



## Contents

In this newsletter-----	1
Plant recording in 2022-----	1
Conifers-----	2
Outing to the Fritham area, New Forest-----	7
Downland Management on Morgan's Hill-----	9
Confessions of a square-basher-----	11
Plantlife-----	13
Thinking like a mountain -----	15
The Poetry Page-----	23
Water Race-----	23
Inversnaid-----	23
Plant Records 2022 -----	24
The Committee-----	31

## In this newsletter

- Pat Woodruffe has produced an identification guide to commonly-planted conifers. She highlights a number of useful features which make it easy to identify these superficially similar trees. We do not record planted trees, but do record their natural offspring, so if you find young, naturally regenerated conifers, please send in the details.
- Mary Cockerill's splendid account of the WBS visit to the parched New Forest last summer did not make it into the last newsletter, so included it in this issue
- This is followed by Nick Self's account of managing the conflicting needs of plants and invertebrates on the Wiltshire Wildlife Trust's Morgan's Hill nature reserve.
- Dave Green then describes the delights of finding special plants and making the longest lists possible of plants in every kilometre square.
- Martin Buckland continues his series on other organisations that look after plants, this time with Plantlife.
- Steve Jackson then makes a contribution with his account of some aspects of ecology.
- A new venture: the poetry page, with a botanical poem from Gerard Manley Hopkins and a botanical weather forecast composed by Martin Buckland.
- Lastly, Martin has compiled a long list of plant species that were newly-recorded in each ten-kilometre square during 2022.

I hope you find plenty to interest you in this issue.

### Other news

Martin has circulated our **2023 meetings programme**. Do book up, as the lists may become full.

Leif Bersweden's book '**Where the wild flowers grow**' was published last summer. It is a delightful read that will take you to new botanical places. Leif grew up and botanised in Wiltshire, was a WBS member and fondly acknowledges help and encouragement from Pat Woodruffe and Sharon Pilkington.

*Richard Aisbitt, Editor*

## Plant recording in 2022

Surveying for the BSBI Atlas Update Project ended in 2019. For our Wiltshire contribution, we aimed to list the plants in each of the habitats within each ten-kilometre square (hectad). However, we went much further, producing detailed lists for most of the 4,000 or so one-kilometre squares (monads). All this data gives the opportunity to publish a new flora for Wiltshire; the last one was published in 1993 and much has changed since then.

However, there were still many empty or poorly-recorded monads and we have filled some of these during the last three years. The final year, 2022, was a bumper one that brought in over 20,000 new plant records. Some of these added to monads that already had good species counts. Others came from poorly-recorded or un-recorded areas, with around 100 such monads gaining 50 or more species. That still leaves over 200 monads with no recent records at all and over 400 that need more visits. There is some way to go.

We will try to fill the gaps during the next two years. It would be great if you could take part, either individually or as part of a recording group. There are patches in north-west Wiltshire and Salisbury Plain that are particularly thinly recorded. A link on the Recording page of the WBS website <https://www.wiltsbotsoc.co.uk/recording> leads you to information on what is needed and where.

*Richard Aisbitt, County Recorder*

### Cover pictures - some winter flowers

Spurge Laurel *Daphne laureola*: Dave Green  
Green Hellebore *Helleborus viridis*: Dave Green  
Snowdrop *Galanthus nivalis*: Martin Buckland

# Conifers

## Some tips to help identification of some widely planted conifers.

Conifers are not everyone's cup of tea and we tend to look down our noses at those aliens which were planted in their millions during the 1950s and 60s. There are just three native conifers; Yew, Juniper and Scots Pine. Only the last of these has any largescale commercial value and was planted by the Forestry Commission (FC) along with Corsican Pine.

The headquarters of FC in Wiltshire was at Savernake and it was here that plans were drawn up for widescale post war planting, including that at Bentley Wood in the SE of the county. The soils in this wood are derived from both clay and chalk and there was careful selection of species to take this into consideration. Nine species were used and it is **only** these that I shall consider in the following notes. Apart from being the ones most likely to be found in plantations in Wiltshire, they are also some of the most prolific when it comes to setting seed and regenerating. Whilst it may not be sensible to record an obvious plantation of mature trees (would you record a field of wheat?) it is certainly desirable to identify and note self-seeded plants. Fortunately they are often found close to mature plants and so clues can be obtained from older foliage or bark and there is a good chance of finding some cones on the ground too.

### The nine species in question are:

Norway Spruce	<i>Picea abies</i>
Douglas Fir	<i>Pseudotsuga menziesii</i>
Scots and Corsican Pine	<i>Pinus sylvestris</i> and <i>P. nigra</i>
European and Japanese Larch	<i>Larix decidua</i> and <i>L. kaempferi</i>
Western Hemlock-spruce	<i>Tsuga heterophylla</i>
Western Red-cedar	<i>Thuja plicata</i>
Lawson's Cypress	<i>Cupressus (Chamaecyparis) lawsoniana</i>

They fall neatly into three groups based on the general characteristics of their vegetation and from there can be split further:

#### 1. Leaves / needles in bunches along the stem

Needles in bundles of 2	<b>Pines</b>
Needles short <10cm	Bark of upper trunk orange / rust in mature specimens
	<b>Scots Pine</b>
Needles long >10cm	Bark brown / black in mature specimens
	<b>Corsican Pine</b>
Needles in bundles of 10+	<b>Larches</b>
Young shoots brown / purple. Leaves with conspicuous white stripe below	
Branchlets level to ascending	<b>Japanese Larch</b>
Young shoots yellowish, leaves with inconspicuous stripe	
Branchlets drooping	<b>European Larch</b>

Hybrid Larch (*L. x marschlinsii*) is also widely planted and has intermediate characteristics.

## 2. Leaves borne individually along the stem. Always linear.

Leaves more or less flattened along the twig so that they appear 'parted' and the twig is visible

Leaves of unequal length

**Western Hemlock**

Leaves of equal length, occasionally a little 3-dimensional

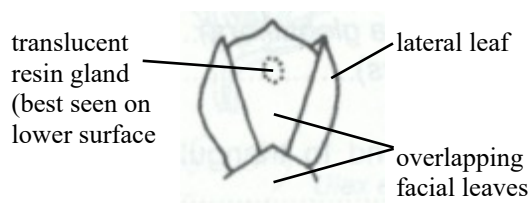
(some leaves protrude above or below the horizontal plane) **Douglas Fir**

Leaves arranged around the stem to give a 3-dimensional appearance, particularly on the upper surface (towards the light) **Norway Spruce**

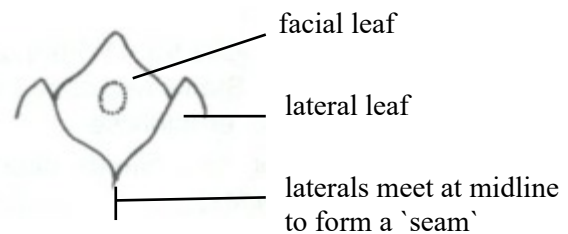
## 3. Small green, scale-like leaves flattened against the twig. Leaves growing along the main axis are referred to as facial leaves, those to either side are lateral leaves. Thus there are three leaves per node which usually overlap to some degree and cover the stem or twig. Translucent resin glands are frequently present on the underside of facial leaves.

These two trees can be superficially very similar but the lead shoot on Lawson's Cypress is bent over, as if wilting, but in Western Red-cedar it is erect.

*Thuja plicata* / Western Red-cedar



*Cupressus lawsoniana* / Lawson's Cypress



Facial leaf below the one shown is not overlapping

Resin glands are more constant and conspicuous

## The Female Cones:

Cones are often long-lasting and some remnant can usually be found under a mature tree. Size matters a great deal and, coupled with the notes above, can finalise a determination.

Norway Spruce	10 – 20 cm
Douglas Fir	5 – 10 cm
Corsican Pine	3 – 9 cm
Scots Pine	2 – 8 cm
Larch species	3 – 4 cm
Western Hemlock-spruce	1.5 – 2.5 cm
Western Red-cedar	1.0 – 1.5 cm
Lawson's Cypress	1.0 – 1.5 cm

These figures refer to the approximate length of the cones. The length to width ratio can vary a great deal depending on how mature the cone is and how open it becomes on drying.

**References** all have useful keys dealing with a greater number of species than considered here.  
Stace C. 2019 New Flora of the British Isles (4<sup>th</sup> Edition). C&M Floristics  
Poland J. and Clements E. 2020 The Vegetative Key to the British Flora (2<sup>nd</sup> Edition) BSBI  
Rich T.C.G. & Jermy A.C Plant Crib 1998 BSBI

In my experience most illustrated guides to trees (e.g. Collins Guide) have useful photographs but limited comparative information to allow certain identification of similar species.

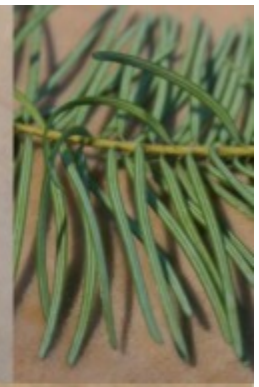


## The Photogallery



***Picea abies* Norway Spruce**  
Our usual Christmas Tree

Note the 3-dimensional arrangement of needles on the twig, the dull appearance of the underside of the needles, which have faint rows of stomata on all sides, and the large cones that have no bracts visible between the scales.



***Pseudotsuga menziesii* Douglas Fir**

The needles are dense but arranged laterally to allow the twig to be clearly visible. The undersurface of the needle has two pale stripes. The cone has conspicuous three-pronged bracts protruding between the scales that can be likened to an adder's tongue.





***Pinus sylvestris* Scots Pine**  
***Pinus nigra ssp laricio* Corsican Pine**

In both species the leaves / needles are borne in pairs although they may appear, superficially, to be in clusters. The cones are robust and open widely on drying.

There are two marked differences between the species; the colour of the bark on the upper trunk ( left hand photo of Scots Pine, right of Corsican Pine) and the length of the needles. They are much longer in Corsican Pine.

The cones also are slightly longer in Corsican Pine.



***Larix* species European, Japanese and Hybrid Larches**



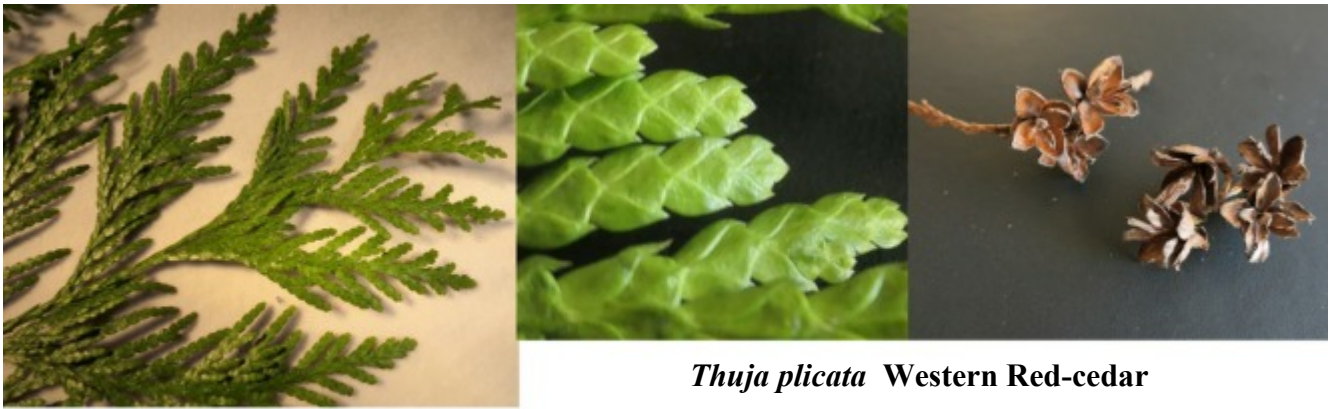
European Larch has yellowish stems and drooping tips. The numerous leaves can be seen in dense clusters as well as the autumnal tints. The cones on the left are of *L. kaempferi* Japanese Larch. The shoots are erect in this species and the stem is darker. The cones above right are probably from hybrid material: they are recurved rather than straight, as in European Larch. Hybridisation is common and the progeny are fertile. Characteristics of the hybrid are intermediate (see Stace for details) and it is often planted in commercial situations.



***Tsuga heterophylla* Western Hemlock-spruce**

The foliage is dense and the leaves are of unequal length, making the tree easy to identify. The undersides of the leaves have two white stripes, like those of firs. The leaves are strongly fruit scented and the cones are small and numerous.





***Thuja plicata* Western Red-cedar**

Although the general appearance of the tree is similar to that of *Cupressus* the detail of the leaf arrangement is diagnostic. The main growing stem (leader) is erect and the cones are dissimilar too.



***Cupressus lawsoniana* Lawson's Cypress**

The general appearance is like that of Western Redcedar but there are significant differences in the leaf detail (note how the lateral leaves meet at the midline), in the shape of the cones and also the bent leader at the top of the tree.

