the ownership of the Scott family who operate a small farm and many tourism enterprises on the island.

On a beautiful, calm day a group of eight visited the island of Inchmurrin. We walked together to the highest point, Dun Sheock, from which we had a glorious view northwards up Loch Lomond, and then split into two groups of four to get to work. We recorded in the two central monads on the island, and added some more in the southern section on our walk back to the ferry.

A proportion of the records had been seen quite recently (2017) but we re-found some species from the earlier record (1989) and were able to add many new monad records too.

Among the best finds were Smooth-stalked Sedge (*Carex laevigata*) and Trailing St. John's-wort (*Hypericum humifusum*), last noted in 1989 and 1993 respectively.

Still more work to do on this island, but a return visit is definitely something to look forward to.

Smooth-stalked Sedge: 'A perennial sedge of moist woodlands on heavy clay soils, often where there is some flushing with base-rich water. Although most frequent in shaded sites, it is sometimes found in more open situations, such as on the edges of reedbeds, in open woodland on hillsides, or occasionally in open grassy flushes and damp meadows. It is a plant of low or moderate altitudes, in hilly or mountainous areas where the annual rainfall exceeds 750 mm.' (BSBI Plant Atlas 2020) Its native range is Germany, Netherlands, Belgium, Luxembourg, France, Great Britain, Ireland, Italy, Spain and Portugal, plus north-west Morocco.

If you attend any field trips, please don't forget to take some photos or consider writing down your experiences to include in future issues of Trifoliate.

Partnerships



The Countryside Rangers in South Lanarkshire organised a “Plant Beginners Workshop” at Chatelherault Country Park on 28th April, led by Michael Philip.

After spending time indoors learning the basics of plant anatomy and vocabulary, and how to look at a plant, the group enjoyed some gentle fieldwork in the park.



South Lanarkshire Countryside Rangers enjoying classwork and gentle fieldwork. (Karen Smith)



Carex x boeninghausiana. (Michael Philip)



On 1 May Michael Philip led the year’s first outing in a continuing series jointly organised by RSPB at their Loch Lomond Reserve, near Gartocharn.

The aim is to compile a full plant list for each of the 39 Compartments into which the Reserve is divided. (About half of this big site was recorded gradually last year.)

This ‘win-win’ project also deepens the record for some Dunbartonshire monads.

A highlight on this occasion was visiting a hybrid Sedge which was found and identified by the RSPB’s own ecologist two years ago: *Carex x boeninghausiana* (*C. paniculata x remota*).

Potamogeton x bennettii

Liza Downie & Peter Wiggins



Distribution of *Potamogeton x bennettii*, BSBI

There is a Pondweed unique to Scotland: *Potamogeton x bennettii*, a hybrid of *P. crispus* and *P. trichoides*. Actually, it is unique to the Glasgow area –maybe, as it has not been located this century. Indeed, we have been looking for it most seasons for the last five years in the Forth & Clyde canal.

So, recently, Liza Downie offered her kayak and we searched the canal waters in the last place that it was recorded. Previously, we have looked for it from the bank, using a grapnel.

What a lovely way to spend a morning: we saw many interesting flowers, but, alas, no pondweeds at all!

Undaunted, we plan to be back in August for another go.



Yellow Waterlily (*Nuphar lutea*).
(Peter Wiggins)



Plant last seen at this site on Forth & Clyde Canal claypits.
(Peter Wiggins)



The intrepid duo.
(Peter Wiggins)



Peter powering along in pre-Olympic mode! (Liza Downie)

Snowdrops 2024 - Clydesdale (VC77)

Frazer Henderson



Snowdrops, Clydesdale (above), *G.nivalis* f. *pleniflorus* 'Flore Pleno' (below). (Frazer Henderson)



Earlier in the year Peter Wiggins set a challenge to record snowdrops (*Galanthus* spp.) in VC77. So, in February, I spent a few days travelling, somewhat sedately, around the byways of Clydesdale with my wife co-piloting and taking down records. I'm unsure whether it was the citizen-science contribution to species distribution or the promise of luncheon out which enticed her, but nonetheless it worked and we visited, by road, many, many monads.