**Detail of tree barks:**



Norway Spruce



Douglas Fir



Scots Pine



Corsican Pine



Larch



Lawson's Cypress



Western Red-cedar



Western Hemlock-spruce



# Outing to the Fritham area, New Forest

6<sup>th</sup> August 2022

Leaders: Dave Green and Pat Woodruffe

On a beautiful sunny day in early August about 12 of us assembled at Fritham in the Hampshire part of the New Forest, where members looked forward to finding acid loving plants in habitats rare in much of Wiltshire. After weeks of drought, the extensive lawn area near the car park was parched to a near uniform brown but it was possible to locate small green patches of Chamomile *Chamaemelum nobile*, but with very few flowers. The bright yellow flowers of Autumn Hawkbit *Scorzonerooides autumnalis* were plentiful, and a search of dried out ditches discovered small remnants of Hairy Buttercup *Ranunculus sardous*, known to occur here, but usually in much greater abundance. Plants growing in rosettes fared rather better, such as Buck's-horn Plantain *Plantago coronopus*. Few flowering grasses had survived apart from some tassels of Common Bent *Agrostis capillaris*. Tutsan *Hypericum androsaemum* was spotted amongst some brambles where it had escaped the heavy grazing pressure of the Forest ponies and cattle. It was decided that, out here in the open Forest, it was more likely to be the native variety than a garden escape, although we were still quite close to the village. A small fenced off area in front of the old chapel showed how tall vegetation could grow here without grazing, but still very parched. An occupied swallow's nest was visible above the chapel entrance.



We left the lawn area to enter a patch of woodland, where we found Whitebeam *Sorbus aria*, a not uncommon tree in this part of the Forest. At ground level, Three-veined Sandwort, *Moehringia trinervia*, Wood Sorrel *Oxalis acetosella* and Foxglove *Digitalis purpurea* were found among the sparse flora under the trees. Emerging into the sunlight again, we found ourselves on a dry, slightly raised patch with Ling *Calluna vulgaris*, Cross-leaved Heath *Erica tetralix*, and Gorse in flower. This was determined to be the smaller Western Gorse *Ulex gallica*, growing near the diminutive Creeping Willow *Salix repens*.

*Drosera rotundifolia* + *Anagallis* (*Lysimachia*) *tenella* amongst other bog plants

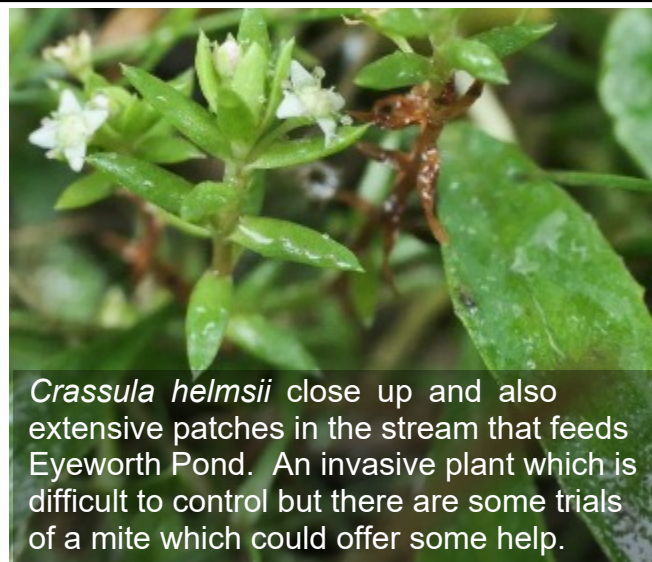


Our first boggy area gave us Sundew *Drosera intermedia*, a large amount of Bog St John's-wort *Hypericum elodes*, Marsh Pennywort, *Hydrocotyle vulgaris*, Bog Pimpernel *Anagallis tenella*, Lesser Skullcap *Scutellaria minor*, and a small pondweed *Potamogeton* sp., all the usual suspects for a typical New Forest bog. The drought allowed us to explore the bog without getting our feet wet! Drier ground produced Bell Heather *Erica cinerea* Lousewort *Pedicularis sylvatica* and Lesser Spearwort *Ranunculus flammula*. Rushes and sedges included Star Sedge *Carex echinata* and Bulbous Rush *Juncus bulbosus*. I'm sure there were many more that I will have missed!

The continuous sunshine provided us with many Gatekeeper butterflies and large hawker dragonflies. Further on, many dead spikes of Bog Asphodel *Narthecium ossifragum* flowers were prominent, the dry conditions having turned the leaves an attractive bright orange. Common Cottongrass *Eriophorum angustifolium* grew by the next pond. When we reached the larger Green Pond, we found it had completely dried up, leaving a sea of dry mud heavily trampled by the ponies. Desiccated plants of Coral-necklace were discovered round the edge along with living Deer-grass *Trichophorum cespitosum* and Marsh Cudweed *Gnaphalium uliginosum* and one tiny plant of Devils-bit Scabious *Succisa pratensis* which had just survived the drought.

We returned to the cars for lunch, after which Pat led us down the lane to Eyeworth Pond, without Dave as his vehicle had suffered an encounter with a post which he needed to sort out before he could return to Wiltshire. On the way the red berries of Butcher's-broom *Ruscus aculeatus* attracted our attention, common in the Forest, but the first we had seen today. Its spiky "leaves" are modified stems known as cladodes.





*Crassula helmsii* close up and also extensive patches in the stream that feeds Eyeworth Pond. An invasive plant which is difficult to control but there are some trials of a mite which could offer some help.

Before reaching the pond, we found a large boggy area on the open hillside. It contained many of the plants we had seen in the morning, with the addition of large stands of the attractive White Beak-sedge *Rhynchospora alba*, also Round-leaved Sundew *Drosera rotundifolia* with a few white flowers. Less welcome was the discovery of that notorious invasive alien *Crassula helmsii*, sometimes called New Zealand Pigmyweed, growing in the pond. I recalled my mother's excitement at finding the first record for Worcestershire back in the 1970s, little did we know! Further on we found more of it growing out of the water among other vegetation where it would be even more difficult to remove. Bogbean *Menyanthes trifoliata* and Water Mint *Mentha aquatica* were also growing in the water at the edge of the pond.

People were feeding the birds by the small car park, attracting several species of tits and a Nuthatch. Often some lovely Mandarin Ducks can be seen on the pond here, but not today. We followed the track beyond the pond where we found the attractive Lesser Water-plantain



*Scutellaria minor* Lesser Skullcap

*Baldellia ranunculoides*, something of a New Forest speciality. I was unable to locate the stand of Tubular Water-dropwort *Oenanthe fistulosa* which used to persist on the open boggy hillside beyond the pond, no doubt a victim of drought and grazing pressures.

We retraced our steps past the pond and back up the steep lane to our cars to complete a most enjoyable day here in one of the most interesting parts of Hampshire. The continuous sunshine was tempered by a gentle breeze resulting in perfect conditions for botanising. The prolonged drought limited what we could find, but the many bog areas ensured a good number of interesting species. Many thanks to Pat Woodruffe and Dave Green for their expert leadership.

Mary Cockerill, photos by Pat Woodruffe



*Triglochin palustris* Marsh Arrow-grass



*Epilobium palustre* Marsh Willowherb



# Downland Management on Morgan's Hill

Wiltshire Botanical Society members visited the Wiltshire Wildlife Trust Morgan's Hill nature reserve last summer and an account of our outing appeared in WBS newsletter No. 53. Part of this report included some misgivings about the grazing management of the reserve. Nick Self is the manager Morgan's Hill and here is his response. In the following article, he describes and explains its previous and current management of the reserve.

My name is Nick and I've been warden of the Wiltshire Wildlife Trust nature reserve at Morgan's Hill since June 2012. This was the year that I started volunteering with WWT. In 2014 I became a staff member and since then I have held various roles. In my current role, Conservation Lead North Wiltshire, I am responsible for surveying, monitoring, management plans, countryside stewardship agreements and working with graziers and agricultural contractors across all WWT's North Wiltshire sites. Although most of my sites are hay meadows within the Braydon Forest, I do manage three chalk grassland sites, one of which is Morgan's Hill.

For those of you that have not visited, Morgan's Hill is not a typical south-facing, short-turf chalk grassland. It's north-facing, scrubby aspect has always favoured such butterfly species as Duke of Burgundy *Hamearis lucina* and Marsh Fritillary *Euphydryas aurinia*. Indeed, they are SSSI conservation features just as the Musk Orchid *Herminium monorchis* and Marsh Helleborine *Epipactis palustris* are. The challenge has always been maintaining a balance of vegetation heights and structure to cater for all the features.

2010 was the last year that the site was grazed by WWT Dexter cattle. Lack of infrastructure, water supply and crucially, issues with Bovine TB meant that the site went completely un-grazed for over two years. When I became warden in 2012 the whole site was severely under-grazed. Following this the reserve manager put a contract in place with a local grazier, but this was difficult to implement at times and we've never managed to get back to year-round cattle grazing as in the past.

The two main landscape features that contain small sections of south facing grassland, the quarry and Wansdyke, have always been difficult to manage with sufficient grazing due to the steep slopes and difficult terrain. The chalk quarry, home to the previously mentioned Musk Orchid and Marsh Helleborine also bears the added burden of a large area of neighbouring Tor Grass *Brachypodium pinnatum*. However, since about 2016, the open downland areas have seen marked improvement where we've got by on what grazing we could, and large amounts of volunteer effort.

Over the last two years grazing across the site hasn't quite been what we would have liked and due to a communication mix-up, last winter saw no sheep grazing either. However, since coming into my new role in April, I have been busy improving the relationship with the grazier and working on a revised grazing plan that is realistic and achievable for both of us. There is no magic wand that will rectify everything in a season, but now we have a plan that we can take forward and hopefully achieve success in the coming years. The grazier we



Chalk Fragrant-orchid





Marsh Fritillary

are working with also grazes the larger, National Trust site at Cherhill Down and he has been working in the locality for many years.

Over the course of 2022, we've had a decent amount of cattle grazing and the Trust's Herdwick sheep are now doing their thing before the new growing season starts. A programme of scrub clearance work has been started in the Wansdyke and quarry. Our estate team and volunteer group have been creating scallops in the thick scrub, removing some of the scattered scrub from the downland and will manage the tor grass in the quarry.

In conclusion, there's lots of things going on that should bring produce positive results over time. Grassland assessments are planned for this coming season to monitor SSSI condition. Butterfly monitoring continues with a focus on the ecology and habitat of the Duke of Burgundy. This characterful butterfly has been the focus of much conservation work over the last twenty years, but thankfully, the Duke is now seeing increases in numbers and range after quite shocking declines since the 1980's. The colony at Morgan's Hill has been stable for many years and we're now looking to push on to a healthy, large colony.

Specific plant species that will be surveyed this year include Round-headed Rampion *Phyteuma orbiculare*, Bastard Toadflax *Thesium humifusum* and Frog Orchid *Coeloglossum viride*. In particular, we would like to look at the population and distribution of the rare Fly Orchid *Ophrys insectifera*.

Furthermore 2022 has seen the beginnings of a closer relationship with The National Trust at Cherhill Down and Natural England at Pewsey Down NNR. 2023 should see some very exciting collaborative work at a landscape scale with a potential project focusing on the Marsh Fritillary butterfly. This species is renowned for having a meta-population that pops up in various areas of a locality. They can also tend to wander, particularly the females in hot weather. Therefore, Marsh Fritillary can be quite vulnerable to habitat loss and lack of connectivity. To mitigate this, the new project will seek to enhance and create habitat, whilst also improving connectivity and wildlife corridors.

If you visit Morgan's Hill in June or July, you should be able to see some of the fruits of our labours. Roll on the warm weather and the orchids! In the meantime, if you have any queries about Morgan's Hill, or any other WWT northern reserve, I can be contacted on: [nicks@wiltshirewildlife.org](mailto:nicks@wiltshirewildlife.org).

*Nick Self*

# Confessions of a square-basher

## Definition:

A botanist who cannot stop exhaustively searching for plants in any given area, and then recording their findings.

## Signs and Symptoms:

A compulsion to travel in all seasons and weathers to a site - anything from an ancient woodland to a disused railway siding - in order to walk at snail's pace with a clipboard and record every plant there. Then do the same thing at least once more, in a different season. This can lead to a further symptom: an addiction to competing with oneself or others to achieve ever higher scores. I've been square-bashing in January in icy rain. After 40 minutes I'd managed a dismal score of just 60 species.

When I'm square-bashing, I have a "what-should-be-here" mental list at the ready. It consists of all those very common species that occur in almost every square: bramble, hawthorn, various grasses, and so on. Somehow I know if there is a "common" species missing and it can be frustrating not finding it. I need to tick each species off this list, or I will feel I haven't covered the square well enough.

## Side-effects:

These vary depending on site and season, but may include anything from mild frostbite and hypothermia (see above) to sunburn and minor injuries from barbed-wire, more common in recent times, falling over tree roots, irate landowners and their dogs, not to mention tick bites.

## Rationale:

To those who don't square-bash, and don't see any delight in it, nothing will convince you of its merits. In mid-winter, when very few plants are in bloom, such a visit may seem a million miles away from a pleasant stroll down a lane in June when every plant seems to be flowering.

But to me it's about the hunt. And when I'm square-bashing in winter months, it's not just searching for plants, but more about looking at the lie of the land - the topography and geology, the bits of rough/undisturbed land, ancient walls, ponds not recorded on the OS map, things like that. So when I return to that square later in the year, I have a better idea of "good" habitats to investigate further. Plus checking out those areas that I might be able to trespass without getting caught.

And, in my own defence, my square-bashing isn't just a private passion. Since 2010 the Wiltshire Botanical Society worked with the BSBI to record Wiltshire flora in preparation for the upcoming Atlas 2020. Since its publication, WBS continued to record, filling in squares we had not managed to complete during the 10 years of the Atlas project. We now have a better idea of the floral diversity of our own county, and a plan to publish a new flora in 2025.

## Behavioural Habits:

My own preference is to visit a site once or twice and spend anything between two and four hours recording all plant species, either flowering or vegetatively. On just one visit there are bound to be species that are either not showing at the time of the visit or not identifiable in their non-flowering stage. Being aware of these features is important because there is a close correlation between the number and variety of habitats, the number of species that occur in any one location, and the times of year that the optimum number of floral species are flowering, and so more easily identified.

So, as a rule of thumb, woodlands are much more productive in early spring than in late autumn; arable weeds are only really worth looking for from July onwards; lakes and their fringes come into their own from August onwards; pastures are good hunting grounds in May and June.



Perhaps because I'm not actually insanely compulsive, I find I can't visit each and every square enough times to get all species that may occur. Somewhere, some even more nerdy botanist with a mathematical brain has probably worked out the optimum number of visits required to yield the broadest possible diversity of plants species likely to be present. That person is not me. But to test out the advantage of making several visits to the same place, I square-bashed a 1km<sup>2</sup> site on the Melksham Plain to the north of the R Avon and Kennet & Avon canal. It's on gently undulating ground made up of Oxford clays. The area, which is north-west of the village of Holt, has long been highly managed as agricultural land. The site is crisscrossed by hedges and a number of minor roads, and bisected by a stream fringed by low wooded banks. There is also a small area of secondary woodland, two lakes created some 10 years ago, and some small areas of disturbed ground, hard standings and rough tracks. Permanent pasture and annual cereal crops cover most of the ground.

I visited between the site six times between early January and August 2022, in all spending eight hours recording. The square had a previous species count of less than 10. My 2022 recording produced 268 species, a higher total than the numbers reported in surrounding squares. Some of these are in urban areas with many micro habitats that often produce high species counts. But they have had only a cursory one or two visits.

A number of species I found on my test site are localised in a county context. The high ratio of arable land produced a lot of cornfield weeds, some localised in the county. The relatively newly-created lakes produced a number of species which must originally have been introduced and were now increasing; others were merely surviving.

There were few dry stone walls within the square, so wall ferns were not well represented. A small relic of unimproved grassland along the base of a fence-line produced the only location for specimens of downland species, including Erect Brome, *Bromopsis erecta*, Grass Vetchling *Lathyrus nissolia* and Corn Parsley *Sison segetum*. There were two small populations of the nationally rare Bath Asparagus *Ornithogalum pyrenaicum*, at the extreme eastern edge of known larger populations further west. The rough dumped areas supported several thriving non-native species.

Oddly I came across a Lady's-mantle, *Alchemilla*, which I sent to the national referee. It proved to be Silky Lady's-mantle *A. glaucescens*, a very rare native species only normally found in a few northern parts of the UK such as the limestone pavements of Ingleborough. This plant may have arrived in this location via Limestone chippings, used on a rough track.

So my main conclusion from this project is, that the more you visit any given site, and the more times and seasons you make those visits, the more species you will record. Not a surprising result.

There are other factors that should be considered: the quality of the recorder's field and identification skills; access to a full range of habitats in the square visited.

So another season is here and yes, I have been out and have got soaked and frozen. But there is always the delight of a new square, and don't forget the HUNT.



Helena at work. Don't clear the drain! (photo DG)

Dave Green

# Plantlife

## A Conservation Organisations linked to vascular plants

Further to the article on the species recovery trust in newsletter 53, the attention now turns to another charity, also based in Wiltshire.

**Plantlife** is an international conservation membership charity founded in 1989 and now has over 15,000 members and many more supporters. It is the only UK membership charity dedicated to securing a sustainable and healthy world rich in wild plants and fungi; and helping people to enjoy and learn about them. They work across all key plant ecosystems and habitats focussing on specific environments and species depending on need and at present they have a particular focus in the UK on grasslands and temperate forests due to their acute vulnerability. **Plantlife** works with landowners, other conservation organisations, public sector bodies, the private sector and the wider public.

Overseas, **Plantlife** contribute to international conventions on climate change and biodiversity and are a registered COP (UN Climate Change Conference ) observer. Working with the Global Partnership for Plant Conservation they were instrumental in the creation of the Global Strategy for Plant Conservation and the initiation of Important Plant Areas (IPAs) in more than 66 countries across the world, including the UK. This recognises the most important places for wild plant diversity covering threatened species, habitats, and botanical richness - planning their conservation with government and community groups.

**Plantlife** actions in the UK are many and include...

## Temperate Rainforest

This habitat is one of the most important for biodiversity that occurs in the UK. This rainforest's bryophyte (moss and liverwort) richness rivals the cloud forest of the Andes. It also has some of the best examples of ancient dry-bark community lichens in the world. It is known that tropical rainforests are under threat, but it is a more subtle story for the UK's temperate rainforests. They are either typically overgrazed preventing regeneration or have been felled to make way for conifers. Invasive Rhododendron and dense Holly create dark conditions where flora can't survive and cast shade on light-loving lichens. Tree diseases such as ash dieback now threaten to alter these woodlands for decades to come and not least there are the wider problems such as a changing climate and atmospheric pollution. **Plantlife** works in collaboration with others across the UK to map, manage and record these areas to protect their long-term future.

## Coronation Meadows

In 2012, the year of Her Majesty the Queen's Diamond Jubilee, Plantlife's patron, HRH Prince of Wales called for action to turn the tide on the fate of wild flowers. The idea was to reverse the oft-quoted 97% loss of meadows since 1930. Meadows were chosen in each county (Clattinger Farm SSSI in Wiltshire) where seed was harvested and used to enhance or create a new meadow nearby. Over 5000 ha have been created this way with another 10,000 ha planned by 2030.

## Road verge campaign

The aim of this plan is to protect our road verges from the ravages of the mower and to enhance biodiversity and bring back nature to our roadsides. Started in 2013 the campaign petitioned local authorities suggesting management solutions to provide ways to protect and enhance them as flower-rich habitats.



## No mow May

A campaign for the individual garden by asking participants to put away their mower for May (or longer) over a portion of their lawn thereby helping wild flowers to grow and mature and in turn providing a greater area for pollinators and other insects to feed and live.

## National Plant Monitoring Scheme (NPMS)

This is a scientific scheme for volunteers to collect and record data annually in five plots within an allocated 1km square to provide an indication of changes in plant abundance and diversity. This is a joint operation with the Botanical Society of Britain & Ireland, the Centre for Ecology & Hydrology and The Joint Nature Conservation Committee.

## Grasslands+

This is a coalition with the Bumblebee Conservation Trust and Butterfly Conservation whose aims are to protect and restore the planet's grasslands, savannahs, plains, heaths, steppes, and meadows.

**Plantlife** also owns 23 nature reserves covering nearly 4,500 acres across England, Scotland, Wales, and the Isle of Man. Here they carry out conservation and outreach work on their own land and in partnership with many others. They advise landowners and publish best practice guidance and also carry out research and gather data to inform government policy.

The holding of Ranscombe Farm in Kent is a flagship reserve and working unit. It is recognised internationally for its exceptional suite of arable plants including possibly the only remaining UK site for 'genuine' Corncockle. The farm also holds 95% of the entire population of Broad-leaved Cudweed.

A registered charity, **Plantlife** is governed by a board of 12 trustees and has around 70 staff located across the UK. It is also supported by a team of more than 1500 volunteers who work in the field, at events and, in their offices. It is funded by donations from its members and supporters, through grants and charitable trusts and through its pioneering land management advice and projects. Public sponsorship is very important to any charity and membership to **Plantlife** is no different. An individual membership starts at £39 p.a. for an individual and £43 p.a. for joint membership. For this you will receive '*plant life*' a newsletter three times a year and the knowledge that your money is being well spent.

It is a shame that **Plantlife** is not acknowledged more by botanists and plant-lovers in general. Their membership of 15,000 is miniscule when compared to the bird-lover's Royal Society for the Protection of Birds (RSPB) who have around 1.1 million members!

All the above information and more can be viewed at [www.plantlife.org.uk](http://www.plantlife.org.uk)

The Wiltshire Botanical Society is not affiliated to Plantlife. The comments above are those of the author and not those of the WBS committee.

Martin Buckland

# Thinking like a mountain<sup>1</sup>

## – some ecological memory-joggers

Steve Jackson

Quite a few members, at field meetings and in the recent membership survey, have indicated that more should be said about ‘ecology’ when discussing plants, especially when out in the field. But what is ‘ecology’? How does it compare with other areas of study that might be related to it? What are the branches of ecology? Do we actually allude to ‘ecology’ but in more subtle or underplayed ways? And how do my experiences align with an ‘ecological’ paradigm? Most (all?) of what follows will be familiar to most (all?) members – this article is to jog my memory and perhaps encourage more ecological thinking.

But, before going any further let me express my **biases** and **interests** as any interpretation of a subject area is informed by previous experience, training, education, and exposure to multifarious factors. I have no particular botanical training. I come, I suppose, from a broad environmental background. At school I did exams in, for example, rural studies, geology, geography, and chemistry. At university I studied geography with subsidiary courses in archaeology and human biology, specialising in my final year in soil science and geomorphology. Nearly all my final year coursework and dissertation were focussed on soil science. The ethos of the modules was very quantitative as both geography and ecology were going through a quantitative revolution. Subsequently, I completed a PhD in agricultural engineering which examined the statistical and mathematical modelling of soil erosion. I ended up teaching mainly physical geography (in schools, FE colleges, and at university level) but drifted into other areas which required me to gain an additional master’s qualification in ecotourism, which included conservation. Immediately prior to retirement, much of my teaching was concerned with research methods and data analysis. Having always been interested in birds, I’ve undertaken numerous surveys for the British Trust for Ornithology, it was the experience as a volunteer leader for National Trust working holidays that led me into numerous plant surveys and introduced me to moth and bat monitoring. These were all “citizen science” projects, as is recording for WBS. So, I am a relative newcomer to ‘botany’ - but it has always been there on the fringes – and this is my ‘take’ on ecology gained from a wide variety of perspectives.

So, let’s go back to the beginning. The first mention of the word ‘ecology’ was by Haeckel in 1866 who said that:

*“By ecology we mean the whole science of the relations of the organism to its surrounding outside world, which we may consider in a broader sense to mean all ‘conditions of existence’. These are partly of an organic nature and partly an inorganic nature”<sup>2</sup>*

The first ecological society, the British Ecological Society, was established in 1913 due in large part to the efforts of Sir Arthur Tansley<sup>3</sup>, with the Ecological Society of America following in 1915.

The general definition above has continued largely unchanged to the present day as may be seen from Box 1. At first glance, many of these statements appear quite similar, and although there are subtle differences in emphasis, it is possible to identify a number of themes. **Firstly**, there is a hint of collecting records or observations, producing descriptions, and classifying the data, particularly in terms of the spatial distribution of species or communities. **Secondly**, a common theme relates to the interconnections between the various components of the natural environment of which plants are a central component. **Thirdly**, change and development appear to be important. And **fourthly**, it would seem we need to interpret and

<sup>1</sup> The title comes from a short reflection by Aldo Leopold 1949 in *A sand county almanac*. The meaning of the phrase is to have a complete appreciation for the profound interconnectedness of the elements in ecosystems. See this article in [The Paris Review](#).

<sup>2</sup> Watts et al. 2019 Ecology and Evolution: Haeckel’s Darwinian Paradigm. *Trends in Ecology & Evolution* 34(8), 681-683.

<sup>3</sup> A good account of the earlier development of ecology in the UK is given by Sheail, J., 1987 *Seventy-five years in ecology: The British Ecological Society*. Blackwell. There is a memorial stone to Sir Arthur Tansley at Kingley Vale NNR, West Sussex.



understand the distributions, interactions, and changes using a variety of methods such as field studies, laboratory studies, mathematical models, big data, and theoretical developments.

Krebs (2014, p. 14)<sup>4</sup>, in a standard ecology textbook, outlines ecology well:

- “Ecology is the scientific study of the interactions that determine the distribution and abundance of organisms.
- Descriptive ecology forms the essential foundation for functional ecology, which asks how systems work, and for evolutionary ecology, which asks why natural selection has favored this particular solution.
- Ecological problems can be analyzed using a theoretical approach, a laboratory approach, or a field approach.
- Like other scientists, ecologists observe problems, make hypotheses, and test the predictions of each hypothesis by field or laboratory observations.
- Ecological systems are complex, and simple cause–effect relationships are rare.”