It was clear that in having such a tight focus meant that we were able to discern a relationship between snowdrops and beech (*Fagus sylvatica*), in woods or hedges (and beech, of course, is a characteristic species of much of the native habitat of *Galanthus*), as well as the association of snowdrops with human habitation (through deliberate initial plantings for aesthetic purposes). We didn't count snowdrops within the vicinity of house-, farm- or church entrances as they would have been deliberately planted but we did record specimens when ants had clearly distributed seeds some considerable distance, for example, many metres along a hedge.

In all we recorded snowdrops in over 40 monads (sometimes there were a number of discreet populations within a single monad: in other locations the abundance was amazing, with numbers into the many thousands).

At one site, a former, formal entrance to a long-demolished, stately Victorian property we chanced upon *G.nivalis* f. *pleniflorus* 'Flore Pleno'. It is often called the Double Common Snowdrop and is the oldest known cultivar, first illustrated in 1703. It is often found in old gardens and graveyards. Though sterile it spreads vigorously from bulb offsets. For more information on snowdrops see this [video](#) or this [identification sheet](#) from the BSBI.

Changing Times

Peter Wiggins

A researcher in education was going through her late grandfather's papers in 2016. He was a woodsman and a Scout leader. In a set of jotters, she saw the results of a badge he had devised for his scout troop, the Wild Flower Badge. During a year, he collected and brought into the scout hall 15 flowers, five grasses and the leaves of five trees which they had to identify in three tests. The pass mark was 24/25 and the jotters contained the results from 1954 until 1968.



Bluebells. (Jim Blackwood)

When she reported this in the university's Natural History Society's newsletter it created a bit of a stir.

The next year, and every year since, it has been repeated by the ecology department even after they had included more identification training but so far, they have only beaten the Scouts' pass rate from the 1950s once.

The flowers are:

Bluebell, Wood Anemone, Lesser Celandine, Cow Parsley, Meadow Buttercup, White Clover, Ragwort, Smooth Hawk's-beard, Cat's-ear, Autumn Hawkbit, Creeping Thistle, Germander Speedwell, Chickweed, Tufted Vetch and Broad-leaved Dock.

The grasses are:

Cock's-foot, Rough Meadow-grass, Crested Dog's-tail, Perennial Ryegrass, Yorkshire Fog.

The trees are:

Scots Pine, Ash, Sycamore, Hawthorn and Beech.

How would you do?

As an educationalist, she noted that most of the scouts passed the badge first time, every year only one or two of the scouts of the 25 to 40 taking the tests didn't pass. Over the 14 years the average pass rate was 96%. She looked at the answers and realised that she would never have passed.

She wondered how the ecology students at her university would compare to the 14-year-old boys from over 60 years ago. She prepared an equivalent test using photographs and explained the background to the ecology students and almost all agreed to take part. Out of 42 students, only six (14%) passed using her grandfather's criteria, and 18 (43%) with a pass mark of 80% (20 identifications).



Beech. (Wikimedia Commons)

Plant Galls: an introduction

Peter Shirley, British Plant Gall Society (BPGS)

Plant galls are a relatively neglected group of naturally occurring phenomena despite their abundance, familiarity, and fascinating features. Almost every field naturalist will have come across oak apples, pocket plums and the many types of red nail galls, perhaps briefly wondered about them, and then moved on to their primary interest, be that plants, birds or insects. Galls are though important members of the ecological community, and their study encompasses a wide range of disciplines, including botany, entomology, and mycology.



Biorhiza pallida cynipid oak apple gall on oaks, *Quercus* spp..
(Peter Shirley)

Amongst the most familiar galls are several which grow on oaks, including the aforementioned oak apples (see photo), knopper galls on acorns, and spangle galls on leaves, the mossy bedeguar, or robin's pin cushion (see photo), galls on roses, and red bean galls on willows. In fact there are more than 1500 types of gall in the UK, and that number is increasing as more are discovered or arrive here. Many are inconspicuous until you know what you are looking for, but they can be found at any time of the year on a wide variety of mainly plant hosts. Because gall-causers need to be closely adapted to their hosts most are monophagous or oligophagous (found on one, or a few closely related, hosts). There are some which have many hosts, but these tend to produce simple galls.