### Box 1. Statements about ‘ecology’ from various sources.

#### [Botanical Society of Britain and Ireland](#)

*...one of the world's largest contributors of biological records...<sup>5</sup>*

*...originated as the Botanical Society of London in 1836 when the emphasis was on discussing, identifying and exchanging both views and specimens of plants. Today...the emphasis on collecting specimens has changed to collecting records, and providing and interpreting botanical data.<sup>6</sup>*

#### [British Ecological Society](#)

*Ecology is the study of interactions among living things and their environment. It provides new understanding of these vital systems as they are now, and how they may change in the future.*

#### [Ecological Society of America](#)

*Ecology is the study of the relationships between living organisms, including humans, and their physical environment; it seeks to understand the vital connections between plants and animals and the world around them.*

#### [International Association for Vegetation Science](#)

*...is a worldwide union of scientists and others interested in theoretical and practical studies of vegetation: its composition and structure, history, classification, distribution, ecology, dynamics, management and uses in the landscape.*

#### [International Biogeography Society](#)

*Biogeography is the study at all scales of analysis of the distribution of life across space and how it has changed through time...with rapidly developing technologies (including genomic tools and environmental models) together with the availability of big data and increasingly sophisticated analytical tools, the field is poised for a revolution that brings its relevance into domains far beyond ecology and evolutionary biology, to include paleontology, bioinformatics, global change biology, conservation, and invasion biology, as well as sustainable food systems and ecosystem services.*

#### [OCR Exam Board](#) (proposed definition for GCSE Natural History)

*Natural History focuses on understanding the rich and diverse natural world. Through observational study (generating systematic records of direct and indirect observations, often made over long periods of time) and investigation, natural history seeks to understand the diversity, complexities, and interconnectedness, of life on earth in contrasting habitats.*

<sup>4</sup> Krebs, CJ 2014. *Ecology: The experimental analysis of distribution and abundance*. 6<sup>th</sup> ed. Pearson.

<sup>5</sup> [Botanical Society of Britain and Ireland – Botanical Society of Britain & Ireland \(bsbi.org\)](#) [22.11.22]

<sup>6</sup> [BSBI-Strategic-Plan-2021-24.pdf](#) [22.11.22]

There are also many approaches to ecology which Crawley (1986, p. xii)<sup>7</sup>, in a standard plant ecology textbook and rather tongue in cheek, has outlined (Table 1). To these, many other approaches may be noted. In particular, Crawley (p. xi) also suggests that ecology may be ‘plant centred’ or ‘quadrat centred’ which broadly correspond to ‘autecology’, where the study is largely focussed on a single species, and ‘synecology’, which is more concerned with plant communities. Autecology is exemplified by the [Biological Flora of the British Isles](#) and [BSBI species accounts](#), and the study by Anne Appleyard, Sue Fitzpatrick, Ailsa McKee and Pat Woodruffe on Juniper *Juniperus communis* regeneration on the Porton Ranges.<sup>8</sup> Approaches to synecology are varied and most proponents recognise that plant communities exist but disagree on the extent to which the plants within them interact with each other and develop towards a fixed end point (advanced by Clements), or whether they are simply a random collection of species that may or may not develop towards multiple different end points depending on a range of factors including species interaction (proposed by Gleason). Indeed, much effort has been put into classifying and mapping plant communities (e.g., Phase 1 Surveys, National Vegetation Classification, and the more recent UK Habitat Classification).<sup>9,10</sup>

**Table 1. Types of ecologists.**

Type of ecologist	Characteristics
Many, Complex and Interacting School	Those who emphasise the complexity of ecological systems
Nothing’s Happening School	Belief “in null models, random processes, and non-equilibrium”
Biochemical Ecologists	“The ‘Find ‘em and Grind ‘em School”
Mathematical Modellers	“Quantifying the bleeding obvious”
Agricultural Ecologists	“spray and pray”
Phytosociologists	“Ignore that plant, it shouldn’t be there”
Experimentalist School	“Suck it and see”

Popular floras used to identify plant species are replete with references to plant ecology. Take Rose’s *Wild flower key*: Chalk Milkwort *Polygala calcarea* occurs on calcareous grasslands, whereas Heath Groundsel *Senecio sylvaticus* occurs in grasslands on acid sandy soils. Fen Orchid *Liparis loeselii* is said to occur in calcareous mossy fens while Bog Orchid *Hammarbya paludosa* is found in Sphagnum around pools in valley bogs with some flow of water. Clearly, plant species are related to the medium in which they grow, and many plants have evolved mechanisms that adapt them to specific environments. For example, some environments are low in nutrients and Butterworts and Bladderworts have developed mechanisms to trap insects and digest them to increase their nutrient uptake. Plants will interact with a wide range of **abiotic** factors such as soil pH, moisture content, light levels, temperature, and so on. Ellenberg devised a series of indicator scales which have been applied to a large number of British and Irish plants and show the typical conditions of the medium in which they grow.<sup>11</sup> Table 2 illustrates the application of three of the scales to the plants above.

Ecologists have long been interested in how different soils affect the development of plants. Experiments were carried out by members of the British Ecological Society in Potterne in the 1920s and 1930s. A range of common plants (e.g., *Fragaria vesca*, *Plantago major*, *Silene vulgaris*) was grown in a variety of different soil types (e.g., sand, calcareous sand, clay, and chalky clay) and the development,

<sup>7</sup> Crawley, MJ (ed.) 1986. *Plant ecology*. Blackwell.

<sup>8</sup> <https://irp-cdn.multiscreensite.com/7dfe45d9/files/uploaded/Juniper%20Regeneration%20in%20the%20Porton%20Ranges.pdf>

<sup>9</sup> [Terrestrial habitat classification schemes | JNCC - Adviser to Government on Nature Conservation](#)

<sup>10</sup> [ukhab – UK Habitat Classification](#)

<sup>11</sup> Full details in the form of a booklet and spreadsheet may be downloaded here: [PLANTATT - Attributes of British and Irish Plants - Spreadsheet | Biological Records Centre \(brc.ac.uk\)](#)



flowering, fruiting, and deaths were recorded, along with a range of other features. Other ecologists have been interested in the calcicole-calcifuge debate; that is, why do some plants ([calcicoles](#)) show a preference for calcareous/high pH soils and others ([calcifuges](#)) shown a preference for low calcium/low pH soils? There is also a long history of study of soils with high toxic metal content which produce [Calaminarian grasslands](#).

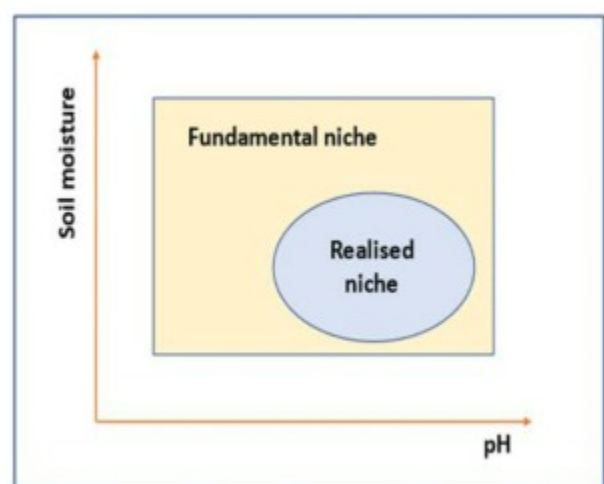
**Table 2. Illustration of Ellenberg indicator values to a number of plants.**

Species	F (moisture)	R (reaction)	N (nitrogen)
Chalk Milkwort <i>Polygala calcarea</i>	3	8	2
Heath Groundsel <i>Senecio sylvaticus</i>	5	5	6
Fen Orchid <i>Liparis loeselii</i>	8	8	3
Bog Orchid <i>Hammarbya paludosa</i>	9	2	1
Common Butterwort <i>Pinguicula vulgaris</i>	8	6	2
Common Bladderwort <i>Utricularia vulgaris</i>	12	6	4

F scale: 1-12. 3 dry-site, 5 moist-site, 9 wet-site, 12 submerged plant  
R scale: 1-9. 1 extreme acidity, 5 moderately acid, 9 basic reaction  
N scale: 1-9. 1 extremely infertile sites, 5 intermediate fertility, 9 extremely rich situations

Not only does the growing medium affect the species that might grow in it, but the plant species present may also influence the soil itself. This was the subject of my undergraduate dissertation which looked at how the development of a commercial Corsican Pine (*Pinus nigra*) plantation affected the underlying soils by measuring the soil properties in tree stands of different ages. Some plants may also produce chemicals that inhibit the development and growth of competing species, a process known as **allelopathy**. Much laboratory work has been carried out in this area but not all ecologists are convinced that it has a significant impact in the field.

So far two terms that are commonly used have been avoided: **habitat**, which refers to the type of place in which a plant lives (such as calcareous grassland, native deciduous woodland, saltmarsh) and **niche**, which has been interpreted in a number of different ways by Grinnell, Elton, and Hutchinson. My preferred interpretation is that of Hutchinson of an 'n-dimensional hypervolume'. This is best illustrated in terms of a diagram (Fig. 1) that shows two niche dimensions, the fundamental niche, which is where the plant could potentially grow, and the realized niche which is the range of conditions under which it actually grows. There is, of course, a wide range of niche dimensions (the n-dimensions – but difficult to visualise!).

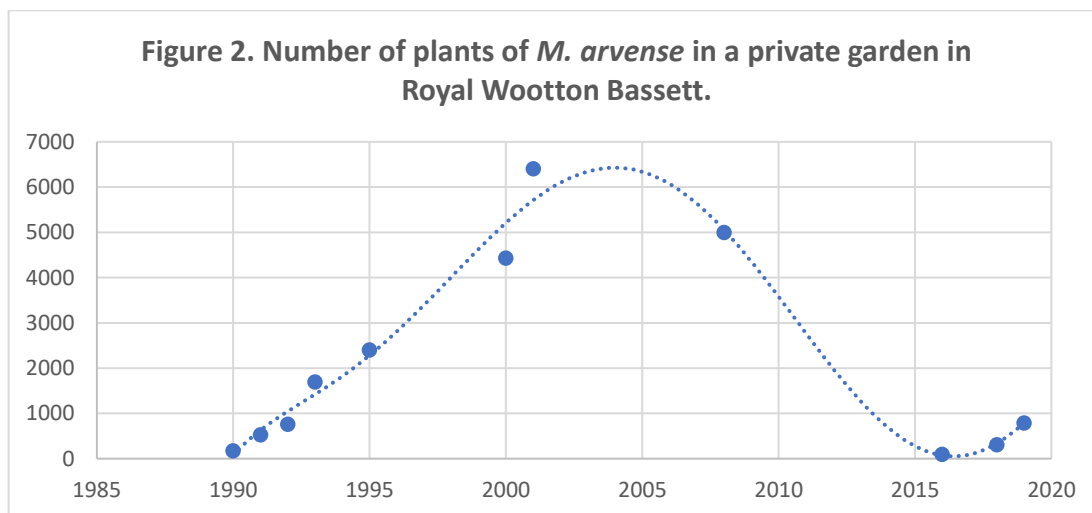


**Figure 1. Fundamental and realised niche space.**

Ellenberg indicators refer to the realized niches of plants. So why doesn't a plant grow in all of its potential niche space? This is often due to **competition** from other species that are able to perform better in part of the niche space. This may be suggested as a reason for the success of **invasive non-native species** (e.g., Himalayan Balsam *Impatiens glandulifera*) or it may be that such species have shifted their ecological niche and occupy different conditions from their native range, perhaps due to hybridization (e.g., *Rhododendron ponticum*), and out-compete native species. Or it may be that part of the fundamental niche is not accessible due to a barrier to dispersal.

Competition is part of a wide range of **biotic** ecological factors that includes pests (e.g., Horse Chestnut leaf miner, a moth), diseases (e.g., *Phytophthora austrocedri* which attacks Juniper *Juniperus communis*), herbivores (e.g., moth and caterpillar larvae, deer, rabbits), parasitic plants (e.g., Yellow Rattle *Rhinanthus minor* or the Broomrapes) or hemiparasites (e.g. *Melampyrum*), and fungal associations which may or may not benefit the plant (e.g., Ash dieback, Dutch elm disease), to list a few. Many of these species form close relationships with particular plant species or habitats. Ragwort *Senecio jacobaea* is almost the sole foodplant of the Cinnabar moth, which can strip the plants, and the Six-spot Burnet moth relies mainly on Common Bird's-foot Trefoil *Lotus corniculatus*. Habitats also lead to suites of moths that may be influenced by vegetation characteristics, condition, and management.

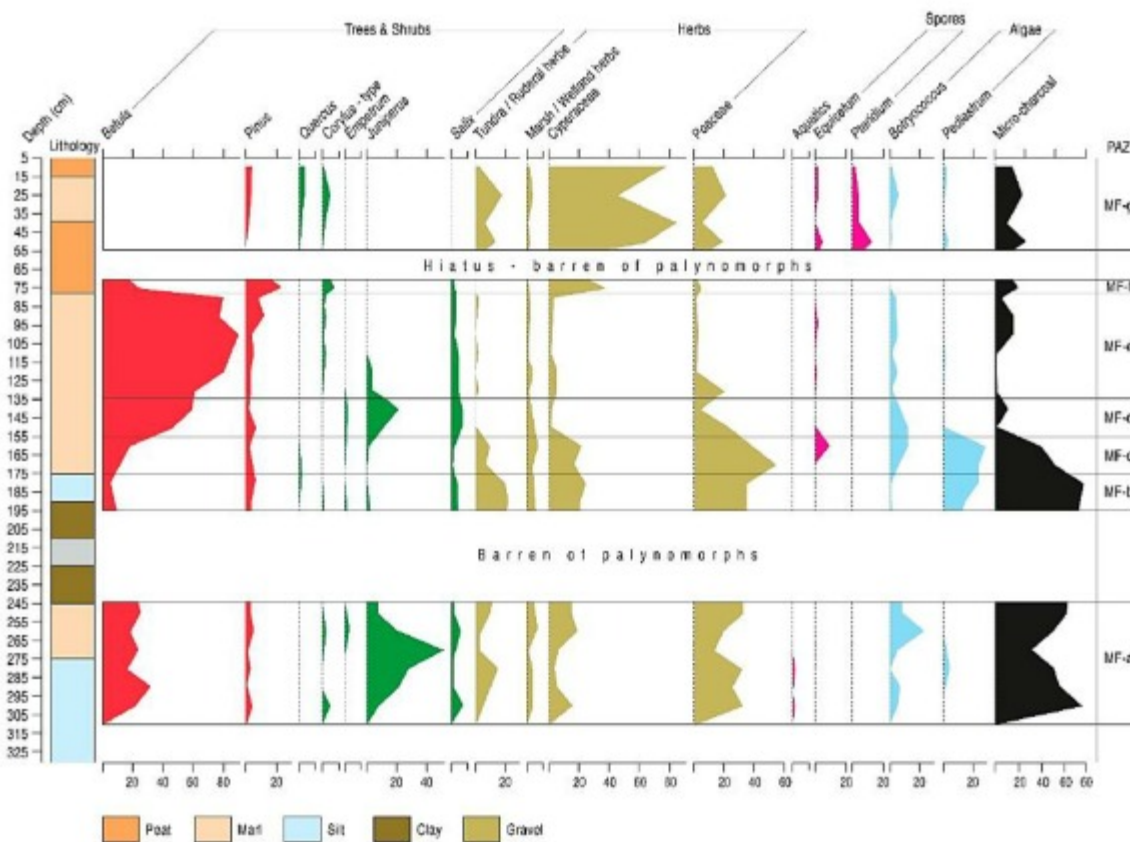
The interaction of a wide range of biotic and abiotic ecological factors gives rise to changes in the **populations** of plant species and the combination of plant species. It is only occasionally in our recording that we note population numbers for individual species. This is often done for rare or unusual plants where flowering stems may be counted, e.g., orchid counts, or Fritillaries *Fritillaria meleagris* in the Cricklade population. Or, for example, the population of Field Cow-wheat *Melampyrum arvense* counted by Dave



The rise and fall in plant populations and the replacement of one type of vegetation by another is generally called **succession**. The loss of *M. arvense* and replacement by other species is an example. So, too, is the growth of scrub on chalk grassland and the invasion of native vegetation by non-native species. Longer term, regional changes in vegetation are often studied using pollen that has accumulated in layers of peat or sediments (Fig. 3) with layers at the top being younger than layers lower down. These layers can often be dated based on the organic remains. The lower part of the diagram appears to show a more open possibly scrubby vegetation with high levels of Poaceae, Juniperus pollen peaking, and moderate levels of Betula pollen. The next phase sees the grasses declining and an increase in Betula to a peak followed by a rapid decline with increases in Pinus. Towards the top of the profile, sedges (Cyperaceae) become an



important part of the vegetation. Traditionally, it was thought that over most of the UK the final point of succession would be a continuous tree-canopy cover. Since [Frans Vera](#) wrote *Grazing Ecology and Forest History* (2000) it is now thought that a system of wood-pasture is more likely and these ideas have significantly influenced ideas on rewilding, for example, at [Knepp](#) in West Sussex.



**Figure 3. Summary pollen diagram from Marfield, close to the River Ure, North Yorkshire.<sup>12</sup>**

These changes form a part of the larger body of study known as **historical ecology**. “As a field, historical ecology largely operates at the intersection of ecology, history, anthropology, and geography, using tools and techniques from all four disciplines to help people conceive of what populations, communities, ecosystems, and landscapes existed in the past and how they have changed over time.”<sup>13</sup> Indeed, Dave Green has entered this field with his study [A Lone Lime Tells Tales of Ancient Times](#).

Chance - “**stochastic processes**” - may play a considerable part in determining the distribution and abundance of plants and recent research suggests that **chaos** could be more common in ecological systems than previously thought. It is generally accepted that the early stages of vegetation development are much more subject to chance events than later stages, although this is not always the case as shown by research into [saltmarshes](#), and stochastic process are more likely to affect **rarer species**.

Many ecological topics have not been covered (e.g., [island biogeography](#) or [insular biogeography](#), [plant traits](#), [plant strategies](#), [life cycles](#), [keystone species](#), climate change, human impact) but one last area needs to be mentioned.

<sup>12</sup> Innes, J.; Mitchell, W.; O’Brien, C.; Roberts, D.; Rutherford, M.; Bridgland, D. A Detailed record of deglacial and early post-glacial fluvial evolution: The River Ure in North Yorkshire, UK. *Quaternary* 2021, 4, 9. <https://doi.org/10.3390/quat4010009>. Used under Creative Commons Attribution (CC BY) license (<https://creativecommons.org/licenses/by/4.0/>).

<sup>13</sup> Beller et al. 2017. Toward principles of historical ecology. *American Journal of Botany* 104(5), 645-648. <https://doi.org/10.3732/ajb.1700070>

And that's the really good bit about ecology – the use of **statistics!** Well, someone has to like them! And as a Fellow of the Royal Statistical Society, I suppose I'm obliged to promote them! Approaches to the use of mathematics and statistics in ecology varies tremendously. If you look at Dave Green's article it involves no statistics, but it does make use of modern techniques such as LIDAR, whereas the article by Anne Appleyard and collaborators makes use of straightforward statistical diagrams and a statistical technique known as chi-squared ( $\chi^2$ ). Figure 2 shows a "best fit curve" that in its mathematical form describes the overall pattern of the population counts. This curve would be known as a "model" of the population. Techniques such as these are common in the ecological (and other scientific) literature. [Plant population models](#), [plant species](#) distribution models and [vegetation](#) distribution models are especially common and of varying complexity and success. [Maxent](#) is a popular piece of software used for modelling species niches and distributions.

Ecological data is often very complex and often of considerable size. For these reasons, it is frequently difficult to make sense of the data without recourse to more sophisticated mathematical and statistical methods and ecology is moving into an age of "big data" (e.g., [Farley et al.](#) 2018 and [McCrea et al.](#) 2023). Two techniques in particular have been used by ecologists – classification and ordination. Classification entails placing, usually quadrats, into distinct groups so that the quadrats within the groups are as similar as possible, and the groups are as different as possible. Ordination entails placing, again usually quadrats, in order, usually along one to three dimensions (visualising more is somewhat difficult!), where the dimensions represent environmental gradients (this is the n-dimensional niche space mentioned previously). The quadrat data usually consists of a species list with some measure of each species from simple presence/absence to percentage cover or some other measure. Here are two examples.

Until they ceased at the beginning of the pandemic, I led National Trust working holidays that consisted of about a dozen volunteers spending a residential week at a basecamp carrying out specific tasks. The first example is of a plant survey of Harting Down, Sussex. The group (varying from quite good botanists to novices) spent the week surveying the grassland fields using quadrats and the DAFOR scale of percentage cover. This produced a large amount of data and allowed the construction of various graphs and maps (e.g., number of calcareous species, Fig. 4). The quadrats were also grouped using [hierarchical cluster analysis](#) and each group assigned to the appropriate NVC category using the [MAVIS](#) program which allowed the mapping of different types of grasslands (Fig. 4, this map is simplified to major categories). The distribution generally matches the underlying soils and geology and previous ecological mapping with the exception of the quadrats in the south west that were once in agricultural production. The same exercise had been carried out three years previously and using [ordination](#) it was possible to examine the changes that had taken place, probably indicating that the grazing management had been beneficial.

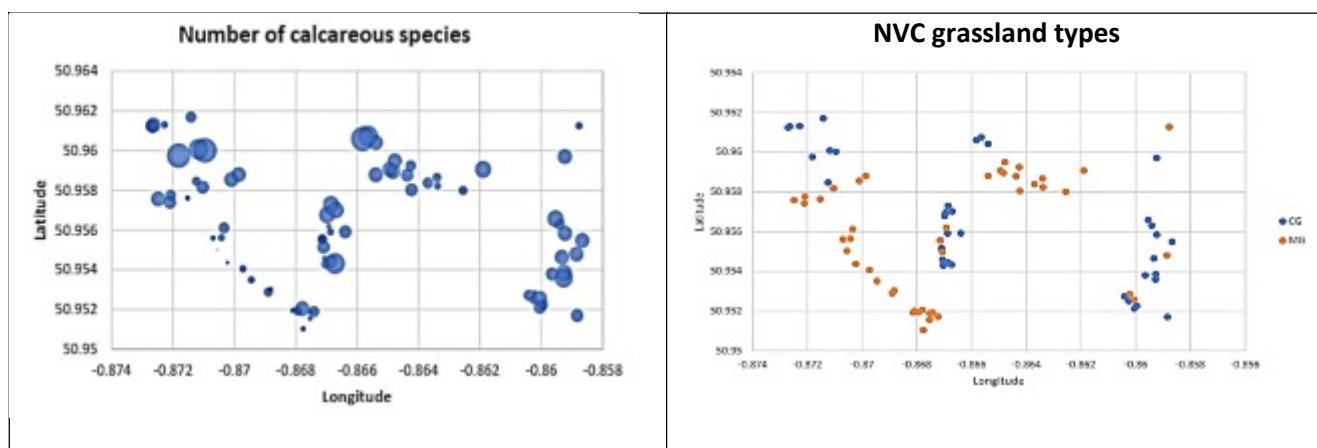
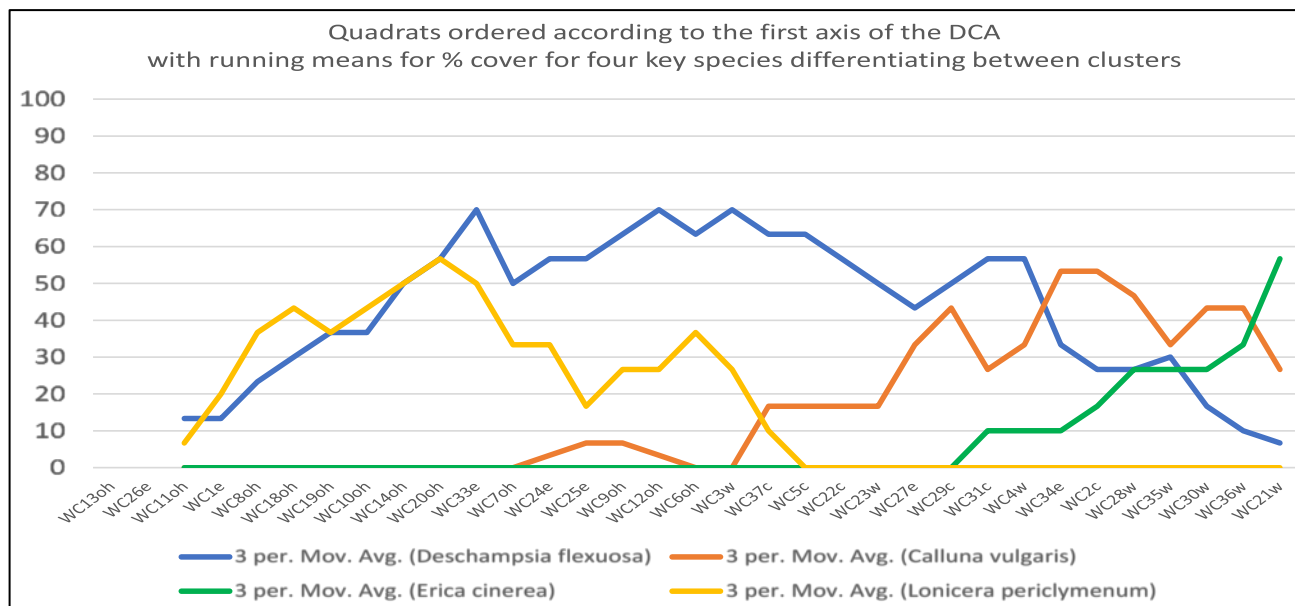


Figure 4. Map output from the Harting Down survey.

The second example is also of an NT working holiday at Woolbeding Common, Sussex, carried out in the same way. Hierarchical cluster analysis and ordination suggested that there were two distinct plant communities (largely determined by the presence/absence of *L. periclymenum*, *C. vulgaris*, and *E. cinerea*), but that one dimension of the environment appeared to exert the greatest influence on the vegetation. This dimension (Fig. 5) probably represents a combination of changes in soil pH, nutrient levels, and moisture (with slightly less acidic and slightly more nutrient rich soils towards the left on the horizontal axis). Different species perform better (as shown by % cover) at different positions along this gradient (as suggested earlier in relation to Gleason).