Diploleis rosae cynipid robin's pin-cushion gall, on roses *Rosa* spp..
(Peter Shirley)

So what exactly are galls? The definition we use in the British Plant Gall Society is: 'A gall is an abnormal growth produced by a plant under the influence of another organism. It involves enlargement and/or proliferation of the host's cells or vascular tissue, and provides both protection and nutrition for the gall causer'. In simple language they are swellings of plant tissues stimulated by another organism whose offspring then feed and develop within the swollen tissues. Having said that, galls vary from simple and slight swellings or distortions to complex, elaborate, and conspicuous growths. In all cases the host plant's own growth processes are diverted for the benefit of the gall-causer. This can have profound consequences. For example, although oaks are wind-pollinated and therefore do not normally produce nectar, some of their galls, including knopper galls, exude a sticky, nectar-like substance.



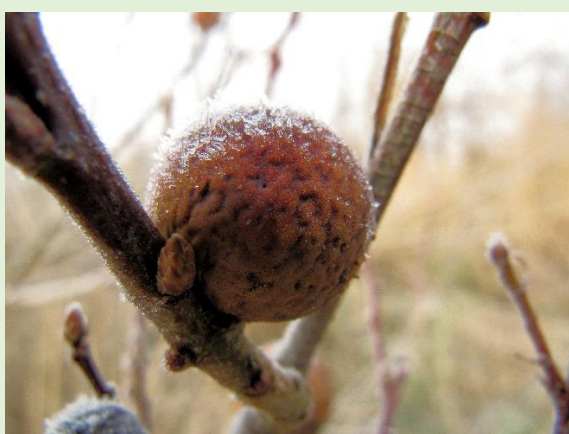
***Urophora cardui* picture-wing fly gall-causer on thistle *Cirsium* ssp..** (Ian Andrews)



***Urophora cardui* fly gall on thistle, *Cirsium* ssp..** (Peter Shirley)

Most galls are caused by mites and insects, but other causers include nematodes, viruses, bacteria, fungi and plants (mistletoe is a gall-causer). Two of the most significant groups of insect causers are gall midges (Cecidomyiidae) and gall wasps (Cynipidae), and a third major group are mites in the family Eriophyoidea. Insect causers in general include beetles, weevils, moths, sawflies, flies in addition to gall midges, aphids and psyllids.

Hosts include algae, fungi, mosses, liverworts, ferns and conifers, but 98% of galls are on flowering plants, of which 90% are on dicotyledons. They are on and in roots, stems, leaves, flowers, fruits and seeds. They can be swellings, nodules, patches of hairs, rolls and folds of leaf margins and of whole leaves, dimples, blisters, pustules, discs and balls on leaf blades, and swellings of stems, buds, flowers and fruits. In Britain the families with the most arthropod galls are:



***Andricus kollari* cynipid marble gall on oaks *Quercus* ssp..** (Peter Shirley)

Asteraceae (daisies, thistles etc.); over 100 species.

Salicaceae (willows and poplars); about 90 species.

Fabaceae (legumes); about 90 species.

Rosaceae (roses, brambles, cherries etc.); about 80 species.

Fagaceae (oaks and beech); about 60 species.

Next time we will look at some gall-causers' life-cycles, and the ecology, impacts and importance of galls.

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

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.

Gall observations can be uploaded to both [iRecord](#) and [iNaturalist](#).

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:

Study Groups - Short Zoom group study courses are arranged from time to time by Peter Wiggins. Some are aimed at beginners, while others are for the more experienced. Please contact Peter for more information:

pswiggins@gmail.com

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 - The Outings Programme (see relevant VC websites) includes (in grey italic) 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.

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.

Photo - selection



Eriophyes laevis gall on *Alnus* spp.. (Peter Shirley)



View from Inchmurrin. (Michael Philip)



Peter Wiggins sharing his knowledge of plants at Lochwinnoch. (Jim Blackwood)



Red Campion (*Silene dioica*).
(Jim Blackwood)



Star-of-Bethlehem (*Ornithogalum umbellatum*).
(Jim Blackwood)

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.

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

Next Issue: October
(receipt of copy no later than **28 September**).



Water-cress (*Nasturtium officinale* agg.) NS5448.
(Kirsty Menzies)