**Figure 5. Responses (% cover, vertical axis) of selected species along an environmental gradient (horizontal axis, letters/numbers are quadrat codes ) derived from ordination methods.**

This brief section on data analysis has touched on only a few methods. There are many more and many are beyond me! There is also a wide range of both free and commercial software programs to carry them out.

How do the four themes identified at the beginning fit with WBS? We certainly collect records and describe spatial distributions (first theme). These records will have been submitted to the county recorder and many converted into maps showing the distribution of species. Connections with the wider environment are often made (second theme) when accounting for the distributions and change is certainly considered (third theme) where species may have declined or increased, and we seek explanations. Browse the publications on the [WBS website](#) or look at *The Wiltshire flora* edited by Beatrice Gillam (1993). Hopefully, a new flora is on its way! Watch this space! What, perhaps understandably, we don't do is any sophisticated analysis (theme four). So, I, for one, am certainly going to start thinking more like a mountain! Are you?

### Going further

There are numerous ecology books available on the internet in PDF format or as e-books. Classics such as Clements' (1916) *Plant succession*, Braun-Blanquet's (1932) *Plant sociology*, and Tansley's (1945) *Introduction to plant ecology* may be traced by searching. More modern books that may be found include Krebs (2014) *Ecology: the experimental analysis of distribution and abundance* and, by various contributors (foreword by Tony Juniper), *The ecology book: big ideas simply explained* (2019).

Not too long ago, to mark the centenary of the British Ecological Society, the BES produced a booklet listing and describing the [100 most influential papers](#) published in their journals. Many deal with plants and vegetation. Worth a look. More recently, Courchamp & Bradshaw published a paper called "[100 articles every ecologist should read](#)". Not so many on plants in this one and many papers the wrong side of a paywall.



# The Poetry Page

## *Water Race*

The Oak and the Ash  
awoke for the dash  
for who would provide the  
Soak or the Splash.

The River now a Trickle  
said, "More than a Sprinkle"  
And the Acer on the Moor  
said, "Please Syca-more."

The Drosera wanted more than  
his Dew

The Bog to be filled  
from Spring-line, anew.

The Nymphaea quipped as if to  
gloat

"I just need enough to make my  
Lily-pads float."

The Mere, so shallow

"I won't be so callow,  
as soon as I'm full,  
I'll overflow to make a Pool."

The Pingo said,

"I've been waiting Ice Ages,  
for a deluge to fill  
my lower places."

The Filmy-fern to the Oak  
said, "Do not desist,  
I need much more moisture  
to penetrate this schist."

The Ash then agreed  
With the Marsh so to speed  
For occasional bursts  
To accompany its Reed.

Martin Buckland, 2022

Anne Appleyard suggested printing the last stanza of  
'Inversnaid'. Instead, I have included the whole poem.

## *Inversnaid*

This darksome burn, horseback brown,  
His rollrock highroad roaring down,  
In coop and in comb the fleece of his foam  
Flutes and low to the lake falls home.

A windpuff-bonnet of fáawn-fróth  
Turns and twindles over the broth  
Of a pool so pitchblack, féll-frówning,  
It rounds and rounds Despair to drowning.

Degged with dew, dappled with dew,  
Are the groins of the braes that the brook  
treads through,  
Wiry heathpacks, fitches of fern,  
And the beadbonny ash that sits over the  
burn.

What would the world be, once bereft  
Of wet and of wildness? Let them be left,  
O let them be left, wildness and wet;  
Long live the weeds and the wilderness yet.

Gerard Manley Hopkins, 1918

# Plant Records 2022

The following list contains all species, both native and non-native, which are new to the County or Vice-counties. In this list 'new' refers to records gathered since the early 1980's and the publication of the 1993 Wiltshire Flora.

The information contains both scientific and common names based on the *New Flora of the British Isles 3<sup>rd</sup> edition*. (*Stace*); together with site, 10k square, brief information where supplied and the initials of the recorder. [Recorder's initials appear at the end.] First County or Vice-county records appear in bold italics.

Compiled by Martin Buckland

## VC7: North Wiltshire

---

***Adoxa moschatellina*** (Moschatel); Sandpool WWT reserve (SU09), EMc & MNew.

***Alchemilla vestita*** (Common Lady's-mantle); Purton, Green Hill (SU08), meadow north of Brockhurst Wood, RAi, MBu & DG.

***Amaranthus retroflexus*** (Common Amaranth); Fresden (SU29), escape from game bird crop, RAi.

***Ammi majus*** (Bullwort); Bradford-on-Avon (ST86), garden escape, five plants self-sown on driveway, DG. This represents only the third county record since the turn of the century which is a surprise as this is a component of many annual 'wildlife' seed mixtures – Ed.

***Anethum graveolens*** (Dill); Wadswick (ST86), two plants in arable headland, DG. **1<sup>st</sup> Wiltshire record.**

***Anisantha diandra*** (Great Brome); Marlborough (SU16), MBu.

***Antirrhinum majus*** (Snapdragon); Upper Seagry (ST98), self sown plants, MBu & DG.

***Aphanes arvensis*** (Parsley-piert); Swindon Lagoons WWT reserve (SU18), RAi, AA & FS.

***Arenaria serpyllifolia*** (Thyme-leaved Sandwort); Highworth, north-east (SU29), RAi.

***Arum italicum ssp. italicum*** (Italian Lords-and-Ladies); Upper Seagry (ST98), garden escape; single plant in urban hedgerow, MBu & DG.

***Atriplex littoralis*** (Grass-leaved Orache); Cumberwell, landfill site (ST86), a single plant growing with *Spergularia marina*, presumably from imported soil, DG. **1<sup>st</sup> VC7 record.**

***Avena fatua*** (Wild-oat); Ewen, north of (SU09), RAi.

***Ballota nigra*** (Black Horehound); West Overton (SU16), MBu.

***Brassica napus*** (Rape); Minety (SU09), RAi.

***Brassica rapa ssp. rapa*** (Turnip); Swindon, Kingshill (SU18), on abandoned roadside ground, RAi.

***Callitriche stagnalis*** (Common Water-starwort); Hannington Wick (SU19), muddy stream edge, RAi.

***Calystegia pulchra*** (Hairy Bindweed); Latton (SU09), RAi.

***Carex divulsa ssp. divulsa*** (Grey Sedge); Kemble (ST99), MBu; Leigh (SU09), RAi.

***Carex paniculata*** (Greater Tussock-sedge); Blunsdon (SU19), several plants at edge of pond, RAi.

***Catapodium rigidum*** (Fern-grass); Marlborough (SU16), readily found throughout SU1869 where ground was found to be relatively bare and free-draining, MBu; ***C.r ssp. rigidum***; Wroughton, Ridgeway Hospital (SU18), flowering plants on eroded grass, SPi.

***Cephalaria gigantea*** (Giant Scabious); Purton Stoke (SU09), a few plants in entrance to bridleway, RAi. This is an aggressive invasive plant and all plants found should be recorded.

***Ceratochloa cathartica*** (Rescue Brome); Atworth (ST86), around 40 clumps on a bridge over a stream, DG. This is an alien grass that originated from South America. It was once grown as a fodder crop in the 18<sup>th</sup> Century and it also occurs occasionally as an alien in grain. **1<sup>st</sup> VC7 record** [Since the last Flora but there is only one other record, at Chippenham (ST97) in 1973 - Ed.]

***Cerithe major*** (Greater Honeywort); Marlborough (SU16), five plants self-sown into pavement cobbles, MBu. There are presently only seven records for the whole of Wiltshire with the first only recorded in 2006. It is an increasingly common annual plant in gardens that readily self-seeds and is likely to occur more often particularly in urban areas.

***Chenopodium ficifolium*** (Fig-leaved Goosefoot); CWP Cleveland Lakes (SU09), WBS.

***Chenopodium rubrum*** (Red Goosefoot); Highworth, east of (SU29), road verge, RAi.

***Chrysosplenium oppositifolium*** (Opposite-leaved Golden-Saxifrage); Ashley Marsh (ST99), MBu.

***Cirsium eriophorum*** (Woolly Thistle); Fresden (SU29), RAi.

***Clematis tangutica*** (Orange-peel Clematis); Bradford-on-Avon (ST86), a young flowering plant growing out of masonry of footpath, flight of steps. Self-seeded from

neighbouring garden, DG. This plant represents only the second vice-county and third record in Wiltshire.

**Cochlearia danica** (Danish Scurvy-grass); Kemble, Cotswold Business Park (ST99), A429, MBu.

**Conyza canadensis** (Canadian Fleabane); Highworth, north-east (SU29), RAi.

**Conyza floribunda** (Bilbao's Fleabane); CWP Cleveland Lakes (SU09), WBS.

**Conyza sumatrensis** (Guernsey Fleabane); Highworth, North-east (SU29), RAi.

**Cotoneaster horizontalis** (Wall Cotoneaster); Kemble (ST99), Eastcourt (ST99), both associated with walls, MBu.

**Cotoneaster microphyllus** (Small-leaved Cotoneaster); CWP Cleveland Lakes (SU09), WBS.

**Crepis biennis** (Rough Hawk's-beard); Hannington Wick (SU19), RAi.

**Daucus carota** (Wild Carrot); Highworth, north-east (SU29); Fresden (SU29), both RAi.

**Dittrichia graveolens** (Stinking Fleabane); Cumberwell, Landfill site (ST86), eleven plants, DG.

**1<sup>st</sup> VC7 record** [Only the 3<sup>rd</sup> Wiltshire record.]

**Draba muralis** (Wall Whitlow-grass); Marlborough (SU16), two sites; in a churchyard at the edge of a gravel path and also *thousands* within the edge of a gravelled car park close by, WBS. These two accounts represents only the 2<sup>nd</sup> and 3<sup>rd</sup> VC7 records.

**Dryopteris affinis** (Scaly Male-fern); Minety (SU09), RAi.

**Equisetum hyemale** (Rough Horsetail); Melksham (ST96), Approximately 50 plants within a gravelled hard-standing area at the rear of properties. A commonly sold plant for ponds and containers this population probably originated as a throw-out and is now establishing itself, DG. **1<sup>st</sup> Wiltshire Record.**

**Erigeron karvinskianus** (Mexican Fleabane); Marlborough (SU16) self-sown into walls and pavement cracks, MBu.

**Erodium cicutarium** (Common Stork's-bill); Purton, Dogridge (SU08); Highworth, east (SU29), both RAi; Biddestone (ST87), MGe.

**Euphorbia amygdaloides** (Wood Spurge); Minety (SU09), RAi.

**Euphorbia characias** (Mediterranean Spurge); Hilperton (ST85), self-sown into footpath, HCr & DG.

**Foeniculum vulgare** (Fennel); Devizes (ST96), self-sown into road verge, MBu.

**Galeopsis tetrahit** (Common Hemp-nettle); Stanton Fitzwarren (SU19), RAi.

**Galium album** (Hedge Bedstraw); Highworth, north-east (SU29), RAi.

**Galium odoratum** (Woodruff); Ewen, north of (SU09), Ewen Copse, RAi.

**Geranium sanguineum** (Bloody Crane's-bill); Purton (SU08), garden escape into road-kerb angle, RAi, MBu & DG.

**Gymnadenia conopsea** (Chalk Fragrant-orchid); Upper Seagry (ST98), MBu & DG.

**Hedera hibernica** (Atlantic Ivy); Hilperton (ST85), landscaped population has now expanded and is establishing itself outside its planted area, HCr & DG.

**Hordeum distichon s.l.** (Barley); Fyfield (SU16), volunteer at A4 road edge, MBu.

**Hypericum androsaemum** (Tutsan); Highworth, north-east (SU29), RAi.

**Juglans regia** (Walnut); Fresden (SU29), large pollard with 2m diameter trunk, in arable area; Highworth, east of (SU29), seedling, both RAi.

**Kickxia elatine** (Sharp-leaved Fluellin); Eastcourt, north (ST99), a single plant surprisingly at the edge of a dried up pond, MBu.

**Lathraea squamaria** (Toothwort); Avoncliff Wood (ST85), JRi.

**Legousia hybrida** (Venus's-looking-glass); Latton (SU09), a single plant in paving crack, RAi.

**Lemna minuta** (Least Duckweed); Purton Stoke (SU09), RAi.

**Lepidium didymum** (Lesser Swine-cress); Castle Eaton (SU19), RAi.

**Lepidium heterophyllum** (Smith's Pepperwort); Royal Wootton Bassett (SU08), two plants on recently landscaped A3102 road verge, RAi. **1<sup>st</sup> VC7 record.**

**Lonicera japonica** (Japanese Honeysuckle); Leigh (SU09), garden escape, RAi.

**Meconopsis cambrica** (Welsh Poppy); Kemble (ST99), Fifty plants self-seeded into pavement cracks at base of wall, MBu.

**Medicago arabica** (Spotted Medick); Kemble (ST99), MBu.

**Melica uniflora** (Wood Melick); Minety (SU09), RAi.

**Mentha spicata** (Spear Mint); Highworth, north of (SU29), road verge and abandoned railway, RAi.



**Menyanthes trifoliata** (Bogbean); Holt (ST86), a surviving population planted 10 years ago in two artificial lakes but with little evidence of expansion, DG.

**Mercurialis annua** (Annual Mercury); CWP, Cleveland Lakes (SU09), WBS.

**Milium effusum** (Wood Millet); Minety, east (SU09); Minety, north (SU09), both RAi.

**Myriophyllum aquaticum** (Parrot's-feather); Swindon, Tadpole Village (SU19), MGU.

**Nigella damascena** (Love-in-a-mist); West Overton (SU16), self-sown and plentiful in rough ground; Marlborough (SU16), Fifty flowering plants self-sown into kerb cracks and wall bases, both MBu.

**Origanum vulgare** (Wild Marjoram); Sandpool WWT reserve (SU09), EMc & MNew.

**Ornithogalum umbellatum s.l.** (Star-of-Bethlehem); Clattinger Farm (SU09) a single plant, GGo & ASk; Biddestone (ST87), five clumps at roadside, DG.

**Oxalis incarnata** (Pale Pink-sorrel); North Wraxhall (ST87), base of wall, MBu & DG.

**Papaver nudicaule** (Iceland Poppy); Marlborough (SU16), self-sown plants in cobbles, MBu. **1<sup>st</sup> VC7 record.**

**Parietaria judaica** (Pellitory-of-the-wall); Marlborough (SU16), MBu.

**Parthenocissus inserta** (False Virginia-creeper); Hankerton (ST99), established plant climbing through roadside vegetation and presumed originating from dumped garden waste, MBu.

**Phalaris aquatica** (Bulbous Canary-grass); Chelworth (ST99), 100sqm. of densely packed plants and suggesting themselves as self-sustaining following probable originally planted as a pheasant crop. Many plants up to 1.8m tall, MBu.

**Physalis peruviana** (Cape Gooseberry); Cumberwell, landfill site (ST86), four flowering plants, DG.

**Plantago coronopus** (Buck's-horn Plantain); Blunsdon, A419 (SU19) abundant at road edge; Highworth, north-east (SU29), two sites in urban areas; Royal Wootton Bassett (SU08), Tarmac gateway near A3102; all RAi.

**Polygonum rurivagum** (Cornfield Knotgrass); Chelworth (ST99), two sites of single plants at the edge of arable fields, MBu.

**Polypodium vulgare** (Polypody); Latton (SU09), in limestone wall, RAi.

**Polypogon viridis** (Water Bent); Marlborough (SU16), MBu.

**Polystichum setiferum** (Soft-shield Fern); Stanton Fitzwarren (SU19), woodland stream bank, RAi.

**Potamogeton pusillus** (Lesser Pondweed); Upper Wraxhall (ST87), abundant in village pond, DG.

**Primula x polyantha** (False Oxlip); Swindon (SU18), Faringdon Road Park, with both parents, RAi.

**Prunus cerasifera** (Cherry Plum); Long Newnton, east (ST99); Royal Wootton Bassett (SU08); Addy's Firs (ST99), all MBu.

**Prunus x fruticans** (*P. domestica* x *spinosa*); Fresden (SU29), RAi.

**Pseudosasa japonica** (Arrow Bamboo); Hazelbury Manor, Box (ST86), in secondary woodland, adjacent to bridleway, HCr & DG, det. HCr.

**Ranunculus lingua** (Greater Spearwort); Marston Meysey (SU19), CWP lake 304, SEd.

**Ranunculus pencillatus** (Stream Water-crowfoot); Marlborough (SU17), Bay Meadows, RAi.

**Reseda lutea** (Wild Mignonette); Stanton Fitzwarren (SU19), RAi.

**Rhus typhina** (Stag's-horn Sumach); Compton Bassett (SU07) many suckers in road verge, MBu.

**Rorippa palustris** (Marsh Yellow-cress); Colerne, east of (ST87), a single plant in cattle trodden mud near the By Brook, JRi.

**Ruscus aculeatus** (Butcher's-broom); Down Ampney (SU09), at wooded streamside – away from habitation, RAi.

**Sagina apetala** (Annual Pearlwort); Highworth, north-east (SU29), RAi.

**Salix triandra** (Almond Willow); Eastcourt (ST99), MBu.

**Salvia viridis** (Annual Clary); Wadswick (ST86), ten plants in arable headland, DG. This is an unusual plant to find in this setting and not a typical species to find as an alien even in a game-crop mixture – Ed.

**Sasa palmata** (Broad-leaved Bamboo); Hazelbury Manor, Box (ST86), , in secondary woodland, adjacent to bridleway, HCr & DG, det. HCr.

**Saxifraga granulata** (Meadow Saxifrage); Neston (ST86), DG.

**Scilla luciliae** (Boissier's Glory-of-the-snow); Bradford-on-Avon (ST86), One plant outside no.11 Silver Street, garden escape, DLe. **1<sup>st</sup> Wiltshire record.**

**Sedum dasyphyllum** (Thick-leaved Stonecrop); Chelworth (ST99), two sites, containing a total of twenty-eight plants in limestone walls, MBu.

**Sedum rupestre** (Reflexed Stonecrop); Highworth north-east (SU29), RAi; Melksham (ST96), DG.

**Senecio cinerea** (Silver Ragwort); West Overton (SU16), three plants self-sown at base of wall and known to have been there for some years; Kemble (ST99), three plants self-sown at base of church wall, both MBu.

**Silene coronaria** (Rose Champion); Upper Seagry (ST98), a self-sown seedling at kerb edge, MBu & DG.

**Silybum marianum** (Milk Thistle); Colerne (ST87) local churchyard, KBr.

**Sinapis alba** (White Mustard); Royal Wootton Bassett, north (SU08), RAi.

**Solidago canadensis** (Canadian Goldenrod); Fresden (SU29), RAi.

**Solidago gigantea** (Early Goldenrod); Highworth north-east (SU29), RAi.

**Spergularia marina** (Lesser Sea-spurrey); Highworth east (SU29), two sites, both at the road edge of the B4019 Highworth to Coleshill Road, RAi. This is a reasonably well recorded plant in the south of the county and since the turn of the century is now being recorded in small numbers in the north.

**Stachys byzantina** (Lamb's-ear); Lyneham (SU07); Marlborough (SU16), both self-sown seedlings at kerb edges, MBu; North Wraxhall (ST87), two sites, both on dumped soil, MBu & DG.

**Symphytum grandiflorum** (Creeping Comfrey); Brinkworth, Stopper's Hill (SU08), extensive patches along a wide track, RAi; Green Hill near Purton (SU08) garden escape at roadside, RAi, MBu & DG. This should be a candidate for the H.M. Government's 'Invasive non-native (alien) plant species list' along with other creeping plants such *Lamium galeobdolon ssp. argentatum* Garden Yellow Archangel – Ed.

**Tragopogon porriflorus** (Salsify); Melksham (ST96), in a weedy verge, MGe.

**Trifolium fragiferum** (Strawberry Clover); Highworth east of (SU29), a population in Eastrop on a mown verge extending over 50m, RAi.

**Trifolium medium** (Zig-zag Clover); Compton Bassett Park (SU27), a single plant at field gateway, MBu.

**Trifolium micranthum** (Slender Trefoil); Lydiard Green (SU08), in a roadside lawn, RAi.

**Valerianella carinata** (Keeled-fruited Cornsalad); Kemble, Cotswold Business Park, MBu.

**Veronica scutellata** (Marsh Speedwell); Hannington Wick (SU19), in a shady roadside ditch, RAi. This has always been a scarce plant in North Wiltshire and this account represents only the 6<sup>th</sup> record since the turn of the century – Ed.

**Vinca difformis** (Intermediate Periwinkle); Preston (SU07), a 10sqm. patch at the top of a bank. , Presumed

dumped from nearby gardens and proliferating, MBu. **1<sup>st</sup> VC7 record.**

**Vinca major** (Greater Periwinkle); Minety (SU09), Minety, north (SU09), Purton Stoke (SU09), Chelworth (SU09), all RAi. The garden variety 'Oxyloba' found to have escaped its garden confines and into the local road verge and hedge at Hankerton (ST99), MBu.

**Viola reichenbachiana** (Early Dog-violet); Ewen, north (SU09), Minety (SU09), four sites, all RAi.

**Viscum album** (Mistletoe); Blunsdon Hill (SU19), in hybrid Poplar, Lower Moor Farm (SU09) in Crack-willow, both RAi.

**Vulpia bromoides** (Squirrel-tail Fescue); Highworth, north-east (SU29), at road kerb, RAi.

## VC8: South Wiltshire

**Agrostis vinealis** (Brown Bent); Kilmington (ST73), growing along a bank for many metres, DG.

**Alcea rosea** (Hollyhock); Warminster (ST84), self-sown and regenerating plants in rough track, MBu & DG; Rudge (ST85), self-sown plants, DG.

**Allium roseum** (Rosy Garlic); Boreham, Warminster (ST84), a small group near gate to St. John's Church, DG.

**Allium ursinum** (Ramsons); Bulford Camp (SU14), Anon.

**Amaranthus hybridus** (Green Amaranth); Horningsham (ST84), two plants in fallow field, HCr & DG. **1<sup>st</sup> VC8 record.**

**Anacamptis morio** (Green-winged Orchid); Sidbury Hill (SU25), a few plants at foot of the hill, JRM; RAF Chilmark (ST92), PSh.

**Anemone x hybrida** (Japanese Anemone); Devizes (SU06), 2 lin.m.in cobbles at base of wall, MBu.

**Anisantha diandra** (Great Brome); Devizes (SU06), in rough corner of grass open space, MBu.

**Anthriscus caucalis** (Bur Chervil); West Ashton (ST85), twenty plants at the end of Kettle Lane, RR. A very worthy record of Bur Chervil for since the last Flora only 15 records have been received for all Wiltshire with this particular account representing just the fourth for VC8 – Ed.

**Anthyllis vulneraria** (Kidney Vetch); Limpley Stoke (ST76), AHo.

**Betonica officinalis** (Betony); Freshford (ST76), JBce.

**Bidens frondosa** (Beggarticks); Murhill (ST76), five plants growing out of masonry on the Kennet & Avon Canal, DG. **1<sup>st</sup> Wiltshire record.**

**Bromus secalinus** (Rye Brome); Smithen Down, south-east (SU13), MBu.

**Brunnera macrophylla** (Great Forget-me-not); Easterton (SU05), plants spreading out from local garden into wall and local verge and well-established, MBu.

**Campanula persicifolia** (Peach-leaved Bellflower); Redlynch (SU22), Princes Close, several self-sown plants, AA, SFi & PMW.

**Campanula poscharskyana** (Trailing Bellflower); Redlynch (SU22), in an extensive 81m run at Grove Lane, AA, SFi & PMW; Redlynch (SU22), Sandy Lane, naturalising in verge, PMW.

**Campanula trachelium** (Nettle-leaved Bellflower); Freshford (ST75), a single plant, DG.

**Carduus tenuiflorus** (Slender Thistle); Trowbridge (ST85), three flowering plants to 90cm tall growing in dirt at the side of a roundabout, MBu & KAT. This was recorded in early January as part of the BSBI's New Year Plant Hunt (NYPH) so never worry about taking part as you never know what may be found - Ed.

**Carex otrubae** (False Fox-sedge); Kilmington (ST73), DG.

**Carex x subgracilis** (*C. acuta* x *acutiformis*); Warminster, Cold Harbour (ST84), DG. Determined by Mike Porter. This was originally found and collected by Dave Green at a WBS outing in July 2021. Further samples were taken in 2022 and sent to the BSBI's sedge referee for confirmation. **1<sup>st</sup> VC8 record.**

**Cotoneaster simonsii** (Himalayan Cotoneaster); Kilmington (ST73), self-sown, small tree in a conifer plantation, DG.

**Cynoglossum germanicum** (Green Hound's-tongue); Salisbury Plain, Half-moon Copse (SU04), twenty or more plants along a track through a woodland belt, Apr. **1<sup>st</sup> VC8 record.**

This is a nationally declining plant however it has never been recorded in the County as a native plant. The nearest sizeable populations are in Oxfordshire, Surrey, and Kent. The population in Swindon was known to have been unofficially introduced and the providence of this account has to be questioned – Ed.

**Cyperus eragrostis** (Pale Galingale); Potterne (ST95), three plants in dumped spoil along footpath, DG.

**Dactylorhiza incarnata** spp. **incarnata** (Early Marsh-orchid); Lower Woodford Water-meadows (SU13), a single plant, MBu. **1<sup>st</sup> VC8 record as the sub-species.** Last record at this site was 1994.

**Danthonia decumbens** (Heath Grass); NT Stonehenge Est. Cursus Barrows (SU14), SPi.

**Daucus carota** spp. **carota** (Wild Carrot); Middle Woodford (SU13), two sites; Lower Woodford, south-west (SU13), all MBu; Ham Hill SSSI (SU36), JAm; Crockerton (ST84), HCr & DG.

**Digitalis lutea** (Straw Foxglove); Easterton (SU05), twenty-one self-seeded plants widely spread on a steep, grass roadside bank, MBu.

**Erigeron karvinskianus** (Mexican Fleabane); New Mill, Pewsey (SU16), JBr & PD.

**Erophila verna** (Common Whitlowgrass), Sedgemoor (ST82), SJJ; NT Stonehenge: Stonehenge Down (SU14), SPi.

**Erysimum cheiri** (Wallflower); Warminster (ST84), self-sown plants, MBu & DG.

**Euphorbia dulcis** (Sweet Spurge); Chapmanslade (ST84), var 'Chamaeleon'. On the link road to the A36, presumed dumped but population is expanding, DG. **1<sup>st</sup> VC8 record.**

**Euphorbia peplus** (Petty Spurge); Tollard Royal (ST91), SJJ.

**Euphorbia x pseudovirgata** (Twiggy Spurge); SPTA Central (SU14), several hundred plants; Tidworth: Royal Engineer's Training Area (SU24), a patch of flowering and fruiting plants at edge of a rough area, JBe & SPi.

**Fumaria muralis** ssp. **boraei** (Common Ramping-fumitory); Lane End (ST84), HCr & DG.

**Galanthus nivalis** (Snowdrop); Stourton (ST73), HCr & DG..

**Galeopsis bifida** (Bifid Hemp-nettle); Norridge Wood (ST84), SG, SJJ & SPi; Crockerton (ST84), a single plant, HCr & DG.

**Galinsoga quadriradiata** (Shaggy Soldier); Crockerton (ST84), a single plant, HCr & DG.

**Geranium rotundifolium** (Round-leaved Crane's-bill); Stourton (ST83), HCr & DG; NT Stourhead (ST83), several plants at car park edge, SPi.

**Groenlandia densa** (Opposite-leaved Pondweed); Lower Woodford Water Meadows SSSI (SU13), a small patch growing in the silty edge of a slow moving ditch, MBu.

**Hedera hibernica** (Atlantic Ivy), Devizes (SU06), at edge of Potterne Road; Easterton (SU05), establishing itself away from original municipal planting, both MBu.

**Helleborus orientalis** (Lenten-rose); Redlynch: Sandy Lane (SU22), garden escape, AA, SFi & PMW.

**Helleborus viridis** (Green Hellebore); RSPB Franchises Lodge (SU21) Lyburn Rd, spoil heap, PMW.

**Helminthotheca echioides** (Bristly Ox-tongue); Sedgemoor (ST82), SJJ.



**Hieracium sabaudum** (Autumn Hawkweed); Horningsham (ST84), three sites with one having many plants growing on a lane bank, HCr & DG.

**Hordeum distichon** (Barley); Bishopdown (SU13), volunteers at the edge of the A30, MDA.

**Humulus lupulus** (Hop); Tidworth: Old Fowler Barracks (SU24), JBe & SPi.

**Hypericum olympicum** (Olympic St.John's-wort); Durrington (SU14), A345 roundabout, a small patch of flowering plants on road verge, SPi. **1<sup>st</sup> VC8 record.**

**Impatiens capensis** (Orange Balsam); Netheravon east (SU14), JRM.

**Isolepis setacea** (Bristle Club-rush); Kilmington (ST73), plants occurring in a 30m stretch of forestry ride and the first sighting since 1969, DG.

**Juncus conglomeratus** (Compact Rush); Lower Woodford Water Meadows SSSI (SU13), MBu.

**Larix kaempferi** (Japanese Larch); Crockerton (ST84), self-sown seedlings, HCr & DG.

**Lathraea squamaria** (Toothwort); Westwood (ST85), PKe.

**Lathyrus latifolius** (Broad-leaved Everlasting Pea); West Grimstead to West Dean road (SU22), many plants in an abandoned field and appearing to be establishing themselves, PMW.

**Leycesteria formosa** (Himalayan Honeysuckle); Warminster (ST84), weed in a car park, MBu & DG.

**Lithospermum officinale** (Common Gromwell); Tidworth: Royal Engineer's Training Area (SU24), JBe & SPi.

**Lonicera japonica** (Japanese Honeysuckle); Warminster (ST84), a garden throw-out on a rough area of land but establishing, MBu & DG.

**Lycopus europaeus** (Gypsywort); Avoncliff Wood (ST75), IWi.

**Malva neglecta** (Dwarf Mallow); Crockerton (ST84), two plants on a bank at edge of a track, HCr & DG; Warminster (ST84), MBu & DG.

**Melissa officinalis** (Balm); Kilmington (ST73), c.10 plants on forestry track, DG.

**Mentha x piperta** (Peppermint); Redlynch: Grove Lane, AA, SFi & PMW.

**Mentha x verticillata** (Whorled Mint); Horningsham (ST84), beside a track; Crockerton (ST84), two sites, both with large populations. The first records here since 1949. All HCr & DG.

**Mentha x villosa** (Apple-mint); Kilmington (ST73), an extensive area, DG.

**Moehringia trinervia** (Three-nerved Sandwort); NT: Stonehenge Landscape, Fargo Plantation (SU14), SPi.

**Muscari armeniacum** (Garden Grape-hyacinth); Landford (SU22), PMW; Boreham (ST84); Warminster (ST84), both DG. All garden escapes.

**Nigella damascena** (Love-in-a-mist); Chapmanslade (ST84); Warminster (ST84), both DG; Redlynch: Grove Lane (SU22), AA, SFi & PMW. All garden escapes. *Nigella* is able to self-perpetuate for many years particularly in areas where conditions allow free-draining.

**Ononis x pseudohircina** (*O.repens* x *spinosa*); SPTA (E) Sidbury Hill (SU25), a small clump, JRM.

**Parietaria judaica** (Pellitory-of-the-wall); Boscombe (SU23), St. Andrew's Church wall, JRM.

**Parthenocissus inserta** (False Virginia-creeper); Redlynch: Sandy Lane (SU22), many young plants in verge establishing from dumped garden material, AA, SFi & PMW.

**Pinus sylvestris** (Scot's Pine); Kilmington (ST73), self-sown, DG.

**Plantago coronopus** (Buck's-horn Plantain); Tidworth: Royal Engineer's Training Area (SU24), JBe & SPi.

**Polypogon monspeliensis** (Annual Beard-grass); Horningsham (ST84), many plants in paving, HCr & DG.

**Polystichum aculeatum** (Hard Shield-fern); Bentley Wood: Richwellsted Copse (SU23), KNe.

**Potentilla x mixta** (*P.anglica* x *reptans*); Horningsham (ST84), HCr & DG.

**Poterium sanguisorba** (Salad Burnet); Semley, Church Farm (ST82), JHt.

**Pyrus pyraeaster** (Wild Pear); NT Stonehenge Landscape: Durrington Walls (SU14), fruit-laden, old tree on the bank of the henge, SPi.

**Quercus petraea** (Sessile Oak); Lower Woodford, south-west (SU13), self-sown seedlings from planted trees, MBu.

**Ribes nigrum** (Black Currant); Horningsham (ST84), HCr & DG.

**Ribes sanguineum** (Flowering Currant); Gatmore Copse (SU22), presumed bird-sown, PMW.

**Rosa tomentosa** (Harsh Downy-rose); Horningsham (ST84), single plant in hedgerow, HCr & DG.

**Rubus armeniacus** (Himalayan Blackberry); Stratford-sub-Castle WCC road verge (SU13), MDA & EPy. This

is a particularly aggressive bramble and is very invasive yet under-recorded species. See the link below [https://wildflowerfinder.org.uk/Flowers/G/Giant\(Himalayan\)/Giant\(Himalayan\).htm](https://wildflowerfinder.org.uk/Flowers/G/Giant(Himalayan)/Giant(Himalayan).htm)

**Rubus leucostachys** ( White-spiked Blackberry); Bentley Wood (SU23), DLe. Determined by J. Norton and R.Randall. **1<sup>st</sup> VC8 record.** [Only the 4<sup>th</sup> record since 1941 – Ed.]

**Salix x reichardtii** (S.caprea x cinerea); Wickham Green (SU05), MBu.

**Sedum rupestre** (Reflexed Stonecrop); Easterton (SU05), graveyard grave bases, MBu.

**Senecio erucifolius** (Hoary Ragwort); Kilmington (ST73), DG.

**Senecio inaequidens** (Narrow-leaved Ragwort); Upton Scudamore (ST84), a single flowering plant in a kerb crack on an A350 traffic island, SPi.

**Setaria viridis** (Green Bristle-grass); Horningsham (ST84), two plants in a fallow field, HCr & DG.

**Silene coronaria** (Rose Champion); Easterton (SU05) two self-seeded plants in a steep roadside bank, MBu.

**Sison amomum** (Stone Parsley); Durrington Walls area (SU14), SPi.

**Solidago virgaurea** (Goldenrod); Stratford-sub-castle WCC verge (SU13), EPy.

**Spirodela polyrhiza** (Greater Duckweed); Yarnbrook (ST85), DG.

**Stellaria neglecta** (Greater Chickweed); Kilmington (ST73), edge of forestry ride, DG.

**Symphoricarpos x chenaultii** (Pink Snowberry); Smithen Down south-east (SU13), planted as bird cover at the edge of a wood but now spreading by suckering, MBu.

**Symphytum tuberosum** (Tuberous Comfrey); New Mill area (SU16) JBr & PD.

**Symphytum x hidcotense ‘Hidcote Blue’** (Hidcote Comfrey); Lye’s Green (ST84), extensive patch invading trackside; Chapmanslade (ST84), in a derelict area where much dumping has taken place, both DG.

**Tellima grandiflora** (Fringecups); Toyd Down (SU02), BSi; Lye’s Green (ST84), along a 100m track side, DG; Stourton (ST73), an extensive population along a 100m stretch of woodland ride, HCr & DG.

**Torilis nodosa** (Knotted Hedge-parsley); Warminster (ST84), within roadside edge and verge, MBu & DG.

**Trifolium arvense** (Hare’s-foot Clover); Durrington A345 roundabout (SU14) a few plants in seed on recently reprofiled cycle lane verge and presumably brought in with soil, SPi.

**Triticum aestivum** (Bread Wheat); Durrington Walls area (SU14), volunteer at road edge, SPi.

**Ulmus minor** (Small-leaved Elm [sensu Stace]); Chapmanslade (ST84), A36 roadside, DG.

**Verbena bonariensis** (Argentinian Vervain); Warminster (ST84), self-sown plants, MBu & DG; Easterton (SU05), self-sown plants at base of wall, MBu.

**Viscum sativum** (Mistletoe); Bishopstrow (ST94) along the B3414, IP.

**Vulpia myuros** (Rat’s-tail Fescue); Redlynch: Grove Lane (SU22), within cemetery, AA, SFi & PMW.

#### Initials of recorders

AA-----Anne Appleyard  
AHo-----Anne Hollington  
APr-----Alex Prendergast  
DG-----David Green  
DLe-----David Leadbetter  
EMc-----Euan McKenzie  
EPy-----Emma Preedy  
FS-----Fran Sinclair  
HCr-----Helena Crouch  
IP-----Iain Perkins  
IWi-----Ian Williamson  
JAm-----Jenny Amor  
JBce-----Jude Beerice  
JBe-----Jenny Bennett  
JBr-----Jane Brown  
JHt-----James Harriet  
JRI-----J. Richardson  
JRM-----John Moon  
KBr-----Karen Brzezicki  
KNe-----Katherine Newbert  
MBu-----Martin Buckland  
MDA-----Mike D’Apice  
MGe-----Martin Genner  
MNew----Michael New  
PD-----Paul Darby  
PKe-----Pete Keevil  
PMW-----Pat Woodruffe  
PSh-----Peter Shalcross  
RAi-----Richard Aisbitt  
RR-----Rob Randall  
SEd-----Stephen Edwards  
SFi-----Sue Fitzpatrick  
SJJ-----Steve Jackson  
SPi-----Sharon Pilkington  
WBS-----Wiltshire Botanical Society





Silky Lady's-mantle *Alchemilla glaucescens*,  
 a northern species that appeared on imported limestone ballast.  
 A new find for Wiltshire by Dave Green (photo by Dave).

## The Committee

Dave Green	WBS Chair, Project Group Leader, WhatsApp Group	07900 248992	<a href="mailto:d.green7@btinternet.com">d.green7@btinternet.com</a>
Alison Robinson	Secretary	07900 591058	<a href="mailto:alisonrobinson300@gmail.com">alisonrobinson300@gmail.com</a>
Martin Buckland	Treasurer, Membership Secretary	01380 698395	<a href="mailto:martinbuckland8@gmail.com">martinbuckland8@gmail.com</a>
Vacant	Meetings Organiser		
Richard Aisbitt	VC Recorder, Newsletter Editor	01793 694680	<a href="mailto:richard@theaisbitts.co.uk">richard@theaisbitts.co.uk</a>
Steve Jackson	Project Group, Editorial Group	07926 517525	<a href="mailto:drsteven.jackson@btinternet.com">drsteven.jackson@btinternet.com</a>
Kat Newbert	VC Recorder, Facebook Group	07578 822322	<a href="mailto:katherine_newbert@hotmail.co.uk">katherine_newbert@hotmail.co.uk</a>
Sharon Pilkington	Web Site Editor	01373 827074	<a href="mailto:sharon.pilkington1@btinternet.com">sharon.pilkington1@btinternet.com</a